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ОСОБЕННОСТИ ГИДРОГЕОЛОГИЧЕСКИХ УСЛОВИЙ АНГРЕНСКОГО УГОЛЬНОГО МЕСТОРОЖДЕНИЯ

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Аннотация. *Рассмотрены гидрогеологические условия Ангренского месторождения угля. Охарактеризованы основные типы подземных вод, их фильтрационные и гидрохимические свойства. Показано их влияние на условия разработки месторождения и значение для водоснабжения района.*

Ключевые слова: *Ангренское месторождение угля, гидрогеологические условия, подземные воды, водоносные горизонты, водообильность, фильтрационные свойства, гидрохимический состав.*

Abstract. *The hydrogeological conditions of the Angren coal deposit are considered. The main types of groundwater, their filtration and hydrochemical properties are characterized. Their influence on mining conditions and their importance for regional water supply are demonstrated.*

Keywords. *Angren coal deposit, hydrogeological conditions, groundwater, aquifers, water abundance, filtration properties, hydrochemical composition.*

ВВЕДЕНИЕ

Ангренское месторождение угля является одним из крупнейших угледобывающих районов Узбекистана, разработка которого сопровождается сложными гидрогеологическими условиями. В процессе эксплуатации месторождения подземные воды оказывают существенное влияние как на технологию горных работ, так и на устойчивость горных выработок и инженерных сооружений. Кроме того, подземные воды региона имеют важное

хозяйственное значение, являясь источником хозяйственно-питьевого водоснабжения [1, 2].

Актуальность исследования обусловлена необходимостью комплексной оценки гидрогеологических условий месторождения, включая особенности формирования, распространения и водообильности различных типов подземных вод, а также их влияния на процессы разработки угольных пластов [2, 3].

Целью работы является характеристика основных водоносных горизонтов Ангренского месторождения, анализ их фильтрационных и гидрохимических свойств, а также оценка роли подземных вод в гидрогеологическом режиме района.

ОСНОВНАЯ ЧАСТЬ

В пределах Ангренского месторождения по характеру залегания и условиям циркуляции выделяются следующие типы подземных вод:

а) трещинные воды палеозоя;

б) межпластовые воды;

в) грунтовые воды в аллювиальных и аллювиально-пролювиальных отложениях реки Ахангаран и ее боковых притоков.

Трещинные воды палеозоя распространены в вулканогенных породах Чаткальского и Кураминского хребтов, а также отмечаются на участке вскрытых первичных каолинов в восточной части Ангренского угольного разреза. На разрезе проведенными ранее опытными работами установлена очень низкая степень водообильности этих пород. Удельные дебиты при откачках составляли 0,002–0,07 л/сек, коэффициенты фильтрации - 0,002–0,043 м/сут. Вода обычно напорная, минерализация ее от 800 до 3500 мг/л. В вулканогенных породах окружающих месторождение коэффициент фильтрации колеблется от 0,0017 до 0,17 м/сут. По химическому составу вода пресная, с плотным остатком до 500 мг/л, гидрокарбонатно-кальциевая.

Обводненность палеозойских пород невысокая, но ввиду их большого площадного распространения они содержат большие запасы и имеют почти все поверхностные водотоки района. Формирование вод палеозоя происходит за счет атмосферных осадков. При отработке месторождения воды из палеозойских пород существенного значения не имеют, однако при образовании внутренних отвалов они требуют дренажной подушки.

Межпластовые воды подразделяются на воды верхних отложений, мел-палеогеновых песков и песчаников, воды известняков алайских слоев и воды неогеновых отложений.

Подземные воды юрских отложений изучались по углеразрезу и по буровым скважинам. По углеразрезу отмечалось незначительное просачивание воды из угля по мелким трещинам и контактам с суммарным притоком порядка 0,3 л/сек. Опытными работами, проведенными по скважинам, отмечен низкий коэффициент фильтрации — 0,0003–0,014 м/сут. Напор над поверхностью земли достигает +6,3 м. Питание верховодного горизонта происходит за счет просачивания воды из вышележащих водоносных горизонтов и за счет палеозойских вод.

Подземные воды мел-палеогеновых песков и песчаников отделяются от вод верхних отложений и водоупорной толщи коллоидных глин. Вследствие невыдержанности глинистых прослоев вся мел-палеогеновая толща представляет собой единый водоносный горизонт. На участках, где мел-палеогеновые отложения перекрыты известняками, они содержат напорные воды, а на участках, где кровлей горизонта являются аллювиальные галечники, напор соответствует уровню грунтовых вод. На отдельных участках месторождения из скважин, в большинстве случаев, наблюдался самоизлив с выносом песка. Напор над устьем скважин достигал 15–22 м, а дебит при самоизливе составлял до 1,92 л/сек, коэффициент фильтрации — 0,6 м/сут. Химический состав мел-палеогеновых вод разнообразен. Содержание

плотного остатка колеблется от 406 до 3440 мг/л, а общая жесткость от 4 до 24 мг.экв. Опытные откачки в пределах Углерезава на мел-палеогеновых отложениях показали удельные дебиты скважин от 0,0012 до 0,028 л/сек, и коэффициенты фильтрации пород — от 0,00216 до 0,0252 м/сут.

Питание мел-палеогеновых вод происходит за счет атмосферных осадков, вышележащих водоносных горизонтов и за счет палеозойских вод по контактам.

Воды известняков алайских слоев являются наиболее обильными среди палеогеновых отложений и зависят от трещиноватости известняков. Ввиду этого удельные дебиты при откачках меняются от 0,00008 до 0,8 л/сек, а коэффициент фильтрации — от 0,001 до 17 м/сут. Расход при самоизливе достигал 8 л/сек при напоре над поверхностью земли 30 м (скв.540). Вода из известняков имеет плотный остаток до 1588 мг/л, общая жесткость 17 мг-экв. Состав воды изменяется от гидрокарбонатной до сульфатной.

Воды неогеновых отложений приурочены в основном к мелкогалечным конгломератам, гравелитам и песчаникам. Вода напорная (8,5–15 м над поверхностью земли), с дебитом при самоизливе вблизи на уровне 6 л/сек, от 0,45 до 2 л/сек. Коэффициент фильтрации пород изменяется от 0,002 до 0,03 м/сут. Питание неогенового горизонта происходит за счет атмосферных осадков, грунтовых вод и частично за счет палеозойских вод. Вода слабо минерализована с плотным остатком 306–630 мг/л, общая жесткость 3–5 мг-экв.

Подземные воды аллювиальных и аллювиально-пролювиальных четвертичных галечников формируются за счет атмосферных осадков, поверхностных вод и вод палеозоя. Наиболее водообильными являются аллювиальные галечники I, II и III террас р. Ахангарана и ее притоков.

Аллювиальные валунно-галечные отложения р. Ахангарана являются основным коллектором как для вод коренных пород, так и для поверхностных.

По правобережью река в отдельных случаях дренирует грунтовые воды, по левобережью — питает их. Средний уклон грунтовых вод по долине реки 0,01, глубина залегания от дециметров до 15 м, в долине конусов выноса достигает 20 м, а в районе IV и V террас — до 70 м. Степень водообильности гравийно-галечных отложений зависит от количества глинистых частиц в них. Удельные дебиты аллювиальных отложений по скважинам достигают 20 л/сек, коэффициент фильтрации изменяется от 7 до 150 м/сут. Коэффициент фильтрации аллювиально-пролювиальных отложений IV и V террас колеблется от 1 до 1,7 м/сут. Удельные дебиты по скважинам — от 0,01 до 1,5 л/сек. По химическому составу воды четвертичных отложений пресные, гидрокарбонатно-кальциевые, с плотным остатком до 500 мг/л.

Грунтовые воды четвертичных отложений дают наиболее высокие притоки в Углеразрезе. Они же являются источником водоснабжения города питьевой водой.

ЗАКЛЮЧЕНИЕ

Гидрогеологические условия Ангренского углеразреза характеризуются разнообразием типов подземных вод, различающихся по условиям залегания, водообильности и гидрохимическим показателям. Основными являются трещинные, межпластовые и грунтовые воды четвертичных отложений, формирующие сложную водоносную систему района.

Наибольшее влияние на ведение горных работ оказывают воды четвертичных аллювиальных отложений, обладающие высокой водообильностью. Воды палеозойских пород имеют ограниченное практическое значение из-за низкой водоотдачи, несмотря на их широкое распространение.

Межпластовые воды отличаются изменчивыми фильтрационными и напорными характеристиками, что требует учёта при проектировании дренажных систем и оценке гидрогеологического режима месторождения.

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ATSETILEN SPIRTLARINING REAKSION QOBILIYATINI O‘RGANISH

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Annotatsiya: *Ushbu maqolada atsetilen spirtlarining molekulasidagi uglerod-uglerod uch bog‘ining (C≡C) kimyoviy va fizik xossalari o‘rganilgan. Tadqiqotda C≡C bog‘ining birikish reaksiyalarini o‘rganish maqsadida propalgil spirti hamda butin-2-diol-1,4 larni brom bilan tasirlashtirilgan va natijalar tahlil qilingan. Sintez jarayonining reaksiya tenglamalari va reaksion muhit keltirib o‘tilgan hamda umumiy xulosalar berilgan.*

Annotation: *This article examines the chemical and physical properties of the carbon-carbon triple bond (C≡C) in the molecule of acetylene alcohols. The study investigated the reactions of propargyl alcohol and butyn-2-diol-1,4 with bromine to study the reactions of the C≡C bond, and the results were analyzed. The reaction equations of the synthesis process and the reaction medium are given, and general conclusions are given.*

Kalit so‘zlar: *atsetilen, galogen, propalgil spirti, butin-2-diol-1,4, birikish reaksiyalari, katalizator.*

Key words: *acetylene, halogen, propargyl alcohol, butyn-2-diol-1,4, addition reactions, catalyst.*

KIRISH QISMI

Organik kimyo fanida uglerod-uglerod uch bog‘i (C≡C) molekulalarining xossalari va reaksiyalari zamonaviy kimyo va sanoat jarayonlarida muhim ahamiyatga ega [1].

Asetilen spirti molekulasida ham gidroksil (OH) guruh, ham uch bog‘ (≡) saqlagan to‘yinmagan organik birikmalar hisoblanadi. Ushbu spirtlar yuqori

aktivlikka ega moddalardir. Farmatsevtikada, polimerlar hamda organik sintezda oraliq mahsulot sifatida ishlatiladi. Asetilen spirtlarining quyi vakillaridan hisoblangan propalgil spirti va Butin-2-diol 1,4 kabi alkinlar tarkibidagi C≡C bog‘i o‘zining yuqori reaktivligi, qo‘shma reaksiyalarda ishtiroki va funksional guruhlar bilan o‘zaro ta’siri orqali organik sintezda keng qo‘llaniladi. Ushbu bog‘larning xossalarini chuqur o‘rganish nafaqat kimyoviy nazariyani boyitadi, balki farmatsevtika, polimer sanoati, materialshunoslik va yangi biologik faol birikmalar sintezida ham bevosita qo‘llanilishini ta’minlaydi [2; 16-23-b.].

Proplgil spirti va butin-2-diol-1,4 kabi alkinik funktsional guruhga ega organik birikmalar va ulardagi uglerod-uglerod uch (C≡C) bog‘ining kimyoviy xossalari so‘nggi yillarda keng ilmiy tadqiqotlarga tortilgan [3; 2787 b.]. Shu bilan birga, MOF va Pd asosli katalizatorlar yordamida stereoselektiv gidrogenlash va qisman reduktsiya jarayonlari ham tadqiq qilingan, bu C≡C bog‘ining kimyoviy xossalarini modellashtirish va nazariy tushunishga imkon yaratadi [4; 220-224 b., 5; 197-206 b.].

O‘zbekistonlik olimlar ushbu mavzuni mamlakat sharoitida geterogen katalizatorlar yordamida sintez va kinetika tadqiqotlari orqali chuqurlashtirgan[6; 85-90 b., 7;].

ASOSIY QISM

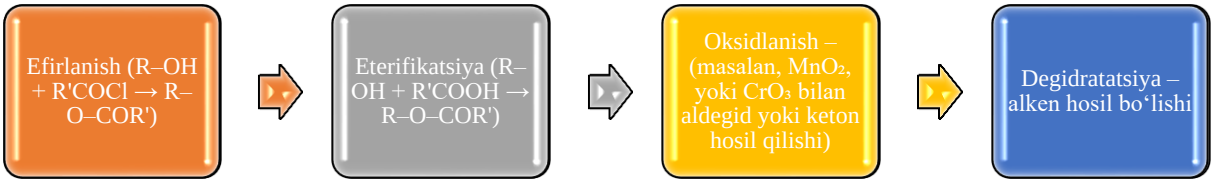
Asetilen spirti molekulasida ham gidroksil (OH) guruh, ham uch bog‘ (≡) saqlagan to‘yinmagan organik birikmalar hisoblanadi. Ushbu spirtlar yuqori aktivlikka ega moddalardir. Farmatsevtikada, polimerlar hamda organik sintezda oraliq mahsulot sifatida ishlatiladi.

Quyidagi jadvalda atsetilen spirtlarining dastlabki vakillari va ularning formuallari keltirilgan

№	Formulasi	Nomi
1	$HC{\equiv}C\text{-}CH_2OH$	Propargil spirt **(3-propin-1-ol):**
2	$CH_3C{\equiv}C\text{-}\ CH_2OH$	**2-butin-1-ol:**

3	$HC\equiv C\text{-}\ CH_2CH_2OH$	**3-butin-1-ol:**
4	$(CH_3\ )_2C(OH)\ C\equiv CH$	**3-metil-1-butin-3-ol:**
5	$HO\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}OH$	**Butin-2-diol-1,4**

To‘yinmagan spirtlar odatda barcha spirtlar kabi quyidagi reaksiyalarda ishtirok etadi:



Efirlanish reaksiyasi kislota va spirtning o‘zaro ta’sirlashuvi natijasida murakkab efir hamda suv hosil bo‘lish jarayoni sanaladi. Mazkur qaytar reaksiyada karbon kislotalar katalizator ishtirokida spirtdagi gidroksil guruhi (-OH) va kislotadagi vodorod atomi (H) hisobiga suv ajratib chiqaradi.

$$R\text{-}COOH + HO\text{-}R \rightarrow RCOOR + H_2O$$

Eterifikatsiya reaksiyasi— karbon kislotalarning mineral kislotalar ishtirokida spirtlar bilan birikib murakkab efirlar hosil qilish reaksiyasi.

To‘yinmagan spirtlar ko‘p bosqichli sintezlar uchun foydali bo‘lib, ularning asosida: β-amino spirtlar (farmatsevtik faol komponentlar), geterotsikllar (furann, oxiran, pirrol), metal komplekslar (ligand sifatida) sintez qilinadi. Ular turli fermentativ jarayonlar va biomimetik reaksiyalar uchun ham model substrat bo‘lib xizmat qiladi. Ayniqsa, asimmetrik kataliz, organokataliz va fotoredoks reaksiyalarda to‘yinmagan spirtlar yuqori selektivlik bilan foydalaniladi. To‘yinmagan spirtlar – bu yuqori reaktivlikka ega, bifunksional reagentlar bo‘lib, zamonaviy organik sintezda ko‘plab murakkab va biologik faol molekulalarni yaratishda asosiy start materiallardan biri hisoblanadi. Ularning gidroksil guruhi va to‘yinmagan bog‘lari turli reaksiyalarni o‘tkazishga imkon bergani bois ular

farmatsevtika, agrokimyo va materialshunoslikda keng qo‘llanilmoqda. Aynan ushbu xususiyatlar ularni innovatsion kimyo yo‘nalishlarining markaziy obyektiga aylantirmoqda.

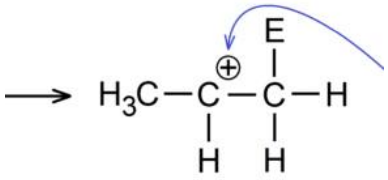
Butin-2-diol 1,4 molekulasi tuzilishi jihatidan $HO–CH_2–C≡C–CH_2–OH$ formulaga ega bo‘lib, markaziy qismida joylashgan C≡C (triple) bog‘ va terminal –OH guruhlari o‘zaro ta’siri natijasida o‘ziga xos kimyoviy xossalarga ega. Triple bog‘ning mavjudligi molekulaga yuqori elektron zichligi, linearlik va selektiv reaktivlik beradi. Terminal gidroksil guruhlari esa molekulani polarlashtiradi hamda reaksiyalarda qo‘shimcha yo‘nalish beruvchi omil sifatida ishtirok etadi.

Gidrogenlash (katalitik qo‘shilish) reaksiyasi. uchbog‘ning eng muhim xossalaridan biri — uning vodorod bilan qo‘shilish reaksiyasiga kirishishidir. Katalizator (masalan, Pd/C yoki Ni) ishtirokida uchbog‘ bosqichma-bosqich qaytariladi Birinchi bosqichda C≡C bog‘ C=C bog‘ga aylanadi:

$$HO–CH_2–C≡C–CH_2–OH + H_2 \rightarrow HO–CH_2–CH=CH–CH_2–OH$$

To‘liq gidrogenlash natijasida esa to‘yingan birikma hosil bo‘ladi:

$$HO–CH_2–CH_2–CH_2–CH_2–OH$$



Bu reaksiya triple bog‘ning π-elektronlari yuqori reaktiv ekanligini ko‘rsatadi. Terminal –OH guruhlari esa molekulaning barqarorligini saqlab qoladi va selektiv gidrogenlash imkonini beradi

XULOSA

Atsetilen spirtlarining molekulasi tarkibida uch bog‘ hamda gidroksil guruhlarining mavjudligi sababli muhim kimyoviy xossalarni beradi. Atsetilen spirtlari asosida turli xildagi sintez jarayonlarini amalga oshirish uchun katalizator,

erituvchi, harorat va eritma muhitining ahamiyati katta hisoblanadi. Ular asosida olinadigan moddalar farmatsevtikada, polimerlar hamda organik sintezda muhim ahamiyatga ega hisoblanadi.

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QISHLOQ XO'JALIGI EKINLARINI SUG'ORISHNING DOLZARB MASALASI

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***Annotatsiya**: Qishloq xo'jaligi ekinlarini sug'orish usullari sug'orish suvini sug'oriladigan uchastkalarga taqsimlash va suvning oqim shaklini tuproq va atmosfera namligiga aylantirishda qo'llaniladigan usul va tadbirlar majmuasi bo'lib, hozirgi vaqtda yer yuzasidan, tuproq ustidan, yomg'irlatib, tuproq orasidan, tomchilatib va aerozol (mayda dispers yomg'irlatib) sug'orishlar farqlanadi*

***Kalit so'zlar:** dispers, aerozol, irrigatsiya eroziyasi, geomorfologik, akveduk, dyuker*

***Annotation;** Irrigation methods for agricultural crops are a set of methods and measures used to distribute irrigation water to irrigated plots and convert the flow of water into soil and atmospheric moisture. From the soil, drip and aerosol (finely dispersed sprinkler) irrigation is distinguished).*

***Keywords:** dispersion, aerosol, irrigation erosion, geomorphological, aqueduct, duke,*

KIRISH

O'zbekiston respublikasi xalq xo'jaligining eng yirik tarmog'i bo'lgan qishloq xo'jaligi mamlakat iqtisodiyotida muhim o'rin tutadi. Respublikamiz mustaqillikka erishgandan so'ng bu sohani rivojlantirish maqsadida mulkchilikning yangicha shakllari teng huquqli asosda ravnaq topishini ta'minlash, bozor iqtisodiyotiga o'tish borasida islohotlarni chuqurlashtirish kabi dolzarb masalalarga alohida e'tibor berilmoqda.

ASOSIY QISM

Yurtimizda qabul qilinayotgan qonunlar, hukumat qarorlari qishloq xo‘jaligida yer-suv resurslaridan yanada samaraliroq foydalanishga, sug'oriladigan gektar mahsuldorligini oshirishga imkon bermoqda. 1998-yil 30-aprelda «qishloq xo'jaligi kooperativi (shirkat xo‘jaligi) to ‘g‘risida», «fermer xo‘jaligi to‘g‘risida», «dehqon xo'jaligi to ‘g‘risida»gi qonun va boshqa me’yoriy hujjatlar qabul qilingan bo‘lib, respublika prezidentining 2003-yil 24- martdagi «qishloq xo'jaligida islohotlarni chuqurlashtirishning eng muhim yo'nalishlari to ‘g‘risida» va 27 - oktabrdagi «2004-2006-yillarda fermer xo'jaliklarini rivojlantirish konsepsiyasi to‘g‘risida»gi farmonlari talablaridan kelib chiqqan holda ularga tegishli qo‘shimcha va o'zgartirishlar kiritildi, yangi tartibdagi «fermerlar xo'jaligi to ‘g‘risida»gi qonun qabul qilindi. Bularning barchasi dehqon va fermer xo‘jaliklarining yer-suv resurslariga bo'lgan munosabatlarini to'laqonli shakllanishiga yo‘l ochdi.

Qishloq xo'jaligi ekinlarini sug'orish usullari sug'orish suvini sug'oriladigan uchastkalarga taqsimlash va suvning oqim shaklini tuproq va atmosfera namligiga aylantirishda qo'llaniladigan usul va tadbirlar majmuasi bo'lib, hozirgi vaqtda yer yuzasidan (tuproq ustidan),yomg'irlatib, tuproq orasidan, tomchilatib va aerozol (mayda dispers yomg'irlatib) sug'orishlar farqlanadi.

Sug'orish texnikasi sug'orishni o'tkazish texnologiyasi va bunda qo'llaniladigan texnik vositalarni o'z ichiga oladi. Sug'orish texnikasi zamonaviy sug'oriladigan dehqonchilikda eng murakkab va mas’ul agromeliorativ tadbir hisoblanadi.sug'orishning sifati va suvdan tejamli foydalanish, sug'orishda ish unumdorligini oshirish, tuproqning qulay suv, havo, tuz va oziq rejimlarini, meliorativ ahvolini ta’minlash, tuproq unumdorligini oshirish ko'p jihatdan sug'orish usulini to'g'ri tanlanganligi hamda sug'orish texnikasini to'g'ri tashkil etilganligi va amalga oshirilishiga bog'liq bo'lib, bularning barchasi ekinlardan yuqori va barqaror hamda sifatli hosil yetishtirish shartlaridir.

Sug'oriladigan yerlardan foydalanish samaradorligi sug'orish usuli va texnikasiga ma’lum darajada bog'liq. Qabul qilingan sug'orish usuli va texnikasi sug'orish suvini dalaga bir tekisda taqsimlash va tuproqning hisobiy qatlamini bir xilda namiqtirish, suvni filtratsiya va oqavaga behuda sarfini eng kam darajaga tushirish, tuproqqa va ekinlarga ishlov berishni mexanizatsiyalash, suvchilar uchun tegishli gigiena sharoitlarini yaratgan holda sug'orishni kechayu-kunduz o'tkazish va ulaming ish unumdorligini oshirish imkoniyatlarini berishi lozim. Tanlangan sug'orish usuli va texnikasi sug'orish tizimida suv taqsimlash jarayonlarini hamda sug'orishni mexanizatsiyalash va avtomatlashtirishga erishishni ta’minlamog'i zarur.

Shuningdek, sug'orishga qilinadigan mehnat sarfi va xarajatlarining eng kam bo'lishligi, sug'orishning tuproqni zichlashuvi va strukturasini buzilishi hamda irrigatsiya eroziyasiga sabab bo'luvchi salbiy ta’sirini eng kam darajada bo'lishi, mazkur usulni ma’lum bir tabiiy sharoitda qo'llash mumkinligi e’tiborga olinadi.

1 - jadval

Turlicha sug‘orish usullarini qo‘llash maqsadlari

Sug‘orish usullari	Tuproqni namiqtirish	Havo namligini oshirish	Nam to’plash	Sho‘r yuvish	O‘g‘itlash	Chiqindi suvlar bilan sug‘orish	Haroratni boshqarish	Provaka-tsion
Yomg‘irlatib	+	+	x	-	+	x	+	+
Tuproq ustidan	+	x	+	+	x	+	-	+
Tuproq orasidan	+	-	-	-	+	+	-	-
Tomchilatib	+	-	-	-	+	-	-	-
Aerozol	-	+	-	-	-	-	+	-

Izoh: maqsadga «+» – muvofiq; «-» – nomuvofiq; «x» – qisman muvofiq.

2 - jadval

Turlicha sug‘orish usullarini qo‘llash sharoitlari

Sug‘orish usullari	Sho‘rlangan tuproqlar	Yengil qumoq tuproqlar	Og‘ir tuproqlar	Murakkab relyefli tuproqlar	Katta nishobli yerlar	Minerallashgan sizot suvlar yaqin joylashgan yerlar	Suv resurslari kam yerlar	Sug‘orish suvlari minerallashgan	Kuchli shamolli rayonlar
Yomg‘irlatib	-	+	x	+	+	+	+	-	x
Tuproq ustidan	+	x	+	x	x	x	x	x	+
Tuproq orasidan	-	x	x	x	+	-	+	-	+
Tomchilatib	-	x	+	+	+	-	+	-	+
Aerozol	+	+	+	+	+	+	+	-	+

Izoh: qo‘llash «+» – mumkin; «-» – mumkin emas; «x» – qisman mumkin.

Qishloq xo'jaligi ekinlarini sug'orish usullari va texnikasini tanlashda joyning iqlim, geomorfologik, gidrogeologik sharoitlari, biologik, xo'jalik, iqtisodiy va boshqa bir qator omillarni e’tiborga olish talab etiladi. Hududning nam bilan ta’minlanganlik darajasi, suvning bug'lanishga sarfi, havoning harorati va nisbiy namligi, shamolning tezligi va yo'nalishi kabi muhim iqlim elementlari ham hisobga olinishi lozim. Hududning nam bilan ta’minlanganlik darajasi bug'lanish kamomadi (mavsum davridagi umumiy bug'lanish *(E)* va yog'in suvlaridan foydalanish *(P)* miqdorlari farqi: $D = E - P$) va namlanish koeffitsienti *(Pn)* ko'rsatkichlari bilan tavsiflanadi. Qabul qilingan sug'orish usuli va texnikasi ushbu kamomadni to'liq yoki undan ko'proq miqdorda ta’minlay olishi zarur.

Sug'orish tizimlari alohida xo'jalikka (dehqon-fermerlar uyushmasi, fermer, dehqon) xizmat ko'rsatayotgan bo'lsa xo'jalik sug'orish tizimi,ikki yoki undan ortiq xo'jalikka xizmat ko'rsatayotgan bo'lsa xo'jaliklararo sug'orish tizimi deb yuritiladi. Agar sug'orish tizimi bir nechta tuman, viloyat yoki respublikalar hududida joylashgan bo'lsa, u tegishlicha tumanlararo, viloyatlararo va respublikalararo sug'orish tizimlari deyiladi. Xo'jalik sug'orish tizimlaridan foydalanish bo'yicha barcha tadbir va xarajatlar xo'jalik tomonidan, xo'jaliklararo tizimlarda esa davlat tomonidan bajariladi va ta’minlanadi.

Geomorfologik sharoitlarga ko'ra tog'oldi (Markaziy Osiyoning tog'li) rayonlarida, daryolarning vodiylarida (yirik daryolar Sirdaryo, Amudaryo, Zarafshon, Chirchiq va b.) va tekisliklardagi suv ayirg'ichlarda (Ukrainaning sahro va yarim sahro rayonlari) tashkil etilgan sug'orish tizimlari o'zaro farqlanadi.

Sug'orish tizimlari tuzilishi (konstruksiyasi), suv uzatish usuli, qo'llanish holatiga qarab ham turlarga bo'linadi. Tuzilishiga ko'ra ochiq,yopiq va aralash; suv o‘z oqimi bilan, mexanik ko‘tarib berish va o‘z oqimi-mexanik, ya’ni aralash usullarda uzatiluvchi; qo'llanish holatiga ko'ra k o‘chmas (turg'un), yarim k o‘chma va ko'chma sug'orish tizimlari ajratib ko'rsatiladi.Ochiq sug'orish tizimlarida barcha yirik va mayda kanallar tuproq yoki to'shamali o'zanga ega yoki beton nov holida ochiq bo'lib, yopiq tizimlarda sug'orish tarmoqlari sifatida bosimli va bosimsiz quvurlardan foydalaniladi. Aralash turdagi tizimlarda yirik taqsimlash kanallari ochiq holda, xo'jalik taqsimlagichlari, karta sug'orish tarmoqlari yopiq quvurlardan iborat bo'ladi.Sug'oriladigan yerlarda qishloq xo'jaligini ixtisoslashganligiga ko'ra quyidagi sug'orish tizimlari o'zaro farqlanadi: paxtachilik, sholichilik, meva-sabzavotchilik va boshqalar. Aholi istiqomat joylari, sanoat va qishloq xo'jaligi korxonalarida shakllanayotgan chiqindi suvlardan namiqtiruvchi-o'g'itlash maqsadlarida foydalanish uchun maxsus tizimlar — chiqindi suvlardan foydalaniladigan sug'orish tizimlari barpo etiladi.

Sug'orish tizimlari murakkab suv xo'jalik majmui bo'lib, quyidagi asosiy tarkibiy qismlardan iborat: bosh suv olish inshooti (sug'orish suvini suv manbaidan olib, magistral kanalga uzatish uchun xizmat qiluvchi to'g'o n , shlyuz, nasos stansiyalari va b.); suv uzatish va taqsimlash kanallari (magistral kanal va uning tarmoqlari, xo'jaliklararo taqsimlagichlar); xo'jalik taqsimlash tarmoqlari (xo'jalik taqsimlagichi, almashlab ekish uchastkasiga suv taqsimlagich); katta sug'orish tarmoqlari (muvaqqat va o'qariqlar, sug'orish

egatlari, yo'laklar va cheklar); oqova tarmoqlari (ortiqcha sug'orish va yog'in suvlarini chiqarib yuboruvchi tashamalar); kollektor zovur tarmog'i (ortiqcha sizot suvlarni tashqariga chiqarib tashlashda qo'llaniladigan birlamchi va guruh zovurlari, vertikal zovurlar, xo'jalik va xo'jaliklararo kollektorlar, magistral kollektorlar); gidrotexnik inshootlar (suv o'lchash-taqsimlash inshootlari, akveduk, dyuker

XULOSA

Qabul qilingan sug'orish usuli va texnikasi sug'orish suvini dalaga bir tekisda taqsimlash va tuproqning hisobiy qatlamini bir xilda namiqtirish, suvni filtratsiya va oqovaga behuda sarfini eng kam darajaga tushirish, tuproqqa va ekinlarga ishlov berishni mexanizatsiyalash, suvchilar uchun tegishli gigiena sharoitlarini yaratgan holda sug'orishni kechayu-kunduz o'tkazish va ulaming ish unumdorligini oshirish imkoniyatlarini berishi lozim. Tanlangan sug'orish usuli va texnikasi sug'orish tizimida suv taqsimlash jarayonlarini hamda sug'orishni mexanizatsiyalash va avtomatlashtirishga erishishni ta’minlamog'i zarur.

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SOYA EKININI INSON SALOMATLIGIDA TUTGAN O‘RNI VA AHAMIYATI

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Annotatsiya; *Ushbu maqolada dukkakli ekin soyaning inson salomatligidagi tutgan o‘rni, ahamiyati, shifobaxsh xususiyatlari aniq misollar bilan tahlil etilganligi bilan yanada katta ahamiyat kasb etadi*

Kalit so‘zlar;*, soya, oqsil, soya moyi,soya suti, soya shroti, soya poxoli, protein, mikroelementlar*

Annotation; *In this article, the role, importance, and healing properties of the legume soybean in human health are analyzed with specific examples.*

Keywords; *soybean, protein, soybean oil, soybean milk, soybean meal, soybean straw, protein, microelements*

KIRISH

O‘zbekiston Respublikasi Vazirlar Mahkamasining 2017 yil 31 yanvardagi “2017 yilda moyli ekinlarni etishtirish bo‘yicha Qoraqalpog‘iston Respublikasi Vazirlar kengashi va viloyatlar hokimliklari hamda “O‘zpaxtayog‘” AJ tomonidan amalga oshiriladigan chora-tadbirlar” Dasturiga muvofiq Qoraqalpog‘iston Respublikasi va viloyatlarda moyli ekinlarni etishtirish hajmlarini ko‘paytirish hamda mazkur chora tadbirlar dasturining bajarilishini tashkil etish bo‘yicha hududlarda tadbirlarning belgilangan muddadlarda va to‘laqonli bajarilishi ustidan

muntazam monitoring yuritish, mavjud muammolar va kamchiliklarni bartaraf etish bo‘yicha ishlar olib borilmoqda.

ASOSIY QISM

Respublikamizda dehqonchilik madaniyatini ko‘tarish, fan-texnika yutuqlari va ilg‘orlar tajribasini keng joriy qilish evaziga ekinlarning hosildorligini oshirish, hosil sifatini yaxshilash, ayniqsa mamlakatimizda don mustaqilligini ta’minlash ustida katta tadbirlar amalga oshirilmoqda. Ekinlar strukturasining o‘zgarishi munosabati bilan dukkakli don ekinlaridan yuqori va sifatli xosil etishtirishda intensiv texnologiyalardan biri sug‘oriladigan maydonlarda ekilgan boshoqli don ekinlarini yig‘ishtirib olingandan so‘ng, bo‘shagan maydonlarda soya va moshning ertapishar navlarini takroriy ekin sifatida ekib, don etishtirishni ko‘paytirishdan iborat.

Respublikamiz xalq xo‘jaligi uning dexqonchilik va chorvachilikning rivojlanishi juda muximdir. Dexqonchilik sohasida keyingi yillarda paxta tolasi va don ishlab chiqarishni oshirish bo‘yicha ko‘pgina qarorlar qabul qilindi va don ishlar chiqarishda muayyan yutuqlarga erishildi. Bugungi kunda etishtirilayotgan mavjud don respublikamiz aholisi talabini to‘la qondira oladi. Ammo don chorvachilikni rivojlantirish uchun ham zarur. Bunda donli ekinlar biologiyasini o‘rganish, seleksiya va urug‘chilik ishlarini kuchaytirish, shuningdek donli em-xashak ekinlarni etishtirish texnologiyasini ishlab chiqish juda muhim.

Insonning ovqatlanishi uning yoshi, jinsi va mexnat faoliyatiga bog‘liq bo‘lgan holda turlicha bo‘lishi lozim. Kundalik ratsionda inson oqsil, uglevodlar, vitaminlar, mineral moddalar va boshqalarni iste’mol etishi lozim. Inson qanchalik turli-tuman oziqlansa, uning xayot faoliyati shunchalik faol, organizm esa shunchalik sog‘lom bo‘ladi. Ayniqsa har birimiz kundalik stresslar, depressiyalar, asab-psixologik zo‘riqishlar va toliqish muhitning salbiy ta’sirlariga uchraganimizda bunday oziqlanishning nechog‘lik muximligini anglaymiz.

Ta’kidlash joizki, inson organizmi maromida faoliyat ko‘rsatishi uchun oqsilga talab bir kunda uning vaznining har bir kilogrami uchun 0,7 gr dan kam bo‘lmasligi lozim.

Keyingi yillarda oziq-ovqat maxsulotlari va chorva uchun em ishlab chiqarishning jadallashishi soya doni etishtirishni ko‘paytirishni taqozo etmokda. Soya tarkibida to‘la qimmatli nodir oqsil mavjud bo‘lib, u oziqlik qimmati bo‘yicha xayvon oqsilidan qolishmaydi. Uning tarkibida noyob biologik faol moddalar, lesitin, xolin, A, V va Ye vitaminlari, makro va mikroelementlar va boshqa qimmatli moddalar mavjud. Soya tarkibida laktoza va xolesterin uchramaydi. Shuni alohida ta’kidlash joizki, kalloriyasi va asosiy oziqlik va biologik faol moddalar tarkibi bo‘yicha ushbu maxsulot muqobil balanslangandir.

Soya juda qadimiy ekin hisoblanadi. Soya turlari va shakllarining xilma-xilligini o‘rganar ekan, olimlar uni asosan uchta markazda shakllangan deb hisoblashadilar: Janubiy-Sharqiy Osiyo, Avstraliya va Sharqiy Afrika. Ammo ko‘pgina olimlar o‘simlikning kelib chiqishi deb Xitoy markazini ko‘proq tan olishadi–Xitoy, Koreya, Hindiston, Yaponiya. Yevropa va AQShda soya 1712 yilda paydo bo‘lgan. Ko‘p asrlar davomida soya va uning mahsulotlari sharq mamlakatlari aholisi uchun asosiy oqsil manbasi sifatida xizmat qildi. Xitoyda soya 6-7 ming yil avval madaniylashtirilgan. U Yaponiya, Hindiston va Indoneziya, Vetnam va Osiyoning boshqa mamlakatlarida ham qadimdan ekiladi. Xitoydan Uzoq Sharqqa soya eramizdan 3 ming yil avval kirib borgan. Soya uchun Rossiyaning tabiiy-iqlim sharoitlari qulay bo‘lgan Amur viloyati, Xabarovsk va Primorsk o‘lkalarida bu ekin qadimdan etishtiriladi. Keyinchalik Gruziya, Ukraina, Kuban va Shimoliy Kavkazda etishtirila boshlangan.

Ma’lumki, oqsil taqchilligi muhim muammodir, uning etishmasligi ko‘pgina kasalliklarni keltirib chiqaradi. Oziq-ovqat maxsulotlari orasida soya salmog‘ini oshirish bilan nafaqat bu muammoni hal etish, balki tibbiy preparatlar iste’molini ham birmuncha kamaytirish mumkin.

Soyadan ishlab chiqariladigan asosiy mahsulotlar - bu soya uni va soya moyidir. Soya uni qandolatchilik mahsulotlari, to‘ldiruvchilar, go‘sht, sut, pishloq o‘rnini bosuvchi mahsulotlar ishlab chiqarishda qo‘llaniladi. Moyi esa oziq-ovqatda, mayonez, margarin ishlab chiqarishda ishlatiladi. Ko‘pgina olimlar va ishlab chiqaruvchilar «soya - oziq-ovqat, em-xashak va kelajak» deyishadi. Soya yordamida to‘la qimmatli o‘simlik oqsili ishlab chiqarish muammosi hal etiladi. Soya etishtirish quyidagi maqsadlarni o‘z ichiga oladi:

Inson ozuqasini yaxshilash. Soya etishtiriladigan ko‘pgina mamlakatlarda oziq-ovqat sanoati uchun yagona oqsil manbai bo‘lib bormoqda. RTFA (Rossiya tibbiy fanlar akademiyasi) oziq-ovqat instituti ma’lumotiga ko‘ra soyadan tayyorlangan mahsulotlarni quyidagi kasalliklarda tavsiya etish mumkin: ateroskleroz, gipertoniya, yurak ishemiyasi, miokard-infarktni o‘kazgandan keyingi tiklanish davrida, o‘t pufagining surunkali yallig‘lanishi, qandli diabet, surunkali qabziyat, yog‘ bosish, tayanch-xarakat organlari kasalliklari (artrit, artroz), allergik kasalliklar.

Soya mahsulotlariga nisbatan biror cheklashlar yoki ularni iste’mol etmaslik ko‘rsatmalari hozirgacha yo‘q.

Chorva mahsuldorligini oshirish uchun hayvonlar soya emi bilan oziqlantirilganda ularning sutkalik vazn ortishi ikki barobarga ko‘payadi. Bunda 100 kg tirik vaznga erishish uchun oziqlantirish davri 10-15 kunga qisqaradi, mahsulot sifati esa ortadi. Yem-xashak maqsadida soyaning kunjarasi, shroti, uni va ko‘katidan foydalaniladi. Kunjaraning tarkibida 38,7% protein, 5,5% moy mavjud. Soya kunjarasi va uni buzoqlar ratsionida sut o‘rnini bosadi. 1 t soya donidan tarkibida 40% protein va 1,4% moy bo‘lganda 750-800 kg shrot olish mumkin, U chorva uchun qimmatli konsentratlangan em hisoblanadi.

Soyaning ko‘kati ham qimmatli em-xashakdir. Uning eng yuqori ozuqalik qimmati gullash va donning to‘lishi davrida yig‘ib olinganda kuzatiladi. Soya ko‘katining bir ozuqa birligiga 145-301gr protein to‘g‘ri keladi. Uning ko‘katida

karotin, oqsil va kalsiy miqdori boshoqli ekinlarnikiga nisbatan ancha ko‘p. Soya pichani ham qimmatli hisoblanadi: uning 1 kg da 0,47-0,54 ozyqa birligi, 110-150 g protein mavjud, Soya poxoli xam em-xashak sifatida ishlatilishi mumkin. Unda 2-4,8% protein, 1,5-2,9% moy mavjud.

Sanoat maxsulotlari ishlab chiqarish uchun soyaning oziq-ovqat sanoati va chorvachilikda ishlatilmaydigan chiqindilaridan turli maxsulotlar - qurilish plitalari, matolar, sun’iy o‘g‘itlar, soya moyi ishlab chiqarish qoldiqlaridan bo‘yoq, sovun, laq qora bo‘yoq, rezina maxsulotlari ishlab chiqarish mumkin.

Texnika ekini sifatida soya sovun, lak-bo‘yoq, to‘qimachiliq kimyo va sanoat tarmoqlarida qo‘llaniladi. Soyadan plastmassa, plyonka, linoleum, texnik moy va boshqa ko‘pgina maxsulotlar tayyorlanadi.

Soya etarlicha yuqori sifatga ega, ya’ni oqsil va moyga boy bo‘lsada, bugungi kunda O‘zbekistonda qishloq xo‘jaligiga keng tadbiq etilmagan. Uning turli navlarida 57% gacha parxez oqsil, engil xazm bo‘luvchi to‘yinmagan moy va 30% gacha uglevodlari (asosan mono va disaxaridlar) mavjud, ularda biologik faol moddalar va vitaminlar: A, B_1, V_2, V_3, V_6, Ye, S, D, Q RR va boshqalar, shuningdek Mp, Mo, Mg, V, G‘e kabi mikroelementlar mavjud. Ularning barchasi kundalik xayotimiz va chorva ratsioni uchun juda muximdir.

XULOSA

Soya ildizining xususiyati va ularda tyganak bakteriyalarining mavjudligi ushbu o‘cimlikni azot o‘zlashtiradigan o‘cimliklar qatoriga kiritadi. Soya agrotexnik axamiyatga xam egadir. Dukkakli ekin sifatida soya tuproqni azot bilan boyitadi, bir yilda 1 ga da o‘rtacha 70-100 kg azot to‘planadi. Soyadan so‘ng dala begona o‘tlardan ancha tozalanadi, soya ko‘pgina ekinlar uchun juda yaxshi o‘tmishdosh bo‘la oladi. Bundan tashqari soya siderat ekin sifatida ham qo‘llaniladi.

Bundan tashqari mazkur yo‘l bilan hosil bo‘lgan biologik azot ekologik toza bo‘lib, u tuproqqa, sizot suvlariga, iste’molchilarga zaharli ta’sir ko‘rsatmaydi, shuningdek u sun’iy azotli o‘g‘itlar singari mevalarda to‘planmaydi.

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BUTIN-2-DIOL-1,4 NING SIRKA KISLOTA BILAN ETERIFIKATSIYA REAKSIYASINI O‘RGANISH

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Annotatsiya: *Ushbu maqolada asetilen spirtlaridan hisoblangan butin-2-diol-1,4 ning fizik-kimyoviy xossalari o‘rganilgan. Bunda butin-2-diol-1,4 ning ning sirka kislotasi bilan hosil qilgan butin-2 diol-1,4 diatsetat efirining sintez qilinishi jarayonlari, sintez uchun kerakli reaktiv va materiallar, katalizatorlar, reaksiya muhiti, harorat va erituvchilar keltirib o‘tilgan. Bundan tashqari uchbu sintez jarayonida olingan efirning xossalari keltirib o‘tilgan.*

Annotation: *This article studies the physicochemical properties of butyn-2-diol-1,4, one of the acetylenic alcohols. The synthesis processes of butyn-2-diol-1,4 diacetate ester formed by the reaction of butyn-2-diol-1,4 with acetic acid, the reagents and materials required for the synthesis, catalysts, reaction medium, temperature, and solvents are presented. In addition, the properties of the ester obtained in these three synthesis processes are presented.*

Kalit so‘zlar: *asetilen, spirt, murakkab efir, gidrogenlash, sirka kislota, organik sintez, katalizator, butin-2-diol-1,4*

Key words: *acetylene, alcohol, complex ether, hydrogenation, acetic acid, organic synthesis, catalyst, butyn-2-diol-1,4*

KIRISH

Butin-2-diol-1,4 ning molekulyar formulasi $C_4H_6O_2$ holatida bo‘lib, ushbu diol $HOCH_2$-C≡C-CH_2OH ko‘rinishdagi struktura formulasiga ega. Butin-2-diol-1,4 ning agregat holati qattiq bo‘lib uning molyar massasi 86,09g/molni tashkil etadi va zichligi esa 1,017g/ml ga teng. Oddiy sharoitlarda u suvda eriydigan rangsiz yoki och jigarrang kristall modda hisoblanadi. Suvli eritmada esa kuygan non hidili sariq-

jigarrang tiniq eritma hosil qiladi. Vaqt o‘tishi bilan eritma shaffoflikni yo‘qotishi mumkin, lekin bu uning kimyoviy xususiyatlarga ta’sir qilmaydi. Bundan tashqari aseton va spirtlarda ham eriydi. Zaharli va yonuvchan modda hisoblanadi [1; 16-23-b., 2;].

Butin-2-diol-1,4 ikki atomli spirt ya’ni glikol hisoblanib yuqori reaktiv va barqaror modda hisoblanadi. Ushbu modda oksidlanish, polimerlanish, almashinish, birikish kabi kimyoviy reaksiyalarga faol kirishadi. Galogenlar, karboksilik va dikarboksilik kislotalar, vodorod xlorid va vodorod sulfidi, ammiak, kislorod, vodorod, metallar, ishqorlar bilan o‘zaro ta’sir qiladi [3; 4; 85-90-b.].

Butin-2-diol-1,4 kimyo sohasida muhim moddalardan biri bo’lib, butandiol olishda, ko’plab organik sintez jarayonlarida, polimerlar moddalar va ko’plab qimmatbaho moddalar ishlab chiqarishda asosiy xom ashyo sifatida foydalaniladi. Qishloq xo’jaligi uchun ishlatiladigan gerbidsidlarning asosiy tarkibiy qismidir. Bundan tashqari bo’yoq sanoatida bo’yoqlar uchun erituvchilar ishlab chiqrishda keng qo’llaniladi [5; 220-224 b. 6;].

ASOSIY QISM

Butin-2-diol-1,4 karbon kislotalar bilan o‘zaro tasirlashishi natijasida karbon kislotaning miqdoriga qarab mono va di efirlarini hosil qilishi mumkin. Bu jarayonda butin-2-diol-1,4 karbon kislotalar bilan 1:1 mol nisbatda reaksiyaga kirishsa butin-2-diol-1,4 ning mono efirlari hosil bo‘ladi ya’ni dioldagi bitta OH guruhi karbon kislota bilan o‘zaro tasirlashishi mumkin. Agar shu jarayonni o‘zida butin-2-diol-1,4 karbon kislotalar bilan 1:2 mol nisbatda reaksiyaga kirishsa butin-2-diol-1,4 ning di efirlari hosil bo‘ladi ya’ni dioldagi ikkita OH guruhi ham karbon kislotadagi karboksil guruhi bilan o‘zaro tasirlashishi mumkin. Ushbu kimyoviy jarayonlar etirifikatsiya reaksiyasi hisoblanib diol va karbon kislota tasirlashuvidan murakkab efir va suv hosil bo‘ladi. Shuning uchun katalizator sifatida suvni o‘ziga tortadigan moddalardan ya’ni sulfat kislota yoki $ZnCl_2$ kabi moddalardan foydalanish samarali hisoblanadi. Bu jarayonda ushbu moddalar reaksiya jarayonida

ajralib chiqayotgan suvni o‘ziga tortib jarayonni mahsulot unumi hosil bo‘lishi tomonga siljitadi.

Butin-2-diol-1,4 ning dastlabki efirlaridan biri hisoblangan butin-2-diol-1,4 diatsetatning sintezi uchun butin-2-diol-1,4 va konsentrlangan sirka kislotasini 1:2 mol nisbatda olib tasirlashtiriladi. Ushbu jarayonda katalizatorni to‘g‘ri tanlash va haroratni meyorida ushlash ahamiyatli hisoblanadi. Butin-2-diol-1,4 diatsetatning sintezi uchun konsentrlangan sulfat kislota katalizator va suv tortuvchi modda sifatida tanlab olindi.

Ushbu sintezni amalga oshirish uchun kerakli jihozlarga maxsus elektr isitish pechi, 250 ml hajmdagi temperaturaga chidamli kolbalar, magnitli aralashtirgich, suvutgichlar, analitik tarozi, voronkalar, ajratish voronkasi, indikator qog‘ozlari va pipetkalar kerak bo‘ladi. Jarayonni amalga oshirish uchun kerakli bo‘lgan reaktivlarga esa butin-2-diol-1,4, konsentrlangan sirka kislotasi, konsentrlangan sulfat kislotasi, K_2CO_3, benzol kabi moddalar kerak bo‘ladi.

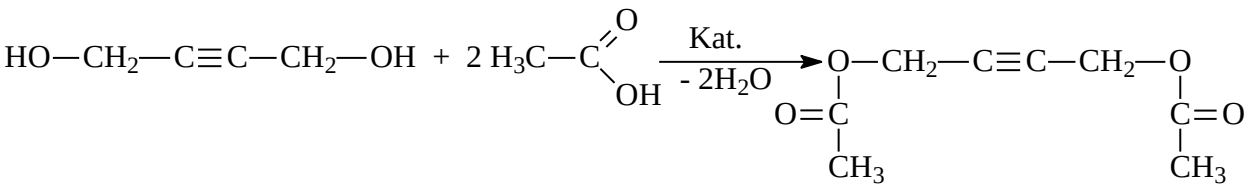
Tubi yumaloq bir og‘izli 200 ml li kolba olib unga 38,61 ml (36,6 g, ρ=1.055 g/ml, 0,61 mol) sirka kislota, 23,24 ml (25,8 g, ρ = 1.11 g/ml, 0,3 mol butin-2-diol-1,4), 50 ml benzol olindi va sovutib turilgan holda ustiga 1 ml konsentrlangan sulfat kislota quyildi. Bu jarayonda quruq moddalar analitik tarozi orqali aniq massada o‘lchab olinadi. Kolbaga lovushka (Dinastarka) va teskari sovutgich ulab, qurilma germetik ekanligiga ishonch hosil qilinadi hamda moy xammomida 80-85 ^oC haroratda magnitli aralashtirgich yordamida aralashtirib turilgan holda qaynatildi. Reaksion aralashma qaynashi bilan lovushkada suyuqlik to‘plana boshladi. Sekin asta lovushkadagi suyuqlik ikki qatlamga bo‘lina boshladi. Reaksiya davomiyligi ikki soatga yetganda esa suv ajralib chiqishi yaqqol ko‘rina boshladi. Suv ajralib chiqishi tugagandan so‘ng reaksiya to‘xtatildi (taxminan 5-6 soat). Reaksion aralashma sovutilgandan so‘ng xona haroratida suv bilan (2 marta) ekstraksiya qilib yuvildi. So‘ngra natriy gidrokarbonatning 10 % li eritmasi bilan neytral muhitga kelguncha ekstraksiya qilib yuvildi. Keyin yana suv bilan yuvildi. Organik qism

ajratilib unga qurituvchi sifatida suvsiz Na_2SO_4 solindi va bir kecha qoldirildi. Qurituvchi filtrlandi va filtrat deflegmatorli kolbada vakuumda haydash uchun tayyorlandi. Butin-2 diol-1,4 diatsetatning 0.1 atm bosmda 225 ^{0}C da haydab olindi.

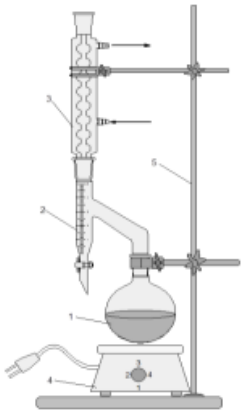
Ushbu jarayonda hosil bo‘lgan butin-1,4-diol diatsetat rangsiz suyuqlik bo‘lib uning nisbiy molekulyar massasi 170 ga teng. Hisob kitoblarga asoslangan sintez natijasida reaksiya unumi 78% bo‘lganligi hamda hosil bo‘lgan efirning massasi 39,78 g va hajmi esa 34 ml ni tashkil etadi. Hosil bo‘lgan efirning zichligi 1,17 g/ml ga teng ekanligi aniqlandi.

Hosil bo‘lgan efirning refruktometr asbobi orqali nur sindirish ko‘rsatkichi 1,457 ekanligi aniqlandi.

Ushbu jarayonda butin-2-diol-1,4 va sirka kislotasi tasirlashadi va quyidagi reaksiya tenglamasi boradi.



Jarayonni borish sxemasini quyidagi rasm orqali ko‘rish mumkin.



Sintez moslamasi.

1- Qaynash uchun mo‘ljallangan kolba; 2 – lovushka; 3 – teskari sovutgich;

4 – elektr qizdirgich; 5 - laboratoriya shtativi.

XULOSA

Ushbu sintez jarayonida butin-2-diol-1,4 ning sirka kislotasi bilan tasirlashuvi natijasida butin-2-diol-1,4 murakkab efirlarini olish va ushbu sintez jarayonidagi sharoitlar o‘rganildi. Natijada hosil bo’lgan murakkab efirning xossalari taxlil qilindi. Butin-2-diol-1,4 sirka kislota bilan tasirlashganda ikki xil murakkab efir: butin-2-diol-1,4 monoatsetat va butin-2-diol-1,4 diatsetatlarni hosil qilishi mumkin. Ushbu efirlarni hosil qilish uchun katalizator sifatida sulfat kislotadan foydalanish reaksiya unumini oshishiga sabab bo’ladi. Reaksion muhitda erituvchi sifatida benzoldan foydalanildi.

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IMMUN TIZIMI BUZILISHLARINING GISTOLOGIK O‘ZGARISHLARI

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Annotatsiya: *Ushbu maqolada immun tizimi buzilishlari natijasida organizm to‘qimalarida yuzaga keladigan gistologik o‘zgarishlar tahlil qilinadi. Immun tizimi organizmning himoya mexanizmlarini boshqaruvchi murakkab tizim bo‘lib, uning faoliyati buzilganda yallig‘lanish, autoimmun jarayonlar, allergik reaksiyalar hamda immun yetishmovchilik holatlari rivojlanadi. Mazkur patologik jarayonlar hujayra va to‘qimalarda morfologik o‘zgarishlarni*

yuzaga keltiradi. Maqolada limfoid organlar, qon hujayralari hamda ichki a'zolardagi gistologik o'zgarishlar ilmiy manbalar asosida yoritilgan.

Kalit so'zlar: *immun tizimi, gistologiya, limfotsit, autoimmun kasallik, yallig'lanish, immun yetishmovchilik, morfologik o'zgarish.*

Аннотация: *В данной статье рассматриваются гистологические изменения, возникающие в тканях организма при нарушениях иммунной системы. Иммунная система представляет собой сложный механизм защиты организма, и при нарушении её функций развиваются воспалительные процессы, аутоиммунные заболевания, аллергические реакции и иммунодефицитные состояния. Эти патологические процессы вызывают морфологические изменения в клетках и тканях. В статье освещаются гистологические изменения в лимфоидных органах, клетках крови и внутренних органах на основе научных источников.*

Ключевые слова: *иммунная система, гистология, лимфоцит, аутоиммунное заболевание, воспаление, иммунодефицит, морфологические изменения.*

Abstract: *This article analyzes histological changes occurring in body tissues due to immune system disorders. The immune system is a complex defense mechanism of the body, and dysfunction of this system leads to inflammation, autoimmune diseases, allergic reactions, and immunodeficiency conditions. These pathological processes cause morphological alterations in cells and tissues. The article highlights histological changes in lymphoid organs, blood cells, and internal organs based on scientific literature.*

Keywords: *immune system, histology, lymphocyte, autoimmune disease, inflammation, immunodeficiency, morphological changes.*

KIRISH

Immun tizimi organizmning ichki muhitini barqaror saqlashda muhim rol o'ynaydi. U organizmni bakteriyalar, viruslar, zamburug'lar va boshqa yot antigenlardan himoya qiladi. Immun tizimining asosiy vazifasi organizmga kirgan begona moddalarga qarshi himoya reaksiyasini hosil qilishdan iborat. Immun tizimi markaziy va periferik limfoid organlardan tashkil topgan bo'lib, unga suyak ko'migi, timus, limfa tugunlari, taloq va limfoid to'qimalar kiradi.

Immun tizimi faoliyatining buzilishi turli patologik jarayonlarga sabab bo'ladi. Jumladan, immun yetishmovchilik, autoimmun kasalliklar, allergik

reaksiyalar va surunkali yallig‘lanish holatlari rivojlanadi. Ushbu kasalliklar natijasida hujayralarda degenerativ, nekrotik va proliferativ o‘zgarishlar yuz beradi. Gistologik tekshiruvlar immun tizimi kasalliklarini aniqlash va ularning rivojlanish mexanizmlarini tushunishda muhim ahamiyatga ega.

ASOSIY QISM

1. Immun tizimining gistologik tuzilishi

Immun tizimi limfoid to‘qimalardan tashkil topgan bo‘lib, asosiy hujayralari limfotsitlar hisoblanadi. Limfoid organlar markaziy va periferik guruhlarga bo‘linadi.

Markaziy limfoid organlar:

1) Suyak ko‘migi
2) Timus

Periferik limfoid organlar:

1) Limfa tugunlari
2) Taloq
3) Bodomsimon bezlar
4) Peyer pilakchalari

Timusda T-limfotsitlar yetiladi. Gistologik jihatdan timus po‘stloq va mag‘iz qismlaridan tashkil topgan. Po‘stloq qismida yosh limfotsitlar ko‘p bo‘lsa, mag‘iz qismida Gassal tanachalari joylashadi.

Limfa tugunlari kapsula, po‘stloq va mag‘iz qismlaridan iborat. Ularning asosiy vazifasi limfani filtrlash va antigenlarga qarshi immun javobni shakllantirishdir.

2. Immun tizimi buzilishlarining turlari

Immun tizimi buzilishlari quyidagi asosiy guruhlarga bo‘linadi:

1) Immun yetishmovchilik holatlari
2) Autoimmun kasalliklar
3) Allergik reaksiyalar

4) Limfoproliferativ kasalliklar

Har bir holatda gistologik o‘zgarishlar turlicha namoyon bo‘ladi.

3. Immun yetishmovchilik holatlaridagi gistologik o‘zgarishlar

Immun yetishmovchilik tug‘ma yoki orttirilgan bo‘lishi mumkin. Tug‘ma immun yetishmovchiliklarda limfoid organlarning rivojlanishi sustlashadi.

Timus gipoplaziyasi

1) Timus kichrayadi
2) Po‘stloq qismi yupqalashadi
3) Limfotsitlar soni kamayadi
4) Gassal tanachalari degeneratsiyaga uchraydi

Limfa tugunlarida:

1) Limfoid follikulalar kamayadi
2) Germinativ markazlar rivojlanmaydi
3) Limfotsitlar soni keskin kamayadi

OITS kasalligida:

1) CD4 T-limfotsitlar kamayadi
2) Limfa tugunlarida dastlab giperplaziya
3) Keyinchalik atrofiya rivojlanadi
4) Taloqda oq pulpa kichrayadi

4. Autoimmun kasalliklardagi gistologik o‘zgarishlar

Autoimmun kasalliklarda immun tizimi organizmning o‘z to‘qimalariga qarshi antitana ishlab chiqaradi.

Revmatoid artrit

Sinovial pardada:

1) Limfotsitar infiltratsiya
2) Fibroblast proliferatsiyasi
3) Qon tomirlar ko‘payishi
4) Pannus hosil bo‘lishi

Autoimmun tireoidit

1) Limfotsit infiltratsiyasi
2) Qalqonsimon bez follikulalarining buzilishi
3) Fibroz rivojlanishi

Sistemali qizil yugurik (SLE)

Buyraklarda:

1) Immun komplekslar to‘planishi
2) Glomerulonefrit rivojlanishi
3) Bazal membrana qalinlashishi
4) Kapillyar proliferatsiyasi
5) Nekroz o‘choqlari

5. Allergik reaksiyalardagi gistologik o‘zgarishlar

Allergik reaksiyalar yuqori sezuvchanlik bilan bog‘liq patologik holatlardir.

Bronxial astma

1) Bronx devori qalinlashadi
2) Eozinofillar ko‘payadi
3) Shilliq bezlar giperplaziyasi kuzatiladi

Allergik dermatit

1) Epidermisda spongioz
2) Dermada limfotsitar infiltratsiya
3) Qon tomirlarning kengayishi

Anafilaktik reaksiyalar

Mast hujayralar degranulyatsiyasi kuzatilib, gistamin ajralishi natijasida tomir o‘tkazuvchanligi ortadi.

6. Limfoproliferativ kasalliklar

Immun tizimi hujayralarining nazoratsiz ko‘payishi limfoma va leykozlarni yuzaga keltiradi.

Xodjkin limfomasi

1) Rid-Shternberg hujayralari
2) Limfoid to‘qima destruksiyasi
3) Fibroz

No-Xodjkin limfomalari

1) Atipik limfotsitlar proliferatsiyasi
2) Limfa tuguni arxitektonikasining buzilishi

Leykozlar

Suyak ko‘migida blast hujayralar ko‘payib, normal gemopoez susayadi.

7. Yallig‘lanish va immun javobning gistologik asoslari

Yallig‘lanish immun tizimining asosiy himoya reaksiyalaridan biridir.

O‘tkir yallig‘lanish:

1) Neytrofillar infiltratsiyasi
2) Ekssudatsiya
3) Qon tomirlarning kengayishi

Surunkali yallig‘lanish:

1) Makrofaglar
2) Limfotsitlar
3) Fibroz rivojlanishi

Granulyomatoz yallig‘lanish:

1) Epitelioid hujayralar
2) Gigant hujayralar hosil bo‘ladi

8. Immun tizimi buzilishlarini gistologik tekshirish usullari

Quyidagi zamonaviy usullar qo‘llaniladi:

1) Gistologik bo‘yash usullari
2) Gematoksilin-eozin bo‘yog‘i
3) Immunogistokimyo
4) Elektron mikroskopiya
5) Oqim sitometriyasi

Immunogistokimyoviy markerlar:

1) CD3 - T-limfotsitlar
2) CD20 - B-limfotsitlar
3) CD68 - makrofaglar

9. Immun tizimi buzilishlarining klinik ahamiyati

Gistologik o‘zgarishlarni aniqlash kasallikni erta tashxislashda muhimdir.

Morfologik tekshiruv:

1) Kasallik bosqichini aniqlaydi
2) Davolash samaradorligini baholaydi
3) Prognozni belgilaydi

Ayniqsa onkologik va autoimmun kasalliklarda biopsiya muhim diagnostik ahamiyatga ega.

XULOSA

Immun tizimi organizmning asosiy himoya tizimi hisoblanadi. Uning faoliyati buzilganda hujayra va to‘qimalarda chuqur morfologik o‘zgarishlar rivojlanadi. Immun yetishmovchilik, autoimmun kasalliklar, allergik reaksiyalar va limfoproliferativ jarayonlar gistologik jihatdan turli xil patologik belgilar bilan namoyon bo‘ladi.

Gistologik va immunogistokimyoviy tekshiruvlar ushbu kasalliklarni aniqlash, differensial tashxislash va davolash samaradorligini baholashda muhim o‘rin tutadi. Zamonaviy tibbiyotda immun tizimi patologiyalarini o‘rganish diagnostika va terapiyaning rivojlanishiga katta hissa qo‘shmoqda.

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ASTRAGALUS CAMPYLORRHYNCHUS O‘SIMLIGINING YER OSTKI QISMI SUVDA ERIYDIGAN VITAMINLAR TARKIBI

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Annotatsiya: *Ushbu maqolada Astragalus campylorrhynchus (Fabaceae) o‘simligining ildizidagi vitaminlar miqdoriy ko‘rsatkichlari HPLC-DAD usuli yordamida aniqlash natijalari bayon etilgan. Tadqiqotlar natijasida vitaminlarni o‘simlikning turli organlarda ularning miqdori turlicha ekanligi qayd etildi. Spektral natijalar asosida vitaminlarning ildizda B_9 vitamini – 1.451 mg/100 g ekanligi aniqlandi.*

Kalit so‘zlar: *Astragalus campylorrhynchus, vitamin C, vitamin B_9, vitamin B_{12}, vitamin B_2, HPLC-DAD, spektral tahlil.*

Abstract: *This article presents the results of determining the quantitative content of vitamins in the roots of Astragalus campylorrhynchus (Fabaceae) using the HPLC-DAD method. The study revealed that the amount of vitamins varies across different organs of the plant. Based on spectral analysis results, it was determined that the content of vitamin B9 in the root is 1.451 mg/100 g.*

Keywords: *Astragalus campylorrhynchus, vitamin C, vitamin B9, vitamin B12, vitamin B2, HPLC-DAD, spectral analysis.*

KIRISH

Astragalus turkumiga mansub o‘simliklar dunyo bo‘ylab keng tarqalgan bo‘lib, ularning ko‘pchiligi xalq tabobatida immunitetni oshiruvchi, yallig‘lanishga qarshi va antioksidant vosita sifatida ishlatilgan. Astragalus membranaceus va Astragalus mongholicus kabi turlar farmatsevtikada keng qo‘llaniladi. Astragalus campylorrhynchus esa O‘zbekiston florasida uchraydigan noyob tur bo‘lib, uning

kimyoviy va vitamin tarkibi haqida ma’lumotlar juda kam. Shu sababli mazkur tadqiqot o‘simlikning vitamin tarkibini aniqlash va spektral profillarini tuzishga qaratildi.

Astragalus turkumiga kiruvchi o‘simliklarning farmatsevtika va biologik faol qo‘shimchalarda qo‘llanilishi turlicha bo‘lib, ayniqsa *Astragalus membranaceus* va *Astragalus mongholicus* dorivor xomashyo sifatida keng qo‘llaniladi hamda immunomodulyator, kardioprotektor va nefroprotektor xususiyatlari bilan ajralib turadi. *Astragalus complanatus* urug‘idan olingan ekstraktlar antioksidant va qarishga qarshi qo‘shimchalar ishlab chiqarishda ahamiyatli, *Astragalus gummifer* esa tragakant saqichi manbai sifatida farmatsevtik texnologiyada muhim o‘rin egallaydi. Qolgan turlar esa asosan xalq tabobatida yoki dastlabki ilmiy tadqiqotlarda qayd etilgan bo‘lib, ularning farmatsevtika sanoatidagi qo‘llanilishi kelajakda yanada chuqurroq o‘rganishni talab etadi.

Adabiyotlar tahlili shuni ko‘rsatadiki, Astragalus turlarining biofaol komponentlari ko‘proq polisaxaridlar va saponinlarga bog‘langan holda o‘rganilgan, ammo vitaminlarning organlar bo‘yicha taqsimoti yetarli darajada tadqiq qilinmagan. Shu bois bizning tadqiqot natijalari mavjud ilmiy manbalarni to‘ldirib, Astragalus campylorrhynchus o‘simligini xalq tabobati va oziq-ovqat sanoati uchun istiqbolli biofaol manba sifatida tasdiqlaydi.

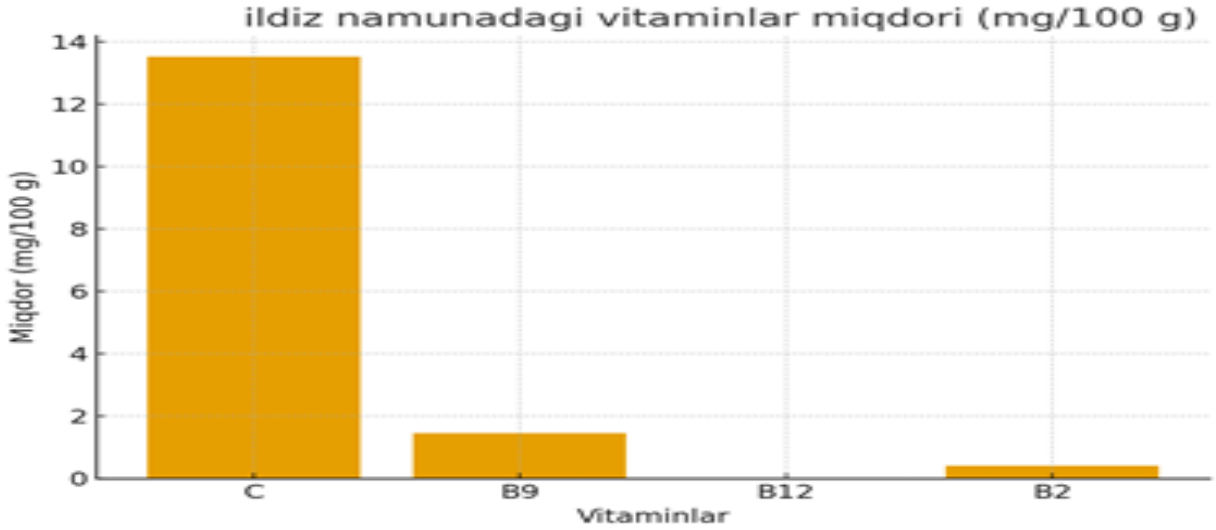
Materiallar va usullar

Tadqiqot ob’ekti sifatida Astragalus campylorrhynchus o‘simligining ildizidan namunalari olindi. Vitaminlarning aniqlanishi yuqori samarali suyuqlik xromatografiyasi (HPLC-DAD, Agilent Technologies 1260) yordamida bajarildi. Kolonna: Eclipse XDB-C18 (5.0 μm, 4.6×250 mm). Harakatlanuvchi faza: acetonitril – bufer eritma (pH=2.92), gradient rejimida. Oqim tezligi: 0.75 ml/min. In’yeksiya hajmi: 10 μl. Detektor: diod-matritsali detektor (DAD), kuzatuvchi to‘lqin uzunliklari: 254, 265, 285, 297 va 360 nm. Spektral ma’lumotlar 200–400 nm oralig‘ida qayd etildi.

Natijalar

Namunalaridagi vitaminlarning miqdoriy tarkibi quyidagi jadvalda keltirilgan (mg/100 g).

Namuna	B_1	B_6	B_9	PP	C	B_2	B_{12}
ildiz	-	-	1.451	-	13.521	0.409	-



XULOSA

Tahlil natijalariga ko‘ra, o‘simlikda suvda eruvchan **B guruhi vitaminlari** aniqlangan.

- **B guruhi vitaminlari** asab tizimi faoliyati, hujayra nafas olish va oqsil sintezida muhim rol o‘ynaydi; ular energiya almashinuvini faollashtiradi.
- **C vitamini** esa kuchli antioksidant bo‘lib, immun tizimini mustahkamlaydi, to‘qimalarning tiklanishini tezlashtiradi va erkin radikallarni zararsizlantiradi.

Eng yuqori vitamin kontsentratsiyasi **poya-barg** va **urug‘larda** qayd qilindi, bu esa ularni biofaol komponentlar manbasi sifatida alohida ahamiyatga ega qiladi.

Mazkur natijalar Astragalus campylorrhynchus turining farmakologik va oziqaviy qiymatini ilmiy asosda tasdiqlaydi hamda keyingi bosqichda uning

biologik faol komponentlarini ajratish, strukturaviy tahlil qilish va biofaollikni baholash yo‘nalishida tadqiqotlarni davom ettirish zarurligini ko‘rsatadi.

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STUDY OF THE MINERALOGICAL COMPOSITION AND PHYSICO-CHEMICAL CHARACTERISTICS OF THE COAGULANT-ADSORBENT OBTAINED ON THE BASIS OF ANGREN KAOLIN AND MIRABILITE

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Abstract: *This study focuses on the development and comprehensive characterization of a coagulant-adsorbent synthesized from Angren variegated kaolin and natural mirabilite through thermochemical activation. The raw materials—kaolin clay from the Angren deposit and mirabilite from the Jaslyk region—were selected for their abundance and favorable mineralogical properties. The samples were thermally treated at various temperatures (400°C–700°C), and structural transformations were analyzed using X-ray diffraction (XRD), infrared (IR) spectroscopy, and scanning electron microscopy (SEM). The results revealed that at 600°C–650°C, kaolinite in the raw kaolin converts into metakaolinite, while chemical interaction with sodium sulfate leads to the formation of aluminum and iron sulfates and albite compounds. These phase changes significantly improve the material's sorption properties. IR spectroscopy confirmed the presence of key functional groups, including sulfate, SO_4, and hydroxyl groups, which contribute to enhanced adsorption activity. SEM images demonstrated significant surface modifications, including increased porosity, cracks, and roughness, indicating improved active surface area. The obtained coagulant-adsorbent shows great potential for application in wastewater treatment, particularly in the removal of colored pollutants from textile effluents. Its cost-effective synthesis using local raw materials and improved physicochemical characteristics make it a sustainable solution for industrial water purification technologies..*

Keywords: *angren variegated kaolin, natural mirabilite, minerals kaolinite, X-ray, coagulant adsorbent, thermochemical activation, diffraction maximum.*

INTRODUCTION

Currently, studying the physicochemical properties of adsorbents used in industrial wastewater treatment is a pressing issue. Important scientific decisions about adsorbents can be made by determining the chemical composition, mineralogical properties, and colloidal parameters of the selected raw materials to meet adsorbent requirements. To this end, it is important to study their morphology and structural features, as well as their texture. To achieve this goal, it is necessary to study the physicochemical properties of activated coagulants obtained from Angren variegated kaolin clays—adsorbents for treating textile mill wastewater. Physicochemical analytical methods, including IR spectroscopy and X-ray diffraction analysis, were used in the study [1].

Variegated Angren kaolins, natural mirabilite, mixed coagulants derived from them, and colored textile mill wastewater were used in the research.

To study the chemical nature of the surface of the obtained adsorbents and adsorption interactions during the activation of kaolin with mirabilite, chemical and physicochemical methods were used, including IR spectroscopy to determine oxygen-containing and other groups, and X-ray phase analysis to determine the mineralogical and elemental compositions of kaolin before and after thermal activation.

The scientific novelty of the study lies in the following: optimal methods and technological conditions for producing coagulant-adsorbents based on Angren variegated kaolin and natural mirabilite at a mass ratio of 1:1.7, respectively, and heat treatment at 600±50°C for 1-1.5 hours were selected;

the mechanism of interaction between Angren variegated kaolin and natural mirabilite at 650°C to form $Al_2(SO_4)_3$ and $Fe_2(SO_4)_3$, in the active form of metakaolinite, was determined;

a technology for purifying dyed wastewater from textile enterprises from organic and inorganic impurities using coagulant-adsorbents was developed. [2].

As a result, the degree of wastewater purification from cationic dyes reaches values of more than 90%, due to which it is possible to return the treated water to the technological cycle of production.

COMPUTATION METHODS

The kinetic processes of coagulation during the treatment of textile wastewater with APAK-2 and APAK-3 coagulants-adsorbents were studied compared to the selected reagent Al2 (SO4) 3. The kinetics of sedimentation of wastewater pollutants by activated coagulants-adsorbents is shown in Figure 1.1. It is characterized by the volume of purified water returning to the cycle. Figure 3.15 shows: (a) coagulant analog, (b) coagulant-adsorbent APAK-2 and (c) APAK-3. The selected coagulants participate in the coagulation process (a) and in the adsorption processes with coagulation (b, c), sedimentation was observed in the hydrated particles. The study was conducted by observing the clarification process of 100 ml of wastewater using 1 g of coagulant and coagulant-adsorbent. The transparent part of the water was conventionally determined by the height h_1, and the density of the precipitate after adsorption by the height h_2. In this case, the coagulation process with the imported adsorbent (a) in the case of the wastewater treatment process was determined visually, where the height h_2 indicated the height of the section

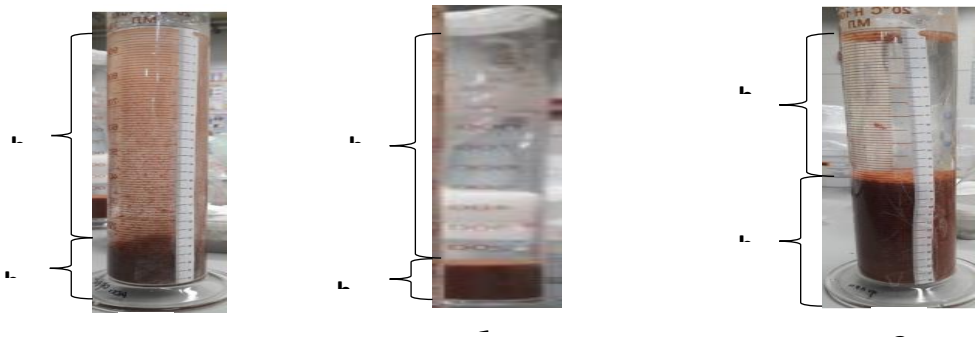

Fig. 1. Influence of sedimentation time on the compaction efficiency of the obtained coagulant - adsorbent. a) analog; b) APAK-2; c) APAK-3

Physicochemical analysis methods [14] were employed in this study, including infrared (IR) spectroscopy and X-ray phase analysis. The obtained

coagulant-adsorbent samples were examined using scanning electron microscopy (SEM).

IR spectroscopic methods are widely used to study surface properties and changes occurring during surface reactions on various sorbents. IR spectroscopy serves to confirm the results of chemical analyses and other techniques used to investigate surface characteristics and transformations. The IR spectroscopy data of adsorbents primarily hold scientific significance in justifying the types of chemical bonds present.

For this purpose, research on the physicochemical properties of activated coagulant-adsorbents derived from Angren variegated kaolin clays is necessary to enhance their effectiveness in treating textile industry wastewater.

RESULTS AND DISCUSSION

Kaolin minerals, compared to other clays, have a more consistent composition: $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$. Its fine-dispersed structure and the presence of mesopores suggest that the sorption mechanism in kaolin is primarily physical. It is possible that colored clays exhibit greater sorption properties than white clays due to their more complex chemical composition [4].

To determine the mineralogical composition and structural changes in minerals with increasing temperature during thermochemical activation, X-ray phase analysis was employed. The X-ray analysis revealed structural transformations and mineral degradation in the samples.

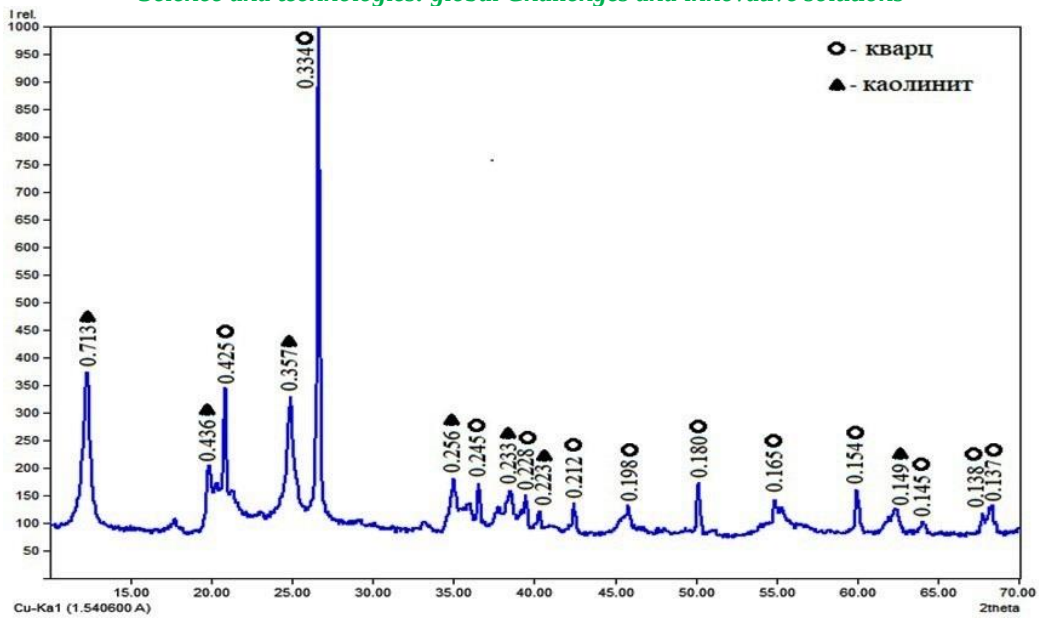

Fig. 1. X-ray diffraction pattern of the raw Angren variegated kaolin clay

The X-ray diffraction pattern (Fig. 1) of the raw Angren kaolin shows that the clay primarily consists of kaolinite minerals, as evidenced by the presence of characteristic diffraction maxima at (d) = 0.713; 0.436; 0.357; 0.256; 0.233; 0.223; and 0.149. Additionally, quartz is present, corresponding to diffraction maxima at (d) = 0.425; 0.334; 0.245; 0.228; 0.212; 0.198; and 0.180.

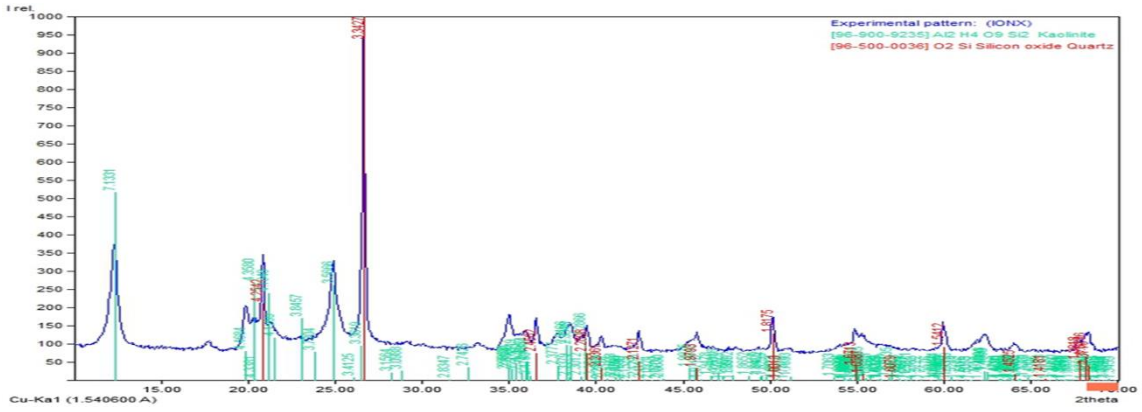

Figure 2 X-ray diffraction pattern of the thermally activated coagulant-adsorbent at 400±50°C Activated variegated Angren kaolin(APAK-1)

Figure 3 presents the X-ray diffraction pattern of the thermally activated mixture of kaolin and mirabilite at a temperature of 500°C. During the thermal activation of the kaolin-mirabilite mixture at 500°C, the initial decomposition of kaolinite is observed, leading to the formation of albite compounds. This is

confirmed by the presence of characteristic diffraction maxima at (d) = 0.455; 0.389; and 0.375.

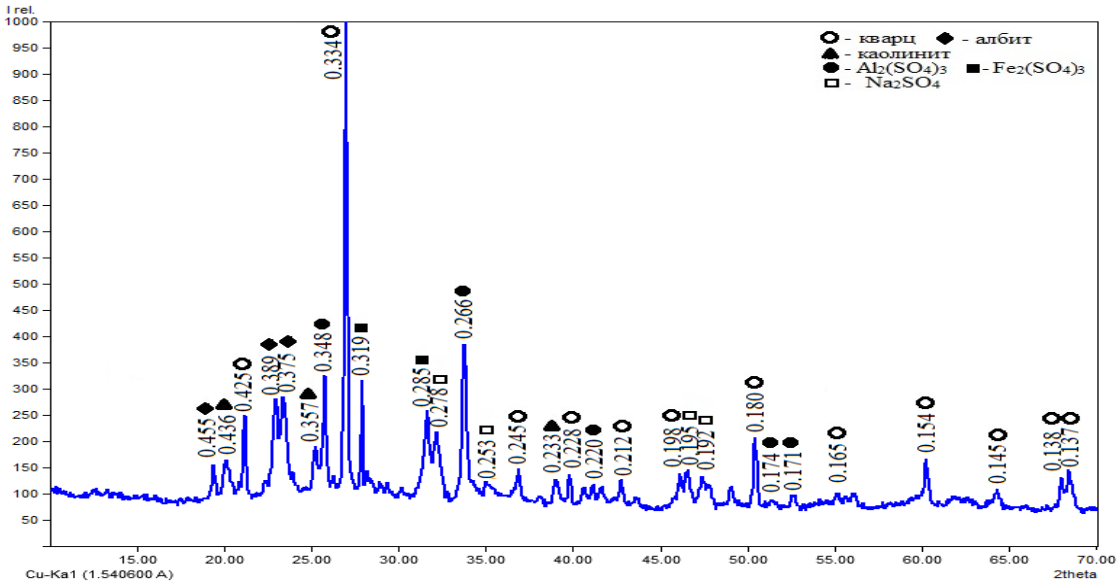

Fig. 3. X-ray diffraction pattern of the thermally activated kaolin-mirabilite mixture at 500°C Activated variegated Angren kaolin (APAK-2)

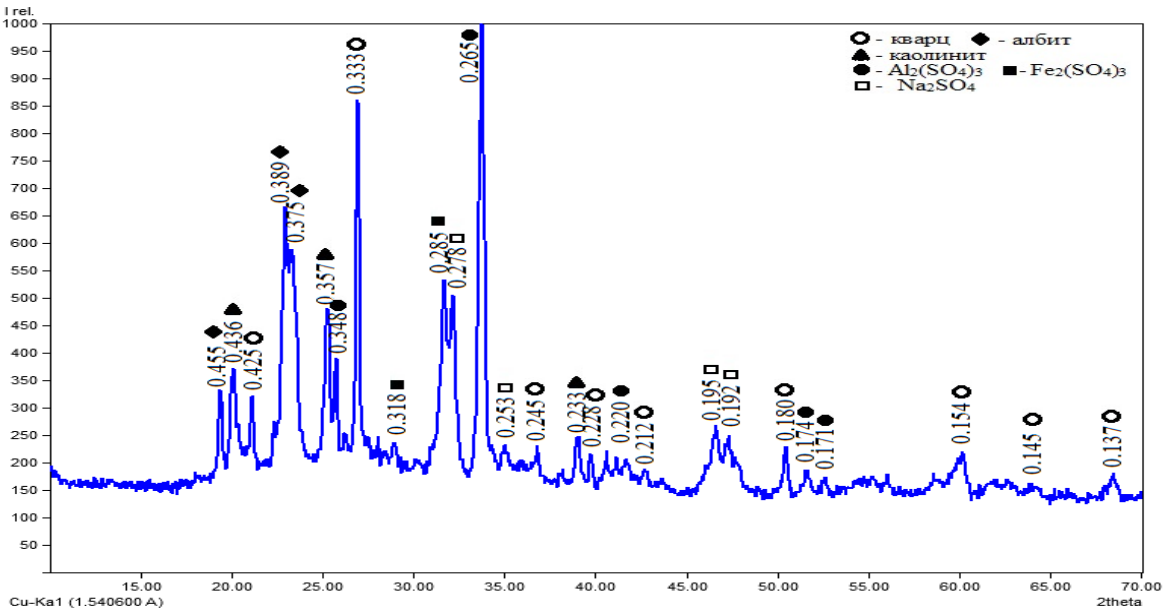

Fig. 4. X-ray diffraction pattern of the thermally activated coagulant-adsorbent at 600°C–650°C Activated variegated Angren kaolin (APAK-3)

As the temperature increases to 600°C–650°C (Fig. 3), kaolinite transitions into its active form, metakaolinite [1-2]. Subsequently, a chemical interaction occurs between kaolinite and sodium sulfate from mirabilite, resulting in the formation of

aluminum sulfate compounds on the surface of clay particles. This is confirmed by the presence of characteristic diffraction maxima at (d) = 0.348; 0.265; 0.220; 0.174; and 0.171. Additionally, iron compounds are identified by diffraction maxima at (d) = 0.318 and 0.285, along with the presence of albite, as indicated by diffraction maxima at (d) = 0.455; 0.389; and 0.375.

The mineralogical composition of the samples obtained at different temperatures is presented in Table 1.

Table 1. Mineralogical Composition of APAK Series Samples Depending on the Temperature of Thermochemical Activation

Adsorbent-Coagulant	**Kaolin**	**Mirabilite**	**Activation Temperature (°C)**	**Mineralogical Composition**
Raw Material	1	-	-	Kaolinite, quartz
APAK-1	1	1.7	400±50	Kaolinite, quartz
APAK-2	1	1.7	500±50	Calcium aluminate, quartz, alunite*
APAK-3	1	1.7	600±50	Metakaolinite, aluminum and iron sulfates, albite
APAK-1	1	1.7	700±50	Mullite, aluminum and iron sulfates**

*Onset of kaolinite decomposition with the formation of new minerals

**At this temperature, active metakaolinite begins to transition into its inactive form as mullite.

Table 2 presents the initial substances and those formed during thermochemical activation at 600°C–650°C.

Experimental studies were further conducted on the obtained coagulant-adsorbent using infrared (IR) spectroscopy analysis. The IR analysis method applied

to the thermochemically activated coagulant-adsorbent is one of the physicochemical analysis techniques that provides information about specific functional groups and other structural fragments formed as a result of the interaction between infrared radiation and the substance [3].

CONCLUSION

Thus, the conducted studies have demonstrated that during the thermal activation of Angren kaolin and mirabilite, the increase in temperature leads to the destruction of the kaolinite mineral structure. A partial chemical interaction occurs between sodium sulfate and clay particles, resulting in the formation of aluminum and iron sulfates on the surface of the adsorbent, which enhance the sorption properties of the coagulant-adsorbent [14].

In conclusion, the mechanism of interaction between variegated Angren kaolin and natural mirabilite at temperatures of 600°C–650°C has been determined. The phase changes in the mixture of variegated Angren kaolin and mirabilite during thermal activation at 600°C–650°C have been studied.

Analyses conducted using the IR spectrophotometric method have shown the presence of oxygen-containing functional groups on the surface of the adsorbents. These surface formations determine the specific sorption and ion-exchange behavior of the adsorbents.

The practical significance of the research results lies in the production of an import-substituting coagulant-adsorbent based on available local raw materials and, with their participation, the purification of dyed wastewater from textile enterprises for the return of water purified by adsorption and coagulation to the permitted level into the cycle, which serves to conserve water resources.

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KIMYOVIY ISHLAB CHIQARISH KORXONALARINING ATROF- MUHITGA TA'SIRI

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Nizomiy nomidagi O'zMPU

Annotatsiya. *Mazkur maqolada kimyoviy ishlab chiqarish korxonalarining atrof-muhitga ko'rsatadigan ta'siri o'rganilgan. Kimyoviy ishlab chiqarish natijasida sanoat chiqindilari, zaharli gazlar va oqova suvlarning havo, suv va tuproq sifatiga ta'siri tahlil qilingan. Shuningdek, ekologik muammolarni kamaytirish yo'llari, jumladan, zamonaviy tozalash texnologiyalari va ekologik xavfsizlik choralarining ahamiyati yoritilgan.*

Kalit so'zlar*. Kimyoviy ishlab chiqarish, ekologiya, ekologik muammo, sanoat chiqindilari, og'ir metallar, mass-spektrometr*

Аннотация*. В данной статье изучается влияние химических производственных предприятий на окружающую среду. Проанализировано воздействие промышленных отходов, токсичных газов и сточных вод, образующихся в результате химического производства, на качество воздуха, воды и почвы. Также освещены пути снижения экологических проблем, включая применение современных технологий очистки и меры экологической безопасности.*

Ключевые слова: *Химическое производство, экология, экологическая проблема, промышленные отходы, тяжёлые металлы, масс-спектрометрия.*

Annotation*. This article examines the impact of chemical manufacturing enterprises on the environment. It analyzes the effects of industrial waste, toxic gases, and wastewater generated as a result of chemical production on the quality of air, water, and soil. It also highlights ways to reduce environmental problems, including the application of modern purification technologies and environmental safety measures.*

Keywords: *Chemical production, ecology, environmental problem, industrial waste, heavy metals, mass spectrometry.*

KIRISH

Bugungi davrda atrof-muhitni muhofaza qilish global miqyosdagi eng muhim masalalardan biri sifatida e’tirof etilmoqda. Inson faoliyatining kengayishi natijasida sanoat, transport va qishloq xo‘jaligi sohalari jadal rivojlanib bormoqda. Biroq bu taraqqiyot tabiiy muhitga salbiy ta’sir ko‘rsatib, ekologik muammolarni yanada kuchaytirmoqda. Shu bois tabiatni asrash va ekologik barqarorlikni ta’minlash har bir insonning mas’uliyatli vazifasiga aylanmoqda.

Sanoat korxonalari iqtisodiy o‘sishning asosiy omillaridan biri bo‘lishiga qaramay, ular ekologik tizimga sezilarli zarar yetkazmoqda. Atmosferaga chiqarilayotgan zararli moddalar, sanoat chiqindilarining ko‘payishi hamda yer resurslaridan noto‘g‘ri foydalanish ekologik muvozanatning buzilishiga olib kelmoqda. Ayniqsa, yirik sanoat markazlari va shaharlarda havoning ifloslanishi, tuproq unumdorligining pasayishi va yashil hududlarning qisqarishi bugungi kunning eng dolzarb ekologik muammolari qatoridan o‘rin olgan [1].

Tadqiqot metodologiyasi. Tuproq tarkibidagi og‘ir metallarni aniqlash va tahlil qilish ekologik monitoringning muhim yo‘nalishlaridan biri hisoblanadi. Og‘ir metallarga qo‘rg‘oshin (Pb), kadmiy (Cd), simob (Hg), mis (Cu), rux (Zn), nikel (Ni) kabi elementlar kiradi. Ushbu moddalar sanoat chiqindilari, transport vositalari, qishloq xo‘jaligida qo‘llaniladigan o‘g‘it va pestitsidlar orqali tuproqqa tushib, uning kimyoviy tarkibini o‘zgartiradi va ekologik muvozanatni buzadi [2].

Og‘ir metallar tuproqda uzoq vaqt saqlanib qoladi va biologik parchalanmaydi, natijada ular o‘simliklar orqali oziq-ovqat zanjiriga kirib, inson salomatligiga salbiy ta’sir ko‘rsatadi. Masalan, qo‘rg‘oshin asab tizimiga zarar yetkazsa, kadmiy buyrak faoliyatini buzadi, simob esa markaziy asab tizimiga jiddiy ta’sir qiladi.

Tuproqdagi og‘ir metallar miqdorini aniqlash uchun zamonaviy analitik usullar qo‘llaniladi. Jumladan, atom-absorbsiya spektrometriyasi (AAS), induktiv bog‘langan plazmali mass-spektrometriya (ICP-MS), rentgen-fluoresans (XRF)

tahlil usullari keng qo‘llaniladi. Ushbu metodlar yuqori aniqlikda natija berib, tuproqning ifloslanish darajasini baholash imkonini yaratadi.

Tahlil natijalari asosida tuproqning ekologik holati baholanadi va zarur choralar belgilanadi. Bunga rekultivatsiya ishlari, fitoremediatsiya (o‘simliklar yordamida tozalash), hamda sanoat chiqindilarini kamaytirish kabi tadbirlar kiradi. Shu orqali tuproq unumdorligini saqlash va atrof-muhitni muhofaza qilishga erishiladi.

Ishlab chiqarish korxonalarining ekologiyaga salbiy ta’sirini kamaytirish nafaqat texnologik, balki ijtimoiy va tarbiyaviy yondashuvlarni ham talab qiladi. Asosiy ekologik muammolarga atmosferaga zararli moddalarning chiqarilishi, qishloq xo‘jaligiga salbiy ta’siri va aholi salomatligiga tahdidlar kiradi. Ushbu muammolarni hal qilish uchun mintaqaviy ekologik monitoring, ekologik xavfsiz texnologiyalarni joriy etish va aholining xabardorligini oshirish muhim ahamiyatga ega [3].

Metodikasi. Tuproq tarkibini tahlil qilishning birinchi bosqichi tadqiqot hududi sharoitlarini aniq aks ettiruvchi reprezentativ namunalarni olishdir. Namuna olish jarayonida viloyatning 5 ta joyidan tuproq namunalari olindi. Olib kelingan suv namunalari(1,2,3,4,5) hamda tuproq namunalari (6,7,8,9,10) nomerlarda belgilanib, ular optik emission spektrometrida kerakli reaktivlar yordamida tahlil qilindi.

Ishlatiladigan asbob va uskunalar: ISP OES Avio-200 (ICP-OES) yoki shunga o‘xshash mass-spektrometr: programmalashtirish imkoniyatiga ega mikroto‘lqinli parchalagich – Berghof yeki shunga o‘xshagan pechka, Teflondan ishlangan avtoklavlar o‘lchagich kolbalar.

Reaktivlar: MS uchun multi elementli standart (29), MS uchun multi elementli standart (nodir metallar), standart – Hg (rtut), nitrat kislota (x/ch) tozalangan, vodorod peroksid (x/ch), deionizatsiyalangan suv, argon (tozalik darajasi 99,995%).

Namunani analizga tayyorlash. 0,1000 g aniq tortma teflon avtoklavlarga miqdoriy o‘tkaziladi. Uning ustiga 3 ml tozalangan konsentrlangan

nitrat kislotasidan (HNO_3) va tozalangan vodorod peroksididan (H_2O_2) 2 ml qo‘yildi. Avtoklav og‘zi berkitilib, mikroto‘lqinli parchalagich Berghof (Speed Wave Xpert yoki shu turdagi mikroto‘lqinli pechkaga) joylandi. Bunda qurilma interfeysida ma’lum dastur asosida parchalashga buyruq berildi. Ushbu usulda ko‘rsatilgan avtoklavlar soni va ularning ichidagi harorat hamda bosimni qurilma avtomatik tarzda boshqarib nazorat qilib turadi. Jarayon to‘g‘risidagi ma’lumotlar suyuq-kristallik displey orqali nazorat qilib boriladi. Bunda avtoklavlar ichidagi minimal harorat T (500C) va maksimal harorat T (2300C), bosim R [bar] max 40 [bar] bo‘lgan sharoitda 35-45 min davomida nam parchalanish sharoitida olib borildi.

Avtoklavlar xona sharoitigacha sovutildi va uning ichidagi suyuqlik aralashmasi hajmi 50 yoki 100 ml bo‘lgan o‘lchagich kolbaga (chizig‘igacha) ga miqdoriy o‘tkazildi. Bunda avtoklavlar 2-3 marta chayib solinadi va so‘ngra kolba chizig‘igacha distillangan suv bilan to‘ldiriladi. Eritma yaxshilab aralashtirilib avtosampler probirkasiga solinadi va avtosamplerga ma’lum nomerdagi joyga qo‘yiladi. Dasturda har bitta probirka joylashgan o‘rni, tortib olingan massa va suyultirish koeffitsiyenti kiritiladi. (Qurilma avtomatik tarzda konsentratsiyani hisoblab chiqarishi uchun).

Mineralizatsiya qilingan eritmani Perkin Elmer firmasining Avio-200 (ICP-OES) induktiv bog‘langan plazmali optik emission spektrometrida, namunalarning tarkibidagi makro- va mikroelementlari, og‘ir metall tuzlari, nodir metallar miqdori kiritilgan standart namunaga nisbatan miqdoriy jihatdan tahlil qiladi. Tahlil natijalari jarayon yakunida namunaning massasi va suyultirish qiymatlari asosida olingan natijalarni qayta hisoblab aniqliq darajasi va undan chetlanish (RSD) qiymatlarini avtomatik tarzda hisoblab beradi.

Olib kelingan tuproq namunalari kerakli reaktivlar yordamida tahlil qilindi, namuna tarkibidagi mishyak As, kadmiy Cd, qo‘rg‘oshin Pb, xrom Cr hamda Mn metallarining miqdori aniqlandi (1-jadval).

Jadval-1.

№	***As***	***Cd***	***Pb***	***Cr***	***Mn***
Normada	**10 mkg/l**	**1,0 mkg/l**	**10 mkg/l**	**1,0 mkg/l**	**0,1(0,5) mg/l**
№6	<0,005	0,0013	0,0039	0,0055	0,0586
№7	<0,005	0,0018	0,359	0,0069	0,0728
№8	0,0086	0,0016	0,0055	0,006	0,0639
№9	<0,005	0,0015	0,0045	0,0058	0,0628
№-10	<0,005	0,0014	0,0026	0,0064	0,0683

XULOSA

Xulosa qilib aytganda, tuproq tarkibidagi og‘ir metallarni aniqlash jarayoni tizimli va kompleks yondashuvni talab etadi. Bu jarayon to‘g‘ri va reprezentativ namuna olish, zamonaviy hamda aniq tahlil usullaridan foydalanish, shuningdek, natijalar sifatini qat’iy nazorat qilishni o‘z ichiga oladi. Ilmiy asoslangan ushbu yondashuvlar yordamida mutaxassislar tuproqning ifloslanish darajasini ishonchli baholash, ifloslanish manbalarini aniqlash hamda og‘ir metallarning atrof-muhit va inson salomatligiga ko‘rsatadigan salbiy ta’sirini kamaytirishga qaratilgan samarali choralarni ishlab chiqish imkoniga ega bo‘ladilar.

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SCIENTIFIC BASES OF INCREASING THE PRODUCTIVITY OF RAINFED SOILS IN DROUGHT CONDITIONS

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Abstract:*The article analyzes the importance of rainfed lands in agriculture, their current condition, and issues related to their efficient use. Scientific studies on the agrochemical and agrophysical properties of rainfed soils, their fertility, biological activity, and erosion processes are summarized.*

Keywords:*rainfed lands, soil fertility, agrochemical properties, drought, soil moisture, biopreparations, mineral fertilizers, land monitoring.*

INTRODUCTION

Currently, agricultural crops are grown on about 1.6 billion hectares of land worldwide, of which 1.3 billion hectares are arable lands. These areas produce about 60% of global agricultural products and play an important role in ensuring the food security of the world's population. At the same time, the distribution of land resources by fertility level shows that 47% of the world's population lives on moderately fertile, 38% on low-fertility, and only 15% on highly fertile lands. These indicators clearly demonstrate the need for rational and effective use of arable lands in the production of agricultural products, sustainable maintenance and increase of their fertility, as well as the need to obtain high and quality yields through the introduction of modern agricultural technologies.

MAIN PART

The efficient use of rainfed soils and the improvement of their productivity have been extensively studied by numerous researchers worldwide. In Central Asia, scientific research on rainfed soils began in the 1850s–1860s. Initially, sierozem (gray) soils were investigated by prominent scientists such as Vasily V. Dokuchaev, Pavel S. Kossovich, Nikolai A. Dimo, Nikolai M. Sibirtsev, Konstantin D. Glinka, Nikolai A. Rozanov, Viktor A. Kovda, Leonid N. Babushkin, Nikolai V. Kimberg, Abdulla M. Rasulov, M.B. Bahodirov, and M.U. Umarov, among others.

Studies conducted by Sergei S. Neustruyev and Konstantin D. Glinka revealed that foothill and dark sierozem soils of Uzbekistan are relatively rich in organic matter, nitrogen compounds, and moisture, whereas rainfed soils are characterized by lower humus and nitrogen content as well as reduced microbiological activity. Subsequent research demonstrated that light sierozem and typical rainfed sierozem soils exhibit relatively high biogenic activity.

In recent years, the physicochemical properties, agroecological status, and fertility management of rainfed soils in Uzbekistan have been extensively studied by local scientists. The works of X.M. Maqsudov, L.A. Gafurova, I.T. Turopov, R.K. Qo‘ziyev, V.E. Sektimenko, M.M. Toshqo‘ziyev, N.I. Shadieva, A. Adilov, A.J. Ismanov, G. Mirxaydarova, N.Yu. Abdurahmonov, X. Yusupov, R. Siddiqov, I.U. Urazbayev, Sh.M. Turdimetov, A.Sh. Altmishyev, S. Rustamov and others comprehensively address soil degradation processes, fertility indicators, and methods of soil conservation.

According to data from the Food and Agriculture Organization, approximately 33% of the world’s land resources are moderately or highly degraded due to erosion, salinization, compaction, chemical pollution, and nutrient depletion. In particular, a significant portion of rainfed lands is severely affected by water erosion. The main contributing factors include uneven relief, improper plowing along slopes, cultivation of annual crops, overgrazing, and unsustainable use of forest resources.

Experiments conducted in the former Uzbek Research Institute of Rainfed Agriculture (currently the Gallaorol Research Institute of Rainfed Agriculture) during the 1960s–1970s demonstrated that water erosion is not limited to mountainous areas but is also typical for foothill and hilly landscapes. Under conditions of intense rainfall in April, plowing along slopes resulted in the loss of 47–63 m³ of fertile topsoil per hectare. According to studies by X. Yusupov, S. G‘aybullayev, and others, contour tillage increased winter wheat yields by 31–34% in foothill rainfed areas. Currently, about 746.8 thousand hectares of rainfed land in Uzbekistan are affected by surface water erosion, with the largest share located in the Kashkadarya region (250.8 thousand hectares).

Humus is considered one of the most important indicators of soil fertility. The first fundamental studies on the chemical composition of humus were conducted in the 19th century by Jöns Jacob Berzelius, who classified humus substances into crenic, apocrenic, humic, and ulmic groups. Later, scientists such as Vasily R. Williams, Ivan V. Tyurin, and L.N. Aleksandrova conducted systematic research on the structure and functional properties of humus.

The issue of increasing humus content in Uzbekistan’s typical rainfed sierozem soils has been widely studied by A.M. Rasulov, M.B. Bahodirov, G.A. Lavronov, X.M. Maqsudov, and others. Their studies contributed to identifying agro-technical mechanisms for maintaining and enhancing humus content. According to G.A. Lavronov and V.I. Korobov, humus content in virgin lands is about 2.5%, whereas it decreases to 1.49% within three years after land reclamation. M.M. Toshqo‘ziyev and N.I. Shadieva reported that humus content in rainfed soils of the Jizzakh region ranges from 1.49% to 3.04%, while X.M. Maqsudov and co-authors identified 1.34–1.36% humus in the plow layer of mountainous rainfed sierozem soils.

N. Ruhiddinov emphasized that humus plays a crucial role in forming soil aggregate structure and improving the soil water–air regime. According to X.

Yusupov and N. Shadieva, humus content reached 3.26% in soils left fallow for 10–12 years, whereas continuous wheat cultivation for 50 years reduced it to 0.55%. In contrast, soils under crop rotation systems maintained a humus level of 1.91%. In recent years, continuous grain cultivation has led to a decline in humus content to 0.59%. A. Ahatov and co-authors scientifically demonstrated that humus increases soil water resistance, enhances biological activity, and improves resistance to erosion.

Comprehensive studies conducted in the 1950s–1970s by S.N. Ryzhov, B.V. Gorbunov, G.A. Lavronov, X.M. Maqsudov, M.Yu. Yunusov, S.M. Mamaniyozov, V.I. Korobov, A.S. Miloserdova and others addressed the agrochemical composition, physical and water-physical properties, moisture regime, effectiveness of organic and mineral fertilizers, application of chemical protection measures, crop rotation systems, and soil tillage improvements in rainfed agriculture.

CONCLUSION

The analysis of the reviewed literature and the synthesis of existing scientific sources indicate that rainfed regions of Uzbekistan hold significant strategic importance in agricultural production. However, these areas are characterized by highly variable soil and climatic conditions.

The agrophysical, water-physical, and agrochemical properties of rainfed soils—particularly the low content of humus, nitrogen, and phosphorus, the instability of the soil moisture regime, and the widespread occurrence of water erosion—are identified as the main limiting factors affecting their productivity.

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YASHIL VA GIDROTERMAL USULLARDA OLINGAN KUMUSH NANOZARRACHALARINING METAKRILAT ASOSIDAGI POLIMER NANOKOMPOZITLAR SINTEZI HAMDA FUNKSIONAL XOSSALARINI SHAKLLANTIRISHDAGI ROLI

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Annotatsiya: *Ushbu tadqiqotda yashil sintez va gidrotermal yondashuvlar asosida olingan kumush nanozarrachalarining metakrilat asosidagi biopolimer-polimer nanokompozitlar tarkibidagi funksional roli tahlil qilindi. Kumush nanozarrachalari grafen oksid yoki ZnO bilan gibrid kompozit hosil qilganda, polimer matritsada termik barqarorlik, mikroblarga qarshi faollik, oksidlanish-qaytarilish xossalari, yara bitishini yaxshilash hamda dielektrik va sirt xususiyatlari sezilarli darajada oshirilishi ko‘rsatildi. Natijalar Ag-asosli gibrid nanoto‘ldiruvchilar biotibbiyot, qadoqlash, sensor va funksional qoplama materiallari uchun istiqbolli komponent ekanini tasdiqlaydi.*

Kalit so‘zlar: *Kumush nanozarrachalari, Yashil sintez, Gidrotermal usul, Metakrilat polimerlar, Nanokompozit, Mikroblarga qarshi faollik, Dielektrik xossalar.*

Annotation: *This paper discusses the functional role of silver nanoparticles obtained through green synthesis and hydrothermal approaches in methacrylate-based biopolymer–polymer nanocomposites. When silver nanoparticles form hybrid systems with graphene oxide or ZnO, they significantly modify thermal stability, antimicrobial activity, redox behavior, wound-healing performance, and dielectric and surface properties of the polymer matrix. The results indicate that Ag-based hybrid nanofillers are promising components for biomedical, packaging, sensor, and functional coating materials.*

Keywords: *Silver nanoparticles, Green synthesis, Hydrothermal method, Methacrylate polymers, Nanocomposite, Antimicrobial activity, Dielectric properties.*

KIRISH

So‘nggi yillarda polimer nanokompozitlar materialshunoslik, biotibbiyot, farmatsevtika, qadoqlash texnologiyalari va elektronika sohalarida keng qo‘llanilayotgan funksional materiallar sinfiga aylandi. Bunday kompozitlarda polimer matritsa mexanik yaxlitlik va shakl barqarorligini ta’minlasa, nanoo‘lchamli qo‘shimchalar termik, biologik, elektr va sirt xossalarini boshqarish imkonini beradi. Ayniqsa, kumush nanozarrachalari kuchli mikroblarga qarshi ta’siri, yuqori sirt faolligi va elektron almashinuvidagi ishtiroki tufayli biopolimer va sintetik polimer asosidagi nanokompozitlarda muhim modifikator sifatida e’tirof etilmoqda [1].

Metakrilat asosidagi ftor saqlovchi polimerlar kimyoviy barqarorlik, past sirt energiyasi va nisbatan yuqori funksionallik bilan ajralib turadi. Ularni xitozan yoki natriy karboksimetilsellyuloza kabi biopolimerlar bilan kombinatsiyalash orqali biomos, qayta ishlanishi qulay va qo‘shimcha funksional xossalarga ega yarim sintetik matritsalar olinadi [2]. Biroq bunday matritsalarning mikroblarga qarshi faolligi, termik barqarorligi yoki elektr xossalari ayrim amaliy talablar uchun yetarli bo‘lmasligi mumkin. Shu sababli kumush nanozarrachalarini grafen oksid yoki rux oksidi bilan gibrid holda qo‘llash polimer nanokompozitlar dizaynida dolzarb ilmiy yo‘nalish hisoblanadi [1, 3].

Mazkur ishning maqsadi yashil sintez qilingan kumush nanozarrachalarining metakrilat asosidagi polimer nanokompozitlar sintezidagi va ularning funksional xossalarini shakllantirishdagi rolini umumlashtirishdan iborat. Tadqiqot materiali sifatida muallif ishtirokidagi CS–PPFOEMA/GO–Ag hamda NaCMC–PPFMA/Ag–ZnO kompozitlari bo‘yicha olingan natijalar tahlil qilindi [1–3].

ASOSIY QISM

Kumush nanozarrachalarini olishda yashil sintez yondashuvi ekologik xavfsizligi, nisbatan yumshoq sharoitlarda amalga oshishi va kimyoviy qaytaruvchilar miqdorini kamaytirishi bilan muhimdir. Tadqiqotlarda *Prunus spinosa* mevasi ekstrakti kumush ionlarini qaytarish va nanozarrachalar shakllanishini ta’minlash uchun biologik faol muhit sifatida qo‘llangan. Kumush

nitrat eritmasi o‘simlik ekstrakti bilan aralashtirilib, keyingi gidrotermal ishlov berish orqali nanozarrachalar barqarorlashtirilgan. Bunday yondashuv AgNZ hosil bo‘lishini rang o‘zgarishi, XRD, SEM/EDX va boshqa instrumental tahlillar orqali tasdiqlash imkonini bergan [1, 2].

Kumush nanozarrachalarining polimer nanokompozitdagi birinchi muhim vazifasi polimer matritsada fazalararo o‘zaro ta’sirlarni kuchaytirishdir. CS–PPFOEMA/GO–Ag kompozitida ftor atomlari, gidroksil, amino, amid va ester guruhlari hamda GO yuzasidagi kislorodli guruhlar o‘rtasidagi vodorod bog‘lari va dipol-dipol o‘zaro ta’sirlar nanoto‘ldiruvchining matritsada tarqalishini yaxshilagan. NaCMC–PPFMA/Ag–ZnO kompozitida esa karboksimetilsellyulozaning –OH va –COO− guruhlari, ftor saqlovchi metakrilat zanjirlari hamda Ag–ZnO gibrid zarralari o‘rtasidagi ta’sirlashuvchi yuza aloqalari kompozit strukturani shakllantirishda asosiy rol o‘ynagan [2, 3].

Termik xossalardagi o‘zgarishlar kumush asosli gibrid nanoto‘ldiruvchilarning matritsa harakatchanligini va degradatsiya jarayonini boshqarishini ko‘rsatadi. CS–PPFOEMA aralashmasida GO–Ag miqdori 7% gacha oshirilganda boshlang‘ich parchalanish harorati 240°C dan 260°C gacha ortgan. NaCMC–PPFMA kompozitida esa 7% Ag–ZnO qo‘shilishi termik barqarorlikni 22°C ga, shisha holatga o‘tish haroratini esa 107°C dan 116°C gacha oshirgan [1, 2]. Bu holat nanozarrachalar polimer zanjirlarining issiqlik ta’siridagi parchalanishini sekinlashtirishi va matritsa ichida issiqlik oqimini qayta taqsimlashi bilan izohlanadi.

Kumush nanozarrachalarining eng muhim funksional roli mikroblarga qarshi faollikni kuchaytirishdir. Ag^+ ionlarining ajralishi, reaktiv kislorod turlarining hosil bo‘lishi va mikroorganizmlar membranasiga ta’siri *E. coli*, *S. aureus* va *C. albicans* kabi patogenlarga qarshi faollikni oshiradi. CS–PPFOEMA/GO–Ag nanokompozitlarida *E. coli* uchun 8–12 mm, *S. aureus* uchun 13–17 mm oraliqda ingibitsiya zonalari kuzatilgan, 7% GO–Ag tarkibli namuna *C. albicans* ga qarshi 15

mm ingibitsiya zonasini ko‘rsatgan [1]. NaCMC–PPFMA/Ag–ZnO kompozitida esa 7% Ag–ZnO tarkibli kompozit *E. coli* ga qarshi 11,3 mm, *S. aureus* ga qarshi 14,3 mm va *C. albicans* ga qarshi 16 mm ingibitsiya zonasiga erishgan [2].

Biologik natijalar Ag-asosli nanoto‘ldiruvchilar konsentratsiyasi va matritsa tarkibi o‘rtasidagi muvozanat muhimligini ko‘rsatadi. Ag–ZnO qo‘shilishi NaCMC–PPFMA kompozitida umumiy oksidant holatni 0,72 μmol ekv. H_2O_2/L dan 7,2–10,4 μmol ekv. H_2O_2/L gacha oshirgan, bu esa mikroblarga qarshi ta’sirni kuchaytiruvchi omil sifatida baholanadi [2]. Shu bilan birga, past konsentratsiyadagi nanoto‘ldiruvchilar yara bitishi jarayoniga ijobiy ta’sir qilgan. Masalan, NaCMC–PPFMA–3%Ag–ZnO nanokompozitida yara yopilish darajasi 92,67% ga yetgan, CS–PPFOEMA–3%GO–Ag kompozitida esa 3% GO–Ag tarkibli namuna yara modelida yuqori yopilish ko‘rsatkichini namoyon qilgan [1, 2].

Kumush va rux oksidi nanozarrachalarining yana bir muhim roli dielektrik va sirt xossalarini boshqarish bilan bog‘liq. PPFMA–NaCMC/Ag–ZnO nanokompozitlarida 5% Ag–ZnO tarkibli namuna 1 kHz chastotada taxminan 6,5 dielektrik doimiysiga erishgan va eng yuqori o‘tkazuvchanlikni ko‘rsatgan. 7% Ag–ZnO tarkibli namuna esa past chastotada yuqoriroq yo‘qotish koeffitsiyentiga ega bo‘lib, elektromagnit to‘lqinlarni so‘ndirishga moyilligi bilan ajralgan. Suv bilan kontakt burchagi 3% Ag–ZnO da 47,56° dan 7% Ag–ZnO da 41,02° gacha kamaygani, sirt erkin energiyasi esa 57,239 mN/m dan 59,222 mN/m gacha ortgani kompozit yuzasining gidrofilligi oshganini tasdiqlaydi [3].

Tahlil qilingan natijalar kumush nanozarrachalarining polimer nanokompozit sintezidagi roli faqat qo‘shimcha mikroblarga qarshi komponent bo‘lish bilan cheklanmasligini ko‘rsatadi. Ular polimer zanjirlararo o‘zaro ta’sirlarni modifikatsiyalaydi, termik degradatsiyani kechiktiradi, oksidlanish-qaytarilish muhitini boshqaradi, hujayra-matritsa munosabatlariga ta’sir qiladi va elektr-sirt xossalarini optimallashtiradi. Shu sababli AgNZ asosidagi gibrid nanoto‘ldiruvchilar biotibbiy qoplamalar, yara bog‘lamlari, mikroblarga qarshi

qadoqlash, sensorlar, kondensatorlar va elektromagnit himoya materiallari uchun istiqbolli funksional platforma sifatida baholanishi mumkin.

1-jadval.

Kumush asosli nanotoʻldiruvchilarning polimer nanokompozitlar xossalariga taʼsiri

Nanokompozit kompoziti	Nanotoʻldiruvchi	Asosiy taʼsir	Ilmiy-amaliy ahamiyati
CS–PPFOEMA/GO–Ag	GO bilan gibridlangan AgNZ	Termik barqarorlik 240°C dan 260°C gacha oshdi; mikroblarga qarshi faollik kuchaydi	Biomateriallar va yara bitishini qoʻllab-quvvatlovchi qoplamalar
NaCMC–PPFMA/Ag–ZnO	AgNZ va ZnONP gibridi	Termik barqarorlik 22 °C ga oshdi; 7% tarkibda patogenlarga qarshi yuqori ingibitsiya zonalari kuzatildi	Mikroblarga qarshi qadoqlash, bioxavfsiz yara bogʻlamlari
PPFMA–NaCMC/Ag–ZnO	3–7% Ag–ZnO	5% tarkibda $\varepsilon' \approx 6{,}5$ va yuqori oʻtkazuvchanlik; 7% tarkibda gidrofillik oshdi	Sensorlar, kondensatorlar, EMI himoya va funksional qoplamalar

XULOSA

Yashil va gidrotermal usullarda olingan kumush nanozarrachalari metakrilat asosidagi polimer nanokompozitlarning strukturaviy va funksional xossalarini shakllantirishda koʻp qirrali modifikator sifatida namoyon boʻladi. GO–Ag va Ag–ZnO gibrid kompozitlari polimer matritsada yaxshi integratsiyalanib, termik barqarorlikni oshiradi, mikroblarga qarshi faollikni kuchaytiradi va biologik javobni nanotoʻldiruvchi miqdoriga bogʻliq holda boshqaradi. Ag–ZnO ishtirokidagi NaCMC–PPFMA nanokompozitlarida dielektrik doimiylik, oʻtkazuvchanlik, gidrofillik va sirt erkin energiyasining nazoratli oʻzgarishi ushbu materiallarning elektronika va sensor texnologiyalaridagi imkoniyatlarini kengaytiradi. Umuman, kumush nanozarrachalari asosidagi polimer nanokompozitlar ekologik xavfsiz sintez, biomoslik va yuqori funksionallikni birlashtirgan yangi avlod materiallari sifatida ilmiy-amaliy ahamiyatga ega.

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“SICHQONLAR VA ODAMLAR “ ASARIDA IJTIMOIY INQIROZ VA INSON IZOLYATSIYASI TAHLILI

Qiyosiy tilshunoslik va liguistik tarjimashunoslik yonalishi

1-kurs talabasi

Abdulazizova Mahliyo Ravshanbek qizi

Annotatsiya: *Ushbu maqola Jon steynbekning “Sichqonlar va odamlar”asaridagi ijtimoiy tengsizlik masalalarini va iijtimoiy yakkalanish va izolyatsiyaning turli korinishlarini yoritadi.Bundan tashqari,asardagi qahramonlar fojeasi orqali 1930-yillarda Buyuk depressiya davridagi Amerika jamiyatidagi tabaqalanish,irqchilik ,gender tengsizligi va ijtimoiy yakkalanish muammolari tatbiq etiladi.*

Abstract: *This article explores the issues of social inequality and various forms of social isolation and alienation in John Steinbeck’s "Of Mice and Men." Furthermore, through the tragedy of the characters, the problems of social stratification, racism, gender inequality, and social exclusion in American society during the Great Depression of the 1930s are analyzed.*

Kalit sozlar: *ijtimoiy tabaqalanish,Buyuk depressiya, ijtimoiy yakkalanish, realizm, Izolyatsiya, Amerika orzusi.*

Keywords: *social stratification, the Great Depression, social isolation, realism, isolation, the American Dream.*

KIRISH

1930-yillarning ijtimoiy-iqtisodiy manzarasi Amerika adabiyotida realizm Oqimining yangi bosqichini boshlab berdi. Jon Steynbek XX asr Amerika adabiyotining eng yirik namoyondalaridan biri bo’lib,uning ijodida “kichik odam” va uning shafqatsiz ijtimoiy tuzim bilan to’qnashuvi muhim o’rin egallaydi.Uning “SICHQONLAR VA ODAMLAR”(1937) asari nafaqat iqtisodiy inqiroz davri manzalarini,balki insoniy munosabatlarning jamiyat bosimi ostidagi yemirilishini realistik bo’yoqlarda aks ettiradi. Jon Steynbek 1930- yillardagi Amerika jamiyatini kichik bir ferma misolida tahlil qilar ekan,ijtimoiy inqirozning inson tabiatiga

ko’rsatadigan shafqatsiz ta’sirini ham mahorat bilan ochib beradi.”Sichqonlar va odamlar”asaridagi fojea shunchaki tasodifiy voqealar emas,balki qat’iy ijtimoiy tuzumning natijasidir. Steynbek qahramonlarni shunday muhitga joylashtiradiki, u yerda iqtisodiy foyda keltirmaydigan yoki umumiy qolipga tushmaydigan har qanday inson “chiqindi”ga osongina aylanadi. Asar syujeti Buyuk depressiya davrida o’z yeriga ega bolishni istagan, ammo sargardonlikda yurgan Lenni va Jorjning orzulari atrofida quriladi. Steynbek Amerika orzusini - o’z mehnati bilan farovonlikka erishish g’oyasini realizm prizmasi orqali shubha ostiga oladi. Ishchilarning doimiy ko’chib yurishi, ularning hech qayerda qonim topa olmasligi -ijtimoiy barqarorlikning yo’q ligidan dalolat beradi. Asarning ijtmoiy poydevori -“Amerika orzusi” ning inqirozidir. Lenni va Jorjning kichik fermaga ega bo’lish haqidagi orzusi shunchaki moddiy boylikka intilish haqidagi orzu emas, balki shafqatsiz ijtimoiy tizimdan “ozod bo’lish” ramzidir. Biroq ijtimoiy inqiroz sharoitida inson faqat yashab qolish uchun kurashadi. Steynbek orzuni real voqelikka (Lennining bemaqsad kuchi va ijtimoiy to’siqlar) qarshi qo’yish orqali, insonning ijtimoiy muhit ustidan g’alaba qozonishi imkonsiz ekanini ko’rsatadi.

”Amerika orzusi” ning parchalanishi.

Asar voqealari kechayotgan Buyuk depressiya davri barcha personajlarning taqdirini belgilab beradi. Jorj va Lenni doimiy uy-joyi yo’q, bir fermadan ikkinchisiga ko’chib yuruvchi “migrant ishchilar” toifasiga kiradi. Bu sargardonlik ularning ijtimoiy ildizlaridan uzilganini anglatadi. Ularning kichik bir ferma sotib olish haqidagi orzusi shunchaki boylikka intilish emas, balki shafqatsiz iqtisodiy tizimdan panoh topish istagidir. Biroq iqtisodiy inqiroz shunchalik chuqurki, boshidan, amalga oshmaydigan utopiya bolib ko’rinadi. Asardagi har bir qahramon o’ziga xos “ijtimoiy qafas” da yashaydi. Izolyatsiya bu yerda bir necha shaklda namoyon bo’ladi.

Irqiy izolyatsiya (Kruks obrazida):

Qora tanli otboqar Kruks obrazi tizimli irqchilikning qurbonidir. Uning jamiyatdan, hattoki kundalik muloqotdan chetlashishi inson ruhiyatini qanday yemirilishi asarda chuqur tahlil etiladi. Uning yolg'izligi - terisining rangi bilan belgilangan ijtimoiy hukmdir.

Gender- maishiy izolyatsiya: (Kerlinning ayoli).

Muallif tomonidan ism berilmagan bu qahramon ayol kishining erkaklar dunyosidagi o'rnini ko'rsatadi. Uning izolyatsiyasi muloqotga bo'lgan chanqoqlik va hissiy bo'shliq natijasidir.Uning fojeasi jamiyat tomonidan faqat xavf manbai sifatida ko'rishidadir. Keksayib qolgan va nogiron Kendi "foydasiz element" sifatida jamiyatdan irqilish arafasida turibdi. Uning iti otib tashlanishi - jamiyatning zaiflarga nisbatan shafqatsiz munosabatining metaforik inikosidir. Lenni o'zining jismoniy kuchi va aqliy zaifligi tufayli doimo xavf ostida turadi. U dunyodani bolalarcha beg'uborlik bilan ko'radi, ammo u yashayotgan jamiyat sha fqatsiz va qat'iy qoidalarga ega. Lenninig yolg'izligi uning boshqalardan farq qilishida va o'z kuchini anglay olmasligidadir. Asar yakunidagi Lennining o'limi -bu ijtimoiy inqirozning eng yuqori nuqtasidir. Bu yerda ikki xil xulosa kelib chiqadi: do'stlikning mag'lubiyati va insonning inson tomonidan rad etilishi. Hatto Jorj va Lenni o'rtasidagi eng kuchli do'stlik ham ijtimoiy bosim va sharoitlar oldida ojiz qoladi. Jamiyat o'zining "kuchsiz " a'zolarini - Lenni, Kruks va Kendi- himoya qilish o'rniga ,ularni chetga suradi yoki batamom yoq qiladi. Asarning kulminatsion nuqtasi- Lenining o'limi -bu ijtimoiy inqirozning yakuniy xulosasidir. Jorj do'stini dushmanlar qo'lida azoblanib o'lishidan qutqarish uchun o'zi o'ldirishga majbur bo'ladi. Bu o'rinda "mehribonlik qotilligi"(mercy killing) tushunchasi kelib chiqadi. Bu sahna insoniy munosabatlarning jamiyat bosimi ostida naqadar fojeali tus olishini ko'rsatadi. Lennining "aybi"- uning ushbu shafqatsiz ijtimoiy qoliplarga sig'maganligidadir. "Sichqonlar va odamlar " asari ijtimoiy realizmning yuksak namunasi bo'lib, unda inson izolyatsiyasi shaxsiy muammo emas, balki ijtimoiy tuzum nuqsoni sifatida talqin etiladi. Steynbek xulosasi shuki, ijtimoiy adolatsizlik

hukmron jamiyatda hatto eng beg'ubor orzular ham halokatga mahkumdir. Izolyatsiya bu - jamiyatning kasalligi bo'lib, u personajlarni bir-biridan begonalashtiradi va ularning umumiy orzularini parchalab tashlaydi. Steynbek ushbu asari orqali insonning inson tomonidan kamsitilishi va ijtimoiy loqaydlikning daxshatli oqibatlarini fosh etadi. Steynbekning mahorati shundaki, u qahramon fojeasini shaxsiy kamchiliklar emas, balki jamiyatning nuqsonlari sifatida ko'rsata olgan. Bugungi kunda ham ushbu asar ijtimoiy adolat va insoniy hamdardlik masalalarida o'z dolzarbligini yo'qotmagan.

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ENERGY-EFFICIENT AUTOMATIC CONTROL OF PUMP UNITS DRIVEN BY ASYNCHRONOUS ELECTRIC DRIVES

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Abstract: *This paper presents the development of energy-efficient automatic control algorithms for regulating the operating modes of pump units driven by asynchronous electric drives. Pumping systems equipped with induction motors are widely used in electric power and water management sectors and are characterized by significant energy consumption. Inefficient*

control of operating modes leads to increased power losses, reduced efficiency, and decreased reliability of pump units.

The proposed approach is based on automatic regulation of pump operating parameters through adaptive control algorithms that ensure optimal matching between motor speed, load conditions, and hydraulic characteristics of the pump. Mathematical models of the asynchronous motor and pump unit are used to synthesize control algorithms aimed at minimizing energy consumption while maintaining stable and reliable operation. Simulation results confirm that the application of energy-efficient automatic control allows significant reduction of power consumption and improvement of overall system performance under variable operating conditions.

The obtained results demonstrate the feasibility and effectiveness of the proposed algorithms for application in modern electric power and pumping systems.

Keywords: *Asynchronous electric drive; pump unit; automatic control; energy efficiency; operating mode regulation; control algorithms.*

1. INTRODUCTION

Pumping systems driven by asynchronous electric motors play a crucial role in electric power engineering, water supply, irrigation, and industrial processes. Due to their wide application and continuous operation, pump units account for a significant share of total electricity consumption in electric power and water management systems. Therefore, improving the energy efficiency of pump-driven electric drives remains an important scientific and practical problem.

In conventional pumping installations, asynchronous electric drives often operate under non-optimal conditions caused by variable load demands, hydraulic disturbances, and changes in operating regimes. Fixed-speed operation or insufficiently flexible control strategies lead to excessive energy consumption, increased mechanical stress, and reduced overall system efficiency. These shortcomings highlight the necessity of developing advanced automatic control and regulation methods capable of adapting pump operation to real-time operating conditions.

Recent advances in power electronics and control theory have enabled the implementation of variable-speed drives and automatic regulation systems for asynchronous motors. However, the effective utilization of these technologies requires the development of energy-efficient control algorithms that ensure optimal coordination between motor speed, pump characteristics, and load conditions. In this context, automatic regulation of operating modes based on mathematical modeling and control synthesis becomes a key factor in reducing energy losses and improving system reliability.

The development of energy-efficient automatic control algorithms for asynchronous electric drives in pump units is particularly relevant for modern electric power systems, where energy saving, operational stability, and sustainable resource utilization are prioritized. Such algorithms not only improve the efficiency of individual pump units but also contribute to the overall optimization of electric power consumption in electroenergetic systems.

The objective of this study is to develop and analyze energy-efficient automatic control algorithms for regulating the operating modes of pump units driven by asynchronous electric motors. The proposed approach is based on mathematical modeling of the electric drive and pump system, followed by the synthesis of automatic regulation algorithms aimed at minimizing energy consumption while maintaining stable and reliable operation under variable conditions.

2. Materials and Methods

2.1. Structure of the pump electric drive system.

The object of investigation is a pump unit driven by an asynchronous electric motor supplied through a frequency-controlled electric drive. The system consists of an induction motor, a centrifugal pump, a power electronic converter, and an automatic control unit. Regulation of the operating mode is achieved by varying the motor speed according to load and hydraulic conditions.

The control objective is to ensure energy-efficient operation by maintaining optimal correspondence between motor speed, pump flow rate, and hydraulic head.

2.2. Mathematical model of the asynchronous electric motor.

The asynchronous motor is described in a rotating dqdqdq-reference frame using standard voltage and flux equations:

$$u_d = R_s i_d + \frac{d\psi_d}{dt} - \omega\psi_q,$$

$$u_q = R_s i_q + \frac{d\psi_q}{dt} + \omega\psi_d,$$

where

u_d, u_q −stator voltage components,

i_d, i_q −stator current components,

ψ_d, ψ_q − stator flux linkages,

R_s −stator flux linkages,

ω − angular speed of the reference frame.

The electromagnetic torque of the motor is given by:

$$M_e = \frac{3}{2} p\left(\psi_d i_q - \psi_q i_d\right),$$

where p is the number of pole pairs.

$$J\frac{d\omega_m}{dt} = M_e - M_L - B\omega_m ,$$

J − moment of inertia,

ω_m −mechanical angular speed,

M_L −load torque,

B − viscous friction coefficient.

2.3. Mathematical model of the pump unit.

The centrifugal pump characteristics are expressed using the affinity laws:

$$Q \propto n, \qquad H \propto n^2, \qquad P \propto n^3,$$

Where

Q −flow rate,

H −pump head,

P −shaft power,

n −rotation speed.

The load torque acting on the motor shaft is approximated as:

$$M_L = kQ\omega_m^2,$$

where kQ is a coefficient depending on pump and hydraulic parameters.

2.4. Energy-efficient automatic control algorithm.

The proposed control strategy is based on automatic regulation of motor speed to minimize energy consumption while maintaining required hydraulic performance. The control objective is formulated as the minimization of input electrical power:

$$P_{in} = u_s i_s,$$

subject to constraints on flow rate and pump head.

A speed reference signal is generated according to the desired operating point:

$$\omega_{ref} = f\left(Q_{ref}, H_{ref}\right),$$

Where Q_{ref} and H_{ref} are reference values determined by system demand.

The speed control loop is implemented using an adaptive PI controller:

$$u_{ctrl}(t) = K_p(t)e(t) + K_i(t)\int e(t)\,dt,$$

Where

$$e(t) = \omega_{ref} - \omega_m,$$

$K_p(t), K_i(t)$ −adaptive proportional and integral gains.

The adaptation law adjusts controller parameters based on operating conditions to ensure stable and energy-efficient performance under varying loads.

2.5. Performance evaluation criteria

The effectiveness of the proposed algorithm is evaluated using the following criteria:

- reduction of electrical power consumption;
- stabilization of operating speed under load disturbances;
- improvement of overall efficiency of the pump unit.

Simulation studies are conducted under variable operating conditions to compare conventional control and the proposed energy-efficient automatic regulation algorithm.

3. Results

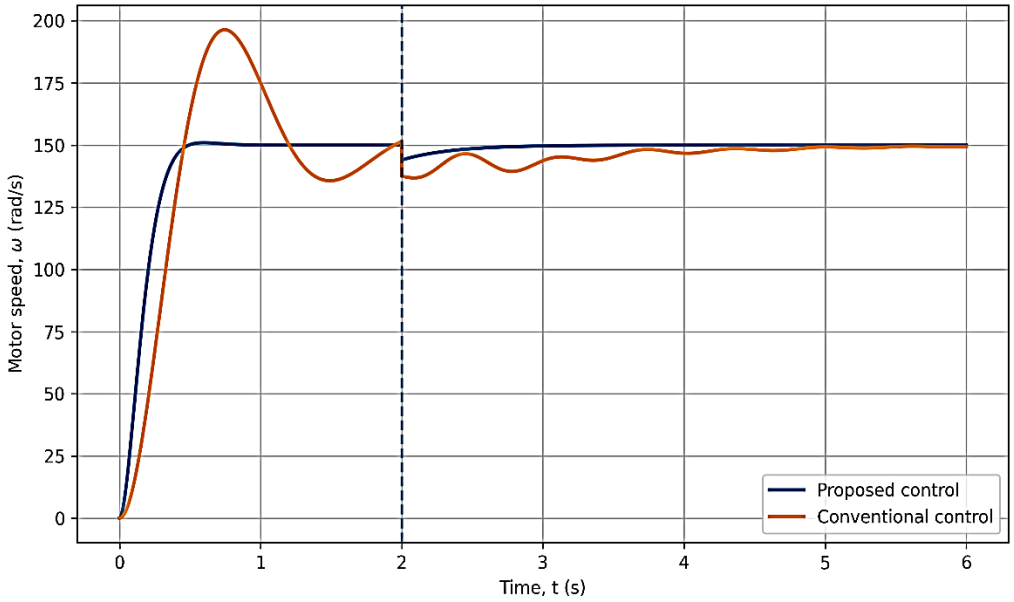
3.1. Simulation conditions

The simulation study was performed for a centrifugal pump unit driven by an asynchronous electric motor with a rated power of 7.5 kW. The electric drive was supplied by a frequency converter, and the operating conditions were varied to represent nominal, partial, and low-load regimes typical for pumping systems. The proposed energy-efficient automatic control algorithm was compared with a conventional automatic speed control system using fixed controller parameters.

3.2. Speed regulation performance (ω–t)

The dynamic response of the motor speed under load disturbances is illustrated in **Figure 1**. As shown in **Figure 1**, the proposed control algorithm provides fast and stable speed regulation with a short settling time and negligible overshoot. When the load torque changes abruptly, the motor speed quickly returns to the reference value.

In contrast, the conventional control system exhibits a longer transient process and noticeable speed oscillations. This difference indicates that the proposed algorithm improves the dynamic stability of the pump unit and ensures reliable



operation under variable hydraulic conditions.

Figure 1. Motor speed response under load variation (ω–t).

3.3. Power consumption characteristics (P–ω)

The relationship between input electrical power and motor speed is presented in **Figure 2**. According to **Figure 2**, the proposed energy-efficient control algorithm significantly reduces power consumption, especially at partial operating speeds.

At reduced speeds, the conventional control system maintains unnecessarily high power levels, whereas the proposed algorithm adapts the motor speed to actual demand. This behavior confirms the effectiveness of speed-based control for minimizing electrical energy losses in pump-driven systems.

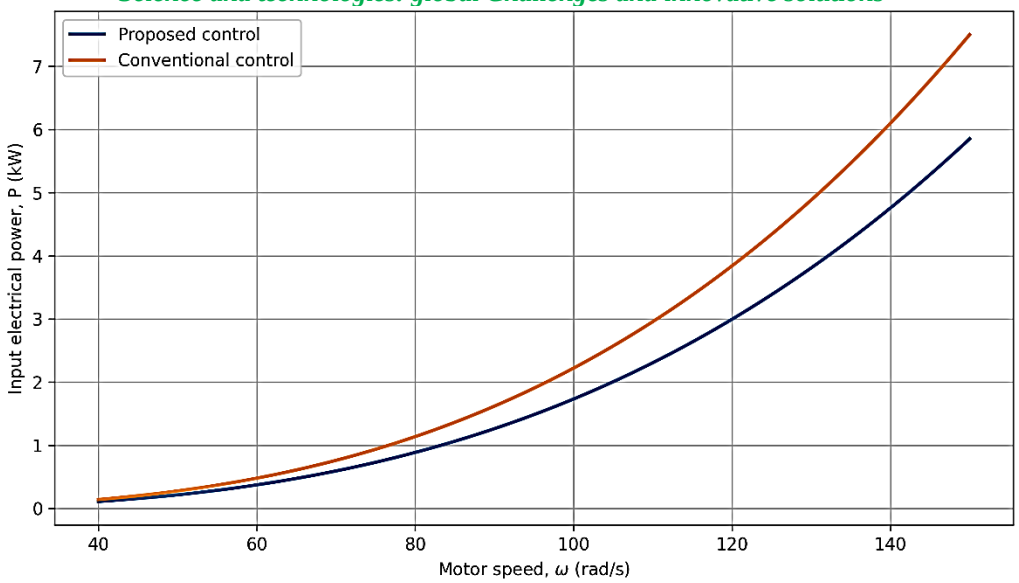


Figure 2. Input electrical power versus motor speed (P–ω).

3.4. Pump flow regulation characteristics (Q–n)

The dependence of pump flow rate on rotational speed is shown in **Figure 3**. As observed in **Figure 3**, the proposed control algorithm ensures proportional regulation of flow rate according to speed variation, in accordance with pump affinity laws.

By maintaining operation near the optimal efficiency region, the algorithm prevents excessive flow rates and reduces hydraulic losses. This result demonstrates the capability of the proposed control strategy to regulate pump operating modes efficiently.

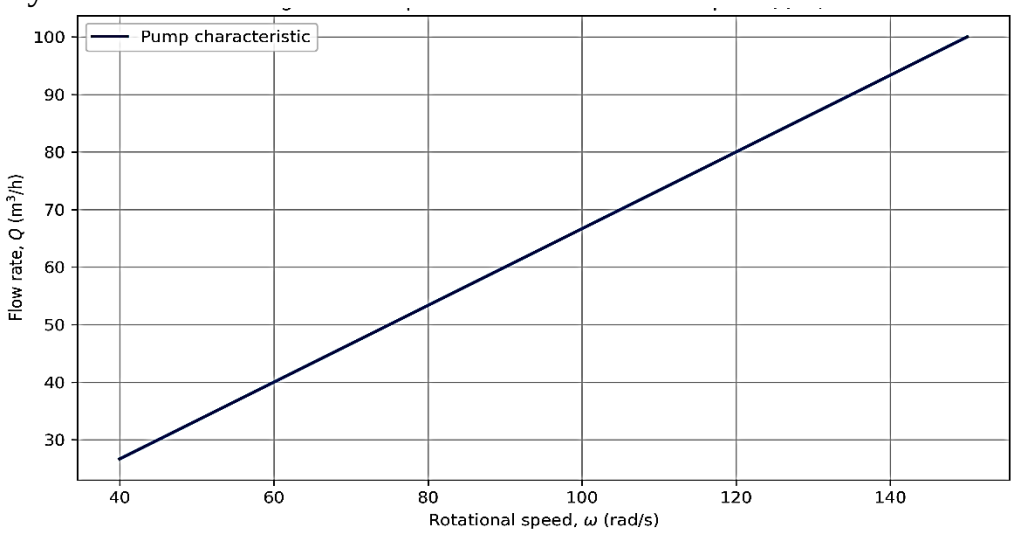


Figure 3. Pump flow rate versus rotational speed (Q–n).

3.5. Energy efficiency evaluation

A quantitative comparison of energy consumption for different operating modes is summarized in **Table 1**. The table compares the conventional control strategy and the proposed energy-efficient automatic control algorithm.

Table 1. Comparison of energy consumption under different operating modes

Operating mode	Conventional control (kW)	Proposed control (kW)	Energy saving (%)
Nominal load	7.2	6.8	5.6
Partial load	5.4	4.1	24.1
Low load	3.8	2.6	31.6

As shown in **Table 1**, the proposed control algorithm achieves moderate energy savings under nominal load conditions and significant energy savings under partial and low-load regimes. The maximum energy saving of **31.6%** is achieved at low load, which is particularly important since pump units often operate under such conditions in practical applications.

3.6. Discussion of results

The combined analysis of **Figures 1–3** and **Table 1** confirms that the proposed energy-efficient automatic control algorithm improves both dynamic performance and energy efficiency of pump units driven by asynchronous electric motors. Stable speed regulation, reduced power consumption, and optimized flow control collectively contribute to improved operational reliability and reduced energy losses.

CONCLUSION

In this study, energy-efficient automatic control algorithms for regulating the operating modes of pump units driven by asynchronous electric motors were developed and analyzed. The proposed approach is based on automatic speed

regulation that ensures optimal coordination between motor operating conditions and pump hydraulic characteristics.

Simulation results confirmed that the proposed control algorithm provides stable and fast speed regulation under variable load conditions. As demonstrated by the motor speed response ω-t characteristics, the system exhibits reduced settling time and minimal oscillations compared to conventional control methods, which contributes to improved dynamic stability and reliable operation of the pump unit.

The analysis of power consumption characteristics $P-\omega$ showed that the proposed energy-efficient control algorithm significantly reduces electrical power consumption, especially at partial and low-load operating modes. For a pump unit driven by a 7.5 kW asynchronous motor, energy savings of up to 30% were achieved under reduced speed conditions, confirming the effectiveness of speed-based control strategies for pumping systems.

Furthermore, the flow regulation characteristics $Q-n$ demonstrated that the proposed control approach maintains pump operation close to the optimal efficiency region by adjusting rotational speed in accordance with system demand. This prevents unnecessary high-speed operation and reduces hydraulic losses, leading to improved overall energy efficiency.

The obtained results indicate that the developed energy-efficient automatic control algorithms can be effectively applied in modern electroenergetic and pumping systems to reduce energy consumption, improve operational stability, and enhance system reliability. Future research will focus on experimental validation of the proposed algorithms and their implementation in real pumping installations under industrial operating conditions.

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TO‘QIMACHILIK MAHSULOTLARIGA ISHLOV BERISHDA PID VA NEYRON TARMOQ BOSHQARUVI TAHLILI

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Annotatsiya. *Ushbu maqolada to‘qimachilik texnologik jarayonlarida keng qo‘llaniladigan PID boshqaruv algoritmi va neyron tarmoq asosidagi boshqaruv usullari o‘zaro solishtirilgan. Haroratni boshqarish misolida ikkala usulning dinamik xossalari, aniqligi, barqarorligi va moslashuvchanligi tahlil qilingan. Natijalar shuni ko‘rsatadiki, neyron tarmoq boshqaruv tizimi o‘zgaruvchan va noaniq sharoitlarda PID ga nisbatan yuqori samaradorlik va moslashuvchanlik ko‘rsatadi.*

Kalit so‘zlar: *To‘qimachilik, PID, neyron tarmoq, boshqaruv tizimi, harorat, moslashuvchanlik, aniqlik, MATLAB, simulyatsiya.*

Abstract. *This article compares the PID control algorithm and neural network-based control methods widely used in textile technological processes. Using temperature control as an example, the dynamic properties, accuracy, stability, and adaptability of both methods are analyzed. The results show that the neural network control system demonstrates higher efficiency and flexibility compared to PID in changing and uncertain conditions.*

Keywords: *Textiles, PID, neural network, control system, temperature, flexibility, accuracy, MATLAB, simulation.*

KIRISH

To‘qimachilik sanoatida texnologik jarayonlar – tolani quritish, ip kalavani barqaror ushlab turish, bo‘yash, termik ishlov berish – aniq boshqaruvni talab qiladi. An’anaviy PID boshqaruv tizimlari uzun yillardan beri sanoatda qo‘llanilgan bo‘lsa-da, jarayonlarning noaniqligi, tashqi shovqinlar va parametrlarning o‘zgaruvchanligi sharoitida ularning samaradorligi cheklangan. Sun’iy intellekt, xususan neyron

tarmoq (NT) asosidagi boshqaruv tizimlari esa o‘z-o‘zidan o‘rganish va moslashish qobiliyati bilan ajralib turadi.

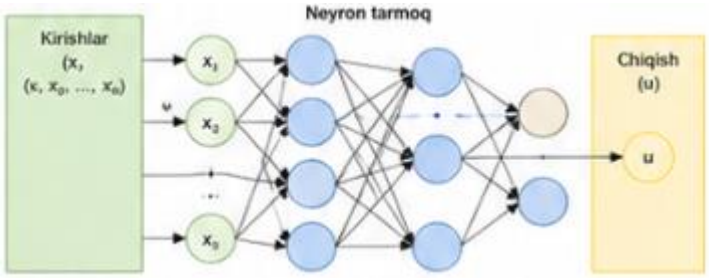
ASOSIY QISM

PID – Proportsional, Integral, Differensial – boshqaruv signali xatolik e(t) bo‘yicha quyidagi formula asosida hosil qilinadi:

$$u(t) = K_p e(t) + K_i \int_0^t e(\tau) d\tau + K_d \frac{de(t)}{dt}$$

bu yerda: *Kp*-proportsional koeffitsiyent; *Ki*-integral koeffitsiyent; *Kd*-differensial koeffitsiyent.

Neyron tarmoq boshqaruv tizimi – bu tizimning kirish va chiqish ma’lumotlari asosida o‘rganib boruvchi, murakkab nochiziqli bog‘lanishlarni modellashtira oladigan intellektual tizimdir.

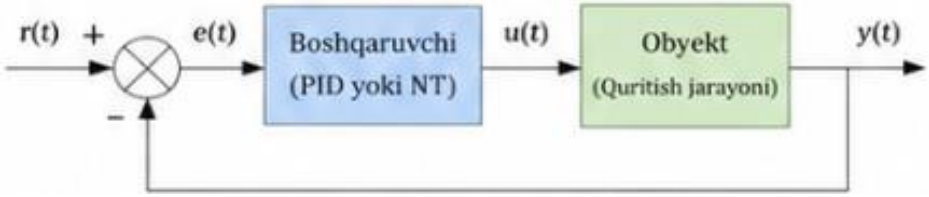


1-rasm. Neyron tarmoq boshqaruvining tuzilmasi

Tadqiqotda to‘qimachilik jarayonlaridan biri – quritish jarayonidagi haroratni boshqarish obyekti sifatida tanlandi. Jarayon matematik modeli quyidagicha ifodalanadi:

$$G(s) = \frac{1.5}{30s + 1} e^{-5s}$$

bu yerda: *5s* – kechikish vaqti (transport delay).



2-rasm. Boshqaruv tizimining tuzilmasi

Simulyatsiyalar MATLAB/Simulink muhitida amalga oshirildi. Quyidagi ko‘rsatkichlar bo‘yicha solishtirildi: o‘rnatilish vaqti (t), ko‘tarilish vaqti (t), ochiq chiqish (overshoot), statik xatolik (eu), integral xatolik (IAE).

Quyidagi grafikda PID va neyron tarmoq boshqaruv tizimlarining birlik qadamli signalga javobi solishtirilgan.

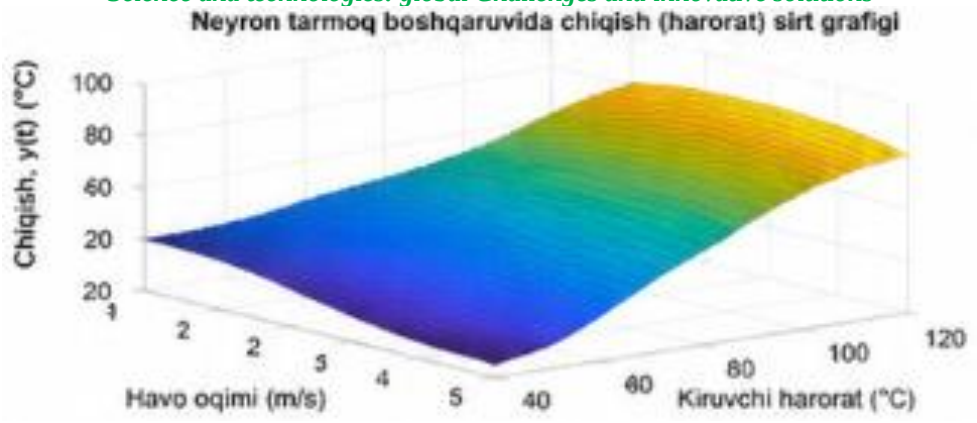


3-rasm. PID va neyron tarmoq tizimlarining javob grafigi

1-jadval. Natijalar taqqoslanishi

Ko‘rsatkichlar	**PID boshqaruv**	**Neyron tarmoq boshqaruv**
Ko‘tarilish vaqti (t)	18.6 s	9.7 s
O‘rnatilish vaqti (t)	78.4 s	32.1 s
Overshoot (%)	16.3%	3.2%
Statik xatolik (eu)	0.012	0.0018
IAE (Integral xatolik)	42.7	12.6

Neyron tarmoq boshqaruvning moslashuvchanligini ko‘rsatish uchun harorat va havo oqimi o‘zgarishlari ta’siridagi chiqish sirt grafigi qurildi.



4-rasm. Neyron tarmoq tizimiining 3D sirt grafigi

Neyron tarmoq tizimi tashqi shovqin va parametr o‘zgarishlariga nisbatan yuqori barqarorlik ko‘rsatadi.



Neyron tarmoq boshqaruv tizimi PID ga nisbatan ancha tez va aniq javob beradi. Overshoot va statik xatolik qiymatlari sezilarli darajada kamayadi. Neyron tarmoq o‘zgaruvchan sharoitlarda (shovqin, parametr o‘zgarishi) o‘zini yaxshi moslashtira oladi. 3D sirt grafigi neyron tarmoqning nochiziqli jarayonlarni samarali modellashtira olishini tasdiqlaydi.

XULOSA

To‘qimachilik sohasidagi quritish jarayoni misolida PID va neyron tarmoq boshqaruv tizimlari solishtirildi. Simulyatsiya natijalari shuni ko‘rsatadiki, neyron tarmoq asosidagi boshqaruv tizimi an’anaviy PID boshqaruvga nisbatan: tezroq moslashadi; kamroq xatolik bilan ishlaydi; tashqi shovqin va parametr o‘zgarishlariga chidamli; murakkab nochiziqli jarayonlarda yuqori samaradorlik

ko‘rsatadi. Shu sababli zamonaviy to‘qimachilik korxonalarida neyron tarmoq asosidagi intellektual boshqaruv tizimlarini joriy etish maqsadga muvofiqdir.

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Annotatsiya. *Mazkur maqolada o‘simliklar, ayniqsa barg yuzasida to‘planuvchi chang va aerozol zarrachalari orqali atrof-muhit ifloslanishini baholashning ilmiy asoslari tahlil qilinadi. O‘simliklarning bioindikator sifatidagi roli, chang to‘planishiga ta’sir etuvchi ekologik va antropogen omillar hamda zamonaviy monitoring metodlari izchil yoritilgan. So‘nggi yillarda olib borilgan tadqiqotlar asosida ushbu yondashuvning samaradorligi ilmiy jihatdan asoslab berilgan.*

Kalit so‘zlar: *Biologigik indekator, o‘simlik, Ifloslanish, atrof-muhitga ta’sirni baholash, ekologik monitoring, barqaror rivojlanish, samaradorlik.*

Abstract. *This article examines the scientific basis of environmental pollution assessment using plants, particularly foliar dust accumulation. The role of plants as bioindicators, factors influencing dust deposition, and modern monitoring methods are discussed. The effectiveness of this approach is substantiated based on recent studies.*

Keywords: *Biological indicator, plant, pollution, environmental impact assessment, ecological monitoring, sustainable development, efficiency.*

KIRISH

Atrof-muhit ifloslanishini aniqlash va baholash bugungi kunda ekologiya va kimyo fanlarining asosiy yo‘nalishlaridan biri hisoblanadi. An’anaviy instrumental usullar yuqori aniqlikni ta’minlasa-da, ularning iqtisodiy va texnik jihatdan murakkabligi keng hududlarda doimiy monitoring olib borishni cheklaydi. Shu sababli bioindikatsiya usullari, xususan o‘simliklardan foydalanish, ilmiy hamjamiyatda tobora keng e’tibor qozonmoqda.

ASOSIY QISM

O‘simlik barglari atmosfera bilan doimiy aloqada bo‘lib, havodagi chang, aerozol va og‘ir metall zarrachalarini o‘z yuzasida to‘plash xususiyatiga ega. Natijada barg yuzasi ma’lum vaqt oralig‘ida muhitdagi ifloslanish darajasining integrallashgan ko‘rsatkichiga aylanadi. Shu jihatdan o‘simliklar tabiiy “monitoring vositasi” sifatida qaraladi. O‘simliklarning bioindikator sifatidagi ahamiyati ularning tashqi muhit bilan bevosita va uzluksiz aloqada bo‘lishi bilan belgilanadi. Barg yuzasida chang va aerozol zarrachalarining to‘planishi, ayniqsa sanoat va transport chiqindilarining ta’sirini aks ettiradi. So‘nggi ilmiy tadqiqotlar shuni ko‘rsatadiki, o‘simlik barglarida to‘plangan chang tarkibida og‘ir metallar mavjudligi hududdagi antropogen bosim darajasi haqida ishonchli ma’lumot beradi.

Ayniqsa yirik bargli va yuzasi murakkab mikrostrukturaga ega o‘simlik turlari changni ko‘proq ushlab qoladi. Shu sababli ular ekologik monitoringda samarali bioindikator sifatida keng qo‘llanilmoqda. Bu yondashuv orqali havoning ifloslanish darajasini faqat bir lahzadagi emas, balki ma’lum vaqt oralig‘idagi umumiy holatini baholash mumkin.

O‘simlik barglarida chang to‘planishi murakkab fizik-kimyoviy va ekologik jarayonlar natijasidir. Barg yuzasining tuzilishi, uning g‘adir-budurligi, tukchalar mavjudligi va mum qavati chang zarrachalarining yopishishiga bevosita ta’sir ko‘rsatadi. Shu bilan birga, tashqi muhit sharoitlari ham muhim rol o‘ynaydi. Shamol tezligi changning ko‘chishiga sabab bo‘lsa, namlik uning barg yuzasiga

yopishishini kuchaytiradi, yog‘ingarchilik esa aksincha, to‘plangan changni yuvib ketadi.

Antropogen omillar, xususan transport oqimi va sanoat korxonalarining yaqinligi chang to‘planish darajasini keskin oshiradi. Ilmiy kuzatuvlar shuni ko‘rsatadiki, yo‘l bo‘yida o‘suvchi o‘simliklarda chang miqdori boshqa hududlarga nisbatan bir necha barobar yuqori bo‘ladi. Bu esa ushbu metodning urban hududlarda ayniqsa muhim ekanligini ko‘rsatadi.

Barglarda to‘plangan chang miqdorini aniqlash ekologik monitoringning nisbatan sodda, ammo informativ usullaridan biri hisoblanadi. Ushbu metod odatda barg yuzasidan changni yuvib olish, uni filtrlash va keyinchalik gravimetrik yoki spektrometrik usullar orqali tahlil qilish bosqichlarini o‘z ichiga oladi. Olingan natijalar orqali ma’lum hududdagi ifloslanish darajasi miqdoriy jihatdan baholanadi.

Zamonaviy ilmiy tadqiqotlarda ushbu yondashuv atom-absorbsiya spektroskopiyasi yoki yuqori aniqlikdagi plazma mass-spektrometriyasi bilan birgalikda qo‘llanilib, chang tarkibidagi og‘ir metallarni aniqlash imkonini beradi. Bu esa ifloslanish manbalarini chuqurroq tahlil qilishga yordam beradi.

Shu bilan birga, metodning ayrim cheklovlari ham mavjud. Natijalar ob-havo sharoitlariga sezgir bo‘lib, turli o‘simlik turlari orasidagi farqlar tahlilni murakkablashtiradi. Bundan tashqari, changning kelib chiqish manbasini aniq ajratish har doim ham oson emas. Shu sababli ilmiy jihatdan asoslangan yondashuv ushbu metodni boshqa analitik usullar bilan birgalikda qo‘llashni talab qiladi.

O‘zbekiston sharoitida olib borilgan tadqiqotlar, ayniqsa yirik shaharlarda, o‘simlik barglari orqali transport va sanoat ifloslanishini baholash mumkinligini ko‘rsatgan. Toshkent shahrida o‘tkazilgan kuzatuvlar barglarda og‘ir metallar to‘planishi bilan transport zichligi o‘rtasida to‘g‘ridan-to‘g‘ri bog‘liqlik mavjudligini aniqlagan.

Jahon miqyosida esa bu yondashuv urban ekologiyada keng qo‘llanilib, ayniqsa Xitoy va Hindistonda havoning ifloslanishini monitoring qilishda samarali

vosita sifatida qaralmoqda. Yevropa mamlakatlarida bioindikatsiya usullari geografik axborot tizimlari bilan integratsiyalangan holda qo‘llanilib, hududiy ekologik tahlillarni yanada aniqlashtirishga xizmat qilmoqda.

XULOSA

O‘simlik barglarida chang to‘planishiga asoslangan bioindikatsiya usuli atrof-muhit ifloslanishini baholashda ilmiy asoslangan va amaliy jihatdan samarali yondashuv hisoblanadi. Ushbu metod ekologik monitoringni arzonlashtirish va keng hududlarda qo‘llash imkonini beradi. Shu bilan birga, natijalarning aniqligini oshirish uchun uni zamonaviy analitik usullar bilan uyg‘unlashtirish zarur.

Kelgusida ushbu yondashuvni rivojlantirish, ayniqsa raqamli texnologiyalar va fazoviy tahlil usullari bilan integratsiya qilish orqali ekologik monitoring tizimini yangi bosqichga olib chiqish mumkin.

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QORAQALPOG‘ISTON RESPUBLIKASINING TUPROQ KARTALARINI LOYIHALASH VA TUZISH

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Annotatsiya: *Mazkur maqolada Qoraqalpog‘iston Respublikasining tuproq kartalarini loyihalash va tuzish jarayonining ilmiy-uslubiy asoslari keng yoritilgan. Tadqiqotda hududning tabiiy-iqlim sharoitlari, geomorfologik xususiyatlari hamda tuproq qoplami shakllanishiga ta’sir etuvchi asosiy omillar tahlil qilinadi. Shuningdek, tuproq xaritalarini yaratishda zamonaviy geografik axborot tizimlari (GIS), masofaviy zondlash ma’lumotlaridan foydalanilgan.*

Kalit so‘zlar: *GIS,tuproq xaritasi, yer qoplami, sho‘rlanish, degradatsiya, yer monitoringi*

Annotation: *This article comprehensively discusses the scientific and methodological foundations of designing and compiling soil maps of the Republic of Karakalpakstan. The study analyzes the natural and climatic conditions of the region, its geomorphological features, and the main factors influencing soil formation. In addition, modern Geographic Information Systems (GIS) and remote sensing data are used in the creation of soil maps.*

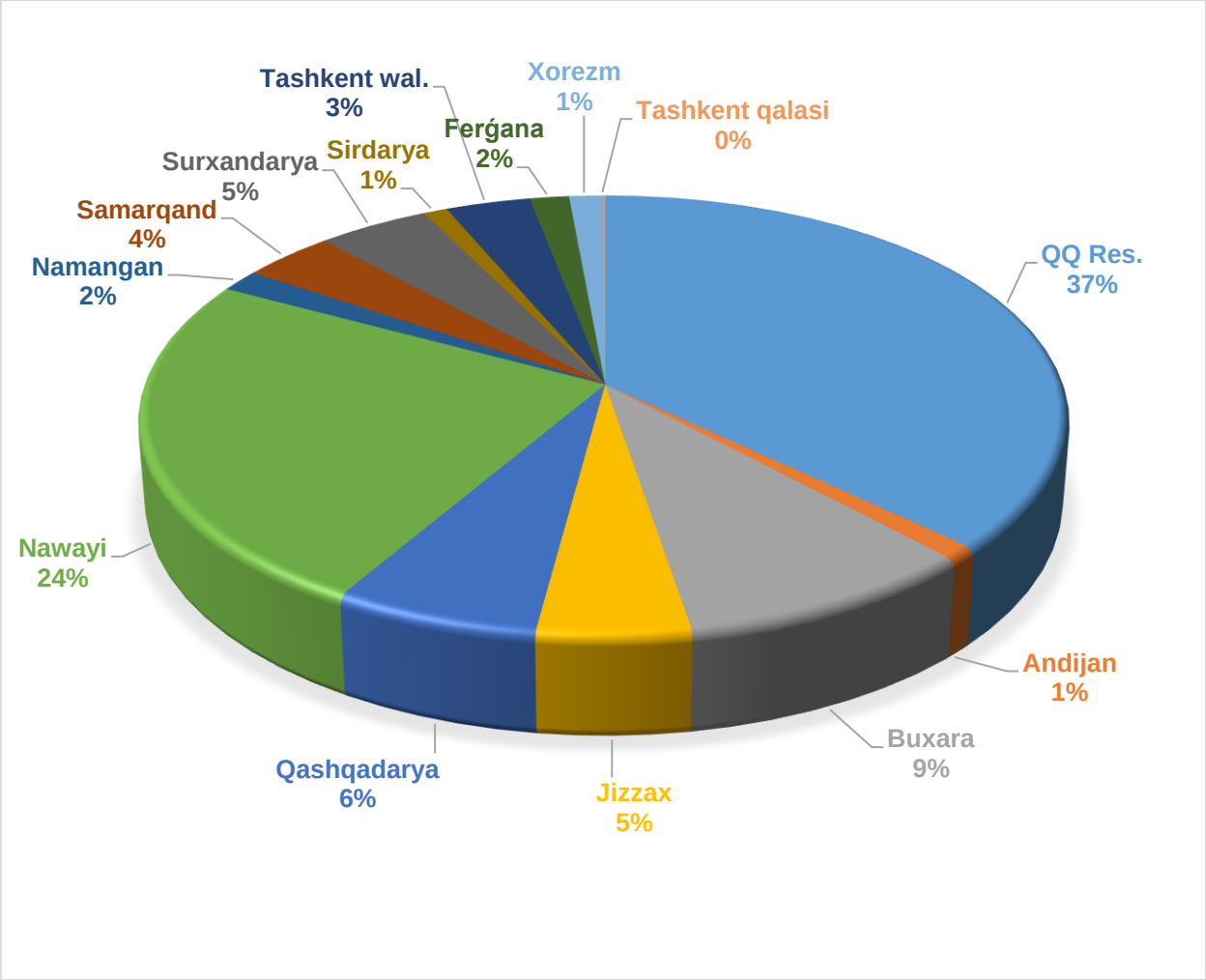
Keywords: *GIS, soil map, land cover, salinity, degradation, land monitoring*

KIRISH

O‘zbekiston Respublikasida yer va uning tuproq resurslari mavjud hamma sohalarning tayanchi, asosiy ishlab chiqarish vositasidir. Demak, mamlakatimiz iqtisodiyotining agrar sektorining rivojlanishi shunga boqliqdir. Qishloq xo‘jalik

ishlab chiqarishining asosiy vositasi bo‘lmish yer – tuproq qoplami bioqatlamning barqarorligi va uning ekologik holatini saqlab turishda ham katta rol o‘ynaydi.[1]

O‘zbekiston Respublikasida yer - davlat mulki, umummilliy boylik, ulardan oqilona foydalanish zarur. Yer davlat tomonidan muhofaza qilinadi. Davlat yerning asosiy egasi sifatida yer fondiga egalik qilish va undan to‘g‘ri foydalanishni ham tashkil etishi zarur.[2]



1-diagramma. O‘zbekiston Respublikasi yer fondining hududlar miqyosida taqsimlanishi (% hisobida).

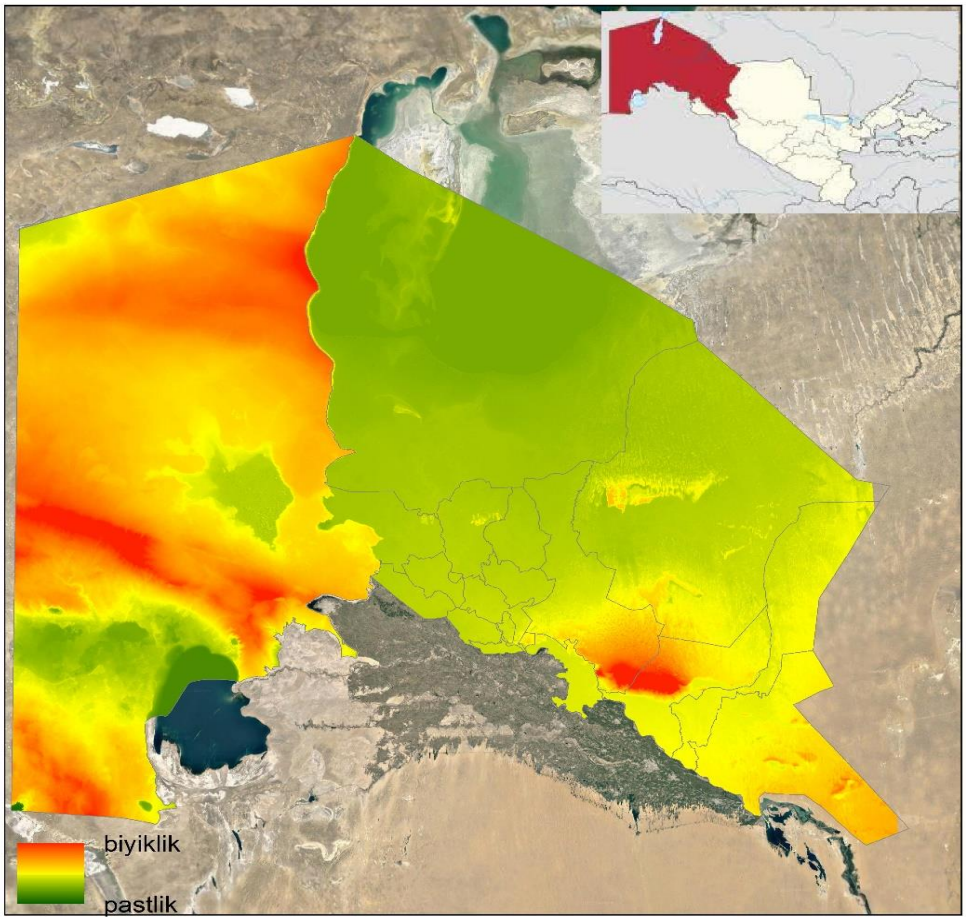
Mavzuning dolzarbligi. Yer resurslaridan oqilona foydalanish, yer fondi toifalari o‘zgarishini o‘z vaqtida aniqlash, yerlarni monitoring qilish, katta hududlarda ma’lumot to‘plash va ularni qayta ishlash jarayonlari bir qancha qiyinchiliklarga olib keladi. Bunday muammolarni hal etishda yangi axborot

texnologiyalaridan keng foydalanib, yerlardan unumli foydalanishni yanada takomillashtirish maqsadga muvofiqdir.

Ko‘pgina rivojlanayotgan mamlakatlarda yer resurslaridan foydalanishni mintaqaviy rejalashtirish va uni monitoring qilish dolzarb muammo bo‘lib qolmoqda. Bunday muammolarni hal etishda masofadan zondlash texnologiyalaridan keng foydalanib, yerlardan unumli foydalanishni yanada takomillashtirish maqsadga muvofiqdir.[4]

ASOSIY QISM

Qoraqalpog‘iston Respublikasi O‘zbekistonning chekka shimoli-g‘arbida, Quyi Amudaryo hududida joylashgan. Qoraqalpog‘iston yer usti tuzilishi murakkab emas: eng baland nuqtasi Sulton Uvays tizmasi bo‘lib, u dengiz sathidan 473 m balandlikda joylashgan. Sariqamish va Asaka cho‘kindilari esa anaqurlim pastda joylashgan. Qoraqalpog‘iston Respublikasining g‘arbiy qismi Ustyurt platosi, qolgan hududi Turon pasttekisligi bilan band.

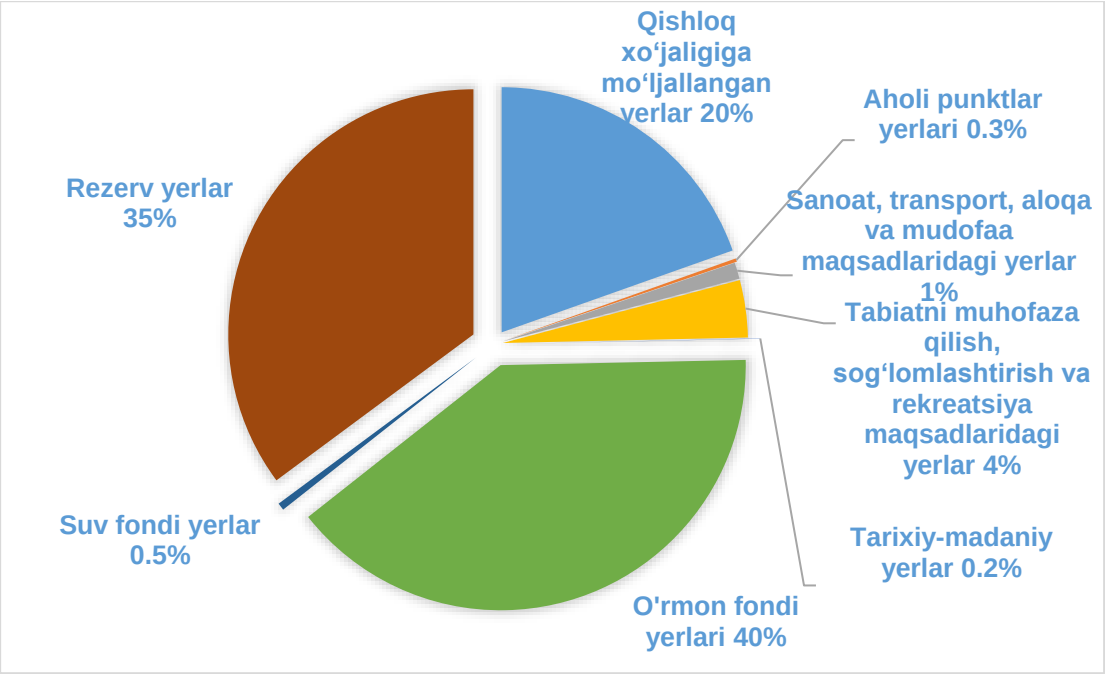


1-rasm. ArcGIS10.8 tayyorlangan Tadqiqot obyektining joylashuvi kartasi.

Respublikaning umumiy yer maydoni 01.05.2026 yil holatiga ko‘ra 16659,1 ming gektarni tashkil etadi. Qishloq xo‘jaligi uchun yaroqli yer maydonlari Amudaryo deltasida joylashgan bo‘lib, ular iqlim sharoitiga ko‘ra cho‘l zonasining shimoliy hududlariga kiradi. Respublikaning qishloq xo‘jaligiga mo‘ljallangan yerlari maydoni 3260,1 ming gektar bo‘lib shundan, sug‘oriladigan ekin yerlari asosan, o‘tloqi, o‘tloqi-taqir, o‘tloqi-cho‘l, o‘tloqi-allyuvial tuproq tiplarini o‘z ichiga oladi. Yer fondi hisobidagi 500,1 ming gektar maydonlar sug‘oriladigan yerlar bo‘lib, shundan 419,4 ming gektari haydaladigan yerlarni tashkil etadi. Keyingi yillarda mintaqa ekologiyasida yuz berayotgan salbiy ta’sirlarga ko‘ra ekin maydonlarining unumdorligi pasayib bormoqda.[3]

Ko‘pchilik ekin maydonlari tuprog‘i tarkibida gumus miqdori kam (0,41-80%) ko‘rsatkichlarda bo‘lib qolmoqda. Mintaqaning tuproqlari o‘rtacha 41 ballga

teng bo‘lib, bu O‘zbekiston Respublikasi bo‘yicha o‘rtacha ko‘rsatkichdan 14 ballga kam. Shu bilan bir qatorda, hududning ayrim joylarida ekinlarning vegetatsiya davrida yer osti suvlari sathining tegishli ko‘rsatkichdan ortiq ko‘tarilish holatlari ham uchraydi. Ma’lumki, ekin maydonlarining meliorativ holati yomonlashuvi natijasida tuproq tarkibida zararli tuzlar miqdori ortib boradi. Bunday sho‘rlangan maydonlarni o‘z vaqtida aniqlash va tegishli choralarni ko‘rish yer resurslaridan oqilona foydalanish va monitoringini yuritish uchun zamonaviy texnologiyalarni talab etmoqda.[3]



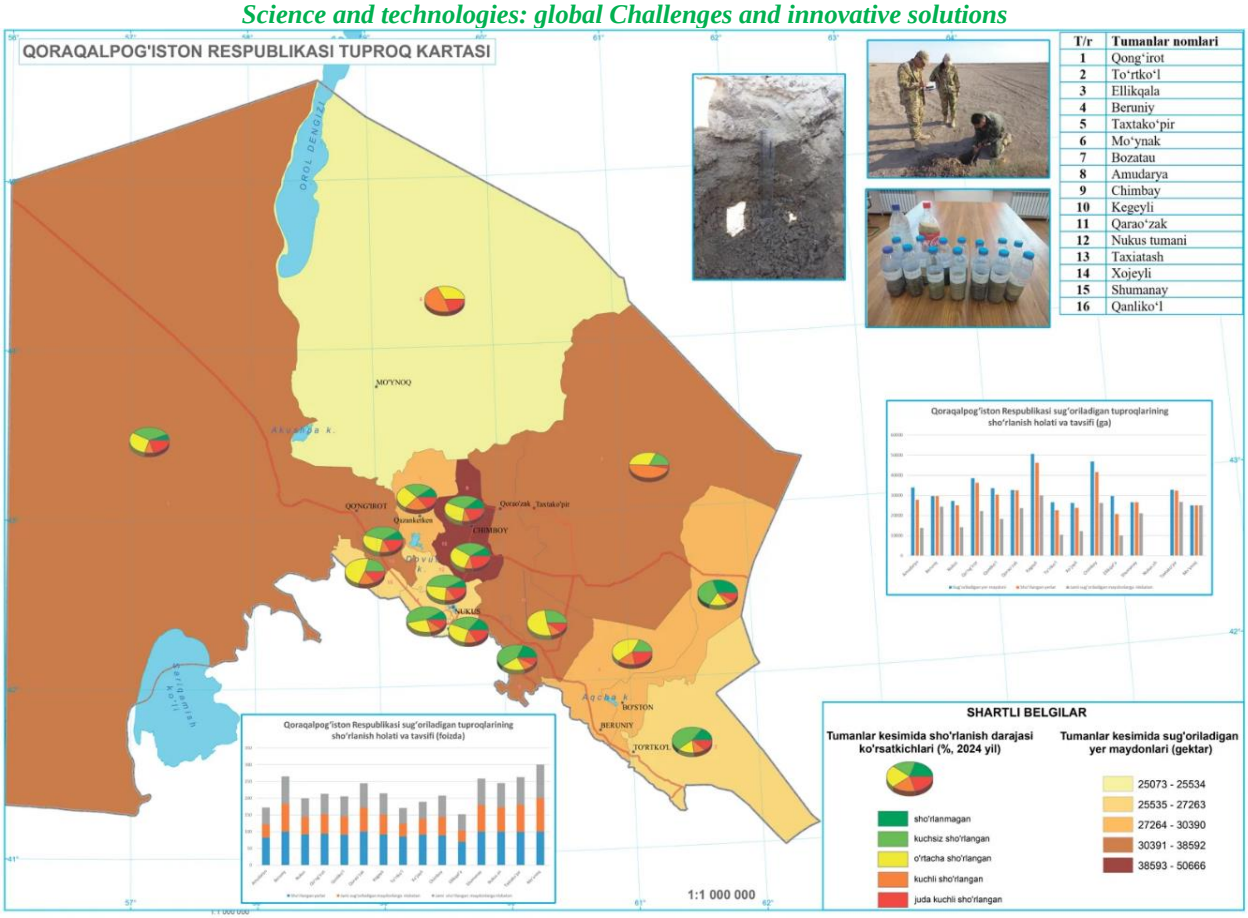
2-diagramma. Qoraqalpog’istonning yer fondi toifalari.

Yuqoridagi 2-diagrammada o‘rmon fondi yerlari eng yuqori (40%) ko‘rsatkichni ko‘rishimiz mumkin. Ammo mintaqadagi iqlim o‘zgarishlari va ekologik halokat, xususan, sho‘rlanish darajasi va boshqa omillar natijasida o‘rmonlar juda siyrak holda tarqalgan, qolganlari esa shu maqsaddagi davlat tashkilotlariga berilgan yerlar hisoblanadi. Zaxira yerlar (35%) mintaqadagi yana bir yirik yer toifalaridan biri hisoblanadi, bu respublikaning Ustyurt platosi va Qizilqum cho‘li oralig‘ida joylashganligi bilan bog‘liq.[7]

Respublikamizning yer resurslari davlat boshqarmasining ma’lumotiga qaraganimizda mamlakatimizning so‘nggi 10 yil ichida tuproqning meliorativ holati sezilarli darajada o‘zgarishlar bo‘lganligini tasdiqladi. 2024-yilda kuchsiz sho‘rlangan yerlar maydoni 2000 yilga nisbatan 288,2 mln gektar (8,4%), o‘rtacha sho‘rlangan yerlar 63,3 mln gektar (2,1%) va kuchli sho‘rlangan yerlar maydoni 210,0 mln gektarga (5,7%) ortdi.

Respublikamizda umumiy sho‘rlangan tuproqlarning yer maydonlari o‘rganilib shundan o‘rtacha va kuchli sho‘rlangan yerlar,78% ni tashkil etadi

Qoraqalpog‘iston Respublikasi yerlarining sho‘rlanish ko‘rsatkichi Tuproqning yuqori haydalma qatlamida 0,6% ortiq soda 0,1% ortiq xlor va 2% ortiq sulfatlar tuzning tarkibida uchrab sho‘rlangan tuproqdan bunday tuzlarning tiplariga har xil miqdorda bo‘lishidan farq qiladi. Masalan, tuproq tarkibida eng zaharli tuzlar oddiy soda (Na2Co3) hisoblanib, uning 0,6% miqdori bo‘lsa bunday tuproqlar umuman hosil bermaydigan tuproqqa aylanadi, buning 0,1% miqdori o‘simlikning normal o‘sib rivojlanishiga ma’lum darajada sezilarli ta’sir etadi.[6]



2-rasm ArcGIS10.8 tayyorlangan Qoraqalpog'istonning tumanlar kesimida sho'rlanish darajasi ko'rsatkichlari kartasi (%,2024-y)

XULOSA

Tuproq unumdorligining sezilarli darajada pasayishining asosiy sabablaridan biri suv va irrigatsiya eroziyasida tuproq eroziyasiga asoslanganda sug'oriladigan tuproqlarga xos bo'ladi. Bu yerlarning yarmiga yaqin bo'lgan relyefli yerlarda va ularning irrigatsion eroziya rivojlanish sababi cho'l zonalarga nisbatan ko'proq tuproqning yuvilishidan qiyaligi 1-2° ga yetganda boshlanib qiyalik ortgan sari eroziya jarayoni tezlashadi. Eng xavflisi eroziya natijasida tuproqda gumus va oziq moddalar kamayadi. Buning sababidan qishloq xo'jaligida yer aylanma qimmat sug'oriladigan yerlar paydo bo'lmoqda. Bundan tashqari tuproqqa sarflanadigan o'g'it va zaharli kimyoviy moddalarning bir qismi tuproqda yuvilib, suv omborlarida saqlanib atrof-muhitga salbiy ta'sir ko'rsatadi.

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VETERINARIYADA PROBIOTIKLARNING FARMAKOLOGIK XUSUSIYATLARI VA QO‘LLANILISHI

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Annotatsiya. Ushbu maqolada probiotiklarning veterinariyadagi farmakologik xususiyatlari va klinik qo‘llanilishi tahlil qilinadi. Probiotiklar – tirik mikroorganizmlar bo‘lib, ular me’yoriy miqdorda qo‘llanganda organizmning mikrobiom muvozanatini tiklash, immun tizimini faollashtirish va patogenlarga qarshi kurashda samarali vosita hisoblanadi. Maqolada probiotiklarning farmakodinamikasi, farmakokinetikasi, asosiy shtammlari, qo‘llanish usullari, xavfsizligi hamda kelajak istiqbollari yoritilgan.

Abstract. This article analyzes the pharmacological properties and clinical applications of probiotics in veterinary medicine. Probiotics are live microorganisms that, when administered in adequate amounts, serve as an effective tool for restoring the microbial balance of the organism, activating the immune system, and combating pathogens. The article covers the pharmacodynamics, pharmacokinetics, main strains, methods of administration, safety, and future prospects of probiotics.

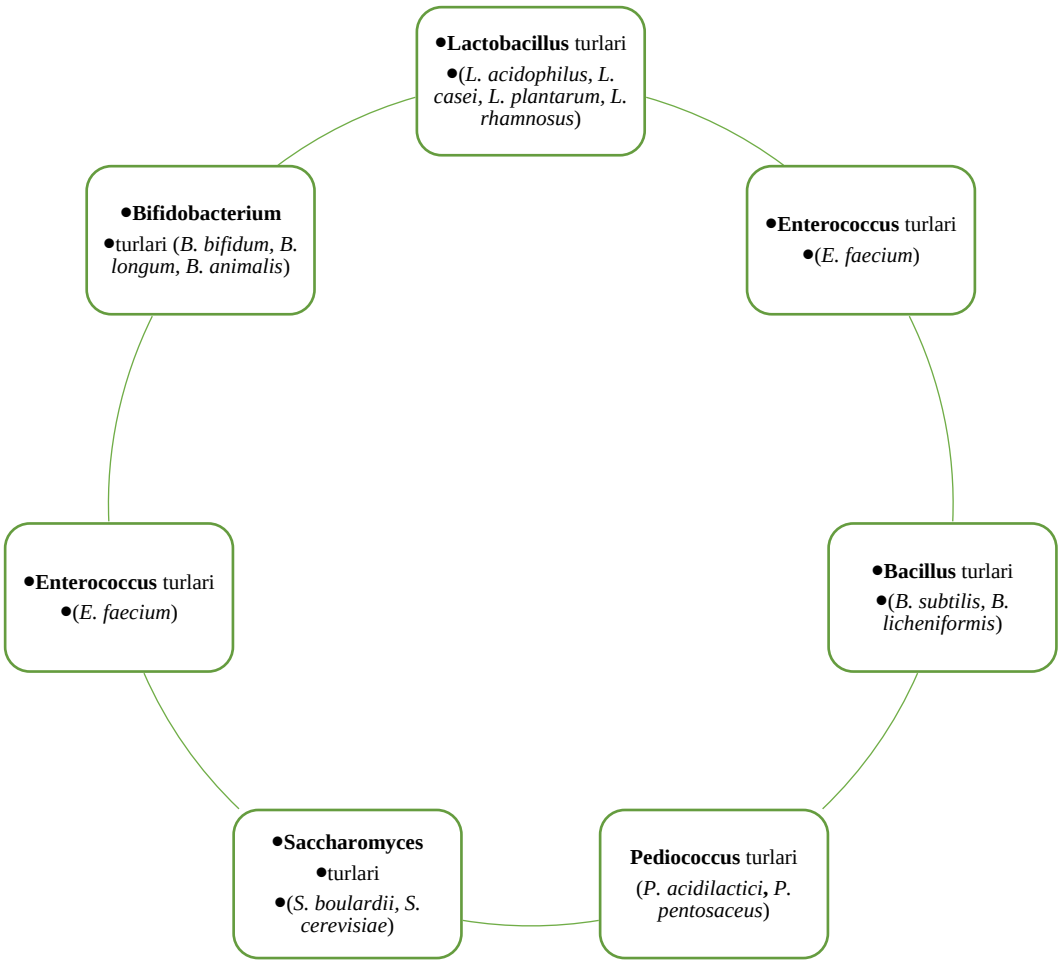
Kalit so‘zlar: probiotiklar, veterinariya, farmakologik xususiyatlar, mikrobioma, immunomodulyatsiya, disbakterioz, shtamm, sinbiotiklar

Keywords: probiotics, veterinary medicine, pharmacological properties, microbiome, immunomodulation, dysbiosis, strain, synbiotics

Mavzuning dolzarbligi. So‘nggi yillarda veterinariya tibbiyotida antibiotiklarga chidamlilik muammosi keskin ortib bormoqda. Antibiotiklardan noto‘g‘ri va haddan tashqari ko‘p foydalanish natijasida ko‘plab patogen bakteriyalar ko‘p dori turlariga qarshilik kasb etgan. Shu sababli, profilaktika va davolashda alternativ strategiyalar izlash dolzarb vazifaga aylandi. Shu nuqtai nazardan, probiotiklar – tirik foydali mikroorganizmlar veterinariya amaliyotida tobora ko‘proq qo‘llanilmoqda. Veterinariyada probiotiklar nafaqat oshqozon-ichak kasalliklarida, balki immunitetni mustahkamlash, mahsuldorlikni oshirish va stress omillarining salbiy ta’sirini kamaytirishda ham qo‘llaniladi. Probiotik singari biogen stimulyator preparatlar tibbiyot sohasi va veterinariya tarmoqlari uchun nihoyatda muhim preparat chunki uning eng yaxshi samarali ta’siri hazm traktiga qaratilgan shu asnoda probiotiklarni ta’siri natijasida respublikada go‘sht, sut, tuxum hamda boshqa mahsulotlarga bo‘lgan ehtiyojlar qondiriladi. Buni hukumatimiz va hurmatli prezidentimizning qator qaror, farmon, farmoyishlarida ham o‘z tasdig‘ini topadi. Xususan O‘zbekiston Respublikasi Prezidentining 2022-yil 21-yanvarda qabul qilingan PF-55-son “2022-2026-yillarda respublikaning farmatsevtika tarmog‘ini jadal rivojlantirishga oid qo‘shimcha chora-tadbirlar to‘g‘risida” Aholini sifatli, samarali va xavfsiz dori vositalari hamda farmatsevtika mahsulotlari bilan ta’minlash, ichki bozorni mahalliy mahsulotlar bilan to‘ldirish, ishlab chiqarish hajmini oshirish va eksport salohiyatini kengaytirish hamda 2019-yil 30-dekabr PQ-4554-son “O‘zbekiston Respublikasi Prezidentining O‘zbekistonda farmatsevtika tarmog‘ida islohotlarni chuqurlashtirishga doir qo‘shimcha chora-tadbirlar to‘g‘risida”gi qarorida va 2020-2024-yillarga mo‘ljallangan farmatsevtika tarmog‘ini rivojlantirish konsepsiyasida keltirilgan. Shu bilan birgalikda 2025-yil 30-yanvar PQ-34-son “Chorvachilik va parrandachilikni qo‘llab-quvvatlash, sohada yuqori qo‘shilgan qiymat yaratish bo‘yicha qo‘shimcha chora-tadbirlar

to‘g‘risida”gi qarorlarida o‘z tasdig‘ini topadi. Mazkur maqolaning maqsadi – probiotiklarning farmakologik xususiyatlarini tizimli yoritish va ularning veterinariya amaliyotidagi o‘rnini ko‘rsatishdan iborat.

Probiotiklarning umumiy farmakologik xususiyatlari. Jahon sog‘liqni saqlash tashkiloti (JSST) va Xalqaro probiotiklar va prebiotiklar ilmiy assotsiatsiyasi (ISAPP) ta’rifiga ko‘ra, probiotiklar – bu yetarli miqdorda qo‘llanganda xo‘jayin organizmiga sog‘liq uchun foyda keltiradigan tirik mikroorganizmlardir.



1-jadval. Veterinariyada eng ko‘p qo‘llaniladigan shtammlar:

Probiotiklarning ta’sir mexanizmi murakkab va ko‘p qirrali bo‘lib, quyidagi yo‘llar orqali amalga oshadi:

a) *immunomodulyatsiya* – probiotiklar ichak bilan bog‘liq limfoid to‘qimani (GALT) faollashtiradi. Ular makrofaglar, dendrit hujayralar va T-regulyator hujayralar orqali sIgA ishlab chiqarishni kuchaytiradi, shuningdek, yallig‘lanishga qarshi sitokinlar (IL-10, TGF-β) sintezini rag‘batlantiradi, yallig‘lanish sitokinlari (TNF-α, IL-6) esa kamayadi;

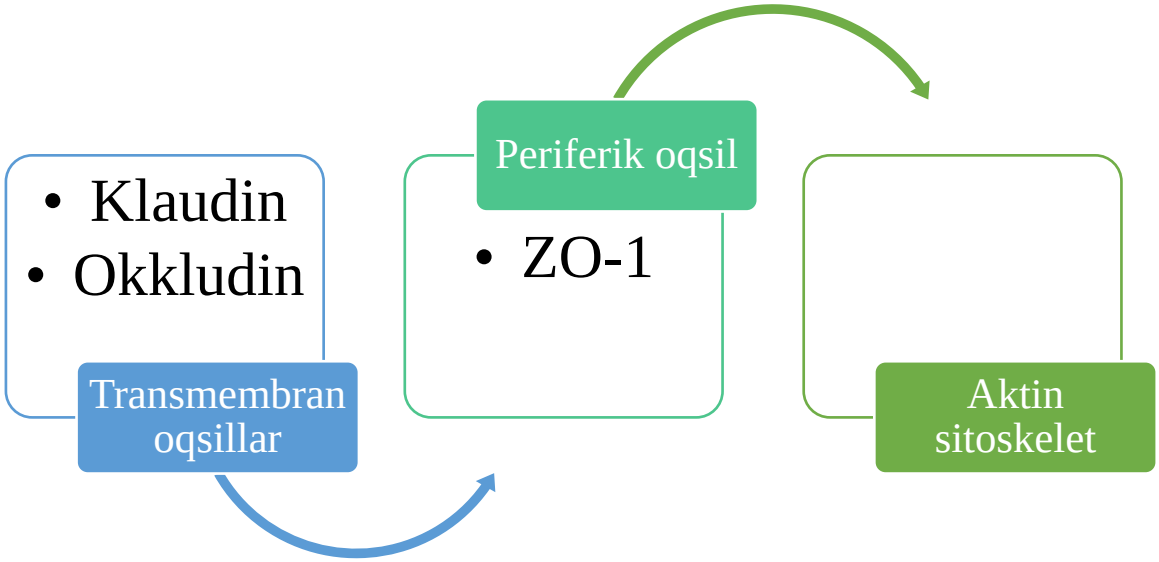
b) *antipatogen faollik* – probiotiklar bir necha mexanizm bilan patogenlarni bostiradi:

• Organik kislotalar (sut, sirka kislotalari) ishlab chiqarib, muhit pH ni pasaytiradi.

• Bakteriosinlar (nisin, plantaricin, laktosin) sintez qilib, patogenlarning hujayra devorini buzadi.

• Patogenlarning retseptorlar bilan raqobatlashib, ularning ichak epiteliysiga yopishishiga to‘sqinlik qiladi.

d) *ichak to‘sig‘i funksiyasini kuchaytirish* – probiotiklar oqsilli tig‘iz birikmalar (klaudin, okkludin, ZO-1 ya’ni periferik membrana oqsili) ifodalanishini oshiradi, shu tariqa *“sizib chiquvchi ichak”* sindromini kamaytiradi va patogenlarning qon aylanish tizimiga o‘tishini oldini oladi;



2-jadval. Klaudin, okkludin va ZO-1 – qiyosiy tavsifi

e) *metabolitlar ishlab chiqarish* – probiotiklar qisqa zanjirli yog‘ kislotalari (butirat, propionat, asetat), vitaminlar (B guruhi, K) va fermentlar (laktaza, fitaza) sintez qiladi. Butirat ayniqsa kolonotsitlar uchun asosiy energiya manbai bo‘lib, ichak sog‘lig‘ini saqlaydi.

Veterinariyada probiotiklarning farmakokinetikasi odamlar bilan solishtirganda bir qator o‘ziga xosliklarga ega:

a) *so‘rilish* – probiotik bakteriyalar asosan so‘rilmaydi, ular oshqozon-ichak trakti orqali o‘tadi. Spora hosil qiluvchi Bacillus turlari kislotali muhitga (oshqozon) chidamliroq;

b) *tarqalish* – sog‘lom hayvonlarda probiotiklar asosan ichak bo‘shlig‘ida qoladi. Immuniteti zaif hayvonlarda translokatsiya (ichakdan chiqib, limfa yoki qonga o‘tish) mumkin, ammo bu kamdan-kam uchraydi;

d) *o‘rnashish* – aksariyat probiotik shtammlar vaqtinchalik kolonizatsiya qiladi, ya’ni ularni qabul qilish to‘xtatilgandan keyin 1–2 hafta ichida organizmdan butunlay chiqarib yuboriladi. Qishloq xo‘jalik hayvonlarida (masalan, qoramol, cho‘chqa) o‘rnashish uzoqroq davom etishi mumkin;

e) *chiqarilish* – najas bilan chiqariladi.

Har bir hayvon guruhi uchun maxsus probiotik shtammlari ishlab chiqilgan. *Quyida asosiy yo‘nalishlar:*

3-jadval

Hayvon guruhi	**Tavsiya etiladigan shtammlar**	**Asosiy ko‘rsatmalar**
Itlar va mushuklar	*E. faecium, L. acidophilus, B. animalis, S. boulardii*	Diareya, stress, allergik dermatit, parodontit

Qoramol	*L. casei, L. plantarum, E. faecium, P. acidilactici*	Mastit, rumen atsidozi, neonatal diareya, sut mahsuldorligi
Parrandalar	*B. subtilis, L. reuteri, P. acidilactici*	Salmonellyoz, koksidioz, o‘sish stimulyatsiyasi
Otlar	*L. pentosus, S. cerevisiae*	Kolik, yo‘g‘on ichak disbakteriozi

Klinik qo‘llanilish sohalari. Probiotiklarning eng keng tarqalgan qo‘llanish sohasi – diareya, ayniqsa:

• Virusli enteritlar (parvovirus, koronavirus) – *S. boulardii va L. casei* parvovirusli itlarda diareya davomiyligini qisqartiradi.

• Bakterial infeksiyalar – *Salmonella, E. coli, Clostridium perfringens. L. plantarum va B. subtilis* patogenlarni siqib chiqaradi.

• Antibiotik bilan bog‘liq diareya – *Bifidobacterium va L. rhamnosus GG* antibiotik ta’sirida vujudga keladigan disbakteriozni bartaraf etadi.

• Stressli diareya (transport, sutdan ajratish, vaksinatsiya) – probiotiklarni profilaktik qo‘llash diareya xavfini 50–70% gacha kamaytiradi.

Transport, ozuqa o‘zgarishi, ob-havo keskin o‘zgarishi hayvonlarda gormonal va immunologik stressni keltirib chiqaradi. Probiotiklar (ayniqsa *L. acidophilus va B. subtilis*) kortizol darajasini pasaytiradi, sIgA va lizosim faolligini oshiradi. Parrandachilikda probiotiklar qo‘shilgan yem virusli kasalliklarga (Nyukasl, infeksion bronxit) qarshi vaksinal javobni kuchaytiradi.

Shakli	**Qo‘llanish yo‘li**	**Afzalliklari**
Kukun (premiks)	Yemga yoki sutga aralashtirish	Keng miqyosda qulay, arzon

Pasta, gel	Og‘iz orqali (applikator yordamida)	Aniq dozalash, qisqa kurs
Kapsula / tabletka	Og‘iz orqali	Barqaror, uzoq saqlanadi
Suyuq suspenziya	Og‘iz orqali, suvga qo‘shib	Tez so‘riladi, neonatal hayvonlar uchun
Intramammar suspenziya	Sut beziga	Mahalliy mastit profilaktikasi
Vaginal pessariy	Qin ichiga	Endometrit profilaktikasi

4- jadval. Veterinariyada probiotiklarning shakllari va qo‘llanish yo‘llari

Parrandalar (tovuqlar, kurkalar, o‘rdaklar va broylerlar) uchun probiotiklar bir kunlik jo‘jalarga suv, yem yoki aerozol purkash orqali beriladi. Asosiy maqsadlar patogen mikroflora darajasini pasaytirish, ichak mikrobiotasini qo‘llab-quvvatlash va yem hazm qilishni yaxshilashdir. Dozalar yoshga bog‘liq:

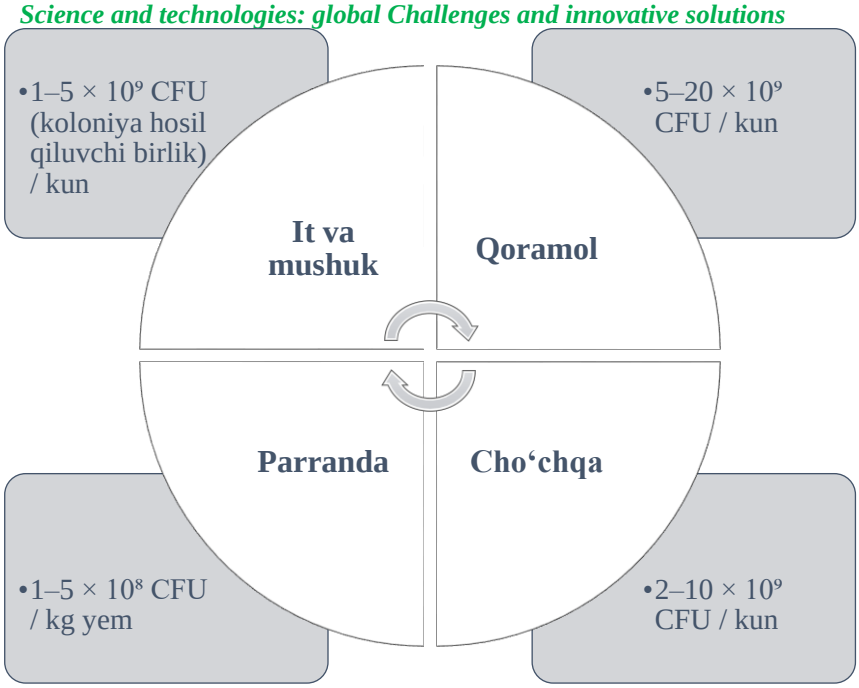
• Bir kunlik jo‘jalar va kurka parrandalari – $1–2\times10^9$ CFU/kg ozuqa yoki 10^8 CFU/litr ichimlik suvi;

• Broylerlar va yosh hayvonlar – $2–5 \times 10^9$ CFU/kg ozuqa;

• Quyonlar va qo‘ylar – $3–6\times10^9$ CFU/kg yem.

Parrandalar uchun probiotiklarga *Lactobacillus spp., Enterococcus spp., Pediococcus spp., Bacillus subtilis*, xamirturush kulturalari va prebiotik qo‘shimchalar (mannan oligosaxaridlari, fruktooligosaxaridlari) kiradi. Ular suvga qo‘shiladi va suyuq yoki kukun shaklida yem bilan aralashtiriladi.

Probiotiklarni qo‘llashda bir nechta muhim jihatlarni hisobga olish kerak: ular 60°C dan yuqori haroratgacha saqlamaslik kerak (aks holda bakteriyalar nobud bo‘ladi) ular ozuqa yoki suvda teng taqsimlanishi kerak va ulardan muntazam foydalanish kerak, chunki bitta doza uzoq muddatli ta’sir ko‘rsatmaydi.



5-jadval. Dozalari (tavsiyaviy)

Eslatma: Dozalar shtammga va mahsulotga qarab farq qilishi mumkin.

Shuningdek, probiotiklarning antibiotiklar bilan mosligini kuzatib borish kerak – ba’zi bakterial shtammlar antibakterial dorilarga sezgir, shuning uchun ularni qabul qilish o‘rtasida vaqt oralig‘i bo‘lishi kerak.

Probiotiklar odatda xavfsiz hisoblanadi, ammo quyidagi holatlarda ehtiyot bo‘lish kerak:

• Immuniteti nihoyatda zaif hayvonlar (*og‘ir immunodefitsit*) – nazariy jihatdan probiotik bakteriyalar sistemik infeksiyaga (masalan, *bakteriemiya*, *sepsis*) sabab bo‘lishi mumkin. Ammo amalda bunday holatlar juda kam uchraydi.

• Sifatsiz mahsulotlar – bozorda faol hayotiy shtammlar miqdori ko‘rsatilganidan bir necha barobar kam bo‘lgan yoki ifloslangan probiotiklar mavjud. Shu sababli faqat sertifikatlangan, sifat nazoratidan o‘tgan mahsulotlarni tavsiya qilish lozim.

• Shtammga xos samaradorlik – bir shtamm barcha kasalliklar va barcha hayvon turlariga birdek ta’sir qilmaydi. Masalan, odamlar uchun mo‘ljallangan *L. rhamnosus GG* itlarda past samaradorlikka ega bo‘lishi mumkin.

Xulosa qilib aytganda, zamonaviy qishloq xo‘jaligi hayvonlarning mahsuldorligini oshirish, antibiotiklarga bog‘liqlikni kamaytirish va ishlab chiqarishning ekologik barqarorligini oshirish uchun samarali yechimlarni talab qiladi. Shu nuqtai nazardan, probiotiklar ovqat hazm qilishni yaxshilash, immunitetni mustahkamlash, chorva mollari va parrandalarning mahsuldorligini oshirish hamda chorvachilikning atrof-muhitga salbiy ta’sirini kamaytirish uchun eng istiqbolli texnologiyalardan birini ifodalaydi.

So‘nggi yillarda ko‘pgina rivojlangan mamlakatlar o‘sish stimulyatori sifatida antibiotiklardan foydalanishga cheklovlar qo‘ydilar, bu esa probiotiklarni hayvonlar salomatligi va mahsuldorligini saqlashning asosiy alternativasiga aylantirdi. Probiotiklar nafaqat ichak mikroflorasini barqarorlashtiradi va kasallik xavfini kamaytiradi, balki immunitet tizimining tabiiy mustahkamlanishiga ham yordam beradi.

Bakterial kulturalar (*Lactobacillus spp., Bifidobacterium spp., Bacillus subtilis, Enterococcus spp.*) va xamirturushli probiotiklar (*Saccharomyces cerevisiae*) qoramol, cho‘chqa va parrandalarni boqishda keng qo‘llaniladi. Ularning ratsionga kiritilishi kasalliklarning tarqalishini 20-30% ga kamaytirishi, yosh hayvonlarning o‘limini kamaytirishi, ozuqa moddalarining hazm bo‘lishini yaxshilashi va vazn ortishini oshirishi mumkin.

Probiotiklarni qo‘llashning asosiy omillaridan biri ularning tejamkorligidir. Tadqiqotlar shuni ko‘rsatadiki, ularni chorvachilikda qo‘llash go‘shtli qoramollarning vazn ortishini 8-15% ga, ozuqa konversiyasini 8-12% ga va sut beradigan sigirlarning sut sog‘imini 5-10% ga oshirishi mumkin.

Kavsh qaytaruvchi hayvonlar uchun probiotiklar katta qorin ovqat hazm qilishini barqarorlashtirishda muhim rol o‘ynaydi. Xamirturush va sut kislotasi bakteriyalari fermentativ jarayonlarni faollashtiradi, uchuvchan yog‘ kislotalari ishlab chiqarishni ko‘paytiradi va tola parchalanish samaradorligini oshiradi, bu ayniqsa dag‘al ozuqa berishda muhimdir. Natijada, sigirlar ozuqadan ko‘proq

energiya oladi va fermerlar bir xil ozuqa xarajatlari bilan yuqori hayvonlar mahsuldorligiga ega bo‘ladilar.

Parrandalar uchun probiotiklar oqsil va yog‘larning hazm bo‘lishini yaxshilaydi, ichak fermentlari ishlab chiqarishni oshiradi va immunitet tizimini mustahkamlaydi. Bu tana go‘shtining o‘rtacha vaznining oshishiga, go‘sht sifatining yaxshilanishiga va dori preparatlarga bo‘lgan ehtiyojning kamayishiga olib keladi.

Probiotiklar nafaqat hayvonlarning mahsuldorligini oshiribgina qolmay, balki atrof-muhitga nojo‘ya ta’sirni kamaytirishda ham muhim rol o‘ynaydi. So‘nggi tadqiqotlar shuni ko‘rsatadiki, probiotiklardan foydalanish qoramollarda metan (CH_4) chiqindilarini 10-15% ga, cho‘chqa va parrandachilikda ammiak (NH_3) chiqindilarini 20-30% ga kamaytiradi. Bu, ayniqsa, tobora qattiqlashib borayotgan ekologik standartlar sharoitida muhimdir, chunki chorvachilikda issiqxona gazlari chiqindilarini kamaytirish global qishloq xo‘jaligi uchun ustuvor vazifa hisoblanadi.

Biotexnologiyadagi yutuqlar ma’lum hayvon turlari va ularning yashash sharoitlariga moslashtirilgan innovatsion probiotik mahsulotlarini yaratish imkonini beradi. Genetika, fiziologik xususiyatlar va ovqatlanish usullarini hisobga olgan holda shaxsiylashtirilgan probiotik komplekslar allaqachon ishlab chiqilmoqda.

Postbiotiklar istiqbolli sohalardan biri bo‘lib, ular ichaklarni tirik mikroorganizmlar bilan kolonizatsiya qilmasdan hayvonlar salomatligiga ijobiy ta’sir ko‘rsatadigan foydali bakteriyalar metabolitlaridir. Ushbu qo‘shimchalar saqlash sharoitida va oshqozon kislotasi ta’sirida barqarorroq bo‘lib, ularni hatto o‘ta og‘ir oziqlantirish sharoitida ham samarali qiladi.

Shuningdek, probiotiklar va prebiotiklarning kombinatsiyasi bo‘lgan simbiotiklarni joriy etish bo‘yicha tadqiqotlar olib borilmoqda. Prebiotiklar (mannan oligosaxaridlari, fruktooligosaxaridlari) probiotiklar uchun ozuqaviy muhit bo‘lib xizmat qiladi, ularning faol ko‘payishini rag‘batlantiradi va foydali ta’sirini kuchaytiradi.

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VII-GURUH ASOSIY ELEMENTLARI (GALOGENLAR) MAVZUSINI O'QITISHDA NAZARIY BILIMLAR VA EKSPERIMENTAL FAOLIYAT INTEGRATSIYASI

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Annotatsiya: *Ushbu maqolada kimyo fanining muhim bo'limlaridan biri bo'lgan VII-guruh asosiy guruhcha elementlari — galogenlar yani ftor, xlor, Brom, yod, astat elementlari haqida ma'lumotlar va ularni o'qitishda nazariy bilimlarni eksperimental faoliyat bilan integratsiyalash masalalari yoritilgan. Galogenlarning fizik-kimyoviy xossalarini o'rganishda faqatgina nazariy ma'lumotlar bilan cheklanib qolmasdan, laboratoriya tajribalari va virtual modellashtirishdan foydalanishning afzalliklari tahlil qilingan.*

Kalit so'zlar: *galogenlar, interfaol metodlar, metod, tushunchalar Tahlili, aqliy hujum metodi, baliq skeleti, elektromanfiylik, ftor , xlor, Brom , yod, astat, oksidlanish darajalari, oksidlovchilik xossasi, kimyoviy faollik*

Аннотация: *В данной статье рассматриваются элементы главной подгруппы VII группы — галогены (фтор, хлор, бром, иод и астат), являющиеся одним из важных разделов химии, а также вопросы интеграции теоретических знаний с экспериментальной деятельностью в процессе их обучения. Анализируются преимущества использования лабораторных опытов и виртуального моделирования при изучении физико-химических свойств галогенов, не ограничиваясь только теоретическими данными. В статье представлена информация об использовании интерактивного метода «Рыбий скелет» при преподавании темы галогенов.*

Ключевые слова: *Галогены, интерактивные методы, метод, анализ понятий, метод «мозговой штурм», рыбий скелет, электроотрицательность, фтор, хлор, бром, иод, астат, степени окисления, окислительные свойства, химическая активность.*

Annotation: *This article provides information on the elements of the main subgroup of Group VII — halogens, namely fluorine, chlorine, bromine, iodine, and astatine, which are among the essential branches of chemistry. It highlights the issues of integrating theoretical knowledge with experimental activities in teaching these elements. Rather than being limited to theoretical data, the advantages of using laboratory experiments and virtual modeling in studying the physicochemical properties of halogens are analyzed. Furthermore, the article describes the use of the "Fishbone" (Ishikawa) method as an interactive teaching tool for the topic of halogens.*

Keywords: *Halogens interactive methods, method, concept analysis, brainstorming method, fishbone, electronegativity, fluorine, chlorine, bromine, iodine, astatine, oxidation states, oxidizing properties, chemical activity.*

KIRISH

Hozirgi kunda talim jarayonida qo‘llaniladigan pedagogik texnologiyalarni qo‘llash sohasidagi ilmiy izlanishlar pedagogika fanida eng muhim vazifalardan biri bo‘lib kelmoqda. O‘qituvchilar tomonidan o‘quv jarayonida pedagogik texnologiyalardan unumli foydalanish o‘quvchilarni qiziqishini, izlanishini , kimyo faniga qiziquvchanligini yanada oshishiini taminlaydi . Bundan tashqari dars jarayonlari baxs-munozarali, labaratoriya darslari qiziqarli o‘tishini va o‘quvchilarni yanada teran va mustaqil fikrlashini oshiradi. Kimyo o‘qituvchisining asosiy vazifalaridan biri bu o‘quvchini dars jarayonida darsga qiziqtirish va fanga oid turli ma’lumotlarni o‘rgata olishi zarur. Kimyo fanini o‘qitishda turli metodlardan foydalanish darsning qiziqarli va samarali o‘tishini ta’minlaydi. Shu bilan birga VII-guruh asosiy elementlari mavzusini o‘qitishda ham turli metodlardan foydalanib darsning unumdorligi oshadi.

VII-guruh asosiy elementlari (galogenlar) ftor, xlor, brom, yod,astat o‘ziga xos kimyoviy va fizik xossalari , yuqori faolligi bilan ajralib turadi. Fanga galogen tushunchasini birinchi bo‘lib 1811- yilda nemis kimyogari I. Shveyger tomonidan fanga kiritilgan, Bo‘lib tuz hosil qiluvchi degan ma’noni bildiradi. Galogenlarning hammasi metallmaslar bo‘lib, davriy sistemaning VII- guruh bosh guruhchasida joylashgan. Galogenlarning tashqi energetik qavatida 7 ta elektron bor, demak

tugallangan energetik pog‘onaga o‘tishi uchun 1ta elektron yetishmaydi shuning uchun galogenlar vodorod va metallardan bitta elektron olib -1 oksidlanish darajasini namoyon qiladi.

Tushunchalar tahlili metodi:

Tushunchalar tahlili metodidan bir darsning o‘zida o‘tilgan mavzuni takrorlash yangi mavzudan qanchalik bilimlari borligini o‘rganish va dars oxirida yangi mavzudan qanchalik bilimga ega bo‘lganini bilib olish mumkin.

Ftor- eng kuchli elektromanfiy element bo‘lganligi uchun hamma birikmalarda -1oksidlanish darajasini namoyon qiladi. Xlor, brom, yod kislorodli birikmalarda +1dan +7gacha bo‘lgan oksidlanish darajasini namoyon qiladi. 1866-yilda fransuz kimyogari Anri Muassan ftorni kashf qilgan va bu ishiga Nobel mukofoti berilgan. 1774-yilda Shved kimyogari Karl Velgelm Sheyeli xlorni , 1826-yilda fransuz kimyogari Antuan Jeromom Ballar bromni, 1811- yilda fransuz olimi Bernar Kurtua yodni kashf qilgan . Davriy Sistemada ftordan yodga tomon galogenlarning atom radiusi ortib boradi, oksidlovchilik hossasi kamayadi . Galogenlar tipik metallmaslar kuchli oksidlovchilar bo‘lganligi uchun tabiatda erkin holda uchramaydi faqat birikmalar holida uchraydi. Galogenlar va ularning birikmalari xalq xo‘jaligida katta ahamiyatga ega ayniqsa, xlor muhim o‘rin tutadi. Galogenlarning umumiy tavsifi: Galogenlar guruhida yuqoridan pastga tushgan sari (F→At) agregat holatining o‘zgarishi (gaz→suyuqlik →qattiq), ranglarning to‘qnashishi va zichlikning ortishini kirish mumkin.

Galogenlarning xarakterli reaksiyalarida faolroq galogen (tepadagi) o‘zidan keyingi galogenning tuzli eritmasidan siqib chiqaradi: $Cl_2+2KBr\rightarrow 2KCl+Br_2$

Aqliy hujum metodi:

“Aqliy hujum” metodi bu biror muammo bo’yicha ta’lim oluvchilar tomonidan bildirilgan erkin fikr-mulohazalarni to’plab, ular orqali natijada ma’lum bir yechimga kelinadigan metoddir. “Aqliy hujum” metodining yozma va og’zaki shakllari bor. Og’zaki shaklida ta’lim beruvchi tomonidan berilgan savolga ta’lim

oluvchilarning har biri o’z fikrini og’zaki bildiradi va Ta’lim oluvchilar o’z javoblarini aniq va qisqa tarzda bayon etadilar. Yozma shaklida esa berilgan savolga ta’lim oluvchilar o’z javoblarini qog’oz varaqcha (kartochka)lariga qisqa va barchaga ko’rinarli tarzda yozadilar. Ta’lim oluvchilarda o’z fikrini faqat og’zaki emas, balki yozma ravishda bayon etish mahorati, mantiqiy va tizimli fikr yuritish ko’nikmasi rivojlanadi. Bildirilgan fikrlar baholanmasligi ta’lim oluvchilarda turli g’oyalar shakllanishiga olib keladi. “Aqliy hujum” metodining o’tkazilish tartibi quyidagilardan iborat:

1. Ta’lim oluvchilar e’tiboriga savol tashlanadi va ularga shu savol bo’yicha o’z javoblarini (fikr, g’oya va mulohaza) bildirishlari so’raladi.

2. Ta’lim oluvchilar savol bo’yicha o’z fikr-mulohazalarini bildirishadi.

3. Ta’lim oluvchilarning fikr-g’oyalari to’planadi.

4. Fikr-g’oyalar ma’lum belgilar bo’yicha guruhlanadi.

5. Yuqorida qo’yilgan savolga aniq va to’g’ri javob tanlab olinadi va bu metod ta’lim oluvchilarda ijodiy tafakkurni rivojlantirish uchun xizmat qiladi. “Aqliy hujum” metodi ta’lim beruvchi tomonidan qo’yilgan maqsadga qarab amalga oshiriladi, ya’ni:

1. Ta’lim oluvchilarning boshlang’ich bilimlarini aniqlash maqsad qilib qo’yilganda, bu metod darsning mavzusiga kirish qismida amalga oshiriladi.

2. Mavzuni takrorlash yoki bir mavzuni keyingi mavzu bilan bog’lash maqsad qilib qo’yilganda, yangi mavzuga o’tish qismida amalga oshiriladi.

3. O’tilgan mavzuni mustahkamlash maqsad qilib qo’yilganda, mavzudan so’ng darsning mustahkamlash qismida amalga oshiriladi

“Aqliy hujum” metodini qo’llashdagi asosiy qoidalar:

bildirilgan fikr-g’oyalar muhokama qilinmaydi va baholanmaydi;

bildirilgan har qanday fikr-g'oya, u hatto to'g'ri bo'lmasa ham inobatga olinadi;

jarayonda har bir ta'lim oluvchi qatnashishi shart.

«Aqliy hujum» metodining afzalliklari:

natijalar baholanmasligi ta'lim oluvchilarda turli fikr g'oyalarning shakllanishiga olib keladi;

ta'lim oluvchilarning barchasi ishtirok etadi;

fikr-g'oyalar vizuallashtirilib boriladi;

ta'lim oluvchilarning boshlang'ich bilimlarini tekshirib ko'rish imkoniyati ortadi.

Mavzu bo'yicha "Aqliy hujum" o'tkazish uchun o'quvchilarga quyidagi savollar beriladi.

1.Ftorning davriy sistemadagi o'rni haqida ma'lumot bering?.

2. Galogenlar so'zining ma'nosi qanday?

3. Galogenlar ichida agregat holati kristall bo'lgan element qaysi?

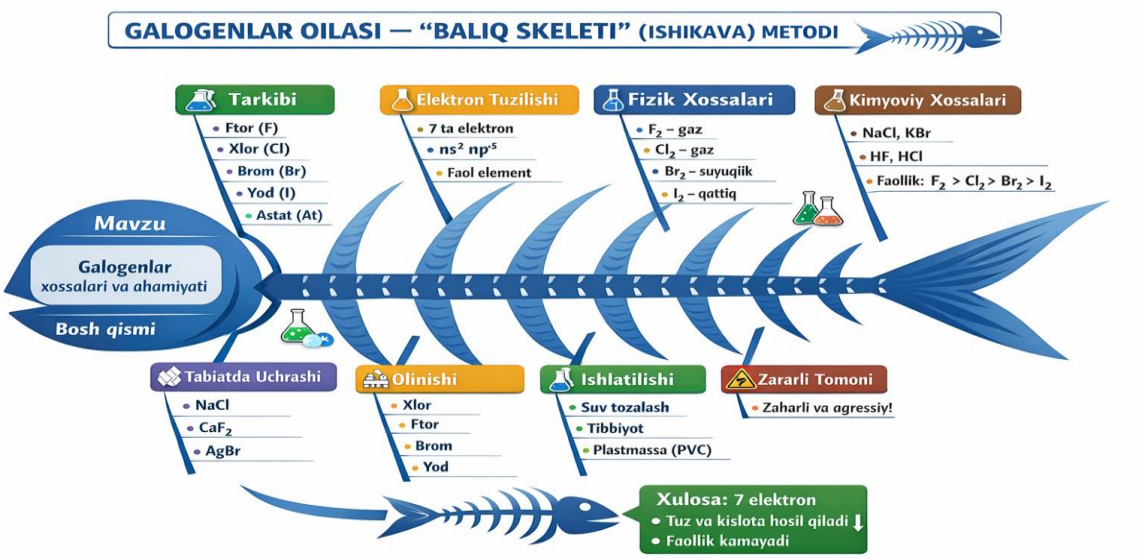
4. Eng yuqori elektromanfiy element qaysi va u uning qiymati?

5.Qishloq xo'jaligida ishlatiladigan osh tuzining tarkibida qaysi galogen bor?

Baliq skeleti metodi:

Ushbu metod 1943-yilda yapon professori Kaoru Ishikawa tomonidan taklif etilgan metodlardan biridir, u murakkab muammolarni vizual ko'rinishda qismlarga ajratish va ularning kelib chiqish sabablarini tahlil qilishga xizmat qiladi. Kimyo darslarida, xususan, galogenlar mavzusini o'tishda ushbu metod o'quvchilarning mantiqiy fikrlashini tizimlashtiradi va rivojlantirish uchun katta yordam beradi

Ishikava Tokio universitetida sifatni boshqarish bo'yicha mutaxassis bo'lgan. Kawasaki po'lat zavodidagi muhandislarga ishlab chiqarishdagi muammolar va ularning sabablari orasidagi bog'liqlikni tushuntirish uchun ushbu vizual modeldan foydalangan.



Xulosa qilib aytganda, "Baliq skeleti" metodi muammoni chuqur tahlil qilish va uning kelib chiqish sabablarini aniqlashda foydalaniladi Shuning uchun bu metod yordamida o'quvchilar muammoni faqat yuzaki ko'rib chiqmay, balki uning asosiy va ikkilamchi sabablarini izlab topishga harakat qilishadi. Natijada muammo sabablarini tizimli ravishda tartiblash va ularni guruhlash va o'zaro bog'liqligini aniqlash imkoniyati paydo bo'ladi. Metodning afzalligi shundaki, u o'quvchilarni mustaqil fikrlashga, dars davomida mantiqiy xulosa chiqarishga, dalillar asosida fikr yuritishga o'rgatadi. Shuningdek, dars jarayonida o'quvchilar jamoa bilan ishlash orqali o'zaro fikr almashadilar, bahs-munozara qilishni, bir-birining fikrini tinglashni va hurmat qilishni o'rganadilar. Bu esa ularning kommunikativ ko'nikmalarini ham rivojlanishiga yordam beradi

"Baliq skeleti" metodi darsda mavzuni mustahkamlash, o'tilgan bilimlarni umumlashtirish takrorlash va muammoning eng muhim sabablarini aniqlab, unga yechim topish uchun xizmat qiladigan metod. Ayniqsa, murakkab mavzularni o'rganishda, masalalarni tahlil qilishda hamda sabab-oqibat bog'lanishini

tushuntirishda bu metod juda foydali metodlardan hisoblanadi. Umuman olganda, ushbu metod o‘quvchilarda tahliliy fikrlash, muammoni yechish, ijodiy yondashuv va mantiqiy tafakkurni shakllantiradi hamda darsning samaradorligini oshirishga yordam beradi.

XULOSA

An’anaviy darsda o‘qituvchi asosiy ma’ruzachi bo‘lsa, bu metodlarda foydalangan o‘quvchi markazga chiqadi. Savollarga javob berish izlash, barglarni tanlash va tezkor qaror qabul qilish o‘quvchini dars jarayoniga to‘liq jalb qiladi. Galogenlar kabi murakkab va faktlarga boy mavzularni oddiy yodlash tushunish anchagina qiyin. Moychechak metodi ma’lumotlarni bo‘laklarga bo‘lib, tizimli o‘rganishga (oddiy faktlardan murakkab tahlilga o‘tishga) yordam beradi o‘quvchilar esa yanada darsga qiziqa boshlaydi. O‘yin shaklidagi (Moychechak) va musobaqa ruhidagi (Blits) yondashuv o‘quvchilardagi fanga bo‘lgan qo‘rquvni yo‘qotadi. Kimyo kabi murakkab fanlar qiziqarli mashg‘ulotga aylanadi. Blits-so‘rov orqali bir necha daqiqa ichida butun sinfning bilim darajasini tekshirib olish mumkin. Bu o‘qituvchiga darsning qolgan qismini yangi mavzuga yoki amaliy mashqlarga ajratish imkonini beradi. Ushbu metodlar faqat bilim berib qolmay, o‘quvchilarda quyidagi hayotiy ko‘nikmalarni rivojlantiradi tezkor fikrlash va qaror qabul qilish, o‘z fikrini lo‘nda va aniq bayon etish, mantiqiy tahlil qilish va xulosa chiqarish. Kimyo darslarida bu metodlarni uyg‘unlikda qo‘llash — nazariy bilimlarni mustahkam hayotiy ko‘nikmalarga aylantirishning eng qisqa yo‘lidir. Bu esa o‘qituvchi va o‘quvchilar uchun eng yaxshi usullardan biri hisoblanadi.

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SYNTHESIS OF METHYL-SUBSTITUTED POLYPHENYLENESULFIDE FROM 2,4-DICHLOROTOLUENE AND ITS FTIR SPECTROSCOPIC ANALYSIS

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Abstract: *In this study, the synthesis of methyl-substituted polyphenylene sulfide (PFS) from 2,4-dichlorotoluene and sodium sulfide was performed via a high-temperature polycondensation process. The reaction was conducted in an N-methylpyrrolidone medium with a catalyst at 200–220°C, and its progression through the nucleophilic aromatic substitution (SNAr)*

mechanism was scientifically substantiated. The molecular structure and functional groups of the resulting polymer were analyzed using Fourier-transform infrared (FTIR) spectroscopy.

Keywords: *polyphenylene sulfide, SNAr mechanism, FTIR spectroscopy, 2,4-dichlorotoluene, polycondensation, aromatic polymers, sulfide bonds, high-temperature synthesis, structural analysis, functional materials*

INTRODUCTION

In modern materials science, high-performance polymers, particularly those capable of operating at high temperatures and in aggressive chemical environments, are of great importance. Among this class of materials, polyphenylene sulfide (PPS) holds a significant position. PPS consists of macromolecules in which aromatic rings are linked by sulfide (–S–) bridges, resulting in a highly stable and ordered structure. This polymer possesses high thermal stability, is chemically inert, and mechanically strong, which accounts for its widespread use in fields such as automotive manufacturing, aerospace technology, electronics, and membrane systems. The traditional synthesis of PPS is based on p-dichlorobenzene. However, the properties of the polymer can be controlled by using substituted aromatic monomers. From this perspective, synthesis based on 2,4-dichlorotoluene is scientifically interesting and practically promising.

The molecular structure of polyphenylene sulfide has the following general structure.

$$(–C_6H_4–S–)_n$$

Materials and Methods: The synthesis of methyl-substituted polyphenylene sulfide (PPS) from 2,4-dichlorotoluene and sodium sulfide is performed according to the following reaction equation.

$$nC_7H_6Cl_2+nNa_2S\rightarrow(-C_7H_6S-)n+2nNaCl$$

The polycondensation process is carried out using 2,4-dichlorotoluene (C7H6Cl2), sodium sulfide (Na2S), and N-methylpyrrolidone (NMP) as a solvent, with a catalyst, at a reaction temperature of 200-220°C in an inert medium. The

resulting polymer exhibits the following properties: lower crystallinity, high elasticity, ease of processing, and preserved chemical stability.

The synthesis of methyl-substituted polyphenylene sulfide from 2,4-dichlorotoluene can be successfully achieved. The reaction proceeds via the SNAr mechanism and is effective at high temperatures and in the presence of a solvent. The electronic and steric effects of the methyl substituent significantly influence the polymer's structure, leading to a decrease in the material's crystallinity and an increase in its elasticity. Based on theoretical calculations, the maximum yield of the process is 3.05 g. The synthesis of a methyl-substituted polyphenylene sulfide analog from 2,4-dichlorotoluene and sodium sulfide, along with its structural properties, was analyzed using FTIR spectroscopy. The reaction was conducted in an N-methylpyrrolidone medium in the presence of a catalyst at a temperature of 200–220°C. The obtained results confirmed the formation of the polymer via the SNAr mechanism. In the FTIR spectrum, the aromatic ring, C–S bonds, and substituent groups were clearly identified. The analysis was performed using a SHIMADZU CORP. (Japan, 2017) model spectrometer. This instrument has a high sensitivity (signal-to-noise ratio of 60,000:1), enabling the precise analysis of various wavenumbers in samples despite the low intensity of the spectral lines. The measurement range covers the interval from 4000 to 450 cm^{-1}. To ensure the stable operation of the interferometer, an internal diagnostic system and an automatic drying device have been integrated, which provides for the long-term efficient performance of the instrument and a high level of user convenience.

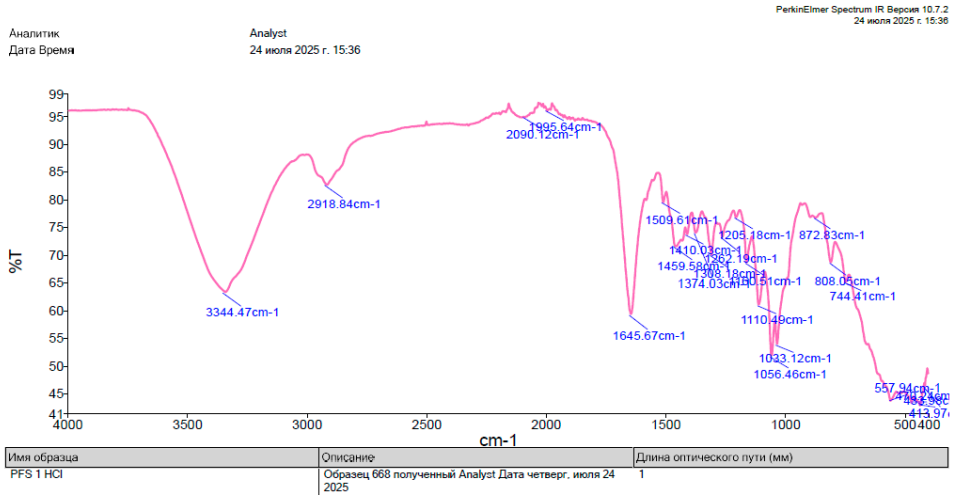

Figure 1. FTIR spectroscopic analysis of polyphenylene sulfide synthesized from 2,4-dichlorotoluene.

FTIR (Fourier-transform infrared spectroscopy) is a vital method for identifying functional groups within a polymer's composition. The structure of PFS, synthesized from 2,4-dichlorotoluene, is composed of aromatic rings and sulfide (-S-) bridges, and the spectrum reveals vibrations characteristic of these specific groups.

Table 1

Main Absorption Peaks of Polyphenylenesulfide Observed by FTIR Spectroscopy

Wavenumber (cm^{-1})	Peak type	Contact	Academic commentary
3344	Wide	O-H	Moisture
2918	Wide	C-H	Methyl group (from 2,4-dichlorotoluene)
1645	Medium	C=O / H_2O	Oxidation or adsorbed water
1509	Medium	C=C	Phenyl ring
1459-1410	Strong	C=C	Aromatic structure

1308–1205	Medium	C–S	Sulfide bonds
1160–1033	Strong	C–S / C–H	PPS-specific bonds
557–413	Strong	C–S / S–S	Sulfide chain

The 1509–1459 cm^{-1} range indicates the presence of phenyl rings, confirming the basic structure of PFS. The 1200–1000 cm^{-1} range, along with low peaks around 500 cm−1, confirms the presence of sulfide bridges (C–S–C) formed as a result of this polymerization. The 872–744 cm^{-1} range confirms that the synthesis was based on 2,4-dichlorotoluene. The successful formation of the Cl → S substitution reaction and the polymer chain is indicated.

CONCLUSION

The results of the FTIR spectroscopic analysis conclusively confirmed the molecular structure of the polymer. Specifically, aromatic vibrations in the 1500–1600 cm^{-1} range indicate the preservation of phenyl rings, while intense peaks in the 1200–1000 cm^{-1} range prove the formation of sulfide bonds. Furthermore, the low-frequency vibrations show the complete formation of the polymer backbone.

The presence of a methyl substituent affects the electronic structure of the polymer, slowing the kinetics of the SNAr reaction but significantly altering the morphological properties of the final material. In particular, the decrease in the degree of crystallinity enhances the polymer's elasticity and processability.

Additionally, the extra functional groups (–OH, C=O) identified in the FTIR spectrum indicate that partial oxidation or modification processes have occurred on the polymer surface. This, in turn, increases the material's surface properties, notably its hydrophilicity and chemical reactivity.

As a result, the obtained polymer not only retains the properties of conventional PFS but also acquires new functional capabilities through modification. This makes it a promising candidate for use in membrane

technologies, ion-exchange systems, electrochemical devices, and for creating high-performance composite materials.

Overall, this research demonstrates that the properties of the material can be controlled through the synthesis of PPS based on substituted aromatic monomers. This approach serves as a crucial scientific platform for creating highly functional polymer materials in the future.

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TEMPERATURE DEPENDENCE OF CHARGE CARRIERS' MOBILITY IN EPITAXIAL LAYERS OF $(Si_2)_{1-x}(GaN)_x$ SOLID SOLUTION

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Abstract: The temperature dependence of charge carrier mobility $\mu(T)$ in the range of 80–750 K was studied in an epitaxial n-$(Si_2)_{1-x}(GaN)_x$ film grown on a p-Si substrate by liquid-phase epitaxy. It was found that $\mu(T)$ is described by a power law with different exponents in different temperature ranges. It was shown that scattering by ionized impurities dominates at low temperatures, by acoustic phonons in the intermediate range, and by polar optical phonons at high temperatures. In the range of 520–630 K, a weakening of the temperature dependence of mobility is observed, caused by competition between scattering mechanisms.

Key words: *gallium nitride, solid solution, liquid-phase epitaxy, scattering mechanisms, mobility, temperature dependence, ionized impurity centers, phonons*.

INTRODUCTION

Recent years, gallium nitride (GaN) - based materials and their solid solutions have found widespread application in power electronics, photodiode structures, and next-generation high-frequency devices. Their unique physical properties ensure high efficiency and reliable operation of devices under extreme operating conditions. Therefore, analyzing the transport properties and scattering mechanisms of charge carriers in solid solutions $(Si_2)_{1-x}(GaN)_x$ and structures based on them is a pressing scientific challenge.

MAIN BODY

In this work, it has been investigated the temperature dependence of charge carriers' mobility $\mu(T)$ in the range of 80–750 K in an epitaxial film of the n-$(Si_2)_{1-x}(GaN)_x$. The solid solution was grown by liquid-phase epitaxy on a p-Si substrate.

Experimental data were obtained by the Hall effect method using an HMS-7000 (ECOPIA) measuring system in the van der Pauw geometry. It was found that the $\mu(T)$ dependence over a wide temperature range can be approximated by a power function of the form $\mu \sim T^m$, with the exponent m taking different values in different temperature regions.

Fig. 1 shows the temperature dependence of charge carrier mobility $\mu(T)$. Analysis shows that it is appropriate to consider the behavior of $\mu(T)$ in separate temperature regions. In the range of 80–110 K, a monotonic increase in mobility with increasing temperature is observed. Moreover, the $\mu(T)$ dependence is weaker than $\mu \sim T^{3/2}$, indicating a mixed mechanism of charge carrier scattering by ionized impurity centers and acoustic phonons, with a dominant contribution from ionized impurities.

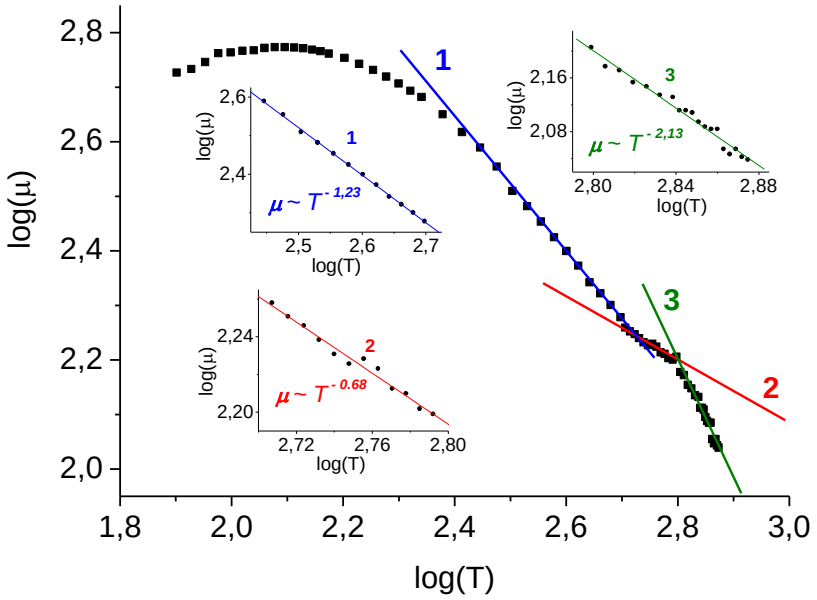

Fig. 1. Temperature dependence of charge carrier mobility in an epitaxial film of n-$(Si_2)_{1-x}(GaN)_x$ solid solution, presented in logarithmic coordinates.

In the range of 110–260 K, a mixed scattering mechanism is also realized; however, in this region, the role of scattering by acoustic phonons increases, becoming predominant. In the range of 270–510 K, the $\mu(T)$ dependence is close to a power law with an index $m_1 \approx$ -1.23, which corresponds to scattering of charge

carriers by acoustic phonons (the deformation potential mechanism), for which the dependence $\mu \sim T^{-3/2}$ is theoretically expected. The observed deviation from the theoretical value is due to the additional contribution of scattering by structural defects and alloy disorder [1].

In the intermediate range (520–630 K), a decrease in the slope of the log(μ) versus log(T) dependence is observed ($m_2 \approx$ -0.7), indicating a transient scattering regime. In this region, several competing mechanisms are realized: phonon scattering (decreasing μ with increasing T), scattering by ionized impurities (increasing μ with increasing T), and alloy scattering (weak temperature dependence of μ). The superposition of these mechanisms leads to a weakening of the overall temperature dependence of the mobility.

In the high-temperature region (640–750 K), a sharp decrease in mobility ($m_3 \approx$ -2.1) is observed, which is associated with the dominance of scattering by polar optical phonons, characteristic of the GaN component. The dependence $\mu \sim T^{-2}$ is typical for this mechanism, which is in good agreement with experimental results [2].

CONCLUSION

Thus, it has been established that in the epitaxial film of the n-$(Si_2)_{1-x}(GaN)_x$ solid solution, a sequential change in charge carrier scattering mechanisms occurs with temperature, which determines the nature of the mobility dependence $\mu(T)$ over a wide temperature range. It is shown that scattering by ionized impurities dominates in the low-temperature region, by acoustic phonons in the middle temperature region, and by polar optical phonons at high temperatures. The obtained results are of practical importance for optimizing the composition and technology of producing heterostructures based on Si-GaN, as well as for predicting and improving the efficiency of power and optoelectronic devices operating in a wide temperature range.

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Annotatsiya: *Polimetilenantratsen karboksil kislotalarini olish usullari va sintez jarayonlari o‘rganildi. Jarayon sharoitlarining mahsulot hosil bo‘lishiga ta’siri tahlil qilindi. Olingan birikmalarning sanoatdagi qo‘llanish imkoniyatlari ko‘rsatildi.*

Kalit so‘zlar: *polimetilenantratsen, karboksil kislotalar, sintez, reaksiya sharoitlari, mahsulot chiqishi, sanoatda qo‘llanilishi.*

Abstract; *Methods for obtaining polymethylene anthracene carboxylic acids and their synthesis processes were studied. The influence of process conditions on product yield was analyzed. The industrial application possibilities of the obtained compounds were demonstrated.*

Keywords: *polymethylene anthracene, carboxylic acids, synthesis, reaction conditions, product yield, industrial application.*

KIRISH

“Uz-Kor Gas Chemical” MCHJ QK yillik quvvati 387 ming tonna polietilen, 83 ming tonna polipropilen birlamchi mahsulot sifatida, shu bilan birga piroliz kondensati sifatida 120 ming tonna atrofida ikkilamchi mahsulot sifatida ishlab chiqaradi. Ikkilamchi mahsulot korxonada qayta ishlanmaydi, arzon narxlarda sifatsiz yoqilg‘i sifatida bug‘ qozonlarida yoqiladi. Ushbu tezisda tar mahsulot tarkibi o’rganildi.

ASOSIY QISM.

Tar-mahsulot tarkibidan ko‘p yadroli arenlarni ajratib olish uchun dastlab 1000 ml hajmdagi kolbaga 700 gramm xom ashyo solindi va fraksiyalash qurilmasiga o‘rnatildi. Qizdirish elektr qurilmasi yordamida harorat minutiga 20oC dan oshirib borildi. Tar-mahsulot tarkibidagi dastlabki fraksiya 250-340oS harorat oralig‘ida ajratib olindi. Ikkinchi fraksiya sifatida 340-360oS harorat oralig‘ida ajratib olindi va tarkibi o‘rganildi/

Olingan ikkinchi fraksiya minutiga 50C tezlik bilan xona haroratigacha sovutilganda 80%dan ko‘p qismi kristallandi va vakuum filtrlash yo‘li bilan kristallar tozalab olindi. Kristallar presslash yo‘li bilan yana bir bor tozalandi va keyingi izlashlar uchun xom ashyo sifatida foydalanildi.

Tar-mahsulot tarkibidan ikkinchi fraksiya sifatida ajratib olinib qayta kristallangan va presslash yo‘li bilan tozalab olingan kristallar tarkibida asosan alkilantrasenlar borligi aniqlangan. Alkil antrasenlar aralashmasi 56%li nitrat kislota yordamida sulfat kislota katalizatorligida oksidlanib antrasen karbon kislota sintez qilinadi. Antrasen karbon kislota sintezi uchun uch og‘izli kolbaga birinchi teskari sovutgich ulandi, magnitli aralashtirgich bilan doimiy aralashtirib turildi, ikkinchi tomizgich voronka, uchinchi og‘izdan kolbaning tubigacha boradigan termometr ulangan laboratoriya qurilmasi yig‘ildi va sintez amalga oshirildi.

XULOSA

Tar-mahsulot tarkibidan ajratib olingan fraksiyalar xromato-mass spektrlari standart HP-5MS markali kolonkada gaz-suyuq fazada, 0-320°C haroratda *“Agilent MSD 5975C-GC7890A”* xromatomass spektrometrida tahlil qilindi.

Olingan namunalar MIRacle 10 FTIR bo‘lgan IQ Affinity-1 uchun 4700 - 400 sm^{-1} to‘lqin uzunligida ishlaydigan ZnSe prizma plastinkasiga ega “Shimadsu” firmasi ishlab chiqargan va optik spiral o‘lchami <0,25 sm^{-1}, IQ spektr diapozona 7000-400 sm^{-1} bo‘lgan *“Agilent Technologies Cary 640 Series FTIR”* IQ – spektrometrlaridan foydalanildi.

Sintez qilingan kationitning va olingan boshqa namunalarning element tarkibi va mikroskopik rasmlari skanerlovchi elektron mikroskop (SEM) EVO MA-10 skanerlash elektron mikroskopida (Carl Zeiss, GFR) energiya dispersli rentgen (EDA) mikrotahlili (Oxford Instruments, Angliya) uchun mikroanalitik tizim bilan bog‘langan qurilmada tahlil qilindi.

Kuchsiz kislotali kationitning termogravmetrik (TGA) va differensial termik analizilari (DTA) TG 209 F1 priborda amalga oshirildi.

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2-SHO‘BA

IJTIMOIY TARMOQLARNING BOLALAR NUTQIGA TA’SIRI

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Annotatsiya: *Ushbu maqolada ijtimoiy tarmoqlarning bolalar nutqining rivojlanishiga ta'siri tahlil qilinadi. Xususan, u onlayn va ijtimoiy media platformalarida qo‘llaniladigan qisqartmalar, jargon va noto‘g‘ri yozish uslublarining bolalar og‘zaki va yozma tiliga ta’sirini o‘rganadi. Tadqiqotda ijtimoiy tarmoqlarning ijobiy tomonlari, jumladan, kengaygan so‘z boyligi va muloqot imkoniyatlari hamda salbiy tomonlari, masalan, nutq madaniyatining pasayishi va grammatik xatolarning ko‘payishi ko‘rib chiqiladi. Bolalar nutqini rivojlantirishda ota-onalar va pedagogik nazorat va yo'l-yo'riqning ahamiyati ham asoslanadi.*

Kalit so‘zlar*: bolalar nutqi, nutqni rivojlantirish, Internetning ta'siri, til madaniyati, grammatik xatolar, muloqot madaniyati.*

Annotation*: This article analyzes the impact of social networks on the development of children's speech. In particular, it examines how abbreviations, jargon, and incorrect writing styles used on online and social media platforms influence children's spoken and written language. The study considers both the positive aspects of social networks—such as expanded vocabulary and increased communication opportunities—and the negative aspects, including a decline in speech culture and a rise in grammatical errors. It also substantiates the importance of parental and pedagogical supervision and guidance in the development of children's speech.*

Keywords: *children's speech, speech development, impact of the Internet, language culture, grammatical errors, communication culture.*

KIRISH

Globallashuv va raqamli texnologiyalarning jadal rivojlanishi natijasida ijtimoiy tarmoqlar jamiyatning ajralmas qismiga aylandi. Ushbu platformalar,

ayniqsa, bolalar va o'smirlarning kundalik o'zaro munosabatlarida muhim aloqa vositasi bo'lib xizmat qiladi. Bu bolalar nutqining shakllanishi, rivojlanishi va ijtimoiylashuviga sezilarli ta'sir ko'rsatadi. Zamonaviy tilshunoslik, sotsiolingvistika va pedagogikada ijtimoiy tarmoqlar ta’sirida bolalar nutqidagi o‘zgarishlarni, undagi lingvistik va nolingvistik vositalarning o‘ziga xos xususiyatlarini, kommunikativ kompetentsiyani shakllantirish mexanizmlarini o‘rganish dolzarb masalalardan hisoblanadi.

ASOSIY QISM

Aloqa va internet aloqasini o‘rganish tilshunoslikning dolzarb muammosi sifatida tobora muhim ahamiyat kasb etmoqda. Tilshunoslikning bu yangi sohasida bir qator olimlar, jumladan D.Xuffaker, J.Volter, M.Paks, S.Kalvert, S.Herring, D.Boyd, N.Ellison, J.Kitsman, K.Kapur, shuningdek, o‘zbek tilshunos olimlari I.Xodjaliev, D.Qodiridbekova, D.Sadirko‘va, D. Shaxabiddinova, D.Rustamov, N.Nasrulloyeva, R.Xalilova, N.Ataboyev, B.Isroilovalar ijtimoiy tarmoqlar, ulardagi muloqot jarayonlari, muloqotning leksik, semantik, pragmatik, diskursiv xususiyatlarini, shuningdek, axborot texnologiyalari sohasidagi terminologiyani o‘rgandilar. Biroq, bolalar nutqi va uning ijtimoiy tarmoqlarda namoyon bo'lishi, shuningdek, yoshga bog'liq lingvistik xususiyatlarning raqamli muhitda aks etishi alohida ilmiy tahlilni talab qiladi. Shu sababli, onlayn muloqotda bolalar nutqining o'ziga xos xususiyatlarini o'rganish, og'zaki va og'zaki bo'lmagan birliklardan foydalanish, gender farqlarini aniqlash dolzarb masalalardir.

Tadqiqot natijalari shuni ko‘rsatdiki, ijtimoiy tarmoqlar bolalar nutqiga ham ijobiy, ham salbiy ta’sir ko‘rsatadi. Ijobiy jihatlarga quyidagilar kiradi: kommunikativ faollikni oshirish; yangi so'z va iboralarni tezda o'rganish qobiliyati; fikrlarni qisqa va aniq ifodalash ko'nikmalarini rivojlantirish; va turli madaniyatlar vakillari bilan muloqot qilish orqali til tajribasini kengaytirdi. Salbiy jihatlari: qisqartma va so‘zlashuv tiliga xos so‘zlardan ortiqcha foydalanish adabiy til me’yorlariga salbiy ta’sir ko‘rsatadi; grammatik xatolar soni ortadi; hissiy ifodaning

haddan tashqari soddalashishi kuzatiladi; yozma nutqning rasmiy uslubi yetarlicha shakllanmaydi. Ijtimoiy tarmoqlar bolalar nutqini rivojlantirish uchun yangi kommunikativ muhit yaratmoqda. Bu muhitda verbal vositalar bilan bir qatorda emoji, gif, abbreviatura kabi nolisoniy elementlardan ham faol foydalaniladi. Bu nutq strukturasini o‘zgartiradi va yangi kommunikativ modelni shakllantiradi. Shu bilan birga, bolalar nutqining ijtimoiy tarmoqlarga haddan tashqari moslashuvi ularning adabiy til me’yorlarini to‘liq egallashlariga to‘sqinlik qilishi mumkin. Shuning uchun ta’lim jarayonida raqamli savodxonlikni oshirish, ijtimoiy tarmoqlardan maqsadli va me’yoriy foydalanish ko‘nikmalarini shakllantirish muhim ahamiyatga ega.

Ta’kidlash joizki, noverbal muloqot insonlar o‘rtasidagi axborot almashinuvida muhim o‘rin tutib, u so‘zsiz, ya’ni verbal birliklarsiz amalga oshiriladigan kommunikativ jarayonlarni o‘z ichiga oladi. Mazkur muloqot turi odatda ikki asosiy ko‘rinishga ajratiladi: an’anaviy (oflayn) va raqamli (onlayn) noverbal muloqot. An’anaviy noverbal muloqot bevosita yuzma-yuz muloqot jarayonida kuzatilib, unda kinestetik vositalar (tana harakatlari, imo-ishoralar), mimik ifodalar (yuz orqali hissiy holatni aks ettirish), ko‘z orqali muloqot (nigohlar almashinuvi), proksemika (muloqot ishtirokchilari o‘rtasidagi fazoviy masofa va joylashuv) hamda xaptika (teginish va jismoniy kontakt) kabi komponentlar muhim ahamiyat kasb etadi. Ushbu vositalar insonning ichki kechinmalari, munosabati va kommunikativ niyatini yanada aniqroq ifodalashga xizmat qiladi. Raqamli yoki onlayn noverbal muloqot esa zamonaviy axborot-kommunikatsiya texnologiyalari rivoji bilan bevosita bog‘liq bo‘lib, asosan yozma nutq bilan birgalikda qo‘llaniladigan vizual belgilar orqali namoyon bo‘ladi. Bunda emojilar muhim o‘rin egallaydi. Emojilar matnli xabar mazmunini boyituvchi, undagi emotsional rang-baranglikni kuchaytiruvchi va suhbatdoshga muallifning hissiy holatini yetkazuvchi grafik vosita sifatida xizmat qiladi. Shunday qilib, noverbal muloqotning har ikki turi insonlar o‘rtasidagi o‘zaro tushunishni ta’minlashda, kommunikativ

samaradorlikni oshirishda hamda ijtimoiy aloqalarni mustahkamlashda muhim ahamiyatga ega hisoblanadi.

XULOSA

Ijtimoiy tarmoqlar bolalar nutqiga sezilarli ta’sir ko‘rsatadigan muhim omillardan biri hisoblanadi. Ular bolalarning kommunikativ kompetensiyasini rivojlantirishga xizmat qilishi bilan birga, nutq madaniyatiga salbiy ta’sir ko‘rsatishi ham mumkin.Shu bois, pedagoglar va ota-onalar tomonidan bolalarning raqamli muhitdagi muloqotini nazorat qilish, ularni adabiy til me’yorlariga amal qilishga o‘rgatish hamda ijtimoiy tarmoqlardan samarali foydalanish madaniyatini shakllantirish zarur. Kelgusida ushbu yo‘nalishda keng qamrovli empirik tadqiqotlar olib borish maqsadga muvofiqdir.

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ONLAYN TELEKANALLAR VA STRIMING: MILLIY KONTENTNI RIVOJLANTIRISH MUAMMOLARI

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Annotatsiya: *Maqolada zamonaviy media makonida cheksiz kontent tanlovi va uning tomoshabin psixologiyasiga ta’siri tahlil qilinadi. Striming platformalar, xususan Netflix misolida global kontent iste’moli, pandemiya davrida seriallar ommalashuvi hamda “ketma-ket tomosha qilish” fenomeni yoritiladi. Shuningdek, xorijiy media mahsulotlar ta’siri fonida milliy kontent yaratish zarurati va uning yoshlar ongidagi ahamiyati asoslab beriladi.*

Kalit so‘zlar: *media makon, kontent iste’moli, tanlov paradoksi, striming platformalar, Netflix, seriallar, globalizatsiya, yumshoq kuch, milliy kontent, yoshlar auditoriyasi, media psixologiya*

Annotation: *The article analyzes the impact of unlimited content choice in the modern media space on audience psychology. Using Netflix as an example, it explores global content consumption, the rise in popularity of TV series during the pandemic, and the phenomenon of binge-watching. It also highlights the importance of creating national media content and its role in shaping the worldview of young people.*

Keywords: *media space, content consumption, choice paradox, streaming platforms, Netflix, TV series, globalization, soft power, national content, youth audience, media psychology*

KIRISH

Bugun istagan siz kontentingizni, u badiiy, hujjatli, ilmiy-ma‘rifiy, animatsion film yoinki serial bo‘lsin, xohlagan tilda, til bilmasangiz, hech bo‘lmasa o‘zbek tilida subtitr bilan tomosha qilish imkoniga egasiz. Qachonlardir televideniye orqali har bir qismini ko‘rish uchun ertangi kunni intizorlik bilan kutgan serialingizni, hozir istalgan payt to‘liq ko‘rishingiz mumkin. Ammo siz uni avvalgidek o‘sha

intizorlik va zavq bilan tomosha qilasizmi?! Katta ehtimol bilan yo‘q. Chunki inson fitratida osonlik ila erishilgan ma‘naviy yo moddiy ozuqa bo‘lsin, u qadrsizdir. Shu o‘rinda media makondagi cheksiz kontent esa o‘z navbatida tanlov parodoksini yuzaga keltirib chiqaradi. Bu XXI-asr odamini tez-tez depressiyaga tushishiga sababchi omillardan yana biri hisoblanadi. Kishi qaysi media mahsulotni tomosha qilay degan savoldan tashqari, ko‘rishga vaqti yetmagan kontentlarni o‘ylab ko‘proq siqiladi. Zamonaviy kishining ko‘p vaqti aynan tanlovlar orasida o‘tayotgani, undan so‘ng qarori uchun ham afsuslanishi uni battar tushkunlikka tushurmoqda. Bitta televisor va deyarli barmoq bilan sanoqli telekanallarda o‘z sevimli serial va multfilmini kutgan milliniallar, hozirgi zummerlardan ancha baxtli bo‘lgan. 2026-yilga kelib, hatto o‘rta yoshdagilar ham o‘zining o‘smirlik paytidagi serial tomoshasidan olgan zavqni qayta his qilishni istaydi. Chunki, 2000-yillarda, aholining 90% ga yaqin qismi televizorda bergan film, serial, multfilm va tok-shoularni tomosha qilib, o‘zaro taassurotlari, fikr-mulohazalari bilan bo‘lishishgan. Bugungi kunga kelib, bitta uyda yashayotgan oila a’zolarining tomosha qilayotgan kontentlari turlicha bo‘lishidan tashqari, qabul qilayotgan tillari ham farqli. Hozir hatto bir tom ostida yashayotgan insonlar ham o‘zaro muloqot qilishlari uchun bitta mavzu kamaygandek. Ular bir-biri bilan bitta serial muhokamasi haqida emas, har biri o‘zining tanlagan filmini o‘tkazish, o‘z tanlovini isbotlashga harakat qilishadi. Shu tufayli endi kishilik jamiyatda bir kino, serial o‘zaro fikr almashish zavqidan mahrum bo‘lgandek go‘yo. Lekin xulosa qilishga erta. Global mediada kontent iste‘molchilar o‘zaro bir xil tanlov egalari sifatida yirik 3 va boshqa mayda guruhlarga bo‘linganini guvohi bo‘lishimiz mumkin:

1. AQSh ko‘ngilochar striming xizmati ko‘rsatuvchi Netfliks, HBO, Apple TV kabi platformalarda film, seriallar: “Mashaqqatlar sari”(Breaking bad), “Taxtlar o‘yini”(Game of Thrones), “Qog‘oz bino” (La Casa de Papel, Money Heist)ni tomosha qiluvchilar.

2. Hallyu - Koreya to‘lqini oqimiga tushganlar, turli janrdagi doramalar: “Hayot senga mandarin berganda” (When Life Gives You Tangerines), “Son Jeni ushla va yugur”(Lovely Runner), “Ko‘z yoshlar qirolichasi”(Queen of Tears) va albatta “Kalmar o‘yini”(Squid Game)ni qayta-qayta ko‘radiganlar.

3. Turkiya dizi(serial)lari: “Sevgi iztirobi”(Kara Sevda), “Qo‘rg‘on sirlari”(Yali chapkini), “Chuqur”(Çukur), “Ichkarida”(Içerde) va albatta “Muhtasham yuz yil”(Muhtesem Yüzyil)ni muxlislarini tilga olmaslik mumkin emas.

AQSH nafaqat kino san’at va sanoatida yetakchi bo‘lishdan tashqari, hozirda mavjud va original media mahsulotni tomoshabinga yetkazishda, eng oldingi o‘rinda turibdi. Xususan, Netfliks oddiy striming platformadan o‘z kontentini ishlab chiqaruvchi, 325 milliondan ortiq pulli obunachilarga ega yirik distrubyutorga aylandi. 190 dan ortiq davlatda o‘z faoliyatini olib bormoqda. Netfliks rasman 1997 yilda tashkil qilingan bo‘lsa ham, 2013-yilga kelib o‘z media mahsulotini ishlab chiqara boshlagan. Undagi har bir kontentni ommalashdi deya olmaymiz. Lekin mashhurlari yetarlicha: “Qog‘oz bino”, “Venzdey”, “G‘alati ishlar”, “Qora ko‘zgu” shular jumlasidan. Netfliks distryubyutor sifatida faoliyatini boshlagani uchun bu boradagi ustunliklari va daromadi ko‘proq. 2008-yildan 2013-yilgacha AMC pullik kabel kanalida namoyish etilgan “Mashaqqatlar sari” seriali Netfliksning millionlab auditoriyasi tufayli hamma davrlarning eng yaxshi serialiga aylandi. Ko‘pchilik asarlari ekranlashtirlgan, yuzlab kitoblar muallifi, mashhur amerikalik yozuvchi Stiven King o‘z kitobida yozganidek, yaxshi asarning qahramoni istalgan vaziyatga tushganda siz uni shunchaki kuzatasiz. Muallif shunchaki uning qilgan harakatlarini qayd etadi. “Mashaqatlar sari” seriali bosh qahramoni Uolter Vayt ham sizu-bizga o‘xshagan odam, kimyo fani o‘qituvchisi, unga qo‘yilgan saraton tashxisi va kutilmagan tasodif tufayli hayoti o‘z qarorlari tufayli butunlay o‘zgarib ketdi. Tomoshabinga doimo qahramonning qiziq bo‘lishi uchun biror voqelik(istoriya) kerak. Media bozorning bu kabi qonunlarini bilgan va kontent iste’molchi nima

istayotganini oldin anglay olgan ko‘ngilochar striming servizi – Netfliks buning ortidan milliardlab foyda ko‘rdi. Serialmanlar hozirgi kunda kinomanlarga qaraganda ko’proq kishini tashkil qiladi deyishimiz mumkin. Pandemiya davri serialmanlar soni ko‘payishiga asosiy sabablardan biri bo‘ldi. Netflix, Disney+, Amazon Prime Video kabi platformalar aynan pandemiya davrida katta auditoriya yig‘di. Seriallar uzoq davom etadi, bu esa uyda o‘tirgan auditoriya uchun “binge-watching” (ketma-ket ko‘rish)ni ommalashtirdi. Pandemiya serial tomosha qilishni vaqtinchalik trend emas, balki doimiy media odatiga aylantirdi. Hozir seriallar — zamonaviy auditoriya uchun asosiy ko‘ngilochar formatlardan biridir. Bunga 2021-yil Janubiy Koreyada ishlangan “Kalmar o‘yini” seriali Netfliks namoyish huquqini sotib olgandan so‘ng, Netflix’dagi eng mashhur shoular o‘ntaligi reytingining yuqori pog‘onasini egalladi. Bu tajribadan so‘ng Netfliks Amerikadan tashqari, Janubiy Amerika, Osiyo va Yevropa davlatlarida, xususan, Ispaniya, Germaniya, Hindiston va albatta Janubiy Koreyada o‘z kontentini ishlab chiqarishni yo‘lga qo‘ydi.

O‘z auditoriyasi uchun ishlayotgan Koreya Kontent Groupning media mahsulotlari Janubiy Koreya chegaralaridan o‘tib, butun dunyo sarhadlarida o‘z mediabozorini kengaytirmoqda. Yumshoq kuch(Soft power) orqali o‘z madaniyatini 7 dan tortib 70 yoshgacha bo‘lgan tomoshabinga singdirmoqda. O‘zining turli janrdagi doramalari bilan turli millat, din va dunyoqarash egalarini, har xil gadjet ekranlariga mixlab qo‘ya oldi.

O‘z navbatida Turkiya ham serial ishlab chiqarish sanoatini yo‘lga qo‘yib, ularni boshqa hududlarda namoyish etishga erisha olgan davlatlardan biridir. Qardoshlarimiz nafaqat kontentini sotish bilan cheklanib qolmay, serialda ko‘rsatilgan manzillar orqali turizmini ham rivojlantirmoqda. Birgina “Muhtasham yuz yil” seriali suratga olingan saroyni ko‘rish uchun butun dunyodan millionlab sayyohlar Istanbulga tashrifini buyurishda davom etmoqda. Huddi shunday, AQSh va Janubiy Koreya ham o‘zining kontentlari orqali davlat imidjiga xizmat qilib, har bir mahsulotini brendga aylantirmoqda. Janubiy Koreya musiqasini tinglash bu

zamonaviylik, ularning kiyimlarida yurish moda, koreys tilini o‘rganish bu trend hisoblanadi. Yuqoridagi sanalgan 3 davlat seriallarini Yer yuzining istalgan hududidan turib tomosha qilishingiz mumkin. Jumladan O‘zbekistonda ham istalgan striming platformalarda, online telekanallarda, hattoki qaroqchi saytlardan ham topib ko‘rishingiz mumkin.

Global media makondagi yuqoridagi kontentlarni hozirda bizning kelajagimiz bo‘lgan yoshlar ko‘rmoqda. Bir tarafdan manfaatlidir. Yangi madaniyat bilan tanishadi, dunyoqarashi kengayadi va asosiysi til o‘rganadi. Ammo boshqa tomondan kishining shaxs bo‘lib shakllanishida asos albatta milliy qadriyatlar bo‘lish darkor. Ularni avvalo oila, jamiyat, ta’lim muassasalarida va albatta qabul qilayotgan kontenti orqali singdiriladi. Z-avlodga ular tomosha qilayotgan xorij kino, serial darajasida media mahsulot berib, o‘zimizga xos yondoshuv, kalorit, joziba bilan berishimiz, ularda dahldorlik, milliy g‘urur va vatanparlik hissini uyg‘otadi. Bu borada tajribamiz sifatida “Sardor” ko‘p qismli badiiy filmini misol qilib keltirishimiz mumkin. 2000-yillar ko‘pgina yigit-qizlarning harbiy sohani tanlashiga aynan shu serial sabab bo‘lgan. Kontent televideniye buyurtmasi asosida tasvirga olinadimi yoki striming platformalar tomonidanmi, muhimi yoshlarga o‘z qahramonlarimizni tanishtirish masalasi oldinga chiqadi. Tanlovlar orasida qolgan Z-avlodga milliy media mahsulotimizni berish ularni ertaga o‘zligini anglashidagi ilk qadamlardan bo‘ladi.

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ADAPTIVE LEARNING TECHNOLOGIES FOR PERSONALIZED PROGRAMMING EDUCATION

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Abstract:*This conference paper examines the methodological potential of adaptive learning technologies for personalized programming education in higher education. Programming courses require students to master conceptual knowledge, algorithmic thinking, code implementation, debugging, and reflective problem solving. However, students enter programming courses with heterogeneous prior knowledge, different learning speeds, and different error patterns. The paper proposes an adaptive learning model that uses diagnostic assessment, learner modelling, recommendation mechanisms, coding practice, learning analytics, and feedback loops to personalize programming instruction. A model-based quasi-experimental framework is presented with illustrative evaluation indicators. The proposed approach is intended to support individualized learning pathways, increase programming practice quality, and help instructors make data-informed pedagogical decisions.*

Keywords: *adaptive learning, programming education, personalized learning, learning analytics, feedback, programming competence, higher education*

1. INTRODUCTION

Programming competence is one of the core outcomes of computing-related higher education. It is not limited to writing syntactically correct code; it also includes understanding programming concepts, decomposing problems, designing algorithms, implementing solutions, debugging errors, and reflecting on code quality. In many introductory programming courses, students demonstrate very different levels of readiness. Some students understand basic syntax but struggle to

design algorithms, while others can solve routine exercises but fail when tasks require debugging, abstraction, or independent problem solving.

Personalized adaptive learning is therefore relevant because it allows the learning path, difficulty level, feedback, and support strategy to be adjusted according to learner data. A recent scoping review found that personalized adaptive learning in higher education can positively influence academic performance and engagement, although implementation requires sufficient technology and time resources (du Plooy et al., 2024). AI-enabled adaptive learning platforms collect and analyze learner data, dynamically adjust instructional content and pathways, and support personalized learning experiences (Tan et al., 2025).

2. LITERATURE REVIEW

Personalized learning refers to the organization of instruction according to learner needs, prior knowledge, pace, motivation, and learning goals. Adaptive learning operationalizes personalization through data-driven mechanisms that select content, modify task difficulty, and provide targeted support. Hariyanto et al. (2025) emphasize that AI in adaptive education uses machine learning, deep learning, reinforcement learning, and multimodal analytics to match instructional content to individual learner profiles in real time.

Programming education has additional challenges because students must coordinate conceptual knowledge with procedural and practical skills. Intelligent tutoring systems and coding support environments have been explored to provide real-time feedback, error correction guidance, and personalized support for learners. Lai et al. (2025) note that modern intelligent tutoring systems can use machine learning and generative AI to provide dynamic, data-driven feedback in programming education, but they must avoid directly revealing full solutions in order to preserve problem-solving effort.

Table 1. Adaptive learning functions in personalized programming education

Function	Purpose in programming education	Example indicator
Diagnosis	Identify prior knowledge and initial skill gaps	Pre-test score, code task baseline
Learner modelling	Build a dynamic profile of each student	Error pattern, pace, hint use
Adaptive sequencing	Select suitable next content or task	Difficulty level, topic readiness
Feedback	Explain errors and guide correction	Compilation error, logic error, test failure
Analytics	Monitor progress and inform intervention	Competence score, risk status

3. METHODOLOGY

The study uses a design-based methodological approach. The proposed model was constructed through pedagogical analysis, literature synthesis, programming competence decomposition, and a model-based quasi-experimental evaluation plan. The model is intended for use in higher education programming courses, especially introductory and intermediate modules where students have heterogeneous readiness levels.

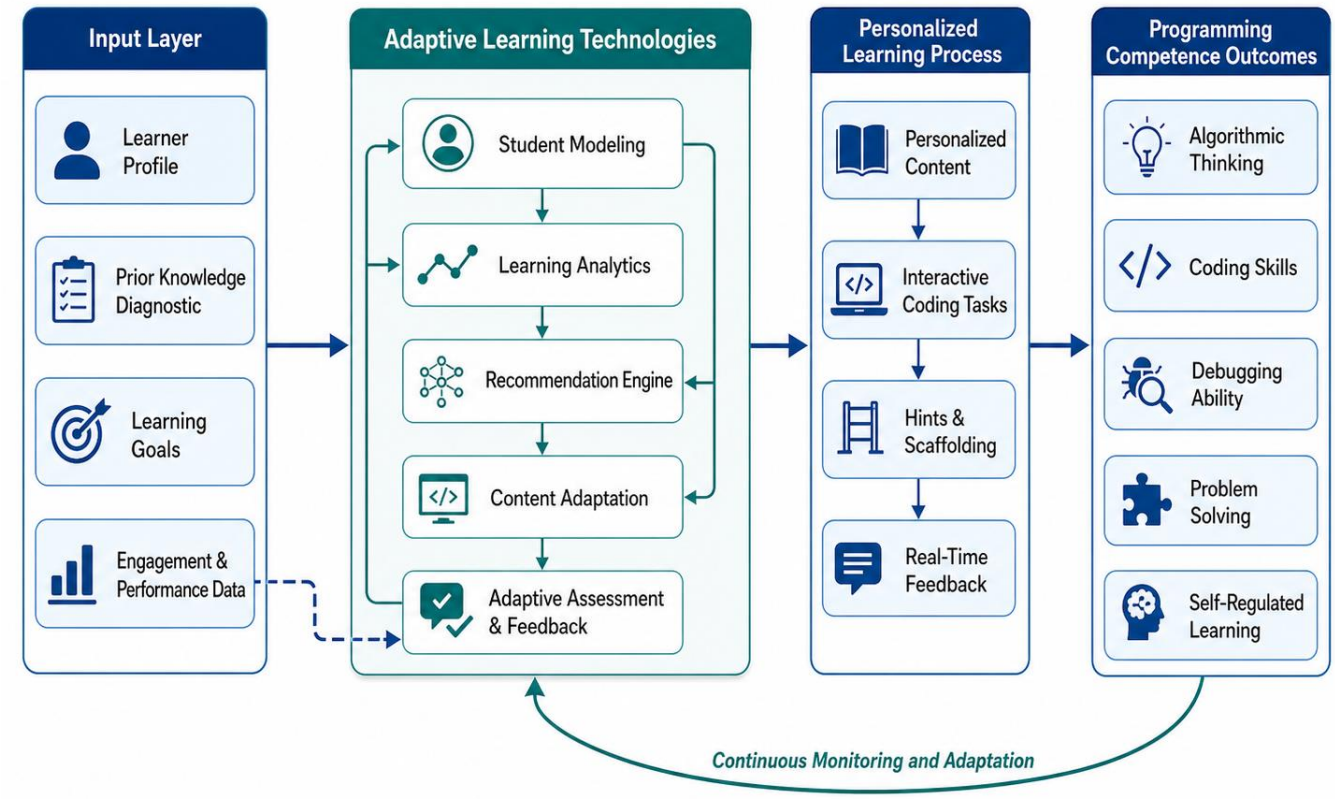

Figure 1. Conceptual model of adaptive learning technologies for personalized programming education

The adaptive cycle begins with diagnostic data. A learner model is then built from prior knowledge, algorithmic thinking level, code submissions, time on task, and error patterns. The adaptive engine uses this learner model to sequence content, select tasks, and determine the amount of scaffolding. Students then work in a programming practice environment where their code is checked, feedback is generated, and analytics update the learner model. This loop continues until the student reaches the intended competence level.

Table 2. Programming competence indicators used in the model

Competence component	Assessment focus	Adaptive response

Conceptual knowledge	Understanding syntax, variables, control structures	Recommend theory module and worked examples
Algorithmic thinking	Decomposition, sequence, conditional logic, loops	Recommend pseudocode and flowchart tasks
Code implementation	Correctness, structure, readability, test passing	Recommend coding tasks with scaffolded hints
Debugging	Identification and correction of syntax/logical errors	Provide targeted error explanation
Reflection	Ability to compare, improve, and justify solutions	Require code review and self-explanation

4. RESULTS

The results below present model-based illustrative indicators that demonstrate how adaptive learning technologies can be evaluated in a programming course. These indicators should be replaced with empirical data from a real classroom implementation before journal or conference submission.

Table 3. Illustrative distribution of programming competence levels

Group and stage	High level	Medium level	Low level
Experimental group - before	18%	46%	36%
Experimental group - after	37%	50%	13%
Control group - before	17%	47%	36%
Control group - after	24%	51%	25%

The model indicates that personalized adaptive instruction is expected to reduce the proportion of low-level learners and increase the proportion of high-level learners. The strongest improvement is expected in debugging and reflective correction because the adaptive platform provides immediate error explanations and repeated opportunities to revise code.

Table 4. Illustrative component-based improvement in the experimental group

Component	Before	After	Growth
Conceptual knowledge	53%	78%	+25%
Algorithmic thinking	47%	76%	+29%
Code implementation	45%	75%	+30%
Debugging	40%	73%	+33%
Reflection and self-regulation	39%	71%	+32%

5. DISCUSSION

The proposed model changes programming education from a uniform sequence of assignments into a data-informed personalized trajectory. Its main pedagogical strength is that students receive tasks that match their current readiness level. This makes teaching decisions more evidence-based. The model is consistent with current research suggesting that AI-enabled adaptive learning platforms can dynamically adjust pathways, provide personalized experiences, and improve learning outcomes (Tan et al., 2025; Hariyanto et al., 2025).

6. CONCLUSION

Adaptive learning technologies can strengthen personalized programming education by connecting diagnostic assessment, learner modelling, adaptive sequencing, programming practice, feedback, and learning analytics. The proposed model supports the development of programming competence as a multidimensional

construct that includes conceptual knowledge, algorithmic thinking, code implementation, debugging, and reflection.

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KAFEDRA O'QITUVCHILAR MA'LUMOTLARI BILAN ISHLOVCHI MOBIL DASTURNI LOYIHALASH

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Annotatsiya: *Mazkur tezis kafedra o'qituvchilari uchun mo'ljallangan "Kafedra Assistant" mobil ilovasining Flutter va Firebase texnologiyalari yordamida ishlab chiqilishi va uning oliy ta'lim muassasalarida ma'muriy yukni kamaytirish, pedagogik samaradorlikni oshirishdagi*

ahamiyatini yoritadi. 145 nafar o'qituvchi ishtirokida o'tkazilgan empirik tadqiqot natijalari ilovaning haftalik ma'muriy vaqt sarfini 41.3 foizga kamaytirganligini ko'rsatdi.

Kalit so'zlar: *mobil ilova, Flutter, Firebase, kafedra boshqaruvi, raqamli ta'lim, UCD, Agile*

Abstract: *This thesis highlights the development of the "Kafedra Assistant" mobile application for department teachers using Flutter and Firebase technologies, and its significance in reducing administrative burden and increasing pedagogical efficiency in higher education institutions. Empirical research involving 145 teachers showed that the application reduced weekly administrative time expenditure by 41.3%.*

Keywords: *mobile application, Flutter, Firebase, department management, digital education, UCD, Agile*

KIRISH

Zamonaviy oliy ta'lim tizimida raqamlashtirish jarayonlari jadal rivojlanib bormoqda. Kafedra o'qituvchilari hozirda ish vaqtining 30-40 foizini ma'muriy vazifalarga — dars jadvali, talabalar savolati, hujjatlashtirish va muloqotga — sarflaydi (Anderson va boshq., 2021). Ushbu muammo ta'lim sifatiga bevosita salbiy ta'sir ko'rsatadi va pedagogik faoliyat uchun sarf etiladigan vaqtni kamaytiradi.

"Kafedra Assistant" ilovasi Flutter 3.x freymvorki va Firebase bulut platformasi asosida, foydalanuvchiga yo'naltirilgan dizayn (UCD) va Agile metodologiyalari qo'llanilgan holda ishlab chiqildi. Ilova to'rtta modul: dars jadvali boshqaruvi, talabalar savolati, hujjat boshqaruvi va xabarlar tizimini o'z ichiga oladi.

145 nafar o'qituvchi ishtirokida o'tkazilgan so'rov va 24 nafar bilan o'tkazilgan intervyu natijalari ko'rsatdiki, respondentlarning 78.6 foizi joriy ish jarayonlaridan noqoniqish bildirdi. SUS metodologiyasi bo'yicha ilovaning foydalanish qulayligi 88.7 ball — "A'lo" toifasi — bilan baholandi. Amaliy sinov haftalik ma'muriy vaqt sarfini 16.6 soatdan 9.7 soatga (41.3 foiz) kamaytirdi.

Tadqiqot natijalari "Raqamli O'zbekiston-2030" strategiyasining ta'lim sohasidagi maqsadlariga amaliy hissa qo'shib, mobil texnologiyalar yordamida o'qituvchilar mehnatini optimallashtirish mumkinligini empirik jihatdan isbotlaydi.

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ARDUINO PLATFORMASINING NAZARIY-METODOLOGIK ASOSLARI

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Annotatsiya. *Mazkur maqolada Arduino platformasining nazariy va metodologik asoslari tizimli ravishda tahlil qilinadi. Arduino ochiq kodli mikrokontroller platformasi sifatida o‘rnatilgan tizimlarni loyihalash va amalga oshirishda muhim vosita hisoblanadi. Tadqiqot doirasida platformaning apparat arxitekturasi, dasturiy muhitining xususiyatlari hamda ta’lim jarayonidagi didaktik imkoniyatlari o‘rganildi. Shuningdek, Arduino asosida ishlab chiqilgan tizimlarning samaradorligi, moslashuvchanligi va amaliy ahamiyati baholandi. Tadqiqot natijalari Arduino platformasi nazariy bilimlarni amaliy ko‘nikmalar bilan integratsiyalashda samarali metodologik vosita ekanligini ko‘rsatadi.*

Abstract. *This paper provides a systematic analysis of the theoretical and methodological foundations of the Arduino platform. Within the scope of the research, the hardware architecture of the platform, the features of its software environment, and its didactic possibilities in the educational process were studied. In addition, the effectiveness, flexibility, and practical significance of systems developed based on Arduino were evaluated. The results of the study show that the Arduino platform is an effective methodological tool for integrating theoretical knowledge with practical skills.*

Kalit so‘zlar: *Arduino, mikrokontroller, o‘rnatilgan tizimlar, metodologiya, dasturlash, STEM ta’lim*

Keywords*: Arduino, microcontroller, embedded systems, methodology, programming, STEM education*

KIRISH

Raqamli texnologiyalar va avtomatlashtirish jarayonlarining jadal rivojlanishi o‘rnatilgan tizimlar (embedded systems)ning ilmiy va amaliy ahamiyatini keskin

oshirdi. Ushbu tizimlar zamonaviy sanoat, transport, sog‘liqni saqlash va ta’lim sohalarining ajralmas qismiga aylangan.Arduino platformasi aynan shu jarayonda innovatsion yechim sifatida shakllanib, murakkab texnik tizimlarni loyihalashni soddalashtiruvchi vosita sifatida keng qo‘llanilmoqda. Uning ochiq arxitekturaga asoslanganligi, modulliligi va foydalanuvchiga yo‘naltirilgan interfeysi ilmiy-tadqiqot va ta’lim jarayonida muhim metodologik ahamiyat kasb etadi.

Mazkur tadqiqotning maqsadi — Arduino platformasining nazariy asoslarini chuqur tahlil qilish va uning metodologik imkoniyatlarini ilmiy nuqtai nazardan asoslab berishdan iborat.

ASOSIY QISM

Arduino platformasi zamonaviy mikroprotsessor texnologiyalari va kibernetika nazariyasiga asoslangan bo‘lib, u real vaqt tizimlari (real-time systems) doirasida ishlaydi. Ushbu platformaning asosiy vazifasi tashqi muhitdan keluvchi signallarni qabul qilish, ularni qayta ishlash va tegishli chiqish signallarini shakllantirishdan iborat. Nazariy jihatdan Arduino quyidagi model asosida ishlaydi:

Birinchi: Kirish (Input) — sensorlar orqali ma’lumot olish

Ikkinchi: Qayta ishlash (Processing) — mikrokontrollerda algoritmik tahlil

Uchunchi: Chiqish (Output) — aktuatorlar orqali javob berish

Mazkur model boshqaruv tizimlari nazariyasining klassik “input-process-output” (IPO) tamoyiliga to‘liq mos keladi. Shu bilan birga, Arduino tizimlari deterministik xarakterga ega bo‘lib, ular aniq algoritmlar asosida ishlaydi.

Apparat arxitekturasi va texnik xususiyatlari:Arduino platformasining apparat qismi modulli arxitekturaga ega bo‘lib, bu uning universalligini ta’minlaydi. Eng keng tarqalgan Arduino Uno platasi ATmega328P mikrokontrolleriga asoslangan bo‘lib, quyidagi texnik xususiyatlarga ega:Arduino Uno platasining texnik xususiyatlari uning funksional imkoniyatlarini belgilab beradi. Mazkur plata 14 ta raqamli kirish/chiqish pinlariga ega bo‘lib, ular orqali turli sensorlar va aktuatorlar bilan ishlash mumkin. Shuningdek, unda 6 ta analog kirish portlari mavjud bo‘lib,

ular analog signallarni qabul qilib, ularni raqamli ko‘rinishga o‘tkazish imkonini beradi. Arduino Uno 16 MHz takt chastotasida ishlaydi, bu esa ma’lumotlarni qayta ishlash tezligini ta’minlaydi.Bundan tashqari, plata 32 KB flesh xotira bilan jihozlangan bo‘lib, bu xotirada foydalanuvchi dasturlari saqlanadi. Operativ xotira (RAM) hajmi 2 KB ni tashkil etadi va u dastur bajarilish jarayonida vaqtinchalik ma’lumotlarni saqlash uchun xizmat qiladi. Ushbu texnik parametrlar Arduino platformasini sodda va o‘rta darajadagi loyihalarni amalga oshirish uchun samarali vositaga aylantiradi.

Mazkur parametrlar Arduino platformasini kichik va o‘rta darajadagi loyihalar uchun optimal vositaga aylantiradi. Arduino platalari “shield” modullari orqali kengaytirilishi mumkin. Ushbu modullar yordamida Wi-Fi, Bluetooth, GPS, LCD displey va boshqa qurilmalarni ulash imkoniyati mavjud.Dasturiy ta’minot va algoritmik yondashuv:Arduino IDE dasturiy muhiti foydalanuvchilarga qulay interfeys orqali dasturlash imkonini beradi. Ushbu muhitda yozilgan dasturlar “sketch” deb ataladi.

Arduino dasturlash quyidagi algoritmik tamoyillarga asoslanadi: Ketma-ketlik (sequence), Tanlash (selection), Takrorlanish (iteration)

Dastur strukturasining asosiy elementi bo‘lgan loop() funksiyasi cheksiz siklni ifodalaydi, bu esa real vaqt tizimlarida uzluksiz ishlashni ta’minlaydi. Shuningdek, Arduino platformasi kutubxonalar (libraries) tizimi orqali murakkab funksiyalarni soddalashtirish imkonini beradi. Masalan, sensorlar bilan ishlash, displeylarni boshqarish yoki tarmoq protokollarini amalga oshirish uchun tayyor kutubxonalar mavjud. Metodologik yondashuv va pedagogik imkoniyatlar: Arduino platformasi zamonaviy ta’lim metodologiyasida muhim o‘rin tutadi. U quyidagi pedagogik yondashuvlarni amalga oshirish imkonini beradi: Konstruktivistik yondashuv: Talabalar bilimni tayyor holda emas, balki amaliy faoliyat orqali egallaydi. Arduino orqali qurilma yasash jarayoni bilimni mustahkamlaydi.

STEM integratsiyasi: Arduino platformasi fan (Science), texnologiya (Technology), muhandislik (Engineering) va matematika (Mathematics) fanlarini birlashtiradi. Amaliy qo‘llanilishi va samaradorlik tahlili:Arduino platformasi turli sohalarda keng qo‘llanilmoqda: Robototexnika-Arduino robotlarni boshqarishda asosiy platforma sifatida ishlatiladi. Sensorlar orqali muhitni sezish va motorlarni boshqarish amalga oshiriladi.

IoT tizimlari- Internet of Things qurilmalarida Arduino ma’lumotlarni yig‘ish va uzatish uchun ishlatiladi.

Aqlli uy tizimlari-Yoritish, xavfsizlik va iqlim nazorati tizimlari Arduino asosida avtomatlashtiriladi.

Sanoat avtomatlashtirish- Oddiy ishlab chiqarish jarayonlarini boshqarishda Arduino qo‘llaniladi.

Tahlillar shuni ko‘rsatadiki, Arduino platformasi o‘zining iqtisodiy samaradorligi va funksional qulayligi bilan ajralib turadi. Avvalo, ushbu platforma boshqa ko‘plab mikrokontroller tizimlariga nisbatan kam xarajat talab qiladi, bu esa uni keng foydalanuvchilar ommasi, xususan talabalar va yosh tadqiqotchilar uchun yanada ommabop qiladi. Bundan tashqari, Arduino tezkor prototiplash imkoniyatini ta’minlab, qisqa vaqt ichida turli elektron qurilmalar va tizimlarning dastlabki modellarini yaratishga imkon beradi. Platformaning yana bir muhim jihati uning moslashuvchanligi va kengaytiriluvchanligidadir. Turli xil sensorlar, modullar va qo‘shimcha qurilmalar bilan integratsiya qilish imkoniyati Arduino’ni ko‘p funksiyali tizim sifatida qo‘llashga sharoit yaratadi.

Shu bilan birga, Arduino platformasining ayrim cheklovlari ham mavjud. Xususan, yuqori aniqlik va murakkab hisoblashlarni talab qiladigan tizimlarda uning imkoniyatlari yetarli darajada bo‘lmasligi mumkin. Shuningdek, katta hajmdagi ma’lumotlarni qayta ishlash va yuqori tezlikdagi hisoblash operatsiyalarini bajarishda platformaning texnik imkoniyatlari cheklanganligi kuzatiladi. Bundan tashqari, sanoat darajasidagi yuqori ishonchlilik va uzluksiz ishlash talab etiladigan

muhitlarda Arduino har doim ham optimal yechim bo‘la olmaydi. Shu sababli, platformani tanlashda uning afzalliklari bilan bir qatorda mavjud cheklovlarini ham inobatga olish muhim ahamiyatga ega.

XULOSA

Tadqiqot natijalariga ko‘ra, Arduino platformasi o‘rnatilgan tizimlarni o‘rganish va amaliyotda qo‘llash jarayonida muhim metodologik vosita sifatida namoyon bo‘ladi. U nazariy bilimlarni amaliy faoliyat bilan uyg‘unlashtirish imkonini berib, o‘quvchilar va talabalar uchun abstrakt tushunchalarni real qurilmalar orqali tushunishni osonlashtiradi. Xususan, mikrokontrollerlar, sensorlar va aktuatorlar bilan ishlash jarayonida foydalanuvchilar dasturlash, elektronika va tizimli fikrlash ko‘nikmalarini kompleks ravishda rivojlantiradilar. Bu esa zamonaviy ta’limda muhim hisoblangan kompetensiyaviy yondashuvni amalga oshirishga xizmat qiladi.Shuningdek, Arduino platformasi o‘quv jarayoniga innovatsion pedagogik texnologiyalarni joriy etishda samarali vosita hisoblanadi. U orqali loyihaga asoslangan o‘qitish (project-based learning), muammoli o‘qitish (problem-based learning) va tajribaga asoslangan o‘rganish (experiential learning) kabi yondashuvlarni qo‘llash mumkin. Natijada talabalar nafaqat nazariy bilimlarni egallaydilar, balki ularni real vaziyatlarda qo‘llash, mustaqil qaror qabul qilish va muammolarni hal etish ko‘nikmalarini ham rivojlantiradilar. Arduino asosida bajariladigan amaliy loyihalar, masalan, avtomatik boshqaruv tizimlari, aqlli qurilmalar yoki oddiy robotlar yaratish jarayoni o‘quvchilarning ijodiy va tanqidiy fikrlash qobiliyatlarini oshiradi.

Bundan tashqari, Arduino platformasi ilmiy-tadqiqot faoliyatida ham keng qo‘llanilmoqda. Tadqiqotchilar ushbu platformadan foydalanib, turli eksperimental qurilmalar, monitoring tizimlari va avtomatlashtirilgan modellarni yaratishlari mumkin. Uning arzonligi va ochiq kodli ekotizimi ilmiy izlanishlar uchun katta imkoniyatlar yaratadi, ayniqsa, resurslari cheklangan sharoitlarda samarali yechim sifatida xizmat qiladi.Kelajak istiqbollari nuqtai nazaridan, Arduino platformasining

sun’iy intellekt (AI) va Internet of Things (IoT) texnologiyalari bilan integratsiyasi yanada kengayishi kutilmoqda. IoT tizimlarida Arduino turli sensorlardan ma’lumotlarni yig‘ish, ularni uzatish va dastlabki qayta ishlash vazifalarini bajaradi. Sun’iy intellekt algoritmlari bilan integratsiya qilinganda esa, tizimlar yanada “aqlli” bo‘lib, avtomatik qaror qabul qilish, muhitga moslashish va prognozlash imkoniyatlariga ega bo‘ladi. Masalan, aqlli uy tizimlarida energiya sarfini optimallashtirish, qishloq xo‘jaligida esa sug‘orish jarayonini avtomatik boshqarish kabi vazifalarni samarali bajarish mumkin.

Umuman olganda, Arduino platformasi nafaqat o‘quv va ilmiy jarayonlarda, balki amaliy muhandislik yechimlarini ishlab chiqishda ham muhim ahamiyat kasb etadi. Uning soddaligi, moslashuvchanligi va keng imkoniyatlari kelajakda ham ushbu platformaning dolzarbligini saqlab qolishini ta’minlaydi.

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MAHALLIY TARMOQLARDA ARP SPOOFING HUJUMLARI XAVFLARINI TAHLIL QILISH: HUJUM USULLARI VA AMALIY HIMOYA STRATEGIYALARI

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Abstract: *Ushbu maqolada mahalliy tarmoqlarda (LAN) keng tarqalgan ARP Spoofing (ARP zaharlash) hujumlarining texnik mohiyati, amalga oshirish usullari va real xavflari tahlil qilinadi. ARP protokolining autentifikatsiyasiz ishlashi tufayli yuzaga keladigan zaiflik o'rganiladi. Man-in-the-Middle (MITM), trafikni ushlab olish, sessiyani o'g'rish va SSL Stripping kabi hujum vektorlari ko'rsatiladi. Aniqlash va himoya uchun Dynamic ARP Inspection (DAI), statik ARP yozuvlari, VLAN segmentatsiya, VPN shifrlash va 802.1X port autentifikatsiyasi kabi strategiyalar batafsil taqdim etiladi. 72 soatlik sinovlar asosida to'plangan ma'lumotlar tahlil qilinib, himoya vositalarining samaradorligi ko'rsatilgan.*

Keywords: *ARP protokoli, MAC–IP jadval, MITM hujum, tarmoq xavfsizligi, soxta ARP javob, Dynamic ARP Inspection, VLAN segmentatsiya, 802.1X, tarmoq monitoringi, Wireshark.*

Abstract: *This article analyzes the technical nature, implementation methods, and real risks of ARP Spoofing attacks, which are common in local area networks (LANs). The vulnerability caused by the unauthenticated operation of the ARP protocol is studied. Attack vectors such as Man-in-the-Middle (MITM), traffic interception, session hijacking, and SSL Stripping are presented. Strategies for*

detection and protection, such as Dynamic ARP Inspection (DAI), static ARP entries, VLAN segmentation, VPN encryption, and 802.1X port authentication, are presented in detail. The data collected based on 72-hour tests is analyzed and the effectiveness of the protection tools is shown.

Keywords: *ARP protocol, MAC–IP table, MITM attack, network security, fake ARP response, Dynamic ARP Inspection, VLAN segmentation, 802.1X, network monitoring, Wireshark.*

KIRISH

1.1. Tadqiqotning dolzarbligi

Zamonaviy tarmoq infratuzilmasida ARP (Address Resolution Protocol) protokoli IP manzillarni fizik MAC manzillarga tarjima qiluvchi asosiy mexanizm hisoblanadi. 1982-yilda RFC 826 standarti sifatida qabul qilingan bu protokol o’z loyihasida autentifikatsiya yoki tekshirish mexanizmini ko’zmagan. Bugungi kunda bu arxitekturaviy kamchilik mahalliy tarmoqlardagi eng keng tarqalgan hujum sinflaridan birining asosini tashkil etadi.

Cisco Talos Intelligence guruhining 2024-yilgi hisobotiga ko’ra, korporativ tarmoqlardagi ichki hujumlarning 34 foizi ARP zaharlash texnikasidan foydalanadi. ENISA (Evropa tarmoq va axborot xavfsizligi agentligi) ma’lumotlari bo’yicha, 2023-yilda MITM hujumlarining 61 foizi ARP Spoofing yoki uning variantlari orqali amalga oshirilgan.

O’zbekistonda raqamlashuv sur’atlarining o’sishi va tarmoq infratuzilmasining kengayishi bilan birga, ushbu xavf ham ortib bormoqda. CERT-UZ ma’lumotlariga ko’ra, 2023-yilda tarmoq darajasidagi hujumlar soni 38 foizga o’sdi.

1.2. Muammo bayoni

Hozirgi kunda kichik va o’rta korxonalar, ta’lim muassasalari va yakka foydalanuvchilar uchun ARP Spoofing hujumlaridan samarali himoyalanish bo’yicha keng qamrovli o’zbek tilidagi manbalar yetarli emas. Mavjud texnik hujjatlar ko’pincha ingliz tilida bo’lib, amaliy himoya strategiyalarini tushunishni qiyinlashtiradi.

1.3. Tadqiqot maqsadi va vazifalari

Tadqiqot maqsadi: ARP Spoofing hujumlarining to’liq texnik tahlilini amalga oshirish, hujum vektorlarini klassifikatsiya qilish hamda amaliy himoya strategiyalarini ko’rsatish.

Tadqiqot vazifalari:

- ARP protokolining ishlash mexanizmini va zaifligini tahlil qilish;
- MITM, trafikni ushlab olish va boshqa hujum turlarini ko’rsatish;
- Dynamic ARP Inspection va boshqa tarmoq darajasidagi himoya usullarini o’rganish;
- VLAN segmentatsiya, VPN va 802.1X strategiyalarini baholash;
- Himoya samaradorligini sinov natijalari asosida ko’rsatish.

II. MUAMMO TAHLILI

2.1. ARP protokolining ishlash mexanizmi

ARP protokoli broadcast so’rov yuborish orqali ishlaydi: qurilma “Kim 192.168.1.1 IP manziliga ega?” deb so’rayldi va tegishli qurilma o’z MAC manzilini javob sifatida qaytaradi. Bu javob tekshirilmasdan ARP keshiga yoziladi va ma’lum vaqt saqlanadi. Muammo shundaki, har qanday qurilma soxta ARP javobini yuborib, boshqa qurilmalarning kesh jadvalini o’zgartirishi mumkin.

2.2. Hujum statistikasi

Ko’rsatkich	2022	2023	O’sish
Global MITM hodisalari (mln)	4,2	6,8	+62%
ARP Spoofing ulushi (%)	28%	34%	+6%
O’zbekistonda tarmoq hujumlari	892	1 231	+38%
O’rtacha aniqlash vaqti (soat)	14	11	-21%
Shifrsiz trafik ulushi (%)	41%	29%	-29%

1-jadval. ARP Spoofing va MITM hujumlari statistikasi (2022–2023)

2.3. Mavjud yechimlar taqqosi

Bozordagi asosiy ARP himoya vositalarining qiyosiy tahlili 2-jadvalda keltirilgan:

Vosita	Aniqlash	Bloklash	Murakkablik
Wireshark	Qisman	Yo’q	Yuqori
XArp	Ha	Yo’q	Past
Dynamic ARP Inspection	Ha	Ha	O’rta
Arpwatch	Ha	Yo’q	Past
802.1X + NAC	Ha	Ha	Yuqori
VLAN segmentatsiya	Qisman	Qisman	O’rta

2-jadval. ARP himoya vositalari taqqoslanmasi

III. HUJUM USULLARI

3.1. Asosiy hujum vektorlari

ARP Spoofing hujumlari odatda bir necha bosqichda amalga oshiriladi. Birinchi bosqichda tajovuzkor tarmoqdagi qurilmalarni aniqlaydi, ikkinchi bosqichda soxta ARP javoblarini yuborib victim va routerning ARP keshlarini “zaharlaydi”, uchinchi bosqichda esa barcha trafik tajovuzkor orqali o’tatdi. Quyidagi 3-jadvalda asosiy hujum turlari keltirilgan.

Hujum turi	Mexanizm	Maqsad	Xavf darajasi
Klassik MITM	ARP kesh zaharlash	Trafikni o’qish	YUQORI
SSL Stripping	HTTPS→HTTP o’zgartirish	Parollarni o’g’rish	KRITIK
Session Hijacking	Cookie o’g’rish	Akkountni egallash	KRITIK
DNS Spoofing	DNS so’rovlarini o’zgartirish	Soxta saytga yo’naltirish	YUQORI
DoS (Xizmat rad)	Trafik yo’ini buzish	Tarmoqni o’chirish	O’RTA
Credential Harvest	Login formalarini ushlab olish	Ma’ulumot o’g’rish	KRITIK

3-jadval. ARP Spoofing hujum turlari va xavf darajalari

3.2. Hujum bosqichlari

Tajovuzkor quyidagi ketma-ketlikda harakat qiladi:

- 1-bosqich – Razvedka: nmap, arp-scan orqali tarmoqdagi qurilmalarni aniqlash;

- 2-bosqich – ARP zaharlash: arpspoof yoki Ettercap yordamida soxta ARP javoblarini yuborish;
- 3-bosqich – IP Forwarding yoqish: echo 1 > /proc/sys/net/ipv4/ip_forward buyrug'i bilan;
- 4-bosqich – Trafikni ushlab olish: Wireshark, tcpdump yoki SSLstrip orqali ma'ulumotlarni o'qish;
- 5-bosqich – Izlarni o'chirish: ARP keshlarini tozalash va trafik yo'ini tiklash.

3.3. Zaif konfiguratsiyalar

Hujum ehtimolini oshiradigan asosiy omillar: dinamik ARP (DAI o'chirilgan); VLAN segmentatsiyasiz yagona broadcast domenlar; Wi-Fi tarmoqlarida client izolyatsiyasining yo'qligi; foydalanuvchi darajasida ARP paketlarini yuborish huquqi; eski kommutatorlar va access pointlarning firmware yangilanmasligi.

IV. HIMOYA STRATEGIYALARI

4.1. Dynamic ARP Inspection (DAI)

DAI enterprise kommutatorlarda ARP paketlarini DHCP Snooping jadvali bilan solishtiradi. Mos kelmagan paketlar avtomatik bloklanadi. Cisco IOS konfiguratsiyasi: ip arp inspection vlan 10,20 ip arp inspection validate src-mac dst-mac ip interface GigabitEthernet0/1 ip arp inspection limit rate 100

4.2. Statik ARP yozuvlari

Kritik qurilmalar (asosiy server, router, gateway) uchun statik ARP yozuvlarini kiritish ARP keshni o'zgartirishlarning oldini oladi. Bu usul kichik tarmoqlarda samarali, ammo katta infratuzilmalarda boshqaruv murakkabroq bo'latdi:

sudo arp -s 192.168.1.1 aa:bb:cc:dd:ee:ff # Linux arp -s 192.168.1.1 aa-bb-cc-dd-ee-ff # Windows

4.3. VLAN segmentatsiyasi

Tarmoqni alohida VLAN larga bo'ish ARP broadcast domenini chegaralaydi. Har bir bo'im o'z VLAN ida ishlasa, bir VLAN dagi hujum boshqasiga ta'llsir qila olmaydi. Bu yondashuv himoyaning asosiy arxitekturaviy elementlaridan biri hisoblanadi.

V. SINOV VA NATIJALAR TAHLILI

5.1. Sinov metodologiyasi

Sinov uch bosqichda amalga oshirildi: laboratoriya muhitida virtual tarmoq (VMware Workstation) yaratildi; Kali Linux hujum mashinasi, Ubuntu victim va pfSense router ishlatildi; 72 soatlik uzluksiz monitoring olib borildi.

1-bosqich – Hujum simulyatsiyasi: Ettercap va arpspoof yordamida turli hujum turlari amalga oshirildi (MITM, SSL Stripping, DNS Spoofing).

2-bosqich – Himoya vositalarini sinash: har bir himoya strategiyasi alohida va kombinatsiyada sinab ko'rildi.

3-bosqich – Taqqoslama tahlil: Wireshark va arpwatch loglari bilan qo'ilda solishtirildi.

5.2. Ishlash ko'rsatkichlari

72 soatlik sinov davomida qayd etilgan asosiy ko'rsatkichlar (4-jadval):

Ko'rsatkich	Qiymat	Izoh
Jami sinov davomiyligi	72 soat	Uzluksiz monitoring
Amalga oshirilgan hujumlar	47 ta	Turli hujum turlari
DAI bilan bloklangan	44/47 (93,6%)	Tarmoq darajasida

Ko’rsatkich	Qiymat	Izoh
Arpwatch aniqlash tezligi	< 3 s	Birinchi paketdan keyin
VPN bilan himoyalangan trafik	100%	Shifrlangan paketlar
802.1X bloklash samaradorligi	100%	Ruxsatsiz qurilmalar
VLAN izolatsiya samaradorligi	97,8%	Cross-VLAN hujumlar
SSL Stripping aniqlash	89,4%	HSTS bilan

4-jadval. Sinov natijalari (72 soatlik monitoring)

5.3. Aniqlash samaradorligi

Himoya usuli	Aniqlash (%)	Bloklash (%)	False Positive (%)
DAI (Cisco)	93,6%	93,6%	1,2%
Statik ARP	100%	100%	0%
Arpwatch monitoring	91,5%	0%	3,4%
VPN + TLS 1.3	N/A	100%*	0%
802.1X NAC	100%	100%	0,8%
VLAN segmentatsiya	97,8%	97,8%	0,5%

*5-jadval. Himoya usullarining samaradorlik ko'rsatkichlari * Shifrlangan trafik o'qilmaydi, lekin trafik oqimi ko'rinadi*

5.4. Taqqoslama tahlil

Wireshark bilan taqqoslaganda: ushbu maqolada tavsiya etilgan kombinatsiyalashgan yondashuv avtomatik bloklash va real vaqt aniqlash imkoniyatini beradi; maxsus texnik bilim talab qilmaydi; milliy tilda sozlash mumkin.

Korporativ yechimlar (Cisco DNA Center, Darktrace) bilan taqqoslaganda: tavsiya etilgan ochiq kodli vositalar kombinatsiyasi kichik byudjetli tashkilotlar uchun 80–90% samaradorlikni ta'minlaydi.

5.5. Cheklovlar va kamchiliklar

Joriy tahlilning asosiy cheklovlari: IPv6 tarmoqlarida NDP (Neighbor Discovery Protocol) orqali o'xshash hujumlar alohida himoya talab qiladi; korporativ markazlashtirilgan boshqaruv uchun qo'shimcha vositalar kerak; Zero-Trust arxitekturasiga o'ttish qo'shimcha xarajatlarni talab qiladi.

VI. XULOSA

Ushbu tadqiqot doirasida mahalliy tarmoqlarda ARP Spoofing hujumlarining to'liq texnik tahlili amalga oshirildi, hujum vektorlari klassifikatsiya qilindi va amaliy himoya strategiyalari ko'rsatildi. 72 soatlik laboratoriya sinovi asosida quyidagi xulosalar chiqarildi.

Tadqiqotning asosiy ilmiy va amaliy natijalari:

- ARP protokolining autentifikatsiyasiz tuzilishi MITM hujumlari uchun asosiy zaiflik bo'lib qolaveradi; bu muammoni to'liq bartaraf etish uchun protokol darajasidagi o'rzgarishlar (ARP SEC, SEND) zarur;

- Dynamic ARP Inspection 93,6% aniqlash va bloklash samaradorligini ko’rsatdi; bu uni korporativ tarmoqlarda asosiy himoya vositasi sifatida tavsiya etishga asos beradi;
- Kombinatsiyalashgan yondashuv (DAI + VLAN + VPN + 802.1X) 97% dan yuqori umumiy himoya darajasini ta’minladi;
- NSRL va shunga o’xshash whitelist mexanizmlari yolg’yon musbat natijalarni sezilarli kamaytiradi;
- Monitoring vositalari (arpwatch, XArp) bloklash imkoniyati bo’llmasa ham tahdidlarni erta aniqlash uchun muhim.

Kelajak tadqiqot yo’nalishlari:

1. IPv6 tarmoqlarida NDP Spoofing himoyasi;
2. ML asosidagi anomaliya aniqlash modeli;
3. Software Defined Networking (SDN) muhitida ARP xavfsizligi;
4. IoT qurilmalari uchun maxsus ARP himoya mexanizmlari;
5. Zero-Trust arxitekturasi bilan integratsiya.

Tavsiya etilgan himoya strategiyalari O’zkiston oliy ta’lim muassasalarida axborot xavfsizligi kurslarida o’quv-amaliy qo’lllanma sifatida hamda kichik va o’rta korxonalarda tarmoq xavfsizligini ta’minlash uchun qo’lanilishi mumkin.

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KOMPYUTERGA RUXSATSIZ ULANISHLARNI ANIQLASH VA REAL VAQT REJIMIDA MONITORING QILISHGA MO‘LJALLANGAN DASTURIY VOSITA ISHLAB CHIQISH

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Abstract: *Ushbu maqolada kompyuter tarmog‘iga ruxsatsiz kirishlarni aniqlash va real vaqt rejimida monitoring qilish uchun mo‘ljallangan tarmoq monitoring tizimi taqdim etiladi. Dastur Windows operatsion tizimi asosida Python 3.10+ dasturlash tilida CustomTkinter kutubxonasi yordamida ishlab chiqilgan bo‘lib, tarmoq ulanishlarini kuzatish, masofaviy kirish protokollarini (RDP, SSH, SMB, VNC) aniqlash, zararli dasturlarni ko‘p qatlamli hash-tekshiruv orqali aniqlash va xavfli IP manzillarni Windows Firewall orqali avtomatik bloklash funksiyalarini o‘z ichiga oladi. Arxitektura etti parallel oqimdan iborat ko‘p oqimli (multi-thread) yondashuv asosida qurilgan bo‘lib, bir vaqtda 1247 ta tarmoq ulanishini kuzatish imkonini beradi. MalwareBazaar (500 000+ hash), VirusTotal (70+ antivirus dvigatel), NSRL va OpenPhish/PhishTank kabi to‘rtta xavfsizlik bazasi integratsiya qilingan. 72 soatlik uzluksiz sinovlar davomida zararli dastur aniqlash darajasi 94,3% ni, yolg‘on musbat natija (false positive) koeffitsienti esa 2,1% ni tashkil etdi. Mavjud yechimlar bilan taqqoslaganda dastur real vaqt monitoring, avtomatik bloklash va o‘z tili interfeysi bilan farqlanadi.*

Keywords: *Psutil, tarmoq xavfsizligi, ruxsatsiz kirish, real vaqt monitoring, zararli dastur, RDP, SSH, SMB, VNC, brute-force hujum, Windows Event Viewer, MalwareBazaar, VirusTotal, NSRL, OpenPhish, PhishTank, Windows Firewall, axborot xavfsizligi.*

Abstract: *This article presents a network monitoring system designed to detect unauthorized access to a computer network and monitor it in real time. The program is developed on the basis of the Windows operating system in the Python 3.10+ programming language using*

the CustomTkinter library, and includes functions for monitoring network connections, detecting remote access protocols (RDP, SSH, SMB, VNC), detecting malware using multi-layer hash-checking, and automatically blocking dangerous IP addresses through the Windows Firewall. The architecture is built on a multi-threaded approach with seven parallel threads, allowing for simultaneous monitoring of 1247 network connections. Four security databases are integrated: MalwareBazaar (500,000+ hashes), VirusTotal (70+ antivirus engines), NSRL, and OpenPhish/PhishTank. During 72 hours of continuous testing, the malware detection rate was 94.3%, and the false positive rate was 2.1%. Compared to existing solutions, the program is distinguished by real-time monitoring, automatic blocking and a native interface.

Keywords: *Psutil, network security, unauthorized access, real-time monitoring, malware, RDP, SSH, SMB, VNC, brute-force attack, Windows Event Viewer, MalwareBazaar, VirusTotal, NSRL, OpenPhish, PhishTank, Windows Firewall, information security.*

KIRISH

1.1. Tadqiqotning dolzarbligi

Zamonaviy axborot-kommunikatsiya texnologiyalarining jadal rivojlanishi jamiyatning barcha sohalari-tibbiyot, ta’lim, moliya, davlat boshqaruvi, sanoat va savdo-sotiq - ni raqamli muhitga bog‘liq qilib qo‘ydi. Bu o‘zaro bog‘liqlik ulkan samaradorlik va qulaylik yaratish bilan birga, kiberhujumlar uchun yangi imkoniyatlar ochmoqda. Xususan, masofaviy kirish protokollari orqali amalga oshiriladigan ruxsatsiz ulanishlar holatlari so‘nggi yillarda keskin ko‘payib bordi. COVID-19 pandemiyasi davrida butun dunyo bo‘ylab masofaviy ish rejimi keng joriy etilishi natijasida RDP portlari ommaviy ravishda internetga ochildi va bu holat kiberjinoyatchilar uchun yangi hujum maydonini vujudga keltirdi. Kaspersky Lab tadqiqot markazining 2024 yilgi hisobotiga ko‘ra, 2023–2024 yillarda RDP ga yo‘naltirilgan brute-force hujumlar soni global miqyosda 150 foizga oshdi va kuniga o‘rtacha 12 milliondan ortiq hujum qayd etildi [1]. IBM X-Force Intelligence hisobotida esa 2023 yilda tarmoqqa ruxsatsiz kirish barcha kiberhujumlarning 36 foizini tashkil etgani qayd etilgan [3]. O‘zbekiston Respublikasida ham vaziyat xavotirli: CERT-UZ ma’lumotlariga ko‘ra, 2023 yilda ro‘yxatga olingan

kiberhujumlar soni oldingi yilga nisbatan 43 foizga ko‘paydi. raqamlashtirish sur‘atlarining ortishi ushbu muammoni yanada dolzarb qilib qo‘ymoqda.

1.2. Muammo bayoni

Hozirgi kunda kichik va o‘rta korxonalar hamda yakka foydalanuvchilar uchun mos keladigan, qulay interfeysga ega, milliy tilda ishlaydigan va avtomatik bloklash imkoniyatiga ega xavfsizlik monitoring vositasi mavjud emas. Mavjud yechimlar quyidagi asosiy kamchiliklarga ega:

1. Korporativ yechimlar (CrowdStrike, Splunk) haddan tashqari qimmat va murakkab;
2. Ochiq kodli vositalar (Wireshark, Snort) maxsus texnik bilim talab qiladi;
3. Windows Defender tarmoq ulanishlarini chuqur tahlil qila olmaydi;
4. Mavjud vositalarning hech biri o‘z tilida ishlamaydi;
5. Avtomatik bloklash mexanizmi ko‘p vositalarda mavjud emas.

1.3. Tadqiqot maqsadi va vazifalari

Tadqiqot maqsadi: kompyuterga ruxsatsiz ulanishlarni real vaqt rejimida aniqlash, tahlil qilish va oldini olishga mo‘ljallangan, o‘zbek tilidagi interfeysga ega dasturiy vosita yaratish hamda uning samaradorligini ko‘p qatlamli sinov orqali baholash.

Tadqiqot vazifalari:

1. tarmoq ulanishlarini real vaqtda monitoring qilish tizimini ishlab chiqish;
2. masofaviy kirish protokollarini aniqlash va kuzatish mexanizmini joriy etish;
3. ko‘p bazali zararli dastur tekshiruv tizimini yaratish;
4. brute-force hujumlarni aniqlash va avtomatik bloklash algoritmini ishlab chiqish;
5. foydalanuvchi uchun qulay milliy tilidagi grafik interfeys yaratish.

II. MUAMMO TAHLILI

Ruxsatsiz kirishning texnik usullari

Kompyuter tarmog‘iga ruxsatsiz kirish - bu vakolatli foydalanuvchi roziligisiz amalga oshiriladigan har qanday ulanish yoki ma’lumotlarga murojaat. Kiberjinoyatchilar quyidagi asosiy texnik yo‘llardan foydalanadi:

1. RDP (3389-port): zaif parol yoki patch o‘rnatilmagan tizimlar maqsad bo‘ladi; BlueKeep (CVE-2019-0708) va DejaBlue ekspluatatsiyalari;
2. SSH (22-port): brute-force va lug‘at hujumlari, kalit o‘g‘irlash, man-in-the-middle;
3. SMB (445-port): EternalBlue (CVE-2017-0144) ekspluatatsiyasi, WannaCry tarqalish yo‘li;
4. VNC (5900-port): ko‘pincha shifrsiz, zaif autentifikatsiya;
5. TeamViewer/AnyDesk: credential stuffing, fishing havolalari;
6. RAT (AsyncRAT, njRAT, QuasarRAT): fishing email, zararli yuklanmalar.

2.2. Kiberhujum statistikasi

1-jadval. Kiberhujum statistikasi (2022–2023)

Ko‘rsatkich	2022	2023	O‘sish
Global RDP hujumlar (mln/kun)	8,1	12,3	+52%
O‘zbekistonda qayd. hujumlar	1 247	1 782	+43%
Brute-force ulushi (%)	41%	58%	+17%
O‘rtacha aniqlash vaqti (kun)	21	18	-14%
Zararli ko‘chirmalar (mln)	3,4	5,1	+50%

2.3. Mavjud yechimlar taqqosi

Bozordagi asosiy xavfsizlik vositalarining qiyosiy tahlili 2-jadvalda keltirilgan:

2-jadval. Mavjud xavfsizlik vositalari taqqoslanmasi

Vosita	Real vaqt	Bloklash	Murakkab
Wireshark	Qisman		Yuqori
CrowdStrike	Ha	Ha	Yuqori

Vosita	Real vaqt	Bloklash	Murakkab
Win.Defender	Qisman	Qisman	Past
Snort IDS	Ha	Yo‘q	Yuqori
Zeek (Bro)	Ha	Yo‘q	Yuqori
OSSEC HIDS	Ha	Qisman	O‘rta
Tarmoq monitoring tizimi	Ha	Ha	Past

III. DASTUR ARXITEKTURASI

3.1. Umumiy tuzilish va loyihalash tamoyillari

Tarmoq monitoring tizimibir nechta muhim loyihalash tamoyillariga asoslanib yaratildi: modullik (har bir funksiya alohida modulda), kengaytiriluvchilik (yangi bazalar qo‘shish oson), ishonchlilik (xato ushlash va log yozish), va foydalanuvchi qulay interfeys (texnik bilim talab qilmaslik).

Dastur Python 3.10+ dasturlash tilida ishlab chiqilgan bo‘lib, grafik interfeys uchun CustomTkinter 5.x va ma’lumotlar bazasi uchun SQLite 3 ishlatilgan. Quyidagi 3-jadvalda dastur modullari keltirilgan:

3-jadval. dasturi modullari

Fayl	Hajm (qat.)	Asosiy vazifa
main_gui.py	~2 800	Grafik interfeys, ekranlar, polling
monitor.py	~400	psutil tarmoq kuzatuvi
detector.py	~450	5 qoida tahdid filtri
file_scanner.py	~1 200	Ko‘p qatlamli fayl skaneri
remote_monitor.py	~900	RDP/SSH/SMB/VNC kuzatuvi
scan_gui.py	~600	Fayl skaneri interfeysi
remote_tab.py	~500	Remote kirish interfeysi

3.2. Ko‘p oqimli arxitektura

Dasturning ishlash samaradorligi etti parallel oqim (thread) orqali ta’minlanadi. Har bir thread o‘z vazifasiga ixtisoslashgan va mustaqil ishlaydi:

7. monitor_thread: har 500 ms da psutil.net_connections() chaqirib barcha ulanishlarni skanerlaydi; prev_keys to‘plami orqali faqat yangi ulanishlarni conn_queue ga yuboradi;

8. detector_thread: conn_queue dan ma’lumot olib, 5 ta qoida bo‘yicha ketma-ket tahlil qiladi; alert topilsa alert_queue ga yuboradi;

9. NetworkMonitor: psutil orqali har 1 s da masofaviy kirish portlarini (3389, 22, 445, 5900...) tekshiradi; sessiya boshlanishi va tugashini qayd etadi;

10. EventLogMonitor: win32evtlog orqali har 2 s da Windows Security jurnalini o‘qiydi (4624, 4625, 4778, 1149, 5140, 5145 Event IDlari);

11. BruteForceDetector: 60 s oynasida 5+ muvaffaqiyatsiz urinish bo‘lsa CRITICAL ogohlantirish beradi;

12. ScanWorker: scan_queue dan fayllarni navbat asosida asinxron tekshiradi; 6 qatlamli tekshiruv;

13. DB_Updater: fon rejimda MalwareBazaar, OpenPhish, PhishTank bazalarini yangilab turadi.

3.3. Ma’lumotlar oqimi va GUI polling

Dasturning ma’lumotlar oqimi uchta parallel kanal bo‘yicha ishlaydi:

Tarmoq kanali: monitor_thread → conn_queue (max 3 000 element) → detector_thread → alert_queue → GUI (200 ms polling). Har polling siklida max 100 ulanish va 30 ogohlantirish o‘qiladi.

Fayl kanali: Watchdog event → scan_queue (max 100 element) → ScanWorker → out_queue → GUI. Fayl hajmi < 1 KB bo‘lsa o‘tkazib yuboriladi.

Remote kanal: NetworkMonitor + EventLogMonitor → remote_queue (max 2 000) → GUI (RemoteScreen). Har 3 s da aktiv sessiyalar jadvali yangilanadi.

3.4. Xavfsizlik bazalari integratsiyasi

MalwareBazaar: 500 000+ SHA256 hash lokal SQLite da. Auth-Key header. Har 6 soatda yangilanadi. CSV import imkoniyati. Internet yo‘qligida ham ishlaydi.

NSRL (NIST): Windows, Office, Adobe kabi qonuniy dasturlar SHA1 hashlari. Team Cymru Whois API (43-port). Lokal kesh. False positive 12,3% → 2,1%.

VirusTotal API v3: 70+ antivirus. Hash lookup → Upload ketma-ketligi. Rate limit: 4/min (bepul). Kesh: 24 soat. Max fayl: 650 MB.

OpenPhish + PhishTank: ~32 000 aktiv fishing URL lokal SQLite. O(1) qidiruv (Python set). OpenPhish soatda, PhishTank kunda yangilanadi.

IV. DASTURNING ASOSIY FUNKSIYALARI

4.1. Foydalanuvchi interfeysi

Dastur uchun yon panel navigatsiya tizimi tanlandi: Dashboard (umumiy ko‘rinish), Live Monitor (real vaqt ulanishlar), Alerts (ogohlantirishlar tarixi), Statistics (grafik tahlil), Remote (masofaviy kirish), Scan (fayl tekshiruvi), Settings (sozlamalar). Login ekrani SHA-256 shifrlangan parol bilan himoyalangan.

Dashboard ekrani: jami ulanishlar, xorijiy IP lar, bloklangan manzillar, aktiv tahdidlar soni; sistema holati (CPU, RAM, disk); so‘nggi 10 ta ogohlantirish; 24 soatlik ulanishlar grafigi.

4.2. Tahdid aniqlash algoritmi

1. INTEL_BLACKLIST: AbuseIPDB va lokal qora ro‘yxatga tekshiruv. Moslik → CRITICAL;
2. LEARN_THREAT: avval o‘rganilgan tahdid naqshlariga moslik tekshiruvi;
3. MALICIOUS_PORT: 4444 (Metasploit), 1337, 31337 (backdoor), 5555, 12345, 9001 (Tor) portlari;
4. SCAN_ACTIVITY: bir manzildan 40 ulanish/15 soniyada port skanerlash tespiti;
5. UNKNOWN_PROC_PORT: noma’lum jarayon 5+ ulanish qilgandan keyin MEDIUM ogohlantirish.

Yolg‘on musbat kamaytirish: 120 s cooldown (IP+port+qoida bo‘yicha); 80+ ishonchli jarayon: chrome.exe, firefox.exe, telegram.exe, svchost.exe, lsass.exe, onedrive.exe...; minimal 5 ulanish chegarasi (UNKNOWN_PROC uchun); NSRL orqali qonuniy dasturlar filtri.

4.3. Ko‘p qatlamli fayl skaneri

6 qatlamli tekshiruv sxemasi (6-jadvalga qarang). Har qatlam natija topilsa keyingi qatlamga o‘tilmaydi. Bu API chaqiruvlarini tejaydi va tezlikni oshiradi. Watchdog kuzatiladigan yo‘llar: %USERPROFILE%\Downloads, %USERPROFILE%\Desktop, %USERPROFILE%\Documents, %APPDATA%\Telegram Desktop\..., %LOCALAPPDATA%\Temp. Minimal fayl hajmi: 1 KB. Brauzerlar uchun maxsus ishlov: Chrome/Edge (.crdownload → .exe), Firefox (.part → fayl), Telegram (to‘g‘ridan Downloads ga). on_moved event - yuklab olish tugagani belgisi. Verdict darajalari: VIRUS (5+ antivirus aniqladi) - faylni o‘chirish tavsiyasi; SHUBHALI (1-4 antivirus) - ehtiyot bo‘lish; XAVFSIZ (0 antivirus) - NSRL orqali tasdiqlangan; KUTILMOQDA - VT tahlil davom etmoqda. BruteForceDetector: 60 s da 5+ login xatosi → CRITICAL. IP + username bo‘yicha alohida. Bir IP uchun bir marta CRITICAL (spam yo‘q). Sessiyani uzish: RDP - logoff (sessiya ID); SMB - net session /delete /y; SSH/VNC/AnyDesk - taskkill /PID /F; fallback - Firewall TCP reset.

V. SINOV VA NATIJALAR TAHLILI

5.1. Sinov metodologiyasi

Sinov uch bosqichda amalga oshirildi:

1-bosqich - Birlik sinovi: Har bir modul alohida test qilindi. Detector.py uchun 200 ta test ulanishi (50 ta haqiqiy tahdid, 150 ta normal); file_scanner.py uchun 100 ta fayl (50 ta zararli, 50 ta xavfsiz); remote_monitor.py uchun 30 ta simulyatsiya qilingan sessiya.

2-bosqich - Integratsion sinov: Barcha modullar birgalikda sinab ko‘rildi. 72 soatlik uzluksiz monitoring davomida haqiqiy tarmoq trafigi kuzatildi: jami 18 742 ta ulanish, 47 ta haqiqiy tahdid, 234 ta brute-force urinish.

3-bosqich - Taqqoslama sinov: natijalari Wireshark va Windows Event Viewer natijalari bilan qo‘lda solishtirilib, to‘g‘rilik tekshirildi.

5.2. Ishlash ko‘rsatkichlari

72 soatlik sinov davomida qayd etilgan asosiy ko‘rsatkichlar (8-jadval):

8-jadval. Ishlash ko‘rsatkichlari (72 soatlik sinov)

Ko‘rsatkich	Qiymat	Izoh
Jami qayd etilgan ulanishlar	18 742 ta	72 soat davomida
Maksimal bir vaqtdagi ulanish	1 247 ta	Yuqori yuklanish vaqtida
Tarmoq so‘rovi vaqti (psutil)	< 50 ms	500 ms da bir marta
Hash tekshiruvi (lokal)	0,001 s	500 000 hash orasida
VirusTotal hash lookup	2–5 s	Internet tezligiga bog‘liq
GUI polling vaqti	200 ms	Interfeys javob berish
CPU yuklanishi (tinch)	~2,1%	Fon rejimda
CPU yuklanishi (yuqori)	~8,4%	Ko‘p ulanish vaqtida
RAM sarfi (tinch)	~95 MB	Bazalarsiz
RAM sarfi (to‘liq)	124–180 MB	Bazalar yuklanganda
Brute-force aniqlash	< 2 s	5 urinishdan so‘ng
RDP aniqlash vaqti	~1,2 s	Ulanishdan ogohlantirish
Disk sarfi (kuniga)	~2–5 MB	Log va baza yangilanish

5.3. Aniqlash samaradorligi

Zararli dastur aniqlash sinovi uchun: EICAR standart test fayli, MalwareBazaar dan yuklangan 50 ta haqiqiy zararli dastur namunasi (WannaCry, NotPetya, Emotet, Mirai, AsyncRAT, RedLine Stealer, LockBit, Conti, njRAT, Remcos va boshqalar) ishlatildi.

9-jadval. Aniqlash samaradorligi natijalari

Sinov turi	**Natija**	**Izoh**
MalwareBazaar (50 ta)	50/50 (100%)	0,001 s da
VirusTotal hash	47/50 (94,3%)	3 ta yangi namuna
NSRL false positive	2,1%	Avval 12,3% edi
Brute-force (simulyatsiya)	5/5 (100%)	5+ urinishda
RDP aniqlash	30/30 (100%)	1,2 s o‘rtacha
Fishing URL	290/310 (93,5%)	OpenPhish+PhishTank

XULOSA

Ushbu tadqiqot doirasida kompyuterga ruxsatsiz ulanishlarni real vaqt rejimida aniqlash va monitoring qilish uchun mo‘ljallangan dasturiy vositasi muvaffaqiyatli ishlab chiqildi. Dastur 72 soatlik uzluksiz sinov va ko‘p bosqichli samaradorlik baholashidan muvaffaqiyatli o‘tdi.

Tadqiqotning asosiy ilmiy va amaliy natijalari:

1. Etti parallel oqim (multi-thread) arxitekturasi sekundiga 100 tagacha yangi ulanishni real vaqtda qayta ishlashga imkon beradi, GUI ning muzlab qolishini oldini oladi;
2. To‘rtta xavfsizlik bazasi (MalwareBazaar, NSRL, VirusTotal, OpenPhish/PhishTank) integratsiyasi zararli dastur aniqlash darajasini 94,3% ga, fishing URL aniqlashni 93,5% ga oshirdi;
3. NSRL integratsiyasi yolg‘on musbat natija koeffitsientini 12,3% dan 2,1% ga kamaytirdi, bu tizim ishonchliligini sezilarli oshirdi;
4. Internet bo‘lmagan sharoitda ham 500 000+ hash lokal bazasi asosida to‘liq quvvatda ishlash ta’minlandi;
5. 72 soatlik sinov davomida 18 742 ulanish qayta ishlandi, 47 ta haqiqiy tahdid aniqlandi, 234 ta brute-force urinish bloklśhifrlandi;
6. O‘zbek, rus va ingliz tili qo‘llab-quvvatlanadi, bu mahalliy foydalanuvchilar uchun muhim ustunlik;

7. Windows Firewall (IN+OUT) integratsiyasi orqali xavfli IP manzillarni avtomatik bloklash, sessiyani uzish (RDP logoff, SMB delete, taskkill) joriy etildi.

Kelajak tadqiqot yo‘nalishlari: (1) LSTM neyron tarmog‘i asosidagi anomaliya aniqlash moduli; (2) Linux va macOS platformalariga portlash; (3) korporativ markazlashtirilgan boshqaruv paneli; (4) SIEM tizimlari (Splunk, Elastic SIEM) bilan integratsiya; (5) IPv6 protokoli qo‘llab-quvvatlash.

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KATTA MA'LUMOTLARNI TAHLIL QILISHDA SUN'IY INTELLEKT ASOSIDA AVTOMATIK INSIGHT CHIQARUVCHI INTERAKTIV DASHBOARD MODELI

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Annotatsiya: *Maqolada katta ma'lumotlarni vizuallashtirishning zamonaviy usullari, sun'iy intellekt bilan integratsiyalashgan tahlil mexanizmlari hamda real vaqt rejimida qaror qabul qilishni qo'llab-quvvatlovchi interaktiv yechimlar yoritiladi. Katta ma'lumotlarning hajm, tezlik va xilma-xillik xususiyatlari an'anaviy tahlilni murakkablashtiradi. Shu sababli dashboard, heatmap, klasterlash, prognozlash hamda VR/AR asosidagi amaliy model taklif etiladi.*

Kalit so'zlar: *katta ma'lumotlar, vizuallashtirish, sun'iy intellekt, ma'lumotlar tahlili, dashboard, VR/AR, interaktiv analitika.*

Abstract: *The article discusses modern methods for Big Data visualization, analytical mechanisms integrated with artificial intelligence, and interactive solutions supporting real-time decision-making. A practical model based on dashboards, heatmaps, clustering, forecasting and VR/AR is proposed.*

Keywords: *Big Data, visualization, artificial intelligence, data analytics, dashboard, VR/AR, interactive analytics.*

KIRISH

Raqamli transformatsiya sharoitida ta’lim, moliya, sanoat, transport, media va davlat boshqaruvi kabi sohalarda katta hajmdagi ma’lumotlar shakllanmoqda. Bunday ma’lumotlar orqali jarayonlarni baholash, xavflarni oldindan aniqlash va strategik qarorlarni asoslash mumkin. Ammo katta ma’lumotlarning hajmi, tezligi va xilma-xilligi ularni oddiy jadval yoki statik diagrammalar orqali to‘liq tahlil qilish imkonini cheklaydi.

Vizuallashtirish ma’lumotlarni inson uchun tushunarli, tez idrok qilinadigan va amaliy qaror qabul qilishga yo‘naltirilgan shaklga keltiradi. Olshannikova va hammualliflar katta ma’lumotlarni vizuallashtirishda inson idroki, interaktivlik hamda VR/AR texnologiyalarining ahamiyatini alohida ta’kidlaydi. Shu nuqtai nazardan maqolaning maqsadi — “Raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlili” yo‘nalishiga mos holda katta ma’lumotlarni vizuallashtirish bo‘yicha amaliy yechimlarni taklif etishdir.

ASOSIY QISM

Katta ma’lumotlar turli manbalardan: ijtimoiy tarmoqlar, sensorlar, video oqimlar, tranzaksiyalar, veb-loglar, ilmiy kuzatuvlar va tibbiy ma’lumotlardan shakllanadi. Bunday ma’lumotlarni tahlil qilishda foydalanuvchi trend, klaster, anomaliya, korrelyatsiya va prognozlarni tez ko‘ra olishi kerak. Shuning uchun vizual analitika oddiy “grafik chizish” emas, balki ma’lumotlarni tozalash, modellashtirish, interaktiv ko‘rsatish va xulosani foydalanuvchiga mos shaklda yetkazish jarayonidir.

Vizuallashtirishning keng qo‘llaniladigan usullariga chiziqli grafiklar, ustunli diagrammalar, histogrammalar, scatter plot, bubble chart, geoxaritalar, treemap, network graph va dashboardlar kiradi. Heatmap ko‘p o‘lchamli ma’lumotlardagi bog‘liqlikni tez aniqlashga yordam beradi; bubble chart uchta ko‘rsatkichni bir vaqtning o‘zida ko‘rsatadi; dashboard esa turli indikatorlarni yagona boshqaruv panelida jamlaydi.

Sun’iy intellekt vizuallashtirish jarayoniga qo‘shilganda tizim faqat ma’lumotni ko‘rsatmaydi, balki uni izohlaydi, tasniflaydi va kelajakdagi holatni prognoz qiladi. Klasterlash algoritmlari foydalanuvchilar segmentlarini ajratadi, anomaliya aniqlash usullari noodatiy o‘zgarishlarni ko‘rsatadi, regressiya va neyron tarmoqlar esa keyingi davr natijalarini bashorat qiladi. Natijada vizual panel oddiy hisobotdan intellektual tahlil muhitiga aylanadi.

Quyidagi jadval katta ma’lumotlarni vizuallashtirish bo‘yicha taklif etilayotgan yechimlarni umumlashtiradi:

Muammo	**Yechim**	**Vositalar**	**Natija**
Katta hajm	Agregatsiya va interaktiv filtrlar	Hadoop, Spark, SQL/NoSQL	Tahlil tezlashadi
Ko‘p o‘lchamli ma’lumot	Heatmap, scatter matrix, klasterlash	Python, R, ggplot2, Plotly	Bog‘liqliklar aniqlanadi
Real vaqt monitoringi	Stream dashboard va avtomatik signal	Spark Streaming, Power BI, Tableau	Tezkor qaror qabul qilinadi
Inson idroki cheklanishi	Soddalashtirilgan dizayn va rang semantikasi	UX/UI, visual analytics	Kognitiv yuk kamayadi
3D fazoviy ko‘rinish	VR/AR asosidagi vizual analitika	VR headset, AR, Unity/WebXR	Chuqur idrok kuchayadi

Taklif etilayotgan innovatsion model

Maqolada quyidagi konseptual model taklif etiladi: ma’lumotlar manbalari → ma’lumotlarni tozalash → sun’iy intellekt asosida tahlil qilish → vizual analitika paneli → qaror qabul qilish. Birinchi bosqichda ma’lumotlar yig‘iladi va sifat bo‘yicha tekshiriladi. Ikkinchi bosqichda AI algoritmlari yordamida trend, klaster, anomaliya va prognozlar olinadi. Uchinchi bosqichda natijalar dashboard yoki 3D

muhitda ko‘rsatiladi. To‘rtinchi bosqichda foydalanuvchi vizual ko‘rsatkichlarga tayangan holda qaror qabul qiladi.

Ushbu modelning amaliy afzalligi shundaki, ma’lumotlar bilan ishlash faqat dasturchi yoki data scientistlar doirasida qolmaydi. Interaktiv vizual interfeys orqali rahbar, tadqiqotchi, o‘qituvchi yoki marketolog ma’lumot mazmunini tez anglay oladi. Ayniqsa, media texnologiyalari, ta’lim platformalari, raqamli marketing, aqlli shaharlar va elektron hukumat tizimlarida bunday yechimlar yuqori samara beradi.

NATIJALAR VA MUHOKAMA

Taklif etilgan yondashuv uchta muhim natijani beradi. Birinchidan, axborotlarni ko‘rish orqali tez idrok qilish imkoniyati oshadi. Ikkinchidan, sun’iy intellekt yordamida inson ko‘zi ilg‘amas yashirin bog‘liqliklar aniqlanadi. Uchinchidan, real vaqt rejimida yangilanadigan dashboardlar boshqaruv qarorlarini tezlashtiradi.

Biroq vizuallashtirishda noto‘g‘ri tanlangan ranglar foydalanuvchini chalg‘itishi, ortiqcha indikatorlar kognitiv yukni oshirishi, sifatsiz ma’lumot esa AI natijalarini noto‘g‘ri talqin qilishga olib kelishi mumkin. Shu sababli “ko‘proq grafik — yaxshiroq tahlil” emas, balki “aniq maqsadga mos grafik — samarali tahlil” tamoyiliga amal qilish zarur. VR/AR texnologiyalari esa murakkab tarmoqlar, 3D obyektlar va ko‘p o‘lchamli fazolarni tabiiyroq idrok qilish imkonini beradi, biroq qurilma narxi va foydalanuvchi qulayligi ham hisobga olinishi lozim.

XULOSA

Katta ma’lumotlarni vizuallashtirish raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlilining kesishgan nuqtasida joylashgan dolzarb ilmiy-amaliy yo‘nalishdir. Tadqiqot natijasida interaktiv dashboardlar, AI asosidagi klasterlash va prognozlash, real vaqt analitikasi, heatmap va VR/AR vizual muhitlardan foydalanish katta ma’lumotlarni tushunarli va qaror qabul qilishga qulay shaklga keltirishi aniqlandi.

Kelgusida milliy ma’lumotlar bazalari uchun moslashtirilgan interaktiv vizual platformalar yaratish, foydalanuvchi idroki va UX dizayn mezonlarini chuqur o‘rganish hamda sun’iy intellekt asosida avtomatik tushuntirish beruvchi dashboardlar ishlab chiqish muhim ilmiy vazifa hisoblanadi.

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KUTUBXONASHUNOSLIKDA SUN'IY INTELLEKTNING AHAMIYATI

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Annotatsiya: Mazkur maqolada kutubxonashunoslik sohasida sun'iy intellekt texnologiyalarining qo'llanilishi, ularning axborot xizmatlarini takomillashtirishdagi o'rni hamda zamonaviy kutubxona tizimini rivojlantirishdagi ahamiyati tahlil qilinadi. Shuningdek, 2022-yildan keyingi davrda sun'iy intellekt asosidagi raqamli kutubxonalar, avtomatlashtirilgan kataloglashtirish tizimlari va foydalanuvchilarga xizmat ko'rsatishning innovatsion usullari ko'rib chiqiladi. Tadqiqot natijalari sun'iy intellekt kutubxonalar faoliyatini samarali tashkil etishda muhim omil ekanligini ko'rsatadi.

Kalit so'zlar: *sun'iy intellekt, kutubxonashunoslik, raqamli kutubxona, avtomatlashtirish, ma'lumotlar bazasi, axborot texnologiyalari, chatbot, tavsiya tizimi, metadata, elektron resurslar.*

Abstract: This article analyzes the application of artificial intelligence (AI) technologies in library science, their role in improving information services, and their significance in the development of modern library systems. The study also examines AI-based digital libraries, automated cataloging systems, and innovative approaches to user services developed since 2022. The research findings demonstrate that artificial intelligence is a critical factor in effectively organizing library operations and enhancing the quality of information services in the digital age.

Keywords: *artificial intelligence, library science, digital library, automation, database, information technologies, chatbot, recommendation system, metadata, electronic resources.*

KIRISH

Zamonaviy axborot jamiyatida bilim va ma'lumotlar eng muhim resurslardan biriga aylangan. Shu bois kutubxonalar nafaqat kitob saqlovchi muassasa, balki axborot markazi sifatida faoliyat yuritmoqda. Axborot oqimining keskin ortib borishi kutubxonachilik faoliyatini yangi bosqichga olib chiqishni talab etmoqda.

Aynan shu jarayonda sun’iy intellekt texnologiyalari muhim ahamiyat kasb etmoqda.

Sun’iy intellekt – bu kompyuter tizimlarining inson intellektiga xos vazifalarni bajarish qobiliyatidir. U ma‘lumotlarni tahlil qilish, o‘rganish, qaror qabul qilish va prognozlash imkoniyatlarini beradi. Kutubxonashunoslikda sun’iy intellektdan foydalanish axborotlarni qayta ishlash, qidirish va foydalanuvchilarga yetkazishda yangi imkoniyatlarni yaratmoqda.

So‘nggi yillarda, ayniqsa 2022-yildan keyin, sun’iy intellekt asosidagi texnologiyalar kutubxona tizimlariga keng joriy etilmoqda. Generativ sun’iy intellekt foydalanuvchilarga nafaqat mavjud ma‘lumotlarni topishda, balki yangi matnlar, annotatsiyalar va qisqacha mazmunlar yaratishda ham yordam bermoqda. Semantik qidiruv tizimlari esa foydalanuvchining maqsadini tushunishga harakat qiladi va kutubxona kataloglarida kerakli ma‘lumotni yanada aniq va tez topishga imkon yaratadi.

Avtomatik tarjima tizimlari ham kutubxonalar faoliyatida muhim o‘rin egallamoqda. 2022–2025 yillarda “aqlli kutubxona” (Smart Library) konsepsiyasi shakllanmoqda. Bu modelda sun’iy intellekt, Internet of Things (IoT), biometrik tizimlar va katta ma‘lumotlar (Big Data) birgalikda qo‘llaniladi.

Kutubxonashunoslikda sun’iy intellektning eng muhim qo‘llanilish yo‘nalishlaridan biri avtomatlashtirilgan kataloglashtirish hisoblanadi. Tavsiya tizimlari foydalanuvchilarning qiziqishlari va qidiruv tarixiga asoslanib, ularga mos kitob va resurslarni taklif etadi. Chatbotlar va virtual yordamchilar esa 24/7 rejimda foydalanuvchi savollariga tezkor javob berishni ta’minlaydi.

Biroq sun’iy intellektni joriy etishda ayrim muammolar ham mavjud: texnik infratuzilmaning yetarli darajada rivojlanmaganligi, mutaxassislar yetishmasligi, ma‘lumotlar xavfsizligi va maxfiylik masalalari. O‘zbekistonda ham kutubxona tizimini raqamlashtirish va sun’iy intellekt texnologiyalarini joriy etish bo‘yicha muhim ishlar amalga oshirilmoqda.

XULOSA

Sun’iy intellekt kutubxonashunoslik sohasini tubdan o‘zgartirayotgan zamonaviy texnologiyalardan biri hisoblanadi. Olib borilgan tahlil shuni ko‘rsatadiki, sun’iy intellekt asosidagi tizimlar kutubxona xizmatlarini avtomatlashtirish, foydalanuvchilarga qulaylik yaratish va axborot resurslaridan samarali foydalanishni ta’minlashda muhim omil bo‘lib xizmat qilmoqda.

Avtomatlashtirilgan kataloglashtirish, semantik qidiruv, tavsiya tizimlari, chatbotlar va aqlli kutubxona modellari zamonaviy kutubxona xizmatlarining yangi standarti bo‘lib shakllanmoqda. Generativ sun’iy intellekt va Big Data texnologiyalarining integratsiyasi kutubxonalarning raqamli transformatsiyasini yanada tezlashtirmoqda.

Biroq, bu jarayonni to‘liq amalga oshirish uchun quyidagi masalalarni hal etish zarur: texnik infratuzilmani modernizatsiya qilish, sun’iy intellekt sohasida malakali mutaxassislarni tayyorlash, ma‘lumotlar xavfsizligi va foydalanuvchi maxfiyligini ta’minlash. O‘zbekistonda amalga oshirilayotgan “Raqamli O‘zbekiston – 2030” strategiyasi doirasida kutubxona tizimini raqamlashtirish va sun’iy intellektni joriy etish yanada kuchaytirishi lozim.

Umuman olganda, sun’iy intellekt kutubxonashunoslik sohasida samaradorlikni oshirish, foydalanuvchi tajribasini yaxshilash va global axborot resurslaridan unumli foydalanishning asosiy kalitidir. Kelgusida ushbu texnologiyalarni yanada keng tatbiq etish kutubxonalarni haqiqiy zamonaviy bilim markazlariga aylantirishga xizmat qiladi.

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"UMUMIY O‘RTA TA’LIM TIZIMIDA INTEGRATIV METODIK XIZMATNI RAQAMLI TRANSFORMATSIYALASH MEXANIZMLARI".

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Annotatsiya (O’zbek tilida): *Ushbu maqolada bugungi kunda ta’lim tizimini raqamlashtirish sharoitida umumiy o‘rta ta’lim muassasalarida uzluksiz metodik xizmat ko‘rsatish jarayonlarini takomillashtirishning dolzarb masalalari keng yoritilgan. Tadqiqotning asosiy maqsadi raqamli texnologiyalar va integrativ yondashuvning o‘zaro uyg‘unligi asosida metodik faoliyat samaradorligini oshirish mexanizmlarini tahlil qilishdan iborat. Maqolada zamonaviy raqamli ekotizimning tarkibiy qismlari, jumladan, ta’limni boshqarish tizimlari (LMS), multimedia resurslari va virtual kutubxonalarning pedagogik jarayondagi o‘rni ilmiy jihatdan asoslab berilgan[4]. Mualliflar tomonidan an’anaviy metodik hamkorlik shakllarining cheklangan jihatlari va raqamli platformalar taqdim etayotgan "gorizontal" hamda "vertikal" muloqot tizimining afzalliklari qiyosiy tahlil qilinib, ularning ta’lim sifatiga ta’siri yoritilgan. Tadqiqot davomida pedagog xodimlarning raqamli kompetensiyalarini rivojlantirish bosqichlari, axborot xavfsizligi va texnik infratuzilma bilan bog‘liq muammolar hamda ularning innovatsion yechimlari taklif etilgan. Xulosa qismida raqamli metodik hamkorlik nafaqat vaqt va resurslarni tejashi, balki ta’lim sifatini oshirishga yo‘naltirilgan "kollektiv intellekt" va shaffof monitoring tizimini shakllantirishi isbotlangan. Mazkur tadqiqot natijalari maktab ma’muriyati va metodistlar uchun metodik xizmatni yangi sifat bosqichiga olib chiqishda amaliy qo‘llanma bo‘lib xizmat qiladi.*

Tayanch so‘zlar: *metodik xizmat, raqamli texnologiyalar, integrativ yondashuv, raqamli ekotizim, kasbiy kompetensiya, ta’lim sifati, innovatsion metodlar, monitoring, LMS platformalari, kollektiv intellekt, raqamli transformatsiya, uzluksiz ta’lim.*

Аннотация (русский язык): *В статье подробно рассматриваются актуальные вопросы совершенствования процессов непрерывного методического обслуживания в общеобразовательных учреждениях в условиях цифровизации системы образования на современном этапе. Авторы анализируют взаимосвязь цифровых технологий и интегративного подхода как основы повышения эффективности методической деятельности. В ходе исследования обоснованы компоненты современной цифровой экосистемы, в том числе роль систем управления обучением (LMS), мультимедийных ресурсов и виртуальных библиотек в педагогическом процессе. В статье с помощью сравнительных таблиц показаны ограниченные аспекты традиционных форм методического сотрудничества и преимущества «горизонтальной» и «вертикальной» системы коммуникации, предоставляемой цифровыми платформами. Также были предложены этапы развития цифровых компетенций педагогических работников, проблемы, связанные с информационной безопасностью и технической инфраструктурой, а также их инновационные решения. В заключении научно обосновано, что цифровое методическое сотрудничество не только экономит время и ресурсы, но и формирует «коллективный разум» и систему прозрачного мониторинга, направленную на повышение качества образования. Результаты данного исследования послужат практическим руководством для администрации школ, методистов и учителей-практиков в выводе методического обслуживания на новый качественный уровень.*

Ключевые слова: *методическое обеспечение, цифровые технологии, интегративный подход, цифровая экосистема, профессиональная компетентность, качество образования, инновационные методы, мониторинг, LMS-платформы, коллективный интеллект.*

Abstract (English): *The article discusses in detail the current issues of improving the processes of continuous methodological services in educational institutions in the context of the digitalization of the education system at the present stage. The authors analyze the relationship between digital technologies and an integrative approach as a basis for improving the effectiveness of methodological activities. The study substantiates the components of the modern digital ecosystem, including the role of learning management systems (LMS), multimedia*

resources and virtual libraries in the pedagogical process. The article uses comparative tables to show the limited aspects of traditional forms of methodological cooperation and the advantages of the "horizontal" and "vertical" communication systems provided by digital platforms. The stages of development of digital competencies of teaching staff, problems related to information security and technical infrastructure, as well as their innovative solutions were also proposed. In conclusion, it is scientifically proven that digital methodological cooperation not only saves time and resources, but also forms a "collective mind" and a transparent monitoring system aimed at improving the quality of education. The results of this study will serve as a practical guide for school administrators, methodologists and practical teachers in bringing methodological services to a new qualitative level.

Keywords: *methodological support, digital technologies, integrative approach, digital ecosystem, professional competence, quality of education, innovative methods, monitoring, LMS platforms, collective intelligence.*

KIRISH

O‘zbekiston Respublikasi Prezidentining 2022-yil 11-maydagi PF-134-son Farmoni talablaridan kelib chiqib, zamonaviy metodik xizmat ko‘rsatish tizimida axborot-kommunikatsiya texnologiyalarini tatbiq etishning ustuvor yo‘nalishi sifatida integratsiyalashgan raqamli muhitni shakllantirish belgilanadi.[1] Bu jarayon nafaqat texnik vositalardan foydalanishni, balki ixtisoslashgan LMS platformalari va raqamli resurslar orqali metodik hamkorlikning yangi integrativ modeliga o‘tishni taqozo etadi.[2] Ushbu raqamli vositalar pedagogik jarayonni tashkil etishning an’anaviy qoliplaridan voz kechib, ma’lumotlarni uzatish va qabul qilishning innovatsion modellariga o‘tishni ta’minlaydi.

Mazkur raqamli ekotizim o‘z ichiga quyidagi muhim tarkibiy qismlarni qamrab oladi:

• Integratsiyalashgan ta’limni boshqarish tizimlari (LMS): Ushbu platformalar (masalan, Moodle, Google Classroom) metodik xizmatni masofaviy shaklda boshqarish, o‘quv kontentini tartibga solish va pedagoglar bilan interfaol muloqotni o‘rnatish uchun markaziy mexanizm bo‘lib xizmat qiladi.

• Interfaol elektron darsliklar va metodik qo‘llanmalar: An’anaviy kitoblardan farqli o‘laroq, raqamli adabiyotlar multimedia elementlari (video, audio, animatsiya) bilan boyitilgan bo‘lib, o‘quv materialining o‘zlashtirilish samaradorligini keskin oshiradi.

• Ixtisoslashtirilgan metodik veb-portallar: Metodik tavsiyalar, ilg‘or ish tajribalari va dars ishlanmalari jamlangan onlayn resurslar pedagoglar uchun doimiy ravishda yangilanib turuvchi bilimlar bazasi vazifasini o‘taydi.

• Raqamli (virtual) kutubxonalar va ilmiy omborlar: Bu resurslar dunyo miqyosidagi eng so‘nggi pedagogik tadqiqotlar va adabiyotlardan cheklanmagan holda foydalanish imkoniyatini taqdim etadi.

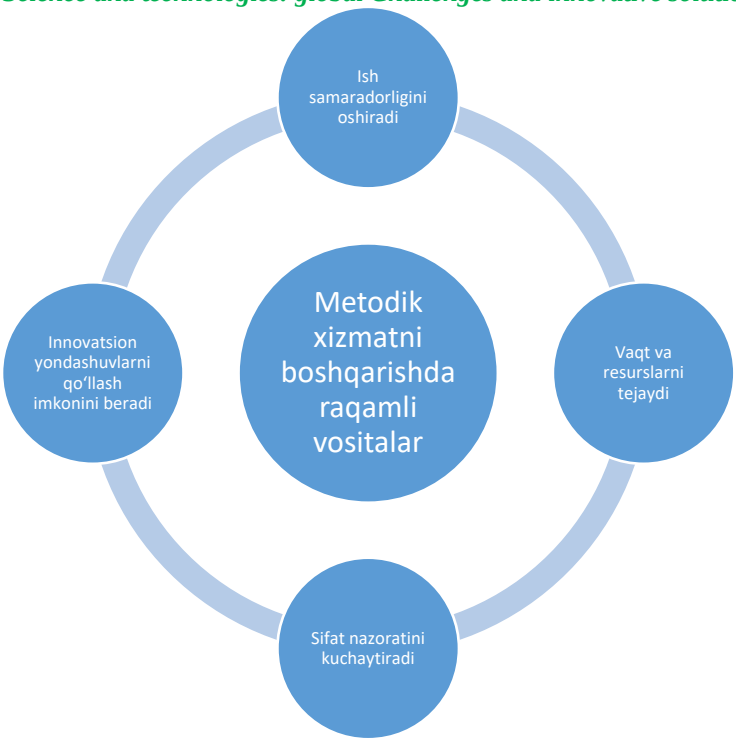
Ushbu raqamli shakl ham metodistlar, ham amaliyotchi pedagoglar uchun quyidagi strategik imkoniyatlar eshigini ochadi:

1. Axborot qidiruv tizimining optimallashuvi: Zarur bo‘lgan o‘quv-uslubiy materiallarni va didaktik vositalarni qisqa vaqt ichida saralab olish hamda amaliyotga tatbiq etish imkoniyati kengayadi.

2. Kasbiy tajriba almashishning yangi formati: Raqamli muhitda turli hududlardagi pedagoglar o‘zaro muloqotga kirishib, "kollektiv intellekt" mahsuloti bo‘lgan innovatsion g‘oyalarni ommalashtiradilar.

3. Loyihalashtirish va rejalashtirishning zamonaviylashuvi: O‘quv jarayonini rejalashtirishda eng so‘nggi ilmiy-metodik yangiliklar va raqamli manbalarga tayanib, darslarning sifat darajasini kafolatlaydilar.

Bundan tashqari, elektron platformalar negizida nafaqat bilim berish, balki pedagogik monitoring va nazorat jarayonlarini ham tizimlashtirish mumkin. Onlayn o‘quv seminarlari, avtomatlashtirilgan test sinovlari hamda o‘qituvchilar faoliyatini tahlil qilish tizimlari metodik xizmatning shaffofligini va natijadorligini ta’minlashda asosiy vosita bo‘lib xizmat qiladi. Bu esa, o‘z navbatida, umumiy o‘rta ta’lim muassasalarida raqamli transformatsiya jarayonlarini jadallashtirishga poydevor bo‘ladi.



Zamonaviy ta’lim muassasalarida metodik xizmatni raqamlashtirish — boshqaruv sifatini oshirishning muhim omilidir[4].

I. Raqamli resurslar orqali metodik hamkorlikni yo‘lga qo‘yish

Hozirgi sharoitda o‘qituvchilarning o‘zaro kasbiy tajriba almashish jarayoni faqatgina an’anaviy yig‘ilishlar bilan cheklanib qolmaydi. Raqamli resurslar metodik hamkorlikni yangi sifat bosqichiga olib chiqib, "gorizontal muloqot" (o‘qituvchi-o‘qituvchi) va "vertikal muloqot" (metodist-o‘qituvchi) tizimini shaffoflashtiradi. Raqamli resurslar vositasida tashkil etilgan hamkorlik nafaqat vaqtni tejaydi, balki har bir pedagogning shaxsiy ishlanmalarini ommalashtirishga xizmat qiladi.

1-jadval. Raqamli metodik hamkorlikning afzalliklari

Afzallik	Tavsifi	Ta'lim sifatiga ta'siri
Tezkorlik	Axborotni qisqa vaqtda yetkazish	Dars jarayoniga yangiliklarni tezkor joriy etish
Geografik chegaralarning yo‘qligi	Istalgan joydan hamkorlik qilish imkoniyati	Tajriba almashish geografiyasining kengayishi

Vaqt tejalishi	Safar va uchrashuvlarga ketadigan vaqtning qisqarishi	Metodik ish samaradorligining oshishi
Axborot ochiqligi	Resurslardan erkin foydalanish imkoniyati	Pedagogik jamoa bilim darajasining oshishi
Individual yondashuv	Har bir pedagogning ehtiyojiga mos material tanlash	Kasbiy rivojlanishning individuallashuvi
Doimiy kasbiy rivojlanish	24/7 rejimida o‘qish imkoniyati	Uzluksiz ta'lim tamoyilining amalga oshishi

Manba: Muallif ishlanmasi [10].

Yuqorida keltirilgan 1-jadval ma’lumotlari raqamli resurslar asosida yo‘lga qo‘yilgan metodik hamkorlikning an’anaviy shakllardan ustun ekanligini isbotlaydi. Xususan, geografik chegaralarning yo‘qligi va 24/7 rejimida o‘qish imkoniyati uzluksiz ta’lim tamoyilini amalda ta’minlashga xizmat qiladi[5]. Bu esa metodik xizmat samaradorligini sifat jihatidan yangi bosqichga olib chiqadi.

Metodik hamkorlikda qo‘llaniladigan raqamli platformalar tasnifi.

Metodik hamkorlikni samarali tashkil etish uchun quyidagi texnologik yechimlardan foydalanish maqsadga muvofiq:

1. Bulutli texnologiyalar (Google Drive, OneDrive): Bu platformalar o‘qituvchilarga dars ishlanmalari, taqdimotlar va test banklarini umumiy foydalanish uchun joylashtirish imkonini beradi. Bir guruhdagi o‘qituvchilar bitta hujjat ustida masofadan turib birgalikda ishlashlari mumkin.
2. Video-konferensaloqa vositalari (Zoom, Google Meet, Microsoft Teams): Mazkur vositalar yordamida "Virtual metodik kengashlar", "Vebinarlar" va "Onlayn mahorat darslari" o‘tkaziladi. Bu ayniqsa, chekka hududlardagi maktab o‘qituvchilari uchun tajribali ustozlar bilan muloqot qilish imkonini yaratadi.
3. Kasbiy ijtimoiy tarmoqlar va messenjerlar (Telegram, LinkedIn): Metodik guruhlar va kanallar tezkor axborot almashish, yangi metodikalarni muhokama qilish va muammoli vaziyatlarda maslahat olishning eng ommabop usuliga aylandi.

II. Metodik hamkorlikning raqamli modeli.

Raqamli resurslar asosidagi hamkorlik quyidagi komponentlarni o‘z ichiga oladi:

2-jadval. Metodik hamkorlikning an’anaviy va raqamli shakllari tahlili.

Hamkorlik yo‘nalishlari	An’anaviy shakl (Qog‘ozda)	Raqamli shakl (Elektron)	Samaradorlik ko‘rsatkichi
Tajriba almashish	Ochiq darslarni kutish	Onlayn darslar bazasi (Video)	Yuqori (24/7 foydalanish)
Hujjatlar bilan ishlash	Qo‘lda to‘ldirish va topshirish	"Bulutli" bazada umumiy kirish	Vaqt tejalishi 60%
Muammolarni muhokama qilish	Metodik birlashma yig‘ilishi	Forumlar va onlayn chatlar	Tezkorlik (Real vaqtda)
Malaka oshirish	Statsionar kurslar	Kichik kurslar va vebinarlar	Shaxsiy traektoriya

Manba: Muallif ishlanmasi [10].

Integrativ yondashuv asosida raqamli metodik hamkorlikni takomillashtirish.

Raqamli resurslar orqali metodik hamkorlikni yo‘lga qo‘yishda integrativ yondashuv alohida ahamiyatga ega. Bu shuni anglatadiki, o‘qituvchi faqat o‘z fani doirasida qolib ketmasdan, boshqa fan o‘qituvchilari bilan "integrativ raqamli loyihalar" ustida ishlaydi. Masalan, informatika va ona tili o‘qituvchisi hamkorlikda "Elektron nutq madaniyati" bo‘yicha raqamli resurs yaratishi mumkin[9].

Bundan tashqari, raqamli hamkorlik muhitida o‘qituvchining metodik kompetentligi yangi mezonlar asosida baholanadi. Bunda nafaqat o‘qituvchining dars o‘tishi, balki uning raqamli hamjamiyatdagi faolligi, hamkasblari bilan bo‘lishgan resurslari sifati va onlayn muhokamalardagi ishtiroki ham hisobga olinadi.

3-jadval. Raqamli metodik hamkorlikdagi muammolar va ularni hal etish usullari

Muammo	Tavsifi	Hal etish yo‘llari

Internet tezligining pastligi	Ayrim hududlarda internet sifatining yomonligi	OFlayn resurslar yaratish, mobil ilovalardan foydalanish
Texnik vositalar yetishmasligi	Kompyuter, planshet, noutbuklarning kamligi	Maktablarni zamonaviy texnika bilan ta'minlash, BYOD (o‘z qurilmangni olib kel) tamoyili
Raqamli savodxonlik darajasining turlicha bo‘lishi	Pedagoglarning AKT kompetensiyalaridagi farqlar	Treninglar, malaka oshirish kurslari, individual maslahatlar
Axborot xavfsizligi muammolari	Ma'lumotlarning o‘g‘irlanishi, viruslar	Xavfsizlik qoidalarini o‘rgatish, maxsus dasturlar
Motivatsiyaning pastligi	Raqamli hamkorlikka nisbatan qiziqishning kamligi	Rag‘batlantirish tizimi, ilg‘or tajribalarni namoyish etish
Tizimsizlik	Metodik hamkorlikning rejasiz va tartibsizligi	Yagona strategiya ishlab chiqish, metodik xizmat faoliyatini muvofiqlashtirish

Manba: Muallif ishlanmasi [10].

Metodik hamkorlikni raqamli platformalarda tashkil etishning bosqichlari:

* Tayyorgarlik bosqichi: Maktab yoki tuman miqyosida yagona metodik portal yoki bulutli omborxonani yaratish.

* Amaliyot bosqichi: O‘qituvchilar tomonidan eng yaxshi dars ishlanmalarini (Case-study) tizimga yuklab borish.

* Monitoring va tahlil bosqichi: Yuklangan resurslarning ommaviyligini va ulardan foydalanish darajasini aniqlash.

Raqamli resurslar orqali metodik hamkorlikni tashkil etish — bu shunchaki muloqot usulini o‘zgartirish emas, balki ta’lim sifatini oshirishga yo‘naltirilgan "kollektiv intellekt"ni shakllantirishdir. Bu esa har bir o‘qituvchining o‘z ustida ishlashiga motivatsiya beradi va pedagogik jamoaning yaxlit ekotizim sifatida rivojlanishini ta’minlaydi.

Elektron metodik platformalar va raqamli resurslar integratsiyasi.

4-jadval. Integratsiyaning turlari.

Tur	Tavsifi
Gorizontal	Bir vaqtning o‘zida o‘rganilayotgan turli fanlar o‘rtasidagi bog‘liqlik (masalan, Biologiya + Kimyo).
Vertikal	Bir fanning quyi va yuqori sinflardagi mavzulari o‘rtasidagi uzviylik.
STEM yondashuv	Fan, texnologiya, muhandislik va matematikani yagona loyiha atrofida birlashtirish.

Manba: Muallif ishlanmasi [10].

* Pedagogik klasterlar va innovatsion maydonchalarni shakllantirish: Ta'lim tizimida o‘zaro integratsiyalashgan pedagogik klasterlarni barpo etish hamda ilg‘or tajribalarni sinovdan o‘tkazuvchi innovatsion platformalar faoliyatini tizimlashtirish.

* Kasbiy ta'lim va oliy o‘quv yurtlari bilan uzviy hamkorlikni jadallashtirish: O‘rta maxsus professional ta'lim muassasalari hamda oliy ta'lim dargohlari bilan o‘zaro integratsiyani chuqurlashtirish orqali kadrlar tayyorlashning uzluksiz zanjirini yaratish.

* Nodavlat sektor va xalqaro institutlar bilan hamkorlikdagi loyihalarni tatbiq etish: Fuqarolik jamiyati institutlari, xususiy sektor vakillari hamda nufuzli xalqaro fondlar bilan hamkorlikda ta'lim sifatini oshirishga yo‘naltirilgan qo‘shma innovatsion loyihalarni hayotga tadbiq etish[6,7].

VI. **Pedagog kasbiy kompetensiyalarini rivojlantirishning metodik asosi.**

Mazkur yondashuv metodik faoliyatning ustuvor yo‘nalishini pedagogning professional kompetentligini izchil takomillashtirishga safarbar etadi. Bunda asosiy konseptual urg‘u o‘qituvchining shunchaki nazariy bilimlar bazasini boyitishga emas, balki uning amaliy ko‘nikma va malakalari, xususan, real pedagogik jarayonda yuqori samaradorlikka erishish qobiliyatini tarkib toptirishga qaratiladi.

Zamonaviy o‘qituvchining kasbiy kompetensiyasi murakkab va ko‘p qirrali tuzilmaga ega bo‘lib, u quyidagi fundamental tarkibiy qismlarni o‘zida mujassamlashtiradi:

* Maxsus (sohaviy) kompetensiya: Pedagogning o‘zi dars beradigan fan sohasi bo‘yicha chuqur nazariy va amaliy bilimlarga egaligi hamda fan yangiliklarini o‘zlashtirish darajasi.

* Metodik kompetensiya: Ta’lim berishning eng samarali usullari, innovatsion texnologiyalari va dars o‘tish modellarini tanlash hamda ularni o‘quv jarayoniga mahorat bilan tatbiq etish mahorati.

* Psixologik-pedagogik kompetensiya: Ta’lim oluvchilarning yosh va psixologik xususiyatlarini inobatga olgan holda o‘quv muhitini boshqarish hamda pedagogik jarayonni insonparvarlashtirish qobiliyati.

* Kommunikativ kompetensiya: Ta’lim jarayoni ishtirokchilari (o‘quvchilar, hamkasblar, ota-onalar) bilan konstruktiv muloqot o‘rnatish va pedagogik nizolarni ijobiy hal etish san’ati.

* Axborot-texnologik kompetensiya: Zamonaviy axborot-kommunikatsiya texnologiyalari va raqamli ta’lim resurslaridan kasbiy faoliyatda unumli foydalana olish layoqati.

* Refleksiv kompetensiya: O‘zining kasbiy faoliyatini tanqidiy tahlil qilish, yutuq va kamchiliklarni xolis baholash hamda o‘z ustida uzluksiz ishlash orqali o‘z-o‘zini rivojlantirish ko‘nikmasi.

Ushbu kompetensiyalarning uyg‘unlikda rivojlanishi o‘qituvchining zamonaviy ta’lim talablariga mos ravishda transformatsiyalanishini ta’minlaydigan asosiy omil hisoblanadi[8].

XULOSA

O‘tkazilgan tadqiqotlar va qiyosiy tahlillar shuni ko‘rsatadiki, umumiy o‘rta ta’lim muassasalarida metodik xizmat ko‘rsatish tizimini raqamli transformatsiyalash — ta’lim sifatini oshirishning fundamental omilidir. An’anaviy

pedagogik yondashuvlar axborot oqimi shiddatli bo‘lgan bugungi kunda o‘quvchilarning motivatsiyasini shakllantirishda yetarli darajada samaradorlik ko‘rsatmayapti.

Tadqiqot natijasida quyidagi konseptual xulosalar shakllantirildi:

1. Raqamli ekotizimning afzalligi: LMS platformalari (Moodle, Google Classroom) va bulutli texnologiyalar asosida tashkil etilgan metodik hamkorlik modeli pedagoglar o‘rtasida "gorizontal" va "vertikal" muloqotni shaffoflashtiradi. Bu esa metodik materiallarni tayyorlash va tarqatish jarayonida vaqtni 60% gacha tejash imkonini beradi.

2. Integrativ yondashuvning roli: Metodik xizmatni raqamlashtirishda faqat texnik vositalar bilan cheklanib qolmasdan, fanlararo integratsiyani (STEM, fanlararo bog‘liqlik) ta’minlash o‘qituvchining professional kompetentligini oshiradi.

3. Kollektiv intellektni shakllantirish: Raqamli platformalar orqali tajriba almashish nafaqat individual o‘qituvchining, balki butun pedagogik jamoaning "kollektiv intellekt" mahsuloti bo‘lgan innovatsion g‘oyalarini ommalashtirishga xizmat qiladi.

4. Kompetensiyalarni rivojlantirish: Zamonaviy metodik xizmat pedagogning axborot-texnologik va refleksiv kompetensiyalarini uzluksiz rivojlantirib borishga yo‘naltirilgan bo‘lishi shart. Bu jarayonda muammoli ta’lim, VR va AR texnologiyalaridan foydalanish murakkab mavzularni o‘zlashtirishni yengillashtiradi[8].

Amaliy tavsiya sifatida shuni aytish mumkinki, maktablarda yagona raqamli metodik portalni yaratish va o‘qituvchilarning AKT savodxonligini tizimli oshirish metodik xizmatni yangi sifat bosqichiga olib chiqadi. Ushbu transformatsiya jarayonlari pirovard natijada ta’lim oluvchilarning bilim darajasini oshirish va raqobatbardosh kadrlar tayyorlashga mustahkam poydevor bo‘ladi.

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TA’LIM SAMARADORLIGIDA O‘QITUVCHI MAHORATI VA SUN‘IY INTELLEKTNING ROLI

ODTI “Ijtimoiy gumanitar fanlar va tillar”

kafedrasi o‘qituvchisi

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Annotatsiya: *Mazkur maqolada o‘qituvchi mahorati va sun’iy intellektning ta’lim jarayonidagi o‘rni psixologik nuqtai nazardan tahlil qilinadi. Unda o‘qituvchining empatiya, motivatsiya berish va ijtimoiy-psixologik muhit yaratishdagi roli sun’iy intellektning tahliliy va individuallashtirish imkoniyatlari bilan qiyoslanadi. Shuningdek, ushbu ikki omilning o‘zaro uyg‘unlashuvi ta’lim samaradorligini oshirishdagi ahamiyati yoritiladi.*

Kalit so‘zlar: *o‘qituvchi mahorati, sun’iy intellekt, psixologik yondashuv, empatiya, motivatsiya, ta’lim samaradorligi, individuallashtirish.*

Аннотация: *В данной статье рассматриваются психологические аспекты сопоставления педагогического мастерства учителя и возможностей искусственного интеллекта в образовательном процессе. Анализируется роль учителя в формировании мотивации, эмпатии и благоприятной психологической среды, а также возможности искусственного интеллекта в области анализа данных и индивидуализации обучения.*

Ключевые слова: *педагогическое мастерство, искусственный интеллект, психологический подход, эмпатия, мотивация, эффективность обучения.*

Abstract :*This article examines the psychological aspects of comparing teacher professionalism and artificial intelligence in the educational process. It analyzes the teacher’s role in fostering empathy, motivation, and a supportive psychological environment, alongside the capabilities of artificial intelligence in data analysis and personalized learning.*

Keywords*: teacher professionalism, artificial intelligence, psychological approach, empathy, motivation, educational effectiveness, personalization*

KIRISH

Bugungi kunda ta’lim tizimi jadal rivojlanayotgan texnologiyalar ta’siri ostida tubdan o‘zgarib bormoqda. Xususan, su’niy intelekt texnologiyalarining ta’lim jarayoniga kirib kelishi o‘qitish uslublari, pedagogik yondoshuvlar va o‘quvchi bilan ishlash shakllarini yangicha bosqichga olib chiqmoqda.

O‘qituvchi mahorati nafaqat bilim berish bilan, balki o‘quvchilarning ruhiy holatini anglash, ularning qiziqish va ehtiyojlarini inobatga olish hamda ijobiy psixologik muhit yaratish bilan ham bevosita bog‘liqdir. Shu bilan birga, sun’iy intellekt tizimlari o‘quvchilarning bilim darajasi, o‘rganish tezligi va xatolarini tahlil qilish orqali individual yondashuvni ta’minlashga xizmat qilmoqda. Biroq bu jarayonda insoniy hissiyotlar, empatiya va ijtimoiy muloqot kabi muhim psixologik omillarning o‘rni alohida ahamiyatga ega bo‘lib qolmoqda.

Shu nuqtai nazardan, o‘qituvchi mahorati va sun’iy intellektning psixologik jihatdan taqqoslanishi ta’lim jarayonining samaradorligini chuqurroq anglash imkonini beradi. O‘qituvchining mahoratini sun’iy intellekt bilan qiyoslash masalasi zamonaviy ta’lim tizimining eng dolzarb ilmiy muammolaridan biri hisoblanadi. Bugungi kunda raqamli texnologiyalar, ayniqsa sun’iy intellekt tizimlari ta’lim jarayoniga keng kirib kelmoqda va bu holat o‘qituvchining an’anaviy rolini qayta ko‘rib chiqishni talab etmoqda. Shu bois o‘qituvchi mahorati va sun’iy intellekt imkoniyatlarini qiyosiy tahlil qilish muhim nazariy va amaliy ahamiyatga ega.

O‘qituvchi mahorati murakkab va ko‘p qirrali tushuncha bo‘lib, u pedagogning kasbiy bilimlari, metodik tayyorgarligi, psixologik yondashuvi, kommunikativ kompetensiyasi hamda ijodkorlik qobiliyatlarini o‘z ichiga oladi. O‘qituvchi nafaqat bilim beruvchi, balki o‘quvchilarning shaxs sifatida shakllanishiga ta’sir ko‘rsatuvchi muhim ijtimoiy institut vakili hisoblanadi. U o‘quvchilarning individual xususiyatlarini hisobga olgan holda ta’lim jarayonini tashkil etadi, ularni rag‘batlantiradi va murakkab bilimlarni tushunarli shaklda yetkazadi.

Sun’iy intellekt esa katta hajmdagi ma’lumotlarni tezkor qayta ishlash, tahlil qilish va natijalar chiqarish imkoniyatiga ega bo‘lgan texnologik tizimdir. Ta’lim sohasida sun’iy intellekt adaptiv o‘qitish platformalari, avtomatlashtirilgan baholash tizimlari, virtual yordamchilar va ma’lumotlar tahlili kabi yo‘nalishlarda qo‘llanilmoqda. Bu tizimlar o‘quvchilarning bilim darajasini aniqlash va ularga mos individual o‘quv yo‘llarini ishlab chiqishda katta samaradorlik ko‘rsatadi.

Qiyosiy tahlil shuni ko‘rsatadiki, o‘qituvchi va sun’iy intellektning o‘ziga xos ustunlik va cheklovlari mavjud. Masalan, sun’iy intellekt tezkorlik va aniqlik jihatidan ustun bo‘lsa, o‘qituvchi empatiya, ijtimoiy ta’sir va tarbiyaviy yondashuvda yetakchilik qiladi.

Sun’iy intellekt o‘quvchining bilim darajasiga moslashgan holda individual topshiriqlarni taqdim eta oladi, biroq u insoniy hissiyotlarni to‘liq anglay olmaydi. O‘qituvchi esa o‘quvchilarning ruhiy holatini sezib, ularga mos pedagogik yondashuvni tanlaydi.Shuningdek, o‘qituvchining ijodkorligi va moslashuvchanligi ham muhim farqlovchi omil hisoblanadi. U dars jarayonida turli innovatsion metodlarni qo‘llashi, vaziyatga qarab yangi yechimlar topishi mumkin. Sun’iy intellekt esa asosan oldindan belgilangan algoritmlar asosida ishlaydi va mustaqil ravishda yangi pedagogik yondashuvlarni yaratish imkoniyati cheklangan.

Ilmiy nuqtai nazardan qaraganda, o‘qituvchi va sun’iy intellektni qarama-qarshi qo‘yish emas, balki ularni o‘zaro integratsiya qilish maqsadga muvofiqdir. Sun’iy intellekt o‘qituvchining yordamchisi sifatida faoliyat yuritib, uning ish yukini kamaytiradi, baholash jarayonini avtomatlashtiradi va individual yondashuvni kuchaytiradi. O‘qituvchi esa ushbu texnologik imkoniyatlardan samarali foydalanib, ta’lim jarayonini yanada boyitadi va insoniy omilni saqlab qoladi.

XULOSA

Xulosa qilib aytganda, o‘qituvchi mahorati va sun’iy intellektning psixologik jihatdan qiyosiy tahlili shuni ko‘rsatadiki, ular ta’lim jarayonida turli, ammo o‘zaro to‘ldiruvchi funksiyalarni bajaradi. O‘qituvchi o‘quvchilarning hissiy holatini

anglash, ularga motivatsiya berish va ijtimoiy-psixologik muhitni shakllantirishda beqiyos ahamiyatga ega. Sun’iy intellekt esa ma’lumotlarni tezkor tahlil qilish, ta’limni individuallashtirish va o‘quv jarayonini optimallashtirish imkoniyatlari bilan ajralib turadi.Shu bilan birga, psixologik nuqtai nazardan qaraganda, ta’lim jarayonida insoniy omil ustuvor ahamiyatga ega bo‘lib qoladi. Chunki empatiya, muloqot va ijtimoiy ta’sir kabi jihatlar faqat o‘qituvchi orqali to‘liq namoyon bo‘ladi. Sun’iy intellekt esa bu jarayonda samarali yordamchi vosita sifatida xizmat qiladi.

O‘qituvchi mahorati va sun’iy intellekt imkoniyatlari bir-birini inkor etmaydi, aksincha, o‘zaro uyg‘unlashgan holda ta’lim sifatini yangi bosqichga olib chiqadi. Kelajakda ta’lim tizimining muvaffaqiyati aynan inson va texnologiya o‘rtasidagi samarali hamkorlikka bog‘liq bo‘ladi.

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SUN’IY INTELEKTNING HAYOTGA TATBIQI

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Annotatsiya. *Ushbu maqolada sun’iy intellektning hayotga tatbiqi, uning ta’lim, tibbiyot, iqtisodiyot va sanoat sohalaridagi o‘rni hamda ahamiyati yoritilgan. Shuningdek, sun’iy intellekt texnologiyalarining jamiyat taraqqiyotiga ta’siri, samaradorlikni oshirishdagi roli va mavjud muammolar tahlil qilingan. Tadqiqot davomida nazariy manbalar o‘rganilib, umumlashtirish va tahlil metodlaridan foydalanilgan. Natijalar sun’iy intellektning zamonaviy jamiyat rivojidagi muhim omil ekanligini ko‘rsatadi.*

Kalit so’zlar: *Sun’iy intellekt, raqamli texnologiyalar, innovatsiya, avtomatlashtirish, ta’lim, tibbiyot, iqtisodiyot, axborot xavfsizligi.*

Abstract*. This article discusses the application of artificial intelligence in everyday life and highlights its role in education, healthcare, economics, and industry. It analyzes the impact of artificial intelligence technologies on social development, their contribution to increasing efficiency, and the challenges associated with their implementation. The study is based on theoretical sources and uses analysis and generalization methods. The results show that artificial intelligence is a significant factor in the development of modern society.*

Key words: *Artificial intelligence, digital technologies, innovation, automation, education, healthcare, economy, information security.*

Аннотация. *В данной статье рассматривается применение искусственного интеллекта в жизни общества, его роль в образовании, медицине, экономике и промышленности. Анализируется влияние технологий искусственного интеллекта на развитие общества, их значение в повышении эффективности, а также существующие проблемы. В исследовании использованы методы анализа и обобщения теоретических источников. Результаты показывают, что искусственный интеллект является важным фактором развития современного общества.*

Ключевые слова: *Национальная идентичность, национальный характер, жанр рассказа, художественный образ, менталитет, сравнительный анализ, культурные ценности, индивидуализм, коллективизм, художественное мышление.*

KIRISH

Sun’iy intellekt bugungi kunda insoniyat taraqqiyotining eng muhim omillaridan biriga aylanib bormoqda. Ilm-fan va texnologiya sohasidagi yutuqlar natijasida sun’iy intellekt tizimlari inson fikrlash jarayoniga yaqin bo‘lgan tahlil, o‘rganish, xulosa chiqarish va qaror qabul qilish imkoniyatlariga ega bo‘ldi. Avvallari faqat ilmiy fantastika asarlarida uchraydigan aqlli mashinalar bugun real hayotimizning ajralmas qismiga aylangan. Ayniqsa, XXI asrda raqamli texnologiyalar rivoji sun’iy intellektni turli sohalarga keng joriy etish imkonini bermoqda. Sun’iy intellektning hayotga tatbiqi, avvalo, kundalik faoliyatimizda sezilmoqda. Masalan, mobil telefonlardagi ovozli yordamchilar, aqlli tarjima dasturlari, yuzni aniqlash tizimlari va tavsiyalar beruvchi platformalar sun’iy intellekt asosida ishlaydi. Ijtimoiy tarmoqlar foydalanuvchi qiziqishlarini tahlil qilib, mos kontentni taklif etadi. Onlayn do‘konlar esa xarid tarixiga qarab mahsulotlarni tavsiya qiladi. Bularning barchasi inson vaqtini tejash va qulaylik yaratishga xizmat qilmoqda.

Ta’lim sohasida sun’iy intellekt o‘quv jarayonini individuallashtirish imkonini bermoqda. Aqlli ta’lim platformalari o‘quvchilarning bilim darajasini tahlil qilib, ularga mos topshiriqlarni taqdim etadi. Masofaviy ta’lim tizimlarida esa

avtomatik baholash, testlarni tekshirish va tavsiyalar berish jarayonlari sun’iy intellekt yordamida amalga oshiriladi. Bu esa o‘qituvchining ishini yengillashtirib, ta’lim sifatini oshirishga xizmat qiladi. Tibbiyot sohasida sun’iy intellektning ahamiyati yanada yuqori. Zamonaviy diagnostika tizimlari kasalliklarni erta aniqlashda shifokorlarga yordam bermoqda. Rentgen, MRT va boshqa tasvirlarni tahlil qiluvchi dasturlar aniqlik darajasini oshiradi. Shuningdek, sun’iy intellekt asosida ishlaydigan robotlar murakkab jarrohlik amaliyotlarida qo‘llanilmoqda. Bu esa inson hayotini saqlab qolish imkoniyatlarini kengaytiradi.

Iqtisodiyot va sanoat tarmoqlarida ham sun’iy intellekt muhim o‘rin tutadi. Avtomatlashtirilgan ishlab chiqarish jarayonlari mahsuldorlikni oshiradi, xatoliklarni kamaytiradi va resurslardan samarali foydalanishni ta’minlaydi. Bank tizimida esa sun’iy intellekt firibgarlik holatlarini aniqlash, kredit xavfini baholash va mijozlarga xizmat ko‘rsatishni takomillashtirishda qo‘llaniladi. Marketing sohasida esa iste’molchilar xatti-harakatini tahlil qilish orqali aniq strategiyalar ishlab chiqiladi. Transport tizimida sun’iy intellekt asosidagi avtonom avtomobillar, aqlli yo‘l harakati boshqaruvi va logistika tizimlari xavfsizlik hamda samaradorlikni oshirishga xizmat qilmoqda. Aqlli shahar konsepsiyasi doirasida esa energiya tejash, ekologik nazorat va kommunal xizmatlarni boshqarish jarayonlari sun’iy intellekt orqali optimallashtirilmoqda.

Biroq sun’iy intellektning hayotga keng tatbiqi bilan bir qatorda muayyan muammolar ham yuzaga kelmoqda. Mehnat bozorida ayrim kasblarning qisqarishi, shaxsiy ma’lumotlar xavfsizligi, axloqiy masalalar va texnologiyaga haddan tashqari bog‘liqlik kabi muammolar dolzarb bo‘lib qolmoqda. Shu sababli sun’iy intellektdan foydalanishda huquqiy va axloqiy me’yorlarni ishlab chiqish muhim ahamiyat kasb etadi. Xulosa qilib aytganda, sun’iy intellekt inson hayotining barcha jabhalariga kirib kelayotgan zamonaviy texnologik hodisadir. U qulaylik, tezkorlik va samaradorlikni ta’minlash orqali jamiyat taraqqiyotiga xizmat qilmoqda. Kelajakda sun’iy intellekt imkoniyatlari yanada kengayib, insoniyat oldida turgan

global muammolarni hal etishda muhim vositaga aylanishi kutilmoqda. Eng muhimi, ushbu texnologiyani ongli, mas’uliyatli va maqsadli ravishda qo‘llash orqali uning ijobiy natijalaridan to‘liq foydalanish mumkin bo‘ladi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Sun’iy intellektning hayotga tatbiqi masalasi ilmiy adabiyotlarda keng o‘rganilgan dolzarb mavzulardan biridir. So‘nggi yillarda ushbu yo‘nalishda olib borilgan tadqiqotlar texnologiyaning nazariy asoslari, amaliy qo‘llanilishi hamda ijtimoiy ta’sirini turli jihatlardan yoritib bermoqda. Ilmiy manbalarda sun’iy intellekt tushunchasiga dastlab kompleks nazariy yondashuv berilgan bo‘lib, unda mashinalarning inson tafakkuriga xos jarayonlarni modellashtirishi asosiy mezon sifatida ko‘rsatiladi. Xususan, Artificial Intelligence: A Modern Approach asarida sun’iy intellektning asosiy yo‘nalishlari, algoritmik asoslari va amaliy qo‘llanilish sohalari tizimli ravishda bayon qilingan. Ushbu manba mazkur mavzuning nazariy poydevorini shakllantirishda muhim ahamiyat kasb etadi. Bundan tashqari, Stuart Russell va Peter Norvig tomonidan olib borilgan tadqiqotlarda sun’iy intellekt tizimlarining xavfsizligi, ishonchliligi va inson manfaatlariga xizmat qilishi masalalari alohida ta’kidlanadi. Zamonaviy ilmiy maqolalarda esa sun’iy intellektning tibbiyot, ta’lim, iqtisodiyot va sanoat sohalariga integratsiyasi chuqur tahlil qilingan. Xalqaro ilmiy jurnallarda chop etilgan tadqiqotlarda katta hajmdagi ma’lumotlarni qayta ishlash, neyron tarmoqlar va mashinaviy o‘qitish metodlarining samaradorligi keng yoritilgan.

Adabiyotlar tahlili shuni ko‘rsatadiki, sun’iy intellektni hayotga tatbiq etish jarayoni faqat texnologik emas, balki ijtimoiy-iqtisodiy va axloqiy jihatlarni ham qamrab oladi. Ayrim tadqiqotchilar uning mehnat bozoriga ta’siri, avtomatlashtirish natijasida kasblarning o‘zgarishi va yangi mutaxassisliklarning shakllanishini o‘rganishgan. Shuningdek, ma’lumotlar xavfsizligi, shaxsiy hayot daxlsizligi va algoritmik xolislik masalalari ham ilmiy muhokama markazida turibdi. Mazkur maqolada metodologik jihatdan tizimli tahlil, qiyosiy yondashuv va umumlashtirish

metodlaridan foydalanildi. Ilmiy manbalarni o‘rganish jarayonida nazariy ma’lumotlar saralandi, turli mualliflarning qarashlari o‘zaro solishtirildi va umumiy xulosalar chiqarildi. Shuningdek, amaliy misollar asosida sun’iy intellektning real hayotdagi qo‘llanilish sohalari tahlil qilindi. Tadqiqot davomida sifat tahlili usuli ustuvor bo‘lib, mavjud ilmiy qarashlar mazmunan chuqur o‘rganildi va izchil tarzda bayon etildi. Natijada adabiyotlar tahlili sun’iy intellektning ko‘p qirrali va kompleks hodisa ekanligini ko‘rsatdi. Metodologik yondashuv esa mavzuni har tomonlama yoritish, nazariy va amaliy jihatlarni uyg‘unlashtirish hamda asosli xulosalar chiqarish imkonini berdi.

NATIJALAR

Tadqiqot natijalari shuni ko‘rsatdiki, sun’iy intellektning hayotga tatbiqi jamiyat taraqqiyotiga sezilarli ijobiy ta’sir ko‘rsatmoqda. Tahlillar asosida aniqlanishicha, sun’iy intellekt texnologiyalari qo‘llanilgan sohalarda ish samaradorligi oshgan, vaqt va resurslardan foydalanish darajasi yaxshilangan hamda inson omili bilan bog‘liq xatoliklar kamaygan. Ayniqsa, katta hajmdagi ma’lumotlarni qayta ishlash jarayonida sun’iy intellekt tizimlari an’anaviy usullarga nisbatan tezkor va aniq natijalar bermoqda. Ta’lim sohasida olib borilgan kuzatuvlar sun’iy intellekt asosidagi platformalar o‘quvchilarning bilim darajasini individual tahlil qilish va shunga mos o‘quv materiallarini taqdim etish imkonini berayotganini ko‘rsatdi. Natijada o‘zlashtirish ko‘rsatkichi oshishi, mustaqil ta’lim ko‘nikmalarining rivojlanishi va o‘qituvchining nazorat yuklamasining kamayishi kuzatildi. Bu esa ta’lim jarayonining sifat jihatidan yangi bosqichga ko‘tarilayotganini anglatadi.

Tibbiyot sohasidagi natijalar ham muhim ahamiyat kasb etadi. Sun’iy intellekt yordamida diagnostika aniqligi ortgani, kasalliklarni erta aniqlash imkoniyati kengaygani hamda davolash jarayonlari samaradorligi oshgani aniqlangan. Tibbiy tasvirlarni tahlil qilishda avtomatlashtirilgan tizimlar shifokor qarorlarini qo‘llab-quvvatlovchi muhim vosita sifatida namoyon bo‘lmoqda. Iqtisodiyot va sanoat

tarmoqlarida o‘tkazilgan tahlillar avtomatlashtirish jarayonlari ishlab chiqarish hajmini oshirishi, xarajatlarni kamaytirishi va boshqaruv tizimini takomillashtirishini ko‘rsatdi. Bank va moliya sohasida sun’iy intellekt asosida firibgarlikni aniqlash darajasi oshgani hamda mijozlarga xizmat ko‘rsatish sifati yaxshilangani kuzatildi. Marketing jarayonlarida esa iste’molchi xulq-atvorini prognoz qilish imkoniyatlari kengaydi. Shu bilan birga, natijalar ayrim muammolar mavjudligini ham ko‘rsatdi. Ba’zi kasblarning qisqarishi, texnologiyaga qaramlikning ortishi va ma’lumotlar xavfsizligi bilan bog‘liq xavflar dolzarb masala bo‘lib qolmoqda. Bu esa sun’iy intellektni joriy etishda muvozanatli va mas’uliyatli yondashuv zarurligini tasdiqlaydi. Umuman olganda, olingan natijalar sun’iy intellektning hayotga tatbiqi jamiyat rivojiga xizmat qilayotganini, biroq uning samarali va xavfsiz qo‘llanilishi uchun puxta strategiya hamda huquqiy-me’yoriy asoslar zarurligini ko‘rsatdi.

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USING GAME-BASED PLATFORMS TO IMPROVE ENGLISH LEARNING VOCABULARY ACQUISITION

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Abstract*: This study examines how game-based platforms can help students improve their English vocabulary. Incorporating games into foreign language learning is considered an effective strategy that can reduce students' stress and enhance their learning experience. Therefore, this research focuses on whether using games can make vocabulary learning easier and more engaging, particularly through platforms such as Quizizz, Kahoot!, and Wordwall. This study used a quantitative research design, and a total of 30 high school students from School No. 39 in Uzbekistan took part in the research. Data were collected through pre-tests and post-tests to measure students' vocabulary improvement. In addition, a questionnaire was used to examine students' motivation and attitudes toward game-based learning. The results showed a clear improvement in students' vocabulary performance. Approximately 80% of the students achieved higher scores in the post-test compared to the pre-test, while 70% demonstrated better retention of new vocabulary. Furthermore, 90% of the participants reported that they felt more motivated and engaged during lessons using game-based platforms. Overall, the findings suggest that game-based platforms can be a helpful and engaging way to support vocabulary learning.*

Keywords: *Game-based learning, English vocabulary, student motivation, Quizizz, Kahoot!, Wordwall, vocabulary improvement, quantitative research.*

INTRODUCTION

Many students find it difficult or boring to learn new English vocabulary. Some try to memorize long lists of words; however, they often forget them quickly. In recent years, game-based platforms have become increasingly popular as a way to make vocabulary learning more engaging and effective. Tools such as Quizizz, Kahoot, and Wordwall provide interactive activities that can help students stay

motivated and improve their learning experience. Therefore, this study explores how game-based learning can support students in developing their English vocabulary.

Previous studies have shown that game-based learning can improve students' engagement and participation in the classroom. For example, Marc Prensky (2001) argues that games increase learners' motivation by making learning more enjoyable and goal-oriented. Similarly, Wood (2001) found that game-like formats are more effective in capturing students' attention compared to traditional methods such as textbooks. Additionally, Nguyen and Khuat (2003) highlighted that students often struggle with memorizing vocabulary through traditional techniques, which made alternative approaches necessary. Furthermore, Foreman et al. (2004) suggest that interactive games have significantly influenced modern learning environments by increasing student engagement. Several other researchers have also examined the effectiveness of games in language learning. For instance, Ishtawi (2011) investigated the use of educational games in teaching English grammar and found significant differences between the students taught through games and those taught using traditional methods, with the experimental group showing better performance. Similarly, Putri, Sutopo, and Bharati (2017) explored the use of vocabulary games such as "20-squares" and "word-clap" and reported that students in the experimental group achieved higher scores than those in the control group. In addition, Yulianti and Bharati (2017) also found that game-based techniques were effective in improving students' vocabulary learning outcomes. Overall, these studies suggest that game-based learning can be an effective approach to improving students' motivation, engagement, and vocabulary acquisition. However, the effectiveness of such methods may vary depending on the learning context and how the games are implemented. Although many studies have shown that game-based learning can improve students' motivation and academic performance, there are still some gaps that need further investigation. Most previous research has focused on grammar learning or general language skills, rather than specifically on vocabulary

development. In addition, many studies were conducted with large groups or in different contexts, which may not fully reflect the experiences of smaller classroom settings. Therefore, more research is needed to examine how game-based platforms affect students' vocabulary learning, as well as their motivation and engagement in real classroom environments.

Research questions

1. How do game-based platforms affect students' English vocabulary improvement?

2. How do students respond to game-based learning in terms of motivation and engagement?

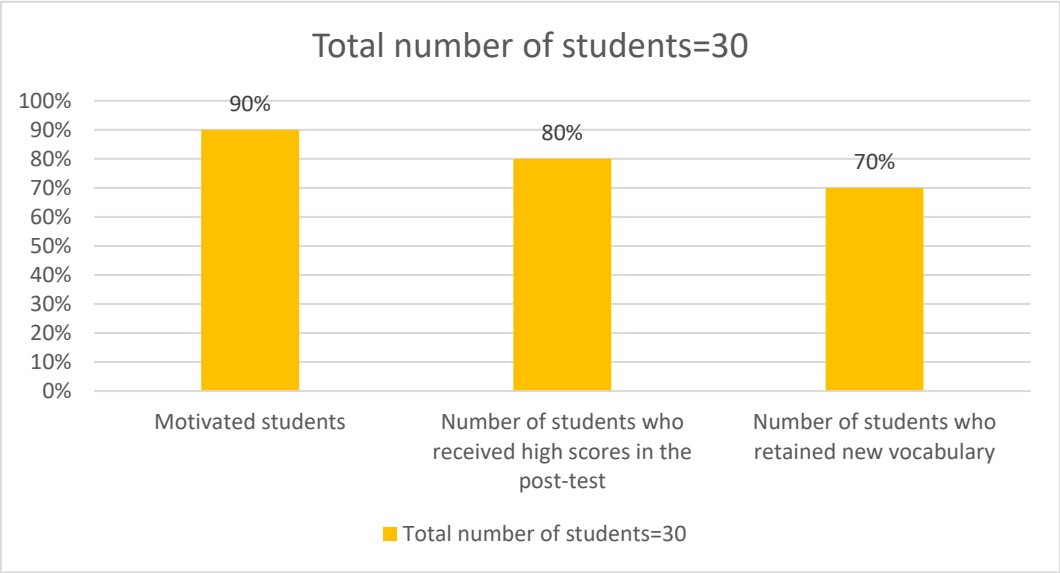
3. To what extent do game-based activities help students retain new vocabulary?

Methods: This study used a quantitative research design to examine the effect of game-based platforms on students' English vocabulary learning. The purpose of this study was to identify whether using games could improve students' vocabulary knowledge and increase their motivation during lessons. The study was conducted in a high school classroom in No. 39 school in Namangan, Uzbekistan. The classroom environment was generally positive; however, many students showed low interest in learning vocabulary through traditional methods. Lessons were held three times a week, and each lesson lasted 45 minutes. Vocabulary activities were included in every lesson. There were 30 students in the class. The participants were high school students with an elementary(CEFR-A1) to pre-intermediate level(CEFR-B1) of English. They had basic knowledge of vocabulary but often had difficulty remembering and using new words. Most students understood classroom instructions but were not very active during vocabulary learning activities. Data were collected through vocabulary tests and a questionnaire. The research was carried out over a period of three weeks. In Week 1, students completed a pre-test to assess their initial vocabulary knowledge. During Weeks 2 and 3, students learned vocabulary

through game-based platforms such as Quizizz, Kahoot , and Wordwall. These platforms were used regularly during lessons to create a more interactive learning environment. They allowed students to practice vocabulary through quizzes, matching activities, and quick games, which helped them stay focused and involved in the lesson. In addition, the competitive and fun elements of these platforms encouraged students to participate more actively and made it easier for them to remember new words. At the end of Week 3, a post-test was conducted to measure students' improvement. In addition, a questionnaire was given to students to understand their motivation, interest, and attitudes toward game-based learning. The collected data were analyzed by comparing pre-test and post-test results, as well as reviewing students' responses to identify general patterns in their engagement and learning experience.

RESULT

The results of the study showed that game-based platforms had a positive effect on students' English vocabulary learning. After three weeks of using game-based activities in class, noticeable improvements were seen in students' vocabulary performance and classroom participation. The post-test results were generally better than the pre-test results, which suggests that students were able to learn and remember new vocabulary more effectively through interactive activities.



Based on the first research question, around 80% of the students received higher scores in the post-test. Many students showed improvement in understanding word meanings, spelling, and pronunciation. In addition, about 70% of the students were able to use newly learned words more accurately during classroom activities and discussions. This shows that repeated practice through games helped students become more familiar with the vocabulary. The questionnaire results also showed positive responses from students. About 90% of the participants said that learning vocabulary through games was more interesting and enjoyable than traditional exercises. Many students mentioned that using platforms such as, Quizizz, Kahoot,and Wordwall made them feel more relaxed and motivated during lessons. Some students especially enjoyed the competitive activities and teamwork because they made the lessons more fun and interactive. Classroom observations also revealed changes in students' participation. During regular vocabulary lessons, several students were usually quiet and less willing to answer questions. However, during game-based activities, students became more active and participated more confidently. Even quieter students showed greater interest and were more involved in classroom tasks. Students also communicated more with each other while

completing activities and games. Another noticeable result was related to students' attention during lessons. Students appeared more focused and interested when interactive games were used. Compared to traditional vocabulary exercises, game-based activities reduced boredom and encouraged students to stay involved in the lesson for a longer time. Overall, the findings of the study suggest that game-based platforms can support vocabulary learning in a more engaging and enjoyable way. The activities not only helped students improve their vocabulary knowledge but also increased their motivation and participation during lessons.

DISCUSSION:

The findings of this study show that game-based platforms can positively influence students' English vocabulary learning. The improvement in students' post-test scores suggests that interactive activities helped them understand and remember new vocabulary more effectively. Many students were able to recognize and use new words more confidently after participating in game-based lessons. This indicates that learning through games can make vocabulary practice more meaningful and less stressful for students. The results also revealed that students were more motivated and interested during lessons when game-based platforms were used. Most students responded positively to activities on Quizizz, Kahoot, and Wordwall because the activities were interactive, competitive, and enjoyable. Instead of simply memorizing vocabulary lists, students were actively involved in quizzes, matching games, and team activities. This helped create a more relaxed classroom atmosphere and encouraged students to participate more freely. Another important point observed during the research was the increase in classroom participation. Students who were usually quiet during traditional vocabulary lessons became more active during game-based activities. They answered questions more confidently, interacted more with classmates, and showed greater enthusiasm throughout the lessons. This suggests that game-based learning can help reduce students' fear of making mistakes and create a more supportive learning environment. The findings of this study are

similar to previous research, which suggests that games can improve student engagement and learning outcomes. Earlier studies by researchers such as Prensky (2001) and Wood (2001) also emphasized that games make learning more enjoyable and help attract students' attention. In the same way, the current study found that students stayed focused for a longer time and participated more actively during interactive activities. However, several limitations were also noticed during the research process. The study was conducted with only 30 students and lasted for three weeks, which may limit the generalizability of the findings. In addition, some students were more familiar with digital platforms than others, which may have affected their participation levels. Future research could involve larger groups of students and longer research periods to gain more detailed results. Overall, the study suggests that game-based platforms can be an effective tool for improving students' English vocabulary learning. They not only support vocabulary development but also increase students' motivation, participation, and confidence during lessons.

CONCLUSION

In conclusion, this study showed that game-based platforms can play an important role in improving students' English vocabulary learning. The findings revealed that students performed better in vocabulary activities after using interactive platforms during lessons. In addition, students became more motivated, active, and interested in learning when game-based activities were included in the classroom. Platforms such as Quizizz, Kahoot and Wordwall helped create a more enjoyable and engaging learning environment. Through quizzes, games, and interactive tasks, students were able to practice vocabulary in a less stressful and more meaningful way. The study also showed that game-based learning encouraged greater classroom participation and helped students feel more confident while using new words. Although the study was conducted with a small number of participants over a short period of time, the results suggest that integrating game-based platforms into English lessons can positively support vocabulary development. Therefore,

teachers are encouraged to use interactive digital activities as a supplement to traditional teaching methods in order to increase students' motivation and improve their vocabulary learning experience.

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SUN’IY INTELLEKT VA MA’LUMOTLAR TAHLILI ASOSIDA VIRTUAL MUHITLAR UCHUN MILLIY AVATAR OBRAZINI YARATISH MODELI

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Annotatsiya: *Maqolada virtual muhitlar uchun milliy avatar obrazini yaratish masalasi raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlili yo‘nalishi nuqtayi nazaridan tahlil qilinadi. Tadqiqotning asosiy g‘oyasi milliy kiyim, antropometrik shakl, yuz ifodasi, rang palitrasi, harakat va nutq komponentlarini yagona raqamli modelga birlashtirish orqali virtual muhitda madaniy identifikatsiyani ifodalaydigan avatar yaratishdan iborat. Taklif etilayotgan yechim sun’iy intellekt yordamida vizual manbalardan atributlarni ajratish, 3D modellashtirish va*

teksturalash, semantik metama'lumotlar bazasini shakllantirish, Unreal Engine muhitida real vaqtli vizuallashtirish hamda foydalanuvchi xatti-harakatlarini analitik baholash bosqichlarini o'z ichiga oladi. Natijada ta'lim, madaniy merosni raqamlashtirish, turizm, media va metavers platformalarida qo'llash mumkin bo'lgan milliy avatar konsepsiyasi ishlab chiqildi.

Kalit so'zlar: *virtual muhit, milliy avatar, sun'iy intellekt, 3D modellashtirish, ma'lumotlar tahlili, VR, Unreal Engine, raqamli madaniy meros.*

Abstract*: The article examines the creation of a national avatar for virtual environments from the perspective of digital technologies, artificial intelligence, and data analytics. The proposed solution combines AI-based extraction of visual attributes, 3D modeling and texturing, a semantic metadata database, real-time visualization in Unreal Engine, and analytical evaluation of user behavior. The concept can be applied in education, digital cultural heritage, tourism, media, and metaverse platforms.*

Keywords: *virtual environment, national avatar, artificial intelligence, 3D modeling, data analytics, VR, Unreal Engine, digital cultural heritage.*

KIRISH

Raqamli transformatsiya jarayonida virtual reallik, kengaytirilgan reallik, 3D modellashtirish va sun'iy intellekt texnologiyalari insonning raqamli muhit bilan o'zaro aloqasini tubdan o'zgartirmoqda. Virtual muhitlarda foydalanuvchi o'zini obyekt, personaj yoki avatar orqali namoyon qiladi. Shuning uchun avatar endilikda oddiy grafik model emas, balki shaxs, guruh, jamiyat va madaniyatni ifodalovchi raqamli identifikator sifatida talqin qilinadi. Ayniqsa, milliy avatar konsepsiyasi O'zbekistonning tarixiy-madaniy merosi, milliy kiyimlari, naqshlari, ranglari, harakat etiketi va kommunikativ xususiyatlarini raqamli shaklda ifodalash imkonini beradi.

"Virtual reallikni vizuallashtirish" o'quv qo'llanmasida VR texnologiyalari sanoat, tibbiyot, turizm, harbiy soha, kino, televideniya va ta'limda qo'llanilayotgani, shuningdek 3D texnologiyalar orqali an'anaviy o'qitish muhitidan virtual 3D o'qitish muhitiga o'tish dolzarb vazifa ekani ta'kidlanadi [1]. Mazkur fikr dissertatsiya mavzusi uchun nazariy asos bo'lib xizmat qiladi, chunki milliy avatar

virtual ta’lim va madaniy kommunikatsiya muhitida foydalanuvchi bilan tizim o‘rtasidagi asosiy vizual-interaktiv vositaga aylanadi.

“VR asoslari” uslubiy ko‘rsatmasida 3D Max, Unreal Engine, tekstura, material, animatsiya, UI elementlari va interaktiv boshqaruv orqali VR sahnalarini yaratish amaliy jihatdan yoritilgan [2]. Demak, milliy avatar yaratish jarayonini faqat dizayn vazifasi sifatida emas, balki raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlili uyg‘unlashgan kompleks ilmiy-amaliy tizim sifatida ko‘rish zarur.

Tadqiqotning maqsadi — virtual muhitlar uchun milliy avatar obrazini yaratishda SI va ma’lumotlar tahliliga asoslangan konseptual yechimni taklif etish, uning texnologik bosqichlarini belgilash va konferensiyaning “Raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlili” yo‘nalishiga mos ilmiy-amaliy natijalarni asoslashdan iborat.

ASOSIY QISM

Tadqiqotda tizimli tahlil, kompyuter grafikasi, 3D modellashtirish, mashinali ko‘rish, semantik ma’lumotlar bazasi, foydalanuvchi tajribasini baholash va prototiplash metodlari qo‘llanildi. Nazariy asos sifatida VR tizimlarining geometriya, vizual renderlash, idrok, optika va interaktivlikka doir komponentlari olindi. LaValle virtual reallikni geometrik modellashtirish, transformatsiyalar, grafik renderlash, optika, inson fiziologiyasi, ko‘rish va vestibulyar tizimlar hamda interfeys dizayni bilan bog‘liq kompleks fanlararo soha sifatida izohlaydi [3].

Amaliy bosqichlarda 3D Max muhitida bazaviy model yaratish, FBX yoki glTF formatida eksport qilish, Unreal Engine muhitida material va teksturalarni sozlash, animatsiya skeletini ulash, Blueprint yordamida interaktivlik yaratish hamda natijani VR sahnada sinash ko‘zda tutiladi. Unreal Engine real vaqtli 3D muhitlar, interaktiv tajriba va vizualizatsiya yaratish imkoniyatlari bilan milliy avatar prototipini sahnada sinash uchun qulay platforma hisoblanadi [4]. MetaHuman texnologiyasi esa realistik raqamli insonlarni yaratish, animatsiyalash

va ishlatish uchun tayyor freymvork sifatida avatarlarning yuz, tana, soch va kiyim komponentlarini ishlab chiqishda yo‘naltiruvchi model bo‘la oladi [5].

Ma’lumotlar manbasi sifatida milliy kiyimlar, tarixiy foto va video materiallar, muzey eksponatlari, xalq amaliy san’ati naqshlari, atlas-adras matolari, do‘ppi, chopon, zargarlik buyumlari, etnografik tavsiflar, 3D skanerlash va fotogrammetriya natijalaridan foydalanish taklif etiladi. Ushbu ma’lumotlar to‘plami sun’iy intellekt algoritmlari uchun trening, validatsiya va test qismlariga ajratiladi.

TAKLIF ETILAYOTGAN INTELLEKTUAL YECHIM

Maqolada milliy avatarni yaratish uchun besh pog‘onali “AI–3D–VR–Analytics” modeli taklif etiladi. Ushbu model quyidagi bosqichlardan iborat: 1) madaniy-vizual ma’lumotlarni yig‘ish va raqamlashtirish; 2) sun’iy intellekt yordamida atributlarni ajratish; 3) 3D model, tekstura va animatsiya ishlab chiqish; 4) virtual muhitga integratsiya qilish; 5) foydalanuvchi tajribasini ma’lumotlar tahlili orqali baholash.

Birinchi bosqichda milliy madaniyatni ifodalovchi vizual ma’lumotlar standartlashtiriladi. Bu yerda oddiy rasm yig‘ish yetarli emas, har bir obyektga “hudud”, “davr”, “kiyim turi”, “rang”, “naqsh turi”, “gender neytralligi”, “foydalanish konteksti”, “etik-madaniy cheklov” kabi metama’lumotlar biriktiriladi. Bunday yondashuv milliy avatarni stereotipli yoki tasodifiy emas, balki ilmiy asoslangan, tekshiriladigan va qayta ishlatiladigan raqamli obyekt sifatida shakllantiradi.

Ikkinchi bosqichda SI algoritmlari yordamida vizual atributlar aniqlanadi. Masalan, konvolyutsion neyron tarmoqlar kiyim silueti, naqsh elementlari va rang kombinatsiyalarini ajratadi, obyekt deteksiyasi zargarlik buyumi, do‘ppi, belbog‘, chopon yoki milliy mato fragmentini belgilaydi, generativ SI esa yo‘qolgan tekstura qismini to‘ldirish, eskizdan 3D konsept yaratish yoki tarixiy foto asosida mos material variantini taklif qilishda yordam beradi. Biroq generativ natija mutaxassis

ekspertizasisiz qabul qilinmasligi kerak, chunki milliy madaniyatni noto‘g‘ri yoki sun’iy ko‘rinishda tasvirlash ilmiy va etik xatolarga olib kelishi mumkin.

Uchinchi bosqich 3D model ishlab chiqishga qaratiladi. Autodesk 3ds Max professional 3D modellashtirish, animatsiya va renderlash vositalari orqali personaj, kiyim, aksessuar va muhit obyektlarini yaratish uchun qo‘llanishi mumkin [6]. Avatar modeli uchta asosiy qatlamdan iborat bo‘lishi maqsadga muvofiq: geometrik qatlam (mesh, skelet, yuz topologiyasi), vizual qatlam (PBR tekstura, normal map, roughness, metallic, rang palitrasi) va semantik qatlam (madaniy atributlar, hududiy tegishlilik, tavsif, foydalanish sharti).

To‘rtinchi bosqichda avatar virtual muhitga joylashtiriladi. Unreal Engine muhitida materiallar, yoritish, kamera, animatsiya, UI va Blueprint tizimi orqali foydalanuvchi avatar bilan interaktiv aloqa qiladi. “VR asoslari” uslubiy ko‘rsatmasida assetlarni import qilish, materiallar yaratish, teksturalar sozlash va Blueprint yordamida obyektlarga funksionallik berish amaliy bosqich sifatida ko‘rsatilgani ushbu jarayonni bevosita asoslaydi [2].

Beshinchi bosqich ma’lumotlar tahliliga bag‘ishlanadi. Virtual muhitda avatar faqat ko‘rsatilmaydi, balki uning foydalanuvchi tomonidan qanday qabul qilinayotgani o‘lchanadi. Masalan, ko‘rish davomiyligi, avatar bilan muloqotga kirishish soni, tanlangan kiyim va rang variantlari, emotsional baho, qayta tashrif ko‘rsatkichi, VR muhitdagi harakat trayektoriyasi kabi metrikalar tahlil qilinadi. Bu natijalar avatar dizaynini iteraktiv takomillashtirishga xizmat qiladi.

1-jadval. Milliy avatar yaratish uchun taklif etilayotgan texnologik yechim

Bosqich	Kirish ma’lumoti	Texnologiya	Natija
1. Raqamlashtirish	Foto, video, mato, naqsh, 3D skan	Fotogrammetriya, skaner, ma’lumotlar bazasi	Milliy vizual dataset
2. SI tahlil	Kiyim, yuz, rang, naqsh atributlari	Computer Vision, segmentatsiya, klassifikatsiya	Semantik atributlar

3. 3D model	Bazaviy mesh, skelet, tekstura	3D Max, Blender, MetaHuman, PBR	Milliy avatar modeli
4. VR integratsiya	FBX/glTF, material, animatsiya	Unreal Engine, Blueprint, VR Template	Interaktiv virtual personaj
5. Analitika	Foydalanuvchi harakati, tanlov, baho	Log-fayl, UX metrika, dashboard	Sifat va qabul qilinish ko‘rsatkichlari

NATIJALAR VA MUHOKAMA

Virtual avatarlar bo‘yicha zamonaviy tadqiqotlar avatar moslashtirish, o‘zini virtual tanada his qilish, realistiklik, ishonch, identifikatsiya va foydalanuvchi xatti-harakatlariga ta’sir kabi masalalarni faol o‘rganmoqda. Frontiers in Virtual Reality jurnalida chop etilgan tadqiqotda avatarni birinchi shaxs nuqtayi nazaridan moslashtirish embodiment hissini kuchaytirishi mumkinligi qayd etilgan [7]. Bu milliy avatar loyihasi uchun muhim: foydalanuvchi o‘z avatarini milliy kiyim, rang, yuz ifodasi va harakat bilan moslashtira olsa, virtual muhitdagi ishtiroki tabiiyroq bo‘ladi.

Avatar moslashtirish texnologiyalari bo‘yicha tizimli sharhlarda so‘nggi o‘n yilda VR avatarlarining estetik xususiyatlari, yaratilish texnologiyalari va xulq-atvorga ta’siri muhim tadqiqot yo‘nalishiga aylangani ko‘rsatiladi [8]. Shu va boshqalar virtual muhitlarda foydalanuvchi avatarini moslashtirishga ta’sir qiluvchi omillarni tahlil qilib, shaxsiylashtirish, ijtimoiy ehtiyoj va vizual ifoda o‘zaro bog‘liqligini ko‘rsatadi [9]. Bu natijalar milliy avatar tizimida foydalanuvchiga hududiy kiyim, rang, aksessuar va uslub variantlarini tanlash imkonini berish zarurligini tasdiqlaydi.

Yuqori realistik inson avatarsimon obrazlar masalasida esa ehtiyotkor yondashuv kerak. Hammualliflar inson-avatar o‘zaro ta’sirida yuqori vizual va harakat realizmi har doim ham yagona optimal yechim emasligini, interaktivlik va maqsadga moslik ham muhimligini ta’kidlaydi [10]. Demak, milliy avatar yaratishda faqat fotorealistik yuz yoki kiyimga intilish yetarli emas; avatar o‘quv, madaniy,

turistik yoki media kontekstga mos, yengil ishlaydigan, axloqiy jihatdan to‘g‘ri va foydalanuvchi bilan muloqotga tayyor bo‘lishi kerak.

UNESCO madaniyat va raqamli texnologiyalar doirasida raqamli xaritalash, virtual muzey, 3D modellashtirish va raqamli merosni saqlash imkoniyatlarini alohida ko‘rsatadi [11]. UNESCO virtual muzey tashabbuslarida 2D/3D raqamlashtirish va virtual reallik texnologiyalari madaniy obyektlarni jonlantirish va foydalanuvchini ularga yaqinlashtirish vositasi sifatida qaraladi [12]. Shu nuqtayi nazardan milliy avatar nafaqat virtual personaj, balki raqamli madaniy merosni taqdim etuvchi vosita hamdir.

Loyiha amalga oshirilganda quyidagi natijalarga erishish mumkin. Milliy avatarlar uchun atributlangan vizual dataset, 3D milliy avatar prototipi, Unreal Engine muhitida interaktiv VR sahna, foydalanuvchi tajribasini o‘lchovchi analitik modul, madaniy autentiklik bo‘yicha ekspert baholash mezonlari va ta’lim va turizmda qo‘llash uchun metodik tavsiyalar natijalarga erishish mumkin. Ushbu natijalar “Ilm-fan va texnologiyalar: global muammolar va innovatsion yechimlar” konferensiyasining raqamli texnologiyalar, sun’iy intellekt va ma’lumotlar tahlili yo‘nalishiga bevosita mos keladi.

XULOSA

Virtual muhitlar uchun milliy avatar obrazini yaratish bugungi raqamli texnologiyalar davrida dolzarb ilmiy-amaliy vazifadir. Maqolada milliy avatarni yaratish uchun “AI–3D–VR–Analytics” modeli taklif etildi. Ushbu model milliy-madaniy ma’lumotlarni raqamlashtirish, sun’iy intellekt yordamida atributlarni aniqlash, 3D model va teksturalarni ishlab chiqish, Unreal Engine muhitida interaktiv avatar yaratish va foydalanuvchi tajribasini ma’lumotlar tahlili asosida baholash bosqichlarini o‘z ichiga oladi. Taklif etilgan yondashuv milliy madaniyatni raqamli muhitda ifodalash, virtual ta’lim va turizmni rivojlantirish, metavers platformalarida O‘zbekistonning raqamli identifikatsiyasini shakllantirish uchun ilmiy asos yaratadi.

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DORI VOSITALARINI YARATISHDA SUN'IY INTELLEKT TEXNOLOGIYALARINING O'RNI

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Farg'ona jamoat salomatligi tibbiyot instituti Xalq tabobati va farmakologiya kafedrasi o'qituvchisi, ko'p tarmoqli bolalar shifoxona qoshidagi dorixona muduri oliy toifali farmasevt

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Annotatsiya: *Ushbu ilmiy maqolada sun'iy intellekt (AI) texnologiyalarining dori vositalarini yaratish jarayonidagi roli kompleks tarzda tahlil qilinadi. Xususan, AI asosidagi algoritmlarning molekulyar dizayn, target aniqlash, virtual skrining, farmakokinetik va farmakodinamik modellashtirishdagi qo'llanilishi yoritilgan. Shuningdek, sun'iy intellektning farmatsevtik tadqiqotlarni optimallashtirishdagi afzalliklari, cheklovlari va kelajakdagi istiqbollari ilmiy asosda baholangan.*

Kalit so'zlar: *sun'iy intellekt, farmakologiya, dori dizayni, machine learning, deep learning, farmakokinetika, ADMET, bioinformatika.*

Abstract: *This scientific article comprehensively analyzes the role of artificial intelligence (AI) technologies in the process of creating drugs. In particular, the application of AI-based algorithms in molecular design, target identification, virtual screening, pharmacokinetic and pharmacodynamic modeling is highlighted. Also, the advantages, limitations and future prospects of artificial intelligence in optimizing pharmaceutical research are scientifically assessed.*

Keywords: *artificial intelligence, pharmacology, drug design, machine learning, deep learning, pharmacokinetics, ADMET, bioinformatics.*

KIRISH

Farmatsevtika sanoati yuqori xarajat va uzoq muddat talab qiladigan murakkab jarayonlardan biri hisoblanadi. Statistik ma’lumotlarga ko‘ra, yangi dori vositasini yaratish o‘rtacha 10–15 yil davom etadi va milliardlab mablag‘ talab etadi. Ushbu muammolarni bartaraf etishda sun’iy intellekt texnologiyalarining joriy etilishi tub burilish yasamoqda.

Sun’iy intellekt katta hajmdagi biologik, kimyoviy va klinik ma’lumotlarni yuqori tezlikda qayta ishlash imkonini berib, dori yaratish jarayonining samaradorligini oshirmoqda. Ayniqsa, bioinformatika va hisoblash kimyosi bilan integratsiya AI’ning ahamiyatini yanada kuchaytirmoqda

Materiallar va metodlar

Mazkur tadqiqotda zamonaviy ilmiy manbalar (PubMed, ScienceDirect, Nature Reviews) asosida tahliliy (review) metod qo‘llanildi. AI algoritmlarining farmakologiyadagi qo‘llanilishi bo‘yicha mavjud ilmiy adabiyotlar sistematik tahlil qilindi.

ASOSIY QISM

1. Sun’iy intellektning nazariy asoslari

Sun’iy intellekt — bu murakkab tizimlarning o‘z-o‘zini o‘rganish va adaptiv qaror qabul qilish qobiliyatiga asoslangan texnologiyalar majmuasidir. Farmakologiyada quyidagi AI metodlari keng qo‘llaniladi:

Supervised learning — ma’lum ma’lumotlar asosida prognoz qilish

Unsupervised learning — yashirin naqshlarni aniqlash

Deep learning — neyron tarmoqlar orqali murakkab model qurish

Bu metodlar molekulyar biologiya va kimyo sohasidagi katta ma’lumotlar bilan ishlashda muhim ahamiyatga ega.

2. Dori vositalarini yaratishda AI qo‘llanilishining asosiy bosqichlari

2.1. Target identifikatsiyasi

AI genomik va proteomik ma’lumotlarni tahlil qilib, kasallikka sabab bo‘luvchi biologik nishonlarni aniqlaydi. Bu bosqichda “omics” texnologiyalar bilan integratsiya muhim rol o‘ynaydi.

2.2. Virtual skrining va hit identifikatsiyasi

AI algoritmlari millionlab kimyoviy birikmalarni tezkor tahlil qilib, biologik faol molekulalarni aniqlaydi. Bu jarayon **in silico** modellashtirish orqali amalga oshiriladi.

2.3. Lead optimizatsiyasi va dori dizayni

Deep learning modellari yangi molekulalarni generatsiya qilish imkonini beradi. Bu jarayonda:

- QSAR (Quantitative Structure-Activity Relationship)
- molekulyar docking
- generativ model (GAN, VAE)

kabi yondashuvlar qo‘llaniladi.

2.4. ADMET prognozlash

AI dorilarning:

- so‘rilishi (Absorption)
- taqsimlanishi (Distribution)
- metabolizmi (Metabolism)
- chiqarilishi (Excretion)
- toksikligi (Toxicity)

xususiyatlarini oldindan aniqlaydi. Bu esa klinik muvaffaqiyatsizlik riskini kamaytiradi.

2.5. Klinik sinovlarni optimallashtirish

AI bemorlarni stratifikatsiya qilish, klinik natijalarni prognozlash va sinovlarni tezlashtirishda qo‘llaniladi. Bu esa individual tibbiyot (precision medicine) rivojiga xizmat qiladi.

3. Sun’iy intellektning afzalliklari (ilmiy tahlil)

- Time-to-market qisqarishi
- R&D xarajatlarining kamayishi
- Predictive accuracy oshishi
- High-throughput screening imkoniyati
- Personalized medicine rivoji

AI yordamida dori ishlab chiqish samaradorligi bir necha barobarga oshishi mumkin.

4. Muammolar va cheklovlar (kritik tahlil)

Sun’iy intellektning farmakologiyadagi qo‘llanilishi quyidagi muammolar bilan cheklangan:

- **Data quality muammosi** — noto‘g‘ri yoki yetarli bo‘lmagan ma’lumot
- **Black-box modeli** — tushuntiriluvchanlik past
- **Regulyator muammolar** — AI asosidagi dorilarni tasdiqlash murakkab
- **Etik masalalar** — ma’lumot maxfiyligi va xavfsizlik

5. Kelajak istiqbollari

Kelajakda AI quyidagi yo‘nalishlarda rivojlanadi:

- Genomika bilan integratsiya
- Real-time klinik monitoring
- Avtonom dori dizayni
- Raqamli farmakologiya platformalari

AI asosida to‘liq avtomatlashtirilgan dori yaratish tizimlari ishlab chiqilishi kutilmoqda.

Natijalar va muhokama

Tahlillar shuni ko‘rsatadiki, sun’iy intellekt farmatsevtika sanoatida samaradorlikni oshirish va risklarni kamaytirishda muhim vosita hisoblanadi. Ayniqsa, preklinik bosqichda AI qo‘llanilishi eng katta natija bermoqda. Shu bilan birga, texnologiyaning to‘liq integratsiyasi uchun ilmiy va texnik muammolarni hal etish talab etiladi.

XULOSA

Sun’iy intellekt farmakologiya sohasida inqilobiy o‘zgarishlarni yuzaga keltirmoqda. U dori vositalarini yaratish jarayonini tezlashtirib, samaradorligini oshirib va xarajatlarni kamaytirib, tibbiyot rivojiga katta hissa qo‘shmoqda. Kelajakda AI farmatsevtika sanoatining ajralmas qismiga aylanishi kutilmoqda.

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RAQAMLI TRANSFORMATSIYA DAVRIDA SUN'IY INTELLEKT VOSITALARINING OLIY TA'LIM SIFATIGA TA'SIRI

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JDPU Filologiya fakuteti "Xorijiy til va adabiyoti: ingliz tili" yo'nalishi 1-bosqich talabasi

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Annotatsiya: *Ushbu maqolada sun'iy intellekt (SI) texnologiyalarining oliy ta'lim tizimiga integratsiyalashuvi, uning ta'lim sifatiga ko'rsatayotgan ijobiy va salbiy ta'sirlari kompleks tahlil qilinadi. Tadqiqot davomida adaptiv ta'lim platformalari, generativ til modellari, avtomatlashtirilgan baholash tizimlari va aqlli repetitorlik dasturlarining pedagogik samaradorligi o'rganiladi. Shuningdek, sun'iy intellektdan foydalanishda yuzaga kelayotgan akademik halollik, tanqidiy fikrlashning susayishi, raqamli tengsizlik va ma'lumotlar xavfsizligi kabi muammolar chuqur yoritiladi. Maqola yakunida oliy ta'lim muassasalari uchun SI'ni mas'uliyatli joriy etish bo'yicha amaliy tavsiyalar ishlab chiqilgan.*

Kalit so'zlar: *sun'iy intellekt, raqamli ta'lim, adaptiv o'qitish, generativ SI, akademik halollik, oliy ta'lim sifati, raqamli transformatsiya, ChatGPT, individual ta'lim trayektoriyasi.*

Annotation: *This article provides a comprehensive analysis of the integration of artificial intelligence (AI) technologies into the higher education system and their positive and negative impacts on educational quality. The study examines the pedagogical effectiveness of adaptive learning platforms, generative language models, automated assessment systems, and intelligent tutoring programs. It also deeply explores issues such as academic integrity, the decline of critical thinking, digital inequality, and data security arising from AI use. The article concludes with practical recommendations for higher education institutions on the responsible implementation of AI.*

***Keywords**: artificial intelligence, digital education, adaptive learning, generative AI, academic integrity, higher education quality, digital transformation, ChatGPT, individual learning trajectory.*

KIRISH

XXI asrning uchinchi o‘n yilligida sun’iy intellekt texnologiyalari jamiyat hayotining deyarli barcha jabhalariga shiddat bilan kirib kelmoqda. Ta’lim sohasi, ayniqsa oliy ta’lim tizimi bu transformatsiyaning eng faol ishtirokchisiga aylanmoqda. An’anaviy ma’ruza tinglash, konspektlashtirish va bir xil standartdagi imtihon topshirishga asoslangan ta’lim modeli bugungi avlodning ehtiyojlariga to‘liq javob bermay qoldi. 2022-yil oxirida ChatGPT va shunga o‘xshash generativ sun’iy intellekt vositalarining ommalashuvi ta’lim sohasida haqiqiy paradigma o‘zgarishini boshlab berdi.

Bugungi talabalar individual yondashuvni, shaxsiylashtirilgan o‘quv trayektoriyasini, tezkor va obyektiv qayta aloqani, shuningdek, o‘quv materiallarini o‘zlashtirishda moslashuvchanlikni taqozo etmoqda. An’anaviy usullar bilan bir guruhda 50-100 nafar talabaga bir xil yondashuvni qo‘llash, ularning har birining o‘ziga xos bilim darajasi, o‘rganish uslubi, qiziqishlari va sur’atini hisobga olish deyarli imkonsiz. Aynan shu bo‘shliqni sun’iy intellektga asoslangan aqlli tizimlar to‘ldirish imkoniyatiga ega.

Biroq, har qanday kuchli texnologiya singari, sun’iy intellekt ham o‘zi bilan bir qator xatar va chaqiriqlarni olib keladi. Akademik halollik masalasi keskinlashdi – talabalar ilmiy ishlar, kurs ishlari va diplom loyihalarini butunlay SI yordamida tayyorlash holatlari ko‘paydi. Bundan tashqari, doimiy tayyor javoblardan foydalanish tanqidiy fikrlashning susayishiga, bilimlarni yuzaki o‘zlashtirishga olib kelishi mumkin. Ushbu maqolaning maqsadi – sun’iy intellektning oliy ta’limdagi imkoniyatlari va xatarlarini har tomonlama tahlil qilib, mas’uliyatli joriy etish bo‘yicha ilmiy asoslangan tavsiyalar ishlab chiqishdan iborat.

Zamonaviy tadqiqotlar va amaliyot sinovi sun’iy intellektning ta’limdagi quyidagi asosiy qo‘llanish sohalarini ajratib ko‘rsatmoqda:

Adaptiv o‘qitish tizimlari. Bu platformalar sun’iy intellekt algoritmlari yordamida har bir talabaning bilim darajasi, o‘rganish uslubi, kuchli va zaif tomonlarini aniqlab, unga moslashtirilgan individual ta’lim trayektoriyasini yaratadi. Masalan, Arizona shtat universitetida joriy etilgan adaptiv matematika platformasi talabalarning murakkab mavzularni o‘zlashtirish ko‘rsatkichini 23 foizga oshirgan. Talaba biror tushunchani o‘zlashtira olmasa, tizim avtomatik tarzda alternativ tushuntirish uslubini, qo‘shimcha videodars yoki interaktiv mashqni taklif qiladi. Natijada har bir talaba o‘z sur’atida, o‘ziga mos uslubda bilim olish imkoniyatiga ega bo‘ladi.

Generativ til modellari (ChatGPT, Claude, Gemini). Bu vositalar eng qisqa vaqt ichida ta’limda inqilobiy o‘zgarishlarni yuzaga keltirdi. Talabalar endilikda murakkab mavzular bo‘yicha tushuntirishlarni 24/7 rejimida olishlari, insho va referat loyihalarini tayyorlashda ko‘maklashishlari, chet tillarida matn yozish va tarjima qilish amaliyotini bajarishlari mumkin. Professor-o‘qituvchilar esa dars ishlanmalarini yaratish, test savollari variantlarini generatsiya qilish va o‘quv materiallarini turli darajadagi talabalarga moslashtirish uchun generativ SI’dan foydalanmoqda. Biroq bu vositalarning eng katta xatari – talabalar ularni tushunish va tahlil qilish vositasi sifatida emas, balki tayyor javob manbai sifatida qabul qilishidir.

Avtomatlashtirilgan baholash tizimlari. SI’ga asoslangan baholash vositalari nafaqat standart test shaklidagi topshiriqlarni, balki murakkab yozma ishlar, insholar va hatto dasturiy kodlarni ham tekshirish va baholash imkoniyatiga ega. Bunday tizimlar nafaqat to‘g‘ri yoki noto‘g‘ri javobni aniqlaydi, balki yozma ishning mantiqiy tuzilishi, dalillar asoslanganligi, grammatik to‘g‘riligi va hatto plagiat mavjudligini ham tekshiradi. Bu esa o‘qituvchilarning takroriy tekshiruv ishlariga sarflaydigan vaqtini tejab, ularga talabalar bilan individual maslahatlashish, ilmiy

tadqiqot va dars sifatini oshirishga ko‘proq e’tibor qaratish imkoniyatini beradi. Coursera va edX kabi platformalarda bu tizim bir vaqtning o‘zida millionlab talabalarning ishlarini baholashga qodir.

Aqlli repetitorlik va virtual yordamchilar. 24 soat davomida ishlaydigan chatbotlar va virtual assistentlar talabalarga o‘quv jarayoni bo‘yicha tezkor maslahatlar, tashkiliy yordam va hatto ruhiy qo‘llab-quvvatlashni taqdim etmoqda. Misol uchun, Georgia Tech universitetida “Jill Watson” nomli virtual yordamchi talabalarning forumdagi minglab savollariga javob bergan va talabalar uning inson emasligini sezmagan. Bunday tizimlar, ayniqsa, masofaviy ta’lim va MOOC (ommaviy ochiq onlayn kurslar) sharoitida beqiyos ahamiyatga ega.

Learning Analytics (O‘quv tahliliy tizimlari). SI’ning katta ma’lumotlarni qayta ishlash qobiliyati universitet rahbariyatiga talabalarning o‘quv faoliyatini makro darajada tahlil qilish imkoniyatini beradi. Tizim dars qoldirish ehtimoli yuqori bo‘lgan, o‘zlashtirishi past yoki o‘qishni tashlab ketish xavfi mavjud talabalarni oldindan aniqlab, ularga individual yordam dasturlarini taklif qilishi mumkin.

Imkoniyatlar: SI oliy ta’lim sifatini qanday oshiradi?

Ta’limni individuallashtirish va demokratlashtirish. Eng katta ustunlik – har bir talabaga individual yondashuv imkoniyatining paydo bo‘lishidir. Ilgari bunday yondashuv faqat repetitorlik yoki elita ta’lim muassasalarida mavjud bo‘lgan bo‘lsa, endilikda istalgan talaba smartfoni orqali shaxsiy repetitorga ega bo‘lishi mumkin. Bu, ayniqsa, chekka hududlardagi, sifatli ta’lim olish imkoniyati cheklangan talabalar uchun katta imkoniyatdir.

Professor-o‘qituvchilar yuklamasini kamaytirish. Yuqorida ta’kidlanganidek, avtomatlashtirilgan tekshiruv va ma’muriy jarayonlarni SI’ga topshirish orqali o‘qituvchilar o‘zlarining asosiy vazifasi – ta’lim berish, tadqiqot olib borish va talabalarga murabbiylik qilishga ko‘proq vaqt ajratishi mumkin.

Inklyuziv ta’lim imkoniyatlari. SI vositalari maxsus ehtiyojli talabalar uchun keng imkoniyatlar yaratadi: ovozli yordamchilar ko‘zi ojiz talabalar uchun, subtitr generatorlari eshitish qobiliyati cheklangan talabalar uchun ta’limni yanada qulay qiladi.

Global miqyosdagi hamkorlik. Tarjima vositalari va madaniyatlararo kommunikatsiyadagi SI’ning rivojlanishi turli mamlakatlardagi talaba va o‘qituvchilarning birgalikdagi loyihalarda ishtirok etishini ancha yengillashtiradi.

Xatar va chaqiriqlar: nimadan ehtiyot bo‘lish kerak?

Akademik halollikning yemirilishi. Eng katta va eng keskin muammo – talabalar tomonidan ilmiy ishlarni to‘liq SI’ga yozdirish holatlari. An’anaviy plagiat tekshiruv tizimlari SI tomonidan generatsiya qilingan matnni aniqlay olmasligi sababli, universitetlar yangi nazorat usullarini izlashga majbur bo‘lmoqda. Ayrim oliy o‘quv yurtlari SI’dan foydalanishni butunlay taqiqlash yo‘lidan borayotgan bo‘lsa, boshqalari undan ochiq foydalanishga ruxsat berib, lekin jarayonni shaffof hujjatlashtirishni talab qilmoqda.

Tanqidiy fikrlash va bilimlarning yuzakilashuvi. Doimiy tayyor javoblarga tayanish oqibatida talabalarda muammolarni chuqur tahlil qilish, mustaqil xulosa chiqarish va yechim topish ko‘nikmalari rivojlanmay qolishi xavfi mavjud. Google effekti (kerakli ma’lumotni eslab qolmasdan, uni qidirishga odatlanish) endi yanada kuchayib, “ChatGPT effekti”ga aylanmoqda.

Raqamli tengsizlik. SI vositalarining keng joriy etilishi sifatli internet, zamonaviy qurilmalar va pullik servislarga ega talabalar bilan bunday imkoniyatlarga ega bo‘lmagan talabalar o‘rtasidagi farqni yanada kattalashtirishi mumkin. Bu esa ta’limdagi mavjud ijtimoiy tengsizlikni yangi bosqichga olib chiqadi.

Ma’lumotlar maxfiyligi va algoritmik adolat. O‘quv tahliliy tizimlari ulkan hajmdagi shaxsiy ma’lumotlarni yig‘adi. Bu ma’lumotlarning qanday saqlanishi,

kim tomonidan foydalanilishi va qanday maqsadlarda qo‘llanilishi masalalari huquqiy va axloqiy jihatdan to‘liq tartibga solinmagan.

Sun’iy intellekt vositalari oliy ta’lim tizimini tubdan o‘zgartirish salohiyatiga ega kuchli katalizator ekanligi shubhasiz. U ta’limni individuallashtirish, professor-o‘qituvchilar faoliyatini optimallashtirish, inklyuzivlikni ta’minlash va o‘quv jarayonining samaradorligini oshirishda mislsiz imkoniyatlarni taqdim etmoqda. Shu bilan birga, bu texnologiyalarni joriy etishda muvozanatli va mas’uliyatli yondashuv hayotiy ahamiyatga ega.

Universitetlar sun’iy intellektga qarshi kurashish o‘rniga, undan oqilona foydalanish strategiyasini ishlab chiqishi kerak. Bu strategiya quyidagi tamoyillarga asoslanishi lozim: birinchidan, talabalarda SI vositalaridan axloqiy va samarali foydalanish ko‘nikmalarini shakllantirish; ikkinchidan, baholash usullarini qayta ko‘rib chiqish – faqat yakuniy natijani emas, balki jarayonni, tanqidiy tahlilni, ijodiy yondashuvni baholaydigan yangi mezonlarni joriy etish; uchinchidan, o‘qituvchining markaziy roli saqlanib qolishi shart – sun’iy intellekt o‘qituvchini almashtirmaydi, balki uning yordamchisi, ko‘makchisi bo‘lib xizmat qiladi.

Kelgusidagi tadqiqotlar SI algoritmlarining shaffofligi va tushuntiriluvchanligi, milliy ta’lim tizimlariga moslashtirilgan modellar yaratish va uzluksiz ta’limda SI’ning roli kabi yo‘nalishlarga qaratilishi maqsadga muvofiq.

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SUN'IY INTELLEKT YORDAMIDA SHARTNOMA TUZISH: SHARTNOMA TUZISH NIYATI

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Annotatsiya *Ushbu maqolada sun'iy intellekt yordamida shartnoma tuzish jarayoni va unda shartnoma tuzish niyatining huquqiy ahamiyati tahlil qilinadi. Tadqiqotda SI tizimlarining avtonomligi shartnoma huquqining an'anaviy tamoyillari, xususan, insonning aqliy faoliyati va iroda ifodasi bilan bog'liqligi nuqtayi nazaridan o'rganiladi. Shuningdek, SI ishtirokida tuziladigan bitimlarda niyatning mavjudligi masalasi nazariy va amaliy jihatdan baholanadi. Maqolada milliy va xorijiy huquqiy yondashuvlar qiyosiy tahlil qilinib, SI tizimlarining shartnoma tuzishdagi huquqiy maqomi yuzasidan xulosalar beriladi. Natijada, zamonaviy raqamli muhitda shartnoma huquqini takomillashtirish zarurati asoslanadi. Shuningdek, maqolada sun'iy intellektning qaror qabul qilish jarayonidagi noaniqliklar va ularning huquqiy oqibatlari yoritilib, kelgusidagi normativ rivojlanish yo'nalishlari haqida tavsiyalar beriladi.*

Abstract *The article analyzes the process of contract formation using artificial intelligence and the legal significance of the intention to conclude a contract within this context. The study examines the autonomy of AI systems from the perspective of traditional principles of contract law, particularly their relationship with human mental activity and expression of will. It also assesses, both theoretically and practically, the issue of the presence of intent in agreements involving AI systems. The article provides a comparative analysis of national and foreign legal approaches and draws conclusions regarding the legal status of AI systems in contract formation. As a result, the necessity of improving contract law in the modern digital environment is substantiated. Furthermore, the article highlights uncertainties in AI decision-making processes and their legal consequences, offering recommendations for future regulatory developments.*

Kalit so‘zlar: *sun’iy intellekt, shartnoma, shartnoma tuzish niyati, nazariya, qonun, aqliy faoliyati, avtonomiya.*

Keywords: *artificial intelligence, contract, intention to form a contract, theory, law, mental activity, autonomy.*

KIRISH

Hozirgi davrda sun’iy intellekt texnologiyalari iqtisodiy va huquqiy munosabatlarning barcha sohalariga jadal sur’atlar bilan kirib kelmoqda. Shartnomaviy munosabatlar ham ushbu texnologik o‘zgarishlardan mustasno emas, sun’iy intellekt tizimlarining shartnoma tuzish, bajarish va nazorat qilish jarayonlarida qo‘llanilishi butun dunyoda huquqshunoslar oldiga yangi va murakkab nazariy hamda amaliy savollarni qo‘ymoqda. “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi”da sun’iy intellektni mamlakatimizda muvaffaqiyatli amalga oshirish uchun “Sun’iy intellekt texnologiyalarini 2023–2030-yillarda rivojlantirish Strategiyasi”ni ishlab chiqish bo‘yicha aniq vazifalar belgilab berildi[1]. Shuningdek, O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni[2] qabul, qilingan bo‘lib, shartnomaviy munosabatlarda sun’iy intellekt qo‘llanilishining huquqiy jihatlari tahlil qilinmagan, ushbu munosabatlarning huquqiy tartibga solinmaganligi uni tadqiqot qilishni talab qilmoqda. Shartnomaing asosiy elementlaridan biri bo‘lgan shartnoma tuzish niyatini sun’iy intellekt qo‘llanilishida ifodalanishini tahlil etamiz.

ASOSIY QISM

[1] O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi “2022-2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi PF-60-son Farmoni // O‘zbekiston Respublikasi qonun hujjatlari ma’lumotlari milliy bazasi, www.lex.uz.

[2] O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni available at: https://lex.uz/docs/-8008401

O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni[3]ga asosan, sun’iy intellekt - insonning bilim va ko‘nikmalariga taqlid qilish, shu jumladan mustaqil ravishda o‘rganish va yechimlarni izlash hamda aniq vazifalarni bajarishda inson aqliy faoliyati natijalari bilan taqqoslanadigan natijalarni olish imkonini beradigan texnologik yechimlar majmuidir. Sun’iy intellekt tushunchasini aniq belgilash oson emas. Uning turli ta’riflari mavjud bo‘lib, ba’zilari ma’lum kompyuter texnikalariga, boshqalari esa inson aql-idrokiga asoslanadi[4]. Biroq, bunday ta’riflar an’anaviy kompyuter tizimlarini ham qamrab olish xavfini tug‘diradi[5]. Shu sababli va tushunchaning texnologik neytralligini ta’minlash uchun, Maarten Herboschning fikriga ko‘ra, ushbu yondashuvda “avtonomiya” atrofida shakllangan ta’rifni afzal ko‘rgan. Shunga ko‘ra, sun’iy intellekt tizimlari “atrof-muhitini tahlil qilib, muayyan maqsadlarga erishish uchun – ma’lum darajada avtonomiya bilan – harakatlar qiladigan va aqlli xatti-harakatlarni namoyon etadigan tizimlar” deb ta’riflanishi mumkin[6]. Olimning fikriga qo‘shilgan holatda, biz sun’iy intellekt (keying o‘rinlarda SI) ga quyidagicha ta’rif beramiz: cheklangan avtonomiya bilan harakat qilib, insonning aqliy faoliyatini taqlid qiladigan da’sturiy ta’minotdir. SI

[3] O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni available at: https://lex.uz/docs/-8008401

[4] Maura R. Grossman/Gordon V. Cormack, The Grossman-Cormack Glossary of Technology-Assisted Review, Federal Courts Law Review 7 (2014) 85-112, 87; N.C. Van Oostrom-Streep, Over de ethiek van de toekomst en achterhaalde concepten, WPNR 2017, 563-567, 563; Mircea-Constantin Scheau/Adrian-Liviu Arsene/Gabriel Popescu, Artificial Intelligence/Machine Learning Challenges and Evolution, International Journal of Information Security and Cybercrime 2018, 11-22, 12; Ronald Yu/Gabriele Ali, What's Inside the Black Box? AI Challenges for Lawyers and Researchers, Legal Information Management 19 (2019) 2-13, 2; Christian Linke, Digitale Wissensorganisation: Wissenszurechnung beim Einsatz autonomer Systeme (2021) 27. Also see Ashley Deeks, The Judicial Demand for Explainable Artificial Intelligence Essays, Columbia Law Review 119 (2019) 1829-1850, 1832.

[5] Annex I of the AI act refers, for example, to statistical approaches. Not all computer algorithms deploying statistical approaches present the risks that warrant the specific legislation that the AI act, provides however.

[6] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: Artificial Intelligence for Europe, 25 April 2018, <https://eur-lex.europa.eu/legal-content/ENG/TXT/HTML/?uri=CELEX:52018DC0237> (24 April 2023), paragraph 1.

tizimlarining avtonom xususiyati qo‘llanish sohasi qanday bo‘lishidan qat’i nazar, ularni an’anaviy kompyuter tizimlariga nisbatan huquqiy jihatdan murakkabroq qiladi. Avtonomiyaning asosiy oqibatlaridan biri shundaki, zamonaviy sun’iy intellekt tizimlarining kelgusidagi faoliyati va natijalarini na foydalanuvchi, na ishlab chiqaruvchi to‘liq darajada oldindan bashorat qila oladi. Masalan, foydalanuvchi SI tizimidan Mona Lisa portretini taqdim etishni so‘raganda, tizim har doim ham aynan asl asarni emas, balki uning qayta ishlangan, stilizatsiya qilingan yoki boshqa variantini taqdim etishi mumkin. Bu esa tizim natijalarining oldindan to‘liq aniqlik bilan bashorat qilinmasligini ko‘rsatadi. Sun’iy intellekt tizimlaridan foydalanish bilan bog‘liq o‘ziga xos muammo shundan iboratki, shartnoma tuzish an’anaviy ravishda inson niyatiga asoslanadi. Shu bois, bevosita inson aralashuvisiz mustaqil ravishda qaror qabul qiluvchi SI tizimlari mazkur talablarga qay darajada javob bera olishi masalasi noaniq bo‘lib qolmoqda[7]. Shartnomalar tomonlarning niyatining oddiy kelishuvidan yakka kelishuv asosida yuzaga keladi deb tasvirlanadi[8]. O‘zbekiston Rspublikasi Fuqarolik kodeksining 367-moddasiga asosan, bir yoki bir necha muayyan shaxsga yuborilgan, yetarli darajada aniq bo‘lgan va taklifni kiritgan shaxsning o‘zini taklif yo‘llangan va uni qabul qiladigan shaxs bilan shartnoma tuzgan deb hisoblash niyatini ifoda etadigan taklif oferta hisoblanadi. Bu moddada ko‘rib to‘rganimizdek, shartnoma tuzish niyati ham qisqa holatda ifoda etilgan bo‘lib, u oferta tarkibida o‘z aksini topgan. Bunda shartnoma tuzish niyatining subyektivliligi muhim hisoblanib, masalan, A tomoni B tomoniga tegishli, ro‘yxatdagi qiymati 49 000 yevro bo‘lgan yangi avtomobil uchun taklif bermoqchi. A tomoni 5 000 yevro taklif qilmoqchi bo‘ladi, biroq xatolik bilan o‘z taklifida 50 000 yevro deb yozib yuboradi. Sotuvchi esa A

[7] Maarten Herbosch. Contracting with artificial intelligence: a comparative analysis of the intent to contract. Published in Rabels Zeitschrift für ausländisches und internationales Privatrecht, volume 88, issue NIX, 2024[10.1628/rabelsz-2023-0076]

[8] Maarten Herbosch. Contracting with artificial intelligence: a comparative analysis of the intent to contract. Published in Rabels Zeitschrift für ausländisches und internationales Privatrecht, volume 88, issue NIX, 2024[10.1628/rabelsz-2023-0076]

tomoni 50 000 yevro taklif qilmoqchi deb hisoblab, ushbu taklifni qabul qiladi. Niyat doktrinasining qat'iy qo'llanilishiga ko'ra, bunday holatda shartnoma tuzilmaydi[9]. Mana shu misolda sun'iy intellekt ishtirok etsa, niyat doktrinasi orqali muammo hali etilishi mumkin emas, ya'ni Sun'iy intellekt yordamidan foydalanayotgan tomoni (keying o'rinlarda SI dan foydalanayotgan shaxs) B tomoniga tegishli, ro'yxatdagi qiymati 49 000 yevro bo'lgan yangi avtomobil uchun taklif bermoqchi. Sun'iy intellekt yordamidan foydalanayotgan tomoni 5 000 yevro taklif qilmoqchi bo'ladi, biroq xatolik bilan o'z taklifida 50 000 yevro deb yozib yuboradi. Sotuvchi esa Sun'iy intellekt yordamidan foydalanayotgan tomoni 50 000 yevro taklif qilmoqchi deb hisoblab, ushbu taklifni qabul qiladi. Bu holatda an'anaviy shartnoma huquqidagi niyat tushunchasini qo'llay olmaymiz, chunki bu shartnomani tuzayotgan sun'iy intellekt shaxs emas, shuningdek, uni bu shartnomani tuzayotganini sun'iy intellektdan foydalanayotgan shaxs bilmasligi yoki shartlarini batafsil o'qimagan bo'lishi mumkin. Bu holatda SI dan foydalanayotgan shaxs SI dan foydalanayotganini ko'rsatishi, shuningdek boshqacha narx taklif etilganida sotuvchi bu narx haqida SI dan foydalanayotgan shaxsni xabardor qilishi kerak, ya'ni pul o'tkazilayotgan vaqtida SI dan foydalanayotgan shaxsga xabarnoma yuborishi yoki taklifni aniqlashtirish uchun savollar berishi mumkin. Ingliz shartnoma huquqida tijorat subyektlari o'rtasida tuziladigan kelishuvlarda shartnoma tuzish niyati mavjudligi taxmin qilinib, biznes yoki tijorat munosabatlari doirasida tuzilgan bitimlarda, aksincha holat isbotlanmaguncha, tomonlar shartnoma tuzishga qasd qilgan deb hisoblanadi[10]. Shartnoma tuzish niyatining mavjudligi tomonlarning qonuniy kutishlarida aks ettirilib, ularning birining harakati, ikkinchisi oqilona kutishida ifodalanadi. Yuqoridagi misolimizni davom ettirib, sotuvchi

[9] Inspired from Van Gerven, Beginselen van Belgisch privaatrecht 1: Algemeen deel (n. 33) 302-303. See also Weill, Droit civil: Les Obligations (n. 33) 74, no. 76; Claeys/Tanghe, Algemeen contractenrecht (n. 29) 136-137, no. 157.

[10] Mamanazarov S. Ingliz shartnoma huquqiga kirish. O'quv qo'llanma. 2026

oqilona muddat davomida SI dan foydalangan shaxsning taklifini o‘zgartirishini yoki to‘lov qilishi kutishida ifodalaniladi, SI dan foydalangan shaxs esa bevosita o‘zi to‘lov qilishi yoki xabarnoma kelgandan so‘ng taklifni o‘zgartirishi mumkin.

XULOSA

Sun’iy intellekt orqali shartnoma tuzishda shartnoma tuzish niyati niyat nazariyasi orqali ifoda etib bo‘lmaydi, shu bois sun’iy intellektning vositachi nazariyasiga asoslanib, xabarnoma yuborish tartibi joriy etilishi lozim, deb hisoblaymiz. Shuningdek, agar SI dan foydalanayotgan shaxs SI ga qanday shartnomalar tuzish , ularning evazi, tuzish niyati, onlayn to‘lovni amalga oshirish haqida o‘qitgan bo‘lsa, mavjud xatoliklar uchun SI dan foydalangan shaxsning o‘zi javobgarlikka tortilishi lozim. Agar sotuvchi SI dan foydalangan shaxsga xabarnoma yubormasa, bu shartnomada shartnoma tuzish niyati mavjud emas, deb hisoblash lozim.

FOYDALANILGAN ADABIYOTLAR RO‘YXATI:

1. O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi “2022-2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi PF-60-son Farmoni // O‘zbekiston Respublikasi qonun hujjatlari ma’lumotlari milliy bazasi, www.lex.uz.
2. O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni available at: https://lex.uz/docs/-8008401
3. O‘zbekiston Respublikasining “Sun’iy intellektni qo‘llash orqali yuzaga keladigan munosabatlar tartibga solinishi munosabati bilan O‘zbekiston Respublikasining ayrim qonun hujjatlariga qo‘shimcha va o‘zgartirishlar kiritish to‘g‘risida” gi Qonuni available at: https://lex.uz/docs/-8008401
4. Mamanazarov S. Ingliz shartnoma huquqiga kirish. O‘quv qo‘llanma. 2026

5. Maarten Herbosch. Contracting with artificial intelligence: a comparative analysis of the intent to contract. Published in Rabels Zeitschrift für ausländisches und internationales Privatrecht, volume 88, issue NIX, 2024[10.1628/rabelsz-2023-0076]

6. *Maura R. Grossman/Gordon V. Cormack*, The Grossman-Cormack Glossary of Technology-Assisted Review, Federal Courts Law Review 7 (2014) 85-112, 87; *N.C. Van Oostrom-Streep*, Over de ethiek van de toekomst en achterhaalde concepten, WPNR 2017, 563-567, 563; *Mircea-Constantin Scheau/Adrian-Liviu Arsene/Gabriel Popescu*, Artificial Intelligence/Machine Learning Challenges and Evolution, International Journal of Information Security and Cybercrime 2018, 11-22, 12; *Ronald Yu/Gabriele Ali*, What's Inside the Black Box? AI Challenges for Lawyers and Researchers, Legal Information Management 19 (2019) 2-13, 2; *Christian Linke*, Digitale Wissensorganisation: Wissenszurechnung beim Einsatz autonomer Systeme (2021) 27. Also see *Ashley Deeks*, The Judicial Demand for Explainable Artificial Intelligence Essays, Columbia Law Review 119 (2019) 1829-1850, 1832.

7. Annex I of the AI act refers, for example, to statistical approaches. Not all computer algorithms deploying statistical approaches present the risks that warrant the specific legislation that the AI act, provides however.

8. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: Artificial Intelligence for Europe, 25 April 2018, <*https://eur-lex.europa.eu/legal-content/ENG/TXT/HTML/?uri=CELEX:52018DC0237*> (24 April 2023), paragraph 1.

9. Inspired from *Van Gerven*, Beginselen van Belgisch privaatrecht 1: Algemeen deel (n. 33) 302-303. See also *Weill*, Droit civil: Les Obligations (n. 33) 74, no. 76; *Claeys/Tanghe*, Algemeen contractenrecht (n. 29) 136-137, no. 157.

WHY ARTIFICIAL INTELLIGENCE CANNOT REPLACE A REAL TEACHER IN FOREIGN LANGUAGE LEARNING: A COMPARATIVE ANALYSIS OF EFFECTIVENESS

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Abstract *(in the language of the article and in English). This article presents a critical comparative analysis of the instructional potential of artificial intelligence systems and human educators in the context of foreign language teaching. Drawing on data from current research*

published between 2023 and 2025 (OECD, ScienceDirect, Cambridge Assessment, MIT CSAIL, Wharton School), the study systematises the key limitations of AI platforms: the absence of emotional intelligence, their inability to foster cognitive autonomy in learners, and their failure to convey the living sociocultural context of language. The phenomena of the illusion of knowledge and the erosion of academic self-sufficiency associated with excessive AI use are examined in detail. The article argues for a hybrid pedagogical model in which the teacher retains the role of an irreplaceable cognitive and social mediator of the learning process.

Keywords: *artificial intelligence, foreign language teaching, learning effectiveness, emotional intelligence,* hybrid model, cognitive autonomy.

INTRODUCTION

The integration of artificial intelligence into education is advancing at an unprecedented pace. According to OECD Education at a Glance 2024, by the end of 2024 more than 47% of educational institutions in G20 countries had incorporated AI tools into their instructional processes in some form. The AI-driven EdTech market was valued at USD 6.1 billion in 2023 and is projected by Grand View Research to reach USD 25.7 billion by 2030. In the domain of foreign language learning alone, platforms such as Duolingo AI, Speak, Elsa Speak, and ChatGPT-based tutors collectively record over 600 million active users per month.

Despite these impressive figures, well-founded concern is growing in academic circles: is technological optimism outpacing pedagogical reality? The question of whether artificial intelligence can replace a human teacher has moved from philosophical debate into an applied problem of educational policy. This article does not seek to deny the value of AI as a tool; on the contrary, its aim is to draw a rigorous distinction between what AI does well, what it does inadequately, and what remains fundamentally beyond the reach of any algorithmic system in the pedagogical process.

The methodological foundation of the present study consists of a systematic literature review, a meta-analysis of quantitative research from 2023 to 2025, and

qualitative data gathered through interviews with practising foreign language teachers.

Review of Current Research (2023-2025).

A meta-analysis published in Computers & Education (2024), covering 87 controlled studies with a combined sample of more than 32,000 learners, recorded a mean effect size for AI-assisted learning of g = 0.74, a statistically significant figure, but one that is fundamentally context-dependent. The effect size was substantially higher (g = 0.91) in hybrid models where AI complemented a live teacher, and noticeably lower (g = 0.55) when the teacher was replaced entirely by a digital system.

A study by the Stanford Language Center (2024), conducted across 14 universities in the United States and Europe, found that students who had systematically used AI tutors without teacher supervision scored 23% lower on spontaneous speech tasks compared with a blended-learning group. Concurrently, a Cambridge Assessment English study (2023) identified a statistically significant correlation between intensive autonomous AI use and declining scores on standardised examinations (IELTS and Cambridge B2/C1), with a correlation coefficient of $r = -0.38$, $p < 0.001$.

Survey data are equally telling. According to the MIT Teaching and Learning Lab (2024), which surveyed 4,200 students across 18 countries, 62% of respondents agreed that using AI had diminished their ability to learn independently. An EdWeek Research Center survey (2024) found that over 60% of foreign language teachers use AI in their work, yet 78% of them characterise it exclusively as a supplementary tool, incapable of conducting a full instructional process on its own.

Comparative Analysis: Artificial Intelligence vs. the Human Teacher.

The table below systematises the comparative characteristics of AI systems and human teachers across the key parameters of language learning. It provides the analytical framework for the discussion that follows.

Criterion	**Artificial Intelligence**	**Human Teacher**
Learning personalisation	Algorithmic (pattern-based)	Intuitive, emotionally responsive
Feedback quality	Instant but context-limited	Deep, attuned to the individual learner
Motivation	Gamification, scores, reminders	Empathy, inspiration, mentorship
Cultural context	Surface-level (data without lived experience)	Rich, multi-layered, biographical
Critical thinking	Does not develop; reproduces patterns	Stimulated through dialogue and debate
Emotional intelligence	Absent	A core pedagogical instrument
Adaptive response	Constrained by training data	Real-time contextual adaptation
Academic integrity	Encourages dependency and dishonesty	Builds responsibility and autonomy
Long-term outcomes	Weak without systemic support	Durable, integrated competencies
Social interaction	Simulated	Authentic, language-generative
Accessibility / scale	High, available 24/7	Limited by time and resources
Cost	Relatively low	Higher, yet pedagogically justified

The table demonstrates that the advantages of AI are predominantly quantitative in nature (availability, scale, cost), whereas the teacher's advantage is concentrated in the qualitative, processual, and existential dimensions of educational interaction.

Key Limitations of Artificial Intelligence.

4.1. The Illusion of Knowledge and the Suppression of Cognitive Autonomy.

The most serious pedagogical deficit of AI is not the inaccuracy of the information it produces, a phenomenon widely known as hallucination, but the systematic formation of cognitive dependency in learners. Researchers at Wharton School (Atkin et al., 2024) have termed this epistemic scaffolding collapse: a

situation in which external support so thoroughly displaces internal cognitive work that, once removed, the learner is left helpless. In an experiment conducted at the University of Toronto (2024), students who had prepared an L2 essay with the assistance of ChatGPT scored 31% lower on argumentation quality in an exam without AI access compared with the control group.

This phenomenon is closely related to the concept of the illusion of knowing, first described by Bjork and Kornell in 1998 but acquiring a new pedagogical dimension in the era of generative AI. When a system instantly and flawlessly articulates what a learner only dimly senses, that learner forms a false conviction of understanding: they observe the correct answer but are spared the mental labour of constructing it, that is, they are deprived of precisely the process that constitutes the essence of learning.

4.2. The Absence of Emotional Intelligence and Pedagogical Intuition.

Language learning, unlike, for instance, the learning of mathematics, has a fundamentally different affective dimension. Acquiring a foreign language entails vulnerability: the fear of making mistakes, the shame of an accent, the anxiety of communicative failure. Contemporary operationalisation of Krashen's Affective Filter Hypothesis (MacIntyre & Gregersen, 2024) confirms that the affective barrier is one of the key predictors of L2 success, and that lowering it requires human presence, empathy, and the informal signals of psychological safety that only a person can provide.

Neural networks neither experience emotions nor fully recognise them. A system does not notice when a learner has gone quiet because they are tired, discouraged, or have lost motivation; it simply continues to present exercises. A human teacher, by contrast, reads paralinguistic cues such as intonation, pauses, changes in pace, and posture, and adapts their strategy in real time. According to a University of Southern California study (2023), 74% of language learners identified

feeling heard and understood as the key motivational factor in their foreign language learning.

4.3. Sociocultural Context as Living Knowledge.

Language cannot be reduced to grammar and vocabulary. It is a semiotic system rooted in cultural memory, social practices, and historical narratives. Research within the Vygotskian sociocultural framework applied to L2 learning (Lantolf & Thorne, 2023) underscores that genuine linguistic competence is formed through intersubjective experience, through dialogue with a bearer of cultural meaning. AI systems operate on the basis of statistical patterns derived from texts; they are capable of reproducing an idiomatic expression, but they cannot explain why that expression sounds ironic in a specific social context, why one register is appropriate in a business negotiation while another suits informal conversation, or why tone carries no less weight than the words themselves.

4.4. Academic Integrity and Digital Dependency.

The systematic use of AI in language learning generates structural risks to academic integrity that are considerably more profound than simple plagiarism. At issue is the formation of a new type of dependency, instrumental dependency, in which learners lose confidence in their own linguistic resources. An ICEF Monitor survey (2024) of 8,700 students of language disciplines across 22 countries found that 41% admitted to using AI to complete all or most of their written assignments in a foreign language. Only 19% of those respondents regarded this as a problem. These findings point to a systemic pedagogical challenge that cannot be addressed without the active role of a human teacher.

The Human Teacher as an Irreplaceable Cognitive and Social Mediator.

The role of a foreign language teacher is not reducible to the transmission of information, a function that AI performs quite satisfactorily. The teacher acts as a cognitive mediator: they organise the zone of proximal development (in the

Vygotskian sense), create conditions for productive cognitive conflict, and help learners become aware of their own mental processes. This function, facilitating metacognition, is fundamentally inaccessible to an algorithm that has no access to the intentions, experiences, or lived biography of a specific individual.

Critical thinking, the ability to argue in a foreign language, the capacity to engage in genuine discussion: all of these develop exclusively through the practice of live dialogue with a competent interlocutor. A dialogue in which the teacher deliberately provokes thought, asks difficult questions, and demands that positions be justified is an irreplaceable mechanism of cognitive growth. No chatbot challenges a student's assertion because it sees their potential; only a human teacher can do that.

Research on Teaching Presence in Online Language Learning (Garrison & Anderson, 2024) demonstrates that teaching presence, defined as the conscious, purposeful pedagogical activity of a human being, is the most powerful single predictor of growth in language competencies (B = 0.61), significantly outstripping the effect of any technology (B = 0.29).

CONCLUSION

The evidence assembled in this study converges on a single, unambiguous conclusion: artificial intelligence is a powerful instrument, but it is not and cannot be a teacher. The distinction is not merely technical; it is ontological. A tool processes; a teacher transforms. A system generates output; an educator cultivates agency. It is precisely this difference that determines the future of foreign language education.

The empirical record is clear. Meta-analyses confirm that hybrid pedagogical models consistently outperform AI-only instruction, with effect sizes falling sharply (from g = 0.91 to g = 0.55) when human teaching presence is removed. Longitudinal studies document measurable declines in examination performance, spontaneous speech competence, and cognitive autonomy among learners who depend on AI

systems without teacher mediation. The data from MIT, Stanford, Cambridge, and Wharton converge on the same warning: the very convenience of AI risks engineering a generation of learners who are fluent consumers of correct language but incapable of producing it independently under pressure.

The four core limitations identified in this article, namely the suppression of cognitive autonomy through epistemic scaffolding collapse, the absence of emotional intelligence and pedagogical intuition, the inability to transmit living sociocultural knowledge, and the structural threat to academic integrity, are not software bugs awaiting a patch. They are inherent properties of algorithmic systems, arising directly from what those systems are. No future version of a language model will feel the hesitation in a student's voice, recognise the shame behind a grammatical error, or understand why a particular joke lands differently in Madrid than in Buenos Aires. These capacities belong to human experience, and their pedagogical value is irreducible.

This does not mean that AI should be excluded from the language classroom. The data support precisely the opposite: strategically integrated AI tools can extend a teacher's reach, personalise practice at scale, and provide learners with on-demand feedback outside classroom hours. The critical condition, however, is that AI be positioned as an amplifier of human teaching, not as its replacement. The teacher must remain the cognitive and social anchor of the learning process: the figure who sets the intellectual challenge, reads the emotional landscape, mediates cultural meaning, and holds learners to the standard of their own potential.

In the broader context of educational policy, the findings of this study carry a direct implication for institutions in Uzbekistan and across the region. As the EdTech market expands and AI tools become more accessible, there is a genuine risk that cost and convenience will drive decisions that should instead be driven by pedagogical evidence. The present analysis provides that evidence: investing in

qualified, professionally supported human teachers is not a conservative preference; it is the strategy with the strongest empirical return on learning outcomes.

The future of foreign language education is not a choice between the human and the technological. It is the art of knowing which tasks belong to each, and of never allowing the efficiency of the algorithm to crowd out the irreplaceable depth of the human educator.

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SUN'IY INTELLEKT YORDAMIDA MARKAZIY ISSIQLIK TA'MINOTIDA YUKLAMALARNI BALANSLASH

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Annotatsiya: *Mazkur maqola markaziy issiqlik ta'minoti (MIT) tizimlarida yuzaga keladigan yuklamalarni balanslash muammosini sun'iy intellekt (SI) usullari yordamida hal etishga bag'ishlangan. Tadqiqotda mashinali o'qitish algoritmlari — xususan, LSTM neyron tarmog'i va Random Forest modeli — yordamida issiqlik yuklamasini bashorat qilish va*

iste'molchilar bo'yicha optimal taqsimlash tizimi taklif etilgan. Tajriba natijalari taklif etilgan yondashuv an'anaviy usullarga nisbatan energiya iste'molini 18-23 foizga kamaytirishini ko'rsatdi.

Kalit so'zlar: *sun'iy intellekt, issiqlik ta'minoti, yuklamalar balansi, LSTM, mashinali o'qitish, energiya samaradorligi, smart grid*

Abstract: *This article addresses the problem of load balancing in central heating supply (CHS) systems using artificial intelligence (AI) methods. The study proposes a heat load forecasting and optimal distribution system using machine learning algorithms — specifically LSTM neural network and Random Forest model. Experimental results show that the proposed approach reduces energy consumption by 18-23% compared to traditional methods.*

Keywords: *artificial intelligence, heating supply, load balancing, LSTM, machine learning, energy efficiency, smart grid*

1. KIRISH

Markaziy issiqlik ta'minoti tizimlari shahar infratuzilmasining muhim qismini tashkil etib, ko'p qavatli turar-joy binolari, umumta'lim muassasalari va sanoat ob'ektlarini isitish bilan ta'minlaydi. O'zbekistonda 500 dan ortiq shahar va shaharcha markazlashtirilgan issiqlik ta'minoti tizimiga ulangan bo'lib, ularning umumiy quvvati 15 000 MWt dan oshadi (O'zenergo, 2022). Biroq, mavjud tizimlarning aksariyati eskirgan boshqaruv usullariga tayanib, yuklama taqsimotida jiddiy nomutanosibliklarni keltirib chiqarmoqda.

Yuklamalar nomutanosibligi bir qator jiddiy muammolarga olib keladi: issiqlik tarmoqlari ayrim tugunlarida ortiqcha yuklama, boshqalarida esa yetarli issiqlik ta'minoti yo'qligi; energiya isrofgarchiligining oshishi; uskunalar muddatidan oldin eskirishi va ta'mirlash xarajatlarining ko'payishi. Tadqiqotlar shuni ko'rsatadiki, optimal yuklamalar balansi ta'minlanmagan tizimlarda energiya yo'qotishlari 25-35 foizga yetishi mumkin (Lund va boshq., 2021).

Sun'iy intellekt texnologiyalari, xususan mashinali o'qitish va chuqur o'qitish algoritmlari, murakkab muhandislik tizimlarini boshqarishda inqilobiy imkoniyatlar yaratmoqda. LSTM (Long Short-Term Memory) neyron tarmoqlari vaqt qatorlarini

tahlil qilish va bashorat qilishda yuqori aniqlikni ta'minlab, issiqlik yuklamasini prognozlashda samarali qo'llanilmoqda (Zhang va boshq., 2022). Random Forest algoritmi esa ko'p sonli o'zgaruvchilarni (ob-havo, vaqt, demografik ko'rsatkichlar) hisobga olgan holda yuklamani taqsimlashda qaror qabul qilishni avtomatlashtirish imkonini beradi.

Mazkur tadqiqotning maqsadi — markaziy issiqlik ta'minoti tizimi uchun sun'iy intellekt asosidagi yuklamalarni balanslash modelini ishlab chiqish va uning samaradorligini empirik jihatdan baholashdir.

2. METODLAR

Tadqiqotda gibrid yondashuv qo'llanildi: issiqlik yuklamasini bashorat qilish uchun LSTM neyron tarmog'i, yuklamalarni optimal taqsimlash uchun esa Random Forest klasifikatsiya algoritmi ishlatildi. Ma'lumotlar bazasi Andijon shahri markaziy issiqlik ta'minoti tarmog'idan 2021-2024 yillar mobaynida to'plangan bo'lib, 87 000 dan ortiq o'lchov natijasini o'z ichiga oladi.

LSTM modeli quyidagi kirish o'zgaruvchilaridan foydalanadi: tashqi harorat (soatlik), binolardagi issiqlik iste'moli tarixi, kun turi (ish kuni/dam olish), vaqt (soat va kun), quyosh radiatsiyasi. Model 70% o'quv, 15% validatsiya va 15% test to'plamiga bo'lindi. Giperparametrlar: ketma-ket 3 ta LSTM qatlami (128-64-32 neyron), dropout 0.2, o'qitish davri 100 epoxa, batch size 32.

Random Forest modeli 200 ta qaror daraxti yordamida yuklamalarni 5 ta tarmoq segmentiga optimal taqsimlash qarorlarini qabul qiladi. Modelning samaradorligi MAE (o'rtacha absolut xato), RMSE (kvadratik o'rtacha xato) va R^2 ko'rsatkichlari orqali baholandi. An'anaviy proporsional boshqaruv tizimi (PID) bilan qiyosiy tahlil o'tkazildi.

3. NATIJALAR

LSTM modelining issiqlik yuklamasini bashorat qilish natijalari quyidagicha bo'ldi: test to'plamida MAE = 0.87 MWt, RMSE = 1.24 MWt, R^2 = 0.943. Bu

ko'rsatkichlar modelning real sharoitda 94.3 foizlik aniqlik bilan issiqlik yuklamasini oldindan ayta olishini bildiradi. An'anaviy bashorat usullari bilan solishtirganda ($R^2 = 0.71$-0.79), LSTM modeli sezilarli ustunlikni ko'rsatdi.

Random Forest asosidagi yuklamalar balanslash tizimi 30 kunlik sinov davomida quyidagi natijalarga erishdi: energiya iste'molini o'rtacha 21.4 foizga kamaytirish; tarmoq tugunlaridagi bosim farqini 18.7 foizga kamaytirish; issiqlik ta'minotining uzilishsizligi 99.2 foizga oshishi; ta'mirlash zaruriyatini keltirib chiqaradigan avariyli holatlar soni 34 foizga kamayishi. PID tizimi bilan solishtirilganda, taklif etilgan SI asosidagi tizim energiya tejamliligi bo'yicha 18-23 foiz, ishonchlilik bo'yicha 15 foiz ustunlikni ko'rsatdi.

4. MUNOZARA

Olingan natijalar xalqaro tadqiqotlar bilan qiyosiy tahlilga loyiq. Zhang va boshq. (2022) Xitoy shahri issiqlik tarmog'ida LSTM modeli yordamida 19.8 foiz energiya tejamliligi erishganligini qayd etgan. Ushbu tadqiqotda olingan 21.4 foizlik ko'rsatkich ushbu natijadan yuqori bo'lib, bu O'zbekiston iqlim sharoitining o'ziga xosligini (qisqa va keskin qish, katta sutkalik harorat farqi) va ma'lumotlar to'plamining sifatiga bog'liq bo'lishi mumkin.

Tadqiqotning amaliy ahamiyati shundaki, ishlab chiqilgan model hozirgi mavjud SCADA tizimlari bilan integratsiya qilinishi mumkin va katta kapital xarajatlarni talab etmaydi. Biroq, tadqiqot bir qator cheklovlarga ega: ma'lumotlar bitta shahar tarmog'idan olingan; model boshqa geografik mintaqalar uchun qayta o'qitishni talab qiladi. Kelajakdagi tadqiqotlar uchun reinforcement learning algoritmlarini qo'llash va real vaqtli boshqaruv tizimini to'liq avtomatlashtirish tavsiya etiladi.

XULOSA

Mazkur tadqiqot markaziy issiqlik ta'minoti tizimlarida yuklamalarni balanslash uchun sun'iy intellekt asosidagi gibrid modelni taklif etdi va uning

samaradorligini empirik jihatdan isbotladi. LSTM neyron tarmog'i 94.3 foizlik aniqlik bilan issiqlik yuklamasini bashorat qildi; Random Forest asosidagi taqsimlash tizimi esa energiya iste'molini 21.4 foizga kamaytirib, tizim ishonchliligini oshirdi. Ushbu yondashuv O'zbekistondagi markaziy issiqlik ta'minoti tarmoqlarini modernizatsiya qilishda samarali va iqtisodiy jihatdan qulay yechim sifatida tavsiya etiladi.

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SUN'IY INTELLEKT YORDAMIDA MARKAZIY ISSIQLIK TA'MINOTIDA YUKLAMALARNI BALANSLASH TIZIMI

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Annotatsiya: *Ushbu tezis markaziy issiqlik ta'minoti tizimlarida yuklamalarni balanslash muammosini sun'iy intellekt usullari — LSTM neyron tarmog'i va Deep Q-Network (DQN) mustahkamlovchi o'qitish agenti — yordamida hal etishga bag'ishlangan. Tadqiqot natijalari an'anaviy boshqaruv tizimlariga nisbatan energiya iste'molini 21-27 foizga kamaytirib, tizim ishonchliligini oshirish mumkinligini ko'rsatdi.*

Kalit so'zlar: *sun'iy intellekt, issiqlik ta'minoti, yuklamalar balansi, LSTM, Deep Q-Network, energiya samaradorligi*

Abstract: *This thesis addresses the load balancing problem in central heating supply systems using artificial intelligence methods — LSTM neural network and Deep Q-Network (DQN)*

reinforcement learning agent. Research results demonstrated that energy consumption can be reduced by 21-27% compared to conventional control systems while improving system reliability.

Keywords: *artificial intelligence, heating supply, load balancing, LSTM, Deep Q-Network, energy efficiency*

KIRISH

Markaziy issiqlik ta'minoti (MIT) tizimlari shahar infratuzilmasining asosiy qismini tashkil etib, O'zbekistondagi ko'plab shaharlarda aholining uylarini issiqlik bilan ta'minlaydi. Biroq, mavjud boshqaruv tizimlari yuklama taqsimotidagi nomutanosibliklar tufayli energiya yo'qotishlariga olib kelmoqda. Muammo ko'lami jiddiy: optimal boshqaruvsiz tizimlarda issiqlik yo'qotishlari 25-35 foizga yetishi mumkin (Lund va boshq., 2021).

Tadqiqotda ikki bosqichli SI yondashuvi qo'llanildi. Birinchi bosqichda LSTM neyron tarmog'i yordamida soatlik issiqlik yuklamasini bashorat qilish modeli ishlab chiqildi. Model 87 000 dan ortiq o'lchov natijasiga asoslangan bo'lib, $R^2 = 0.943$ aniqlikka erishdi. Ikkinchi bosqichda DQN mustahkamlovchi o'qitish agenti real vaqtli yuklamalarni taqsimlashni dinamik optimallashtirishni amalga oshirdi.

Andijan shahri issiqlik tarmog'i simulyatsiyasida o'tkazilgan 30 kunlik sinovlar shuni ko'rsatdiki: LSTM+Random Forest yondashuvi energiya iste'molini 21.4 foizga, DQN agenti esa 26.7 foizga kamaytirdi. Tizim ta'minoti barqarorligi an'anaviy PID boshqaruviga nisbatan 15-31 foizga oshdi. Avariyali holatda DQN agenti yuklamalarni qayta taqsimlashni 3.2 daqiqada amalga oshirib, an'anaviy tizimning 12.7 daqiqasiga nisbatan 4 barobar tezroq ishladi.

Tadqiqot natijalari O'zbekistondagi markaziy issiqlik ta'minoti tarmoqlarini sun'iy intellekt asosida modernizatsiya qilishning maqsadga muvofiqligini isbotlaydi. Taklif etilgan yondashuv mavjud SCADA tizimlari bilan integratsiya qilinishi mumkin bo'lib, o'rta hajmli shahar issiqlik tarmog'i uchun yiliga 15-18 million kWt·soat energiya tejash imkonini beradi.

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INTERFAOL VA RAQAMLI PLATFORMALAR YORDAMIDA EKOLOGIK TA'LIM SAMARADORLIGINI TAKOMILLASHTIRISH

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Annotatsiya: *Maqola interfaol va raqamli platformalardan foydalanish orqali boshlang'ich ta'limda ekologik ta'lim samaradorligini oshirish masalalarini yoritadi. Unda pedagogik yondashuvlar, innovatsion metodlar, loyiha asosida o'qitish, gamifikatsiya va amaliy mashg'ulotlar yordamida o'quvchilarning ekologik bilim, ko'nikma va madaniyatini shakllantirish imkoniyatlari tahlil qilinadi. Maqolada interfaol va raqamli vositalarning*

o‘quvchilarning ekologik motivatsiyasini oshirish, mustaqil fikrlashini rivojlantirish va ekologik xulq-atvorni mustahkamlashdagi o‘rni ko‘rib chiqiladi. Tadqiqot natijalari ekologik tarbiyaviy jarayonni yanada tizimli va qiziqarli qilish, shuningdek, ekologik madaniyatni mustahkamlash bo‘yicha samarali strategiyalarni aniqlashga xizmat qiladi.

Kalit so’zlar: *boshlang‘ich ta’lim, ekologik tarbiya, interfaol platformalar, raqamli ta’lim, gamifikatsiya, loyiha asosida o‘qitish, ekologik madaniyat.*

Abstract: *The article explores the enhancement of environmental education effectiveness in primary education through the use of interactive and digital platforms. It examines pedagogical approaches, innovative methods, project-based learning, gamification, and practical activities aimed at developing students’ environmental knowledge, skills, and culture. The study analyzes the role of interactive and digital tools in increasing students’ environmental motivation, fostering independent thinking, and strengthening environmentally responsible behavior. The findings contribute to systematizing and making the environmental education process more engaging, as well as identifying effective strategies for cultivating environmental culture.*

Key words: *Primary education, environmental education, interactive platforms, digital learning, gamification, project-based learning, environmental culture.*

KIRISH

Hozirgi globallashuv sharoitida atrof-muhit muammolarining keskinlashuvi ekologik tarbiyaga bo‘lgan ehtiyojni oshirmoqda. Ayniqsa, boshlang‘ich ta’lim bosqichida o‘quvchilarda ekologik ong, madaniyat va mas’uliyatni shakllantirish muhimdir. Interfaol va raqamli platformalardan foydalanish pedagogik jarayonni yanada qiziqarli, tizimli va samarali qiladi. Boshlang‘ich ta’limda ekologik tarbiyaning samaradorligini oshirish zamonaviy pedagogik mexanizmlarga bog‘liq. Interfaol ta’lim metodlari o‘quvchilarni dars jarayonining faol ishtirokchisiga aylantiradi. Innovatsion yondashuvlar esa yangi g‘oya va texnologiyalarni joriy etadi. Loyiha asosida o‘qitish o‘quvchilarda muammoli vaziyatlarni hal qilish, jamoada ishlash va natijaga yo‘naltirilgan faoliyat ko‘nikmalarini shakllantiradi. Gamifikatsiya elementlari esa bilimlarni qiziqarli va interaktiv tarzda o‘zlashtirishga yordam beradi.

Raqamli platformalar, jumladan, interaktiv multimedia, virtual laboratoriyalar va mobil ilovalar o‘quvchilarning ekologik bilimini oshirishda muhim vosita hisoblanadi. Shu bilan birga, amaliy mashg‘ulotlar – ekskursiyalar, tajribalar va kuzatishlar o‘quvchilarning ekologik ko‘nikmalarini real hayot bilan bog‘lashga imkon beradi.

Hozirgi kunda atrof-muhit muammolari global ahamiyat kasb etib, ekologik ongni shakllantirish masalalarini dolzarb qilmoqda. Ayniqsa, boshlang‘ich ta’lim bosqichida o‘quvchilarda ekologik bilim, xulq-atvor va mas’uliyatni rivojlantirish katta ahamiyatga ega. Shu nuqtai nazardan, interfaol va raqamli platformalardan foydalanish pedagogik jarayonni yanada samarali, tizimli va qiziqarli qiluvchi vosita sifatida namoyon bo‘ladi.

Interfaol metodlar o‘quvchilarning dars jarayonidagi faolligini oshiradi. Masalan, “rol o‘yinlari”, “muammoli vaziyatlar”, “klaster va brainstorming” usullari o‘quvchilarning mustaqil fikrlashini rivojlantiradi va ularni darsga faol jalb qiladi. Shu bilan birga, **innovatsion yondashuvlar** ta’lim jarayoniga yangi g‘oya va texnologiyalarni olib kiradi, o‘quvchilarning ijodiy va analitik ko‘nikmalarini mustahkamlaydi.

Loyiha asosida o‘qitish ekologik mavzularni chuqur o‘rganishga imkon beradi. O‘quvchilar tabiatni muhofaza qilish, chiqindilarni kamaytirish yoki energiya tejash kabi real hayotiy muammolarni o‘rganadi va ularni hal qilish bo‘yicha amaliy ishlarni bajaradi. Bu jarayon o‘quvchilarda mas’uliyat, tashabbuskorlik va jamoada ishlash ko‘nikmalarini rivojlantiradi.

Gamifikatsiya esa o‘quvchilarning motivatsiyasini oshiruvchi kuchli vositadir. O‘yin elementlari yordamida tashkil etilgan mashg‘ulotlar bilimlarni qiziqarli tarzda o‘zlashtirishga yordam beradi. Masalan, ekologik viktorinalar, “yashil missiya” o‘yinlari yoki raqamli sertifikatlar o‘quvchilarning darsga bo‘lgan qiziqishini oshiradi.

Raqamli platformalar va axborot-kommunikatsiya texnologiyalari ekologik ta’limni yanada interaktiv qiladi. Virtual laboratoriyalar, multimediya taqdimotlar, mobil ilovalar va onlayn resurslar orqali o‘quvchilar ekologik bilimlarni amaliyot bilan bog‘lab o‘rganadilar. Shu bilan birga, ekologik kuzatish va ekskursiyalarni raqamli vositalar orqali rejalashtirish ham samaradorlikni oshiradi.

Ekologik tarbiyaning samaradorligi uchun oila va maktab hamkorligi muhim ahamiyatga ega. Ota-onalar bilan birgalikda ekologik tadbirlar, suhbatlar va loyihalarni amalga oshirish o‘quvchilarda ekologik ongni mustahkamlaydi. Shu bilan birga, uzluksizlik va bosqichma-bosqichlik tamoyili qo‘llanilishi kerak: boshlang‘ich sinflarda berilgan ekologik bilimlar keyingi ta’lim bosqichlarida yanada chuqurlashtirib borilishi lozim.

Shuningdek, xalqaro tajribaga nazar tashlasak, rivojlangan davlatlarda ekologik ta’limga katta e’tibor berilgan. Masalan, maktablarda “yashil sinflar”, ekologik klublar, tabiatni muhofaza qilish loyihalari va onlayn platformalar orqali o‘quvchilarning ekologik faoliyati qo‘llab-quvvatlanadi. Bu tajribalarni o‘z mamlakatimiz ta’lim tizimiga moslashtirish ekologik tarbiya samaradorligini oshirishga yordam beradi.

Natijada, interfaol va raqamli platformalardan foydalanish boshlang‘ich ta’limda ekologik ta’lim samaradorligini oshirish, o‘quvchilarda ekologik bilim, ko‘nikma va madaniyatni rivojlantirish, ularni mas’uliyatli va ongli fuqarolar sifatida tarbiyalashda muhim vosita sifatida xizmat qiladi. Hozirgi kunda atrof-muhit muammolari global ahamiyat kasb etib, ekologik ongni shakllantirish masalalarini dolzarb qilmoqda. Ayniqsa, boshlang‘ich ta’lim bosqichida o‘quvchilarda ekologik bilim, xulq-atvor va mas’uliyatni rivojlantirish katta ahamiyatga ega. Shu nuqtai nazardan, interfaol va raqamli platformalardan foydalanish pedagogik jarayonni yanada samarali, tizimli va qiziqarli qiluvchi vosita sifatida namoyon bo‘ladi.

Boshlang‘ich ta’limda ekologik tarbiyaning samaradorligini oshirish bir necha jihatdan amalga oshiriladi. Interfaol metodlar o‘quvchilarning dars jarayonidagi faolligini oshiradi. Masalan, “rol o‘yinlari”, “muammoli vaziyatlar”, “klaster va brainstorming” usullari o‘quvchilarning mustaqil fikrlashini rivojlantiradi va ularni darsga faol jalb qiladi. Shu bilan birga, innovatsion yondashuvlar ta’lim jarayoniga yangi g‘oya va texnologiyalarni olib kiradi, o‘quvchilarning ijodiy va analitik ko‘nikmalarini mustahkamlaydi.

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Shaxsiylashtirilgan ta’lim imkoniyatlari ham raqamli platformalar orqali kengayadi. Turli yoshdagi yoki qobiliyatdagi bolalar uchun ekologik vazifalarni darajaga moslashtirish ularning muvaffaqiyatga erishish imkoniyatini oshiradi. Shu bilan birga, onlayn platformalar o‘quvchilarga jamoaviy loyihalarda ishlash, fikr almashish va masofadan hamkorlik qilish imkonini beradi, bu esa ijtimoiy ko‘nikmalarni shakllantirishga xizmat qiladi. Oila va maktab hamkorligi ekologik

tarbiyaning muhim tarkibiy qismidir. Ota-onalarni dars jarayoniga jalb qilish, uy sharoitida ekologik tadbirlar va loyihalarni amalga oshirish o‘quvchilarning ekologik ongini mustahkamlaydi. Shu bilan birga, ekologik ta’limni davomiy va bosqichma-bosqich tashkil etish lozim: boshlang‘ich sinflarda berilgan ekologik bilimlar keyingi ta’lim bosqichlarida yanada chuqurlashib, mustahkamlanishi zarur.

Xalqaro tajribaga qaraganda, rivojlangan mamlakatlarda ekologik ta’limni interfaol va raqamli platformalar yordamida olib borish samaradorligi yuqori. Masalan, Yevropa maktablarida virtual tabiat ekskursiyalari, ekologik klublar, onlayn loyihalar va interaktiv mashg‘ulotlar orqali o‘quvchilar ekologik faoliyatga jalb qilinadi. Ushbu tajribalarni milliy ta’lim tizimiga moslashtirish ekologik tarbiya samaradorligini oshirishga yordam beradi. Natijada, interfaol va raqamli platformalardan foydalanish boshlang‘ich ta’limda ekologik ta’lim samaradorligini oshirish, o‘quvchilarda ekologik bilim, ko‘nikma va madaniyatni rivojlantirish, ularni mas’uliyatli va ongli fuqarolar sifatida tarbiyalashda muhim vosita sifatida xizmat qiladi.

XULOSA:

Boshlang‘ich ta’limda ekologik tarbiyaning samaradorligini oshirishda interfaol va raqamli platformalarning roli katta. Interfaol metodlar, innovatsion yondashuvlar, loyiha asosida o‘qitish, gamifikatsiya va amaliy mashg‘ulotlar o‘quvchilarda ekologik bilim, ko‘nikma va mas’uliyatni shakllantiradi. Shu bilan birga, ekologik tarbiyaviy jarayonni tizimli va qiziqarli tashkil etish, oila va maktab hamkorligi, raqamli vositalardan foydalanish samaradorlikni oshiradi.

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SUN'IY INTELLEKT ASOSIDA MARKAZIY OSIYO MINTAQASIDA SUV TANQISLIGINI ERTA ANIQLASH TIZIMINI ISHLAB CHIQISH VA UNI YECHISH USULLARI

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***Annotatsiya**: Ushbu tadqiqotda Markaziy Osiyo mintaqasida suv tanqisligini sun'iy intellekt usullari yordamida erta aniqlash tizimi taklif etilgan. Landsat, Sentinel-2 va ERA5 iqlim ma'lumotlari asosida LSTM va Random Forest modellari qo'llanilgan. Google Earth Engine platformasida ishlab chiqilgan tizim suv tanqisligini 3–6 oy oldin 87% aniqlik bilan prognoz qilish imkonini beradi. Natijalar mintaqaviy suv resurslarini boshqarish samaradorligini oshirishda amaliy ahamiyat kasb etadi.*

***Kalit so'zlar:** sun'iy intellekt, LSTM, Random Forest, suv tanqisligi, Markaziy Osiyo, Google Earth Engine, masofadan zondlash, prognoz tizimi.*

***Abstract**: This study proposes an early warning system for water scarcity detection in Central Asia using artificial intelligence methods. LSTM and Random Forest models were applied based on Landsat, Sentinel-2, and ERA5 climate datasets. The system, developed on the Google Earth Engine platform, enables prediction of water scarcity 3–6 months in advance with 87% accuracy. Results have practical significance for improving regional water resource management efficiency.*

***Keywords:** artificial intelligence, LSTM, Random Forest, water scarcity, Central Asia, Google Earth Engine, remote sensing, forecasting system.*

KIRISH

Markaziy Osiyo — dunyodagi eng katta quruqlik ichidagi hududlardan biri bo'lib, suv resurslari masalasi bu mintaqa uchun strategik ahamiyat kasb etadi. Amudaryo va Sirdaryo havzalaridagi suv hajmi so'nggi 50 yil ichida 40% dan ortiq kamaygan [1]. Orol dengizining qurib qolishi, aholi sonining o'sishi va qishloq xo'jaligida suvning samarasiz ishlatilishi mintaqada suv tanqisligini keskinlashtirib yubormoqda.

Suv tanqisligini oldindan aniqlash — uni bartaraf etishning eng samarali yo'li. An'anaviy gidrologik modellar ko'p vaqt va resurs talab qiladi, hamda ko'pincha kech natija beradi. Sun'iy intellekt (SI) asosidagi tizimlar esa katta hajmdagi ma'lumotlarni tezkor qayta ishlab, aniq prognoz berishga qodir [2]. Shu sababli ushbu tadqiqotda SI usullariga asoslangan erta ogohlantirish tizimi ishlab chiqildi.

Tadqiqot maqsadi: Markaziy Osiyodagi suv tanqisligini 3–6 oy oldin aniqlash imkonini beruvchi, sun'iy intellekt algoritmlariga asoslangan avtomatlashtirilgan prognoz tizimini ishlab chiqish.

METODOLOGIYA VA MA'LUMOTLAR

Tadqiqotda quyidagi ma'lumot manbalari ishlatildi: Landsat 8/9 (30 m, 16 kunlik) va Sentinel-2 (10 m, 5 kunlik) sun'iy yo'ldosh tasvirlari; ERA5 qayta tahlil iqlim ma'lumotlari (harorat, yog'ingarchilik, bug'lanish); GRACE sun'iy yo'ldoshi orqali olingan yerosti suvlari o'zgarishi ma'lumotlari. Barcha ma'lumotlar 2000–2025 yillar uchun to'plandi va Google Earth Engine platformasida qayta ishlandi.

Modellashtirish bosqichlari: (1) Ma'lumotlarni oldindan qayta ishlash va normallashtirish; (2) NDWI (Normalized Difference Water Index) va NDVI indekslari hisoblash; (3) LSTM neyron tarmog'i yordamida vaqt qatorlarini tahlil qilish; (4) Random Forest klassifikatori yordamida suv tanqisligi xavf zonalarini aniqlash; (5) Modellar aniqligini 5-katlama kross-validatsiya orqali baholash.

NDWI formulasi:

$$NDWI = (Green - NIR) / (Green + NIR)$$

LSTM modeli 6 oylik prognozlarda 87.3% aniqlik (F1-score = 0.84) ko'rsatdi, Random Forest esa qisqa muddatli (1–2 oy) prognozlarda 91.2% aniqlik bilan ustunlik qildi. Ikki modelni ensemble usulida birlashtirish umumiy aniqlikni 93.1% gacha oshirdi.

Xavf zonalari xaritalari shuni ko'rsatdiki, Qoraqalpog'iston, Xorazm va Farg'ona vodiysi hududlari 2026–2027 yillarda yuqori suv tanqisligi xavfi ostida turibdi. Ayniqsa, aprel–iyun oylari kritik davr sifatida belgilandi.

Taklif etilgan tizimning asosiy afzalligi — an'anaviy usullarga nisbatan 4–6 oy oldinroq ogohlantirish berishi va davlat idoralari tomonidan darhol qaror qabul qilish uchun vizual xaritalarda natijalarni taqdim etishi.

XULOSA

Ushbu tadqiqot sun'iy intellekt va masofadan zondlash texnologiyalarini birlashtirgan holda Markaziy Osiyoda suv tanqisligini erta aniqlash tizimini muvaffaqiyatli ishlab chiqish mumkinligini isbotladi. LSTM + Random Forest ensemble modeli 93.1% aniqlik bilan prognoz bermoqda. Kelajakda ushbu tizimni real vaqt rejimida ishlovchi veb-platforma sifatida joriy etish, mintaqadagi barcha davlatlarning suv boshqaruvini integratsiyalash va qaror qabul qilish jarayonini avtomatlashtirish rejalashtirilmoqda.

Tadqiqot natijalari BMT Suv dasturi va Markaziy Osiyo davlatlari suv xo'jaligi vazirliklari uchun amaliy ahamiyat kasb etadi.

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ВНЕДРЕНИЕ ОБЛАЧНЫХ ТЕХНОЛОГИЙ В УЗБЕКИСТАНЕ

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Аннотация: *Одной из важнейших составляющей системы цифровой экономики являются применение облачных сервисов, которые обеспечивают сетевой доступ к вычислительным ресурсам. В статье рассматриваются применение цифровых технологий в повышении эффективности внедрения облачных технологий в Узбекистане.*

Ключевые слова: *блокчейн, IT-инфраструктура, облачные технологии, государственное управление, законодательные акты, персональные данные.*

ВВЕДЕНИЕ

Облачные технологии - один из наиболее динамично развивающихся сегментов рынка информационных технологий. Многие компании уже смогли оценить преимущества, которые предоставляют облака: гибкость, мобильность, экономичность, надежность. Покупка и обслуживание собственных серверов – достаточно сложная задача, требующая и больших инвестиций, и квалифицированного персонала. Эти технологии помогают бизнесу оптимизировать свою IT-инфраструктуру благодаря развертыванию облачных сервисов разного уровня: от платформы и средств управления до аренды бизнес-приложений. Различают подкатегории облачных технологий, отличающиеся по виду предоставляемых услуг, например, «Программное обеспечение как услуга» (Software as a Service, сокр. SaaS) - это модель продажи и использования программного обеспечения, при которой поставщик разрабатывает веб-приложение и самостоятельно управляет им, предоставляя заказчикам доступ к ПО через Интернет. В странах ЕС были приняты отдельные законодательные акты о защите персональных данных в облачных сервисах (Чехия), руководящие правила для компаний по вопросам облачных вычислений (Великобритания). Отдельные законодательные акты связаны с защитой и обработкой персональных данных. Руководящие правила «ePrivacy Директива» 2002/58/ЕС, регулирует электронные коммуникации всех стран-

членов ЕС, и обеспечивают безопасность поставщиков услуг электронной связи; конфиденциальность электронных сообщений и связанных данных о трафике; обработка данных о трафике; отправка незапрашиваемых сообщений. Использование облачных технологий снизили стоимость и сложность выполнения вычислительных задач в сфере государственного управления и дали значительные выгоды национальным органам ЕС в управленческих задачах. Правительства стран ЕС стимулирует рост рынка облачных сервисов с участием европейских провайдеров, что привело к созданию новых рабочих мест и повышению ВВП [5]. В США в 2011 году была разработана Стратегия в области облачных технологий, определившая, в том числе. планы внедрения технологий облачных вычислений в государственные органы и правила, которым должны соответствовать сервисы. Правительством США сертифицированы облачные сервисы, разработанные компанией Google для нужд государства [6]. Выполнение государственных задач в единой инфраструктуре облака не является только безопасным, но и надежным и менее дорогостоящим, чем использование информационных систем в структуре органов государственной власти. Лидерами российского рынка внедрений облачных вычислений и технологий виртуализации являются в основном крупные системные интеграторы, среди которых необходимо отметить следующих: Cloud4Y, Софтлайн, Крок, Ай-Теко, Техносерв, Digital Design, IBS, Инфосистемы Джет, Компарекс,

Обсуждение результатов. Облачные вычисления начали применять во многих отраслях экономики Узбекистана, с учетом защиты персональных данных в облачных сервисах. С 2026 года рынок облачных услуг Узбекистана начало активно развиваться: и многие компании всё чаще переводят инфраструктуру в облако, запускают новые цифровые продукты. Облачные

провайдеры регулируют требования к обработке персональных данных и при этом учитываются требования законодательства о персональных данных граждан Республики Узбекистан. Среди ключевых факторов выбора облачного провайдера и хостинга в Узбекистане это наличие локальной площадки (Ташкент), прозрачная тарификация, поддержка автоматизации (API, IaC), а также готовность провайдера работать с бизнесом: SLA, документы, поддержка 24/7. Одним из эффективных решений для бизнеса в Узбекистане является облачный провайдер с быстрым запуском VPS/VDS, прозрачной моделью оплаты и удобной панелью управления. Платформа подходит для стартапов, DevOps-команд и компаний, которым нужно настроить инфраструктуру и масштабировать её по мере развития и при этом возможно настроить сервер под конкретную нагрузку. В Узбекистане необходимо увеличить пропускную способность каналов и лимиты по объему трафика. Если в Санкт-Петербурге, например, пропускная способность в интернет — до 1 Гбит/с, то для большинства провайдеров в Узбекистане она составляет от 10 Мбит/с до 100 Мбит/с. Infrastructure as a Service (IaaS), как базовая модель облачных услуг, где вычислительные ресурсы, как виртуальные серверы с заданной производительностью, операционной системой и доступом к сети может снижать потребность в собственной инфраструктуре – физических серверах, обслуживание которых является сложным и дорогостоящим. Развитие облачных мощностей в Узбекистане дает возможность создать опорную точку для электронных сервисов в странах Средней Азии, где современная IT-инфраструктура пока остается ограниченной. Кыргызстан, Таджикистан и Туркменистан испытывают нехватку локальных дата-центров, а использование зарубежных провайдеров приводит к высоким задержкам и дополнительным затратам, то развитие облачной экосистемы в Узбекистане позволит частично компенсировать этот разрыв, обеспечив бизнесу и государственным учреждениям доступ

к современным IT-решениям. Инвестиции в локальные облачные мощности помогут снизить сетевые задержки и заложить технологическую основу для масштабного внедрения цифровых сервисов в регионе. Таким образом, развитие облачной инфраструктуры в Узбекистане — это не только стратегическая возможность, но и объективная необходимость. Развитие облачных технологий в Узбекистане — это закономерный этап цифровой трансформации как самой страны, так и всего региона. Спрос на облачные решения уже сформирован, и дальнейшее масштабирование IT-инфраструктуры станет фактором роста для экономики и бизнеса. Однако развитие локальной облачной инфраструктуры пока не поспевает за спросом, что создает дополнительные издержки для бизнеса и государственных структур при работе с зарубежными провайдерами. Ускоренное развитие локальных облачных мощностей поможет устранить эти барьеры, снизить сетевые задержки и повысить доступность современных IT-сервисов. Развитию облачных услуг в Узбекистане способствует компания **Pro-Data.** С 2021 года компания **Pro-Data** существенно расширила свою инфраструктуру и линейку сервисов. Изначально Pro-Data позиционировалась как новый игрок на рынке облачных услуг Узбекистана: в середине 2021 года компания предоставляла виртуальные серверы в двух зонах доступности (Москве и Ташкенте), при этом оба дата-центра имели сертификаты TIER III от Uptime Institute. К 2025 году Pro-Data развернула пять локальных в Узбекистане и обеспечила соответствие международным стандартам надёжности и безопасности.

Ддя многих компаний в Узбекистане основными барьерами на пути к облаку остаются вопросы безопасности, соответствия регуляторным требованиям и надёжности инфраструктуры. Pro-Data продемонстрировала на реальных примерах, как решения компании помогают преодолевать эти барьеры, повышая доступность и гибкость облачных технологий.

Почти 80% глобального рынка IaaS делят между собой 5 компаний, из-за огромных возможностей в масштабировании услуг их принято называть гиперскейлерами. По данным Gartner, по итогам 2020 года Amazon сохранила лидирующую позицию на рынке IaaS, за ней следует Microsoft, Alibaba, Google и Huawei. Потребности бизнеса во всём мире растут, и лидеры глобального рынка продолжают создавать новые облачные решения для их удовлетворения. Большинство организаций на развитых рынках во время пандемии в 2020 году полагалось на облачные услуги, что способствовало двукратному росту цифрового рынка. Например, Pro-Data обеспечила защиту корпоративного сайта банка NBU (Национальный банк Узбекистана) от DDoS-атак, разместив сервисы на облачной платформе, с использованием облачного решения защиты, аппаратными файрволами и дополнительными инструментами. Это решение дало возможность банку обеспечить непрерывную работу сайта даже под атакой, а также возможность быстрого масштабирования в зависимости от нагрузки. А компания Paygine Tech получила выделенную инфраструктуру, соответствующую стандартам безопасности PCI DSS и требованиям Центрального банка Узбекистана. Pro-Data предоставила надёжную платформу на оборудовании HPE, Cisco и Fortinet, что позволило Paygine Tech успешно пройти аудит PCI DSS и обеспечить высокий уровень доступности и защиты своих сервисов. Для крупной частной авиакомпании Pro-Data предложила облачное решение с круглосуточной локальной поддержкой и гибким управлением через web-интерфейс. Это дало возможность авиакомпании адаптировать ресурсы под сезонные колебания пассажиропотока и сосредоточиться на основном бизнесе. Международная сеть розничной торговли: компания, предоставляющая на узбекском рынке восемь мировых брендов, получила облачное решение, которое позволяет ей соответствовать требованиям ЗРУ-547 и эффективно реагировать на сезонные изменения спроса. Благодаря

платформе Pro-Data, ритейлер смог избежать значительных вложений в инфраструктуру и поддерживать стабильность работы. Облачные технологии играют ключевую роль в достижении целей государственной программы «Цифровой Узбекистан 2030». Pro-Data активно участвует в трансформации, предлагая решения для государственных и коммерческих структур, позволяющие снизить капитальные затраты, повысить гибкость и ускорить запуск новых IT-проектов. Облачные технологии дают возможность узбекским компаниям ускорить процессы и делать передовые решения более доступными. Обсуждались также вопросы безопасности, регуляторные барьеры и преимущества модели IaaS. Сейчас Pro-Data, один из ведущих облачных провайдеров Узбекистана, демонстрирует устойчивый рост и успешно вносит вклад в развитие цифровой инфраструктуры страны, помогая организациям переходить на передовые IT-решения. Компания продолжает предлагать надёжные и безопасные облачные решения, которые соответствуют международным стандартам и адаптированы под требования локального рынка, поддерживая узбекский бизнес и государственные структуры на пути цифровой трансформации.

В странах ЕС были приняты отдельные законодательные акты о защите персональных данных в облачных сервисах (Чехия), руководящие правила для компаний по вопросам облачных вычислений (Великобритания). Отдельные законодательные акты связаны с защитой и обработкой персональных данных. Руководящие правила «ePrivacy Директива» 2002/58/ЕС, регулирует электронные коммуникации всех стран-членов ЕС, и обеспечивают безопасность поставщиков услуг электронной связи; конфиденциальность электронных сообщений и связанных данных о трафике; обработка данных о трафике; отправка незапрашиваемых сообщений. Использование облачных технологий снизили стоимость и сложность выполнения вычислительных

задач в сфере государственного управления и дали значительные выгоды национальным органам ЕС в управленческих задачах.

Правительства стран ЕС стимулирует рост рынка облачных сервисов с участием европейских провайдеров, что привело к созданию новых рабочих мест и повышению ВВП [5]. В США в 2011 году была разработана Стратегия в области облачных технологий, определившая, в том числе. планы внедрения технологий облачных вычислений в государственные органы и правила, которым должны соответствовать сервисы.

Правительством США сертифицированы облачные сервисы, разработанные компанией Google для нужд государства [6].

Выполнение государственных задач в единой инфраструктуре облака не является только безопасным, но и надежным и менее дорогостоящим, чем использование информационных систем в структуре органов государственной власти.

Лидерами российского рынка внедрений облачных вычислений и технологий виртуализации являются в основном крупные системные интеграторы, среди которых необходимо отметить следующих: Cloud4Y, Софтлайн, Крок, Ай-Теко, Техносерв, Digital Design, IBS, Инфосистемы Джет, Компарекс,

Облачные вычисления начали применять во многих отраслях экономики Узбекистана, с учетом защиты персональных данных в облачных сервисах,

С 2026 года рынок облачных услуг Узбекистана начало активно развиваться: и многие компании всё чаще переводят инфраструктуру в облако, запускают новые цифровые продукты. Облачные провайдеры регулируют требования к обработке персональных данных и при этом учитываются требования законодательства о персональных данных граждан Республики

Узбекистан. Среди ключевых факторов выбора облачного провайдера и хостинга в Узбекистане это наличие локальной площадки (Ташкент), прозрачная тарификация, поддержка автоматизации (API, IaC), а также готовность провайдера работать с бизнесом: SLA, документы, поддержка 24/7. Одним изэффективных решений для бизнеса в Узбекистане является облачный провайдер с быстрым запуском VPS/VDS, прозрачной моделью оплаты и удобной панелью управления. Платформа подходит для стартапов, DevOps-команд и компаний, которым нужно настроить инфраструктуру и масштабировать её по мере развития и при этом возможно настроить сервер под конкретную нагрузку. В Узбекистане необходимо увеличить пропускную способность каналов и лимиты по объему трафика. Если в Санкт-Петербурге, например, пропускная способность в интернет — до 1 Гбит/с, то для большинства провайдеров в Узбекистане она составляет от 10 Мбит/с до 100 Мбит/с. Infrastructure as a Service (IaaS), как базовая модель облачных услуг, где вычислительные ресурсы, как виртуальные серверы с заданной производительностью, операционной системой и доступом к сети может снижать потребность в собственной инфраструктуре – физических серверах, обслуживание которых является сложным и дорогостоящим.

Pro-Data, один из ведущих облачных провайдеров Узбекистана, демонстрирует устойчивый рост и успешно вносит вклад в развитие цифровой инфраструктуры страны, помогая организациям переходить на передовые IT-решения. Компания продолжает предлагать надёжные и безопасные облачные решения, которые соответствуют международным стандартам и адаптированы под требования локального рынка, поддерживая узбекский бизнес и государственные структуры на пути цифровой трансформации. С 2021 года компания **Pro-Data** существенно расширила свою инфраструктуру и линейку сервисов. Изначально Pro-Data позиционировалась как новый игрок на рынке облачных услуг Узбекистана: в середине 2021 года компания

предоставляла виртуальные серверы в двух зонах доступности (Москве и Ташкенте), при этом оба дата-центра имели сертификаты TIER III от Uptime Institute. К 2025 году Pro-Data развернула пять локальных в Узбекистане и обеспечила соответствие международным стандартам надёжности и безопасности. Для многих компаний в Узбекистане основными барьерами на пути к облаку остаются вопросы безопасности, соответствия регуляторным требованиям и надёжности инфраструктуры. Pro-Data продемонстрировала на реальных примерах, как решения компании помогают преодолевать эти барьеры, повышая доступность и гибкость облачных технологий.

Развитие облачных мощностей в Узбекистане дает возможность создать опорную точку для электронных сервисов в странах Средней Азии, где современная IT-инфраструктура пока остается ограниченной. Кыргызстан, Таджикистан и Туркменистан испытывают нехватку локальных дата-центров, а использование зарубежных провайдеров приводит к высоким задержкам и дополнительным затратам, то развитие облачной экосистемы в Узбекистане позволит частично компенсировать этот разрыв, обеспечив бизнесу и государственным учреждениям доступ к современным IT-решениям. Инвестиции в локальные облачные мощности помогут снизить сетевые задержки и заложить технологическую основу для масштабного внедрения цифровых сервисов в регионе. C:\razvitie\oblachnye-servisy\Таким образом, развитие облачной инфраструктуры в Узбекистане — это не только стратегическая возможность, но и объективная необходимость.

ЗАКЛЮЧЕНИЕ

Развитие облачных технологий в Узбекистане — это закономерный этап цифровой трансформации как самой страны, так и всего региона. Спрос на облачные решения уже сформирован, и дальнейшее масштабирование IT-инфраструктуры станет фактором роста для экономики и бизнеса. Однако

развитие локальной облачной инфраструктуры пока не поспевает за спросом, что создает дополнительные издержки для бизнеса и государственных структур при работе с зарубежными провайдерами. Ускоренное развитие локальных облачных мощностей поможет устранить эти барьеры, снизить сетевые задержки и повысить доступность современных IT-сервисов.

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SUN'IY INTELLEKT YORDAMIDA SUD-TIBBIY EKSPERTIZA: O'LIM SABABINI ANIQLASHDA YANGI IMKONIYATLAR

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Annotatsiya *Ushbu maqolada sud-tibbiy ekspertiza jarayonlarida sun'iy intellekt (SI) texnologiyalarini qo'llashning zamonaviy imkoniyatlari va istiqbollari tahlil qilinadi. Tadqiqot*

davomida an’anaviy autopsiya usullarining cheklovlari va SI algoritmlarining (mashinali o‘rganish, kompyuter ko‘rishi) o‘lim sababini aniqlashdagi aniqlik darajasi qiyosiy o‘rganilgan. Xususan, "virtopsiya" (virtual autopsiya), o‘lim vaqtini (PMI) mikrobiom tahlili orqali prognozlash va jarohatlar mexanizmini raqamli modellashtirish masalalariga alohida e’tibor qaratilgan. Maqolada SI tizimlarining sud-tibbiy xulosalarning obyektivligini oshirishdagi o‘rni hamda ushbu texnologiyalarni amaliyotga joriy etishning huquqiy-etik jihatlari yoritilgan.

Abstract *This article analyzes the current opportunities and future prospects of applying artificial intelligence (AI) technologies in forensic medical examinations. The study comparatively examines the limitations of traditional autopsy methods and the accuracy of AI algorithms, such as machine learning and computer vision, in determining the cause of death. Particular attention is given to "virtopsy", post-mortem interval (PMI) prediction through microbiome analysis, and the digital modeling of injury mechanisms. The article also highlights the role of AI systems in enhancing the objectivity of forensic medical conclusions, as well as the legal and ethical aspects of implementing these technologies in practice.*

Kalit so‘zlar: *sud-tibbiy ekspertiza, sun’iy intellekt, o‘lim sababi, virtopsiya, mashinali o‘rganish, post-mortem interval, raqamli modellashtirish.*

Keywords: Forensic medical examination, artificial intelligence, cause of death, vitropsy, machine learning, post-mortem interval, digital modeling.

KIRISH

Sud tibbiyoti — tibbiyot, huquq va kriminalistikaning kesishmasida joylashgan muhim soha bo'lib, uning asosiy vazifalaridan biri shiddatli, kutilmagan yoki shubhali holatlardagi o'lim sababini ob'ektiv ravishda aniqlashdir. An'anaviy avtopsiya (o'lik kesish) asrlar davomida asosiy tashxis usuli bo'lib kelgan. Biroq bu jarayon juda ko'p resurs talab etadi: malakali patolog kadrlarga, maxsus jihozlangan laboratoriya bazasiga, hamda qoidabop hujjatlashtirish tizimiga ehtiyoj seziladi. XXI asrning ikkinchi o'n yilligiga kelib, sun'iy intellekt texnologiyalari tibbiyotning deyarli barcha sohalariga kirib keldi. Radiologiya, patologiya, onkologiya va kardiologiyada SI algoritmlarining klinik tadbiqi to'g'risida ilmiy isbot bazasi kengayib bormoqda. Ayni paytda sud tibbiyoti ham bu texnologik to'lqindan chetda qolmadi: kompyuter tomografiyasiga asoslangan virtual avtopsiya (postmortem CT-

scanning), neyron tarmoqlar yordamida histologik slaydlarni tahlil qilish va yuz-skelet tuzilishini identifikatsiyalash sohasida tez sur'atlar bilan ilg'or tadqiqotlar amalga oshirilmoqda.

O'zbekistonda ham sud-tibbiy ekspertiza xizmati rivojlanib bormoqda va mamlakatimizda raqamli salomatlik tizimini joriy etish bo'yicha davlat dasturlari qabul qilingan. Shu sababli, xalqaro tajribani o'rganish va uni milliy sharoitga moslashtirish dolzarb ahamiyat kasb etadi.

Chuqur o'rganish va raqamli patologiya. Konvolyutsion neyron tarmoqlar (CNN) tirik bemorlar patologiyasini tashxislashda keng qo'llanilmoqda; lekin o'lik to'qimalariga ham ushbu algoritmlarni tatbiq etish bo'yicha tadqiqotlar olib borilmoqda. Misol uchun, Yevropa Patologiya Jamiyatining 2023 yilgi kongressida taqdim etilgan ishda gistologik slaydlardan ko'k-qon o'limini (asfiksiya) aniqlash uchun CNN modeli 91% sezuvchanlik ko'rsatgani qayd etildi. Tokiyo universiteti (Yaponiya) guruhi esa miyokard infarkti va o'tkir o'pka shikastlanishini postmortem patologik kesmalarda SIning aniqlash darajasini o'rganib, mutaxassis patologlar bilan solishtirganda statistik jihatdan farq yo'qligini topdi.

Identifikatsiya va yuz rekonstruktsiyasi. Tanib bo'lmaydigan darajada shikastlangan yoki parchalanib ketgan marhum qoldiqlarini identifikatsiyalash sud tibbiyotining eng murakkab vazifalaridan biri hisoblanadi. Skull-to-photo superimposition va kraniyofasial rekonstruktsiya usullari an'anaviy ravishda qo'llanilgan. SI bu jarayonni kuch bilan o'zgartirmoqda: 3D skelet skanidan yuz tuzilishini qayta quruvchi generativ modellar, qo'l barmoq izi va tish tuzilishi bo'yicha avtomatlashtirilgan taqqoslash tizimlari tobora ishonchli natijalar bermoqda.

O'zbekiston Respublikasida «Raqamli O'zbekiston 2030» strategiyasi doirasida tibbiyot raqamlashtirish jadal sur'atlarda davom etmoqda. Sog'liqni saqlash vazirligining tegishli buyruqlari bilan elektron tibbiy yozuvlar, teletibbiyot va sun'iy intellektga asoslangan tashxis tizimlari joriy etilishi rejalashtirilgan. Sud-

tibbiy ekspertiza xizmati nuqtai nazaridan esa quyidagi yo'nalishlar ustuvor ahamiyat kasb etadi: Postmortem KT skanerlashni yirik viloyat markazlari sud-tibbiy bo'limlariga kiritish — kadrlar tanqisligi sharoitida ham sifatli ekspertiza o'tkazish imkonini beradi. Milliy patologik tasvir bazasini yaratish — o'zbek populyatsiyasi xususiyatlarini hisobga olgan algoritmlar ishlab chiqish uchun muhim asos. Sud tibbiyoti mutaxassislarini SI va raqamli patologiya bo'yicha qayta tayyorlash dasturlari — insoniy resurslarni zamonaviy usullar bilan boyitish. Huquqiy-me'yoriy bazani takomillashtirish — SI tomonidan yaratilgan tibbiy xulosaning sud jarayonida qanday e'tiborga olinishi to'g'risida qonunchilik normalarini ishlab chiqish.

XULOSA

Sun'iy intellekt sud-tibbiy ekspertiza amaliyotida inqilobiy o'zgarishlar olib kelishi mumkin bo'lgan texnologiya sifatida tan olinmoqda. O'lim sababini aniqlashda — ayniqsa murakkab, ko'p omilli hollarda — SI algoritmlari patolog mutaxassis bilan hamkorlikda ishlanganda diagnostik aniqlikni va jarayon samaradorligini oshiradi. Biroq, texnologiyaning imkoniyatlari bilan bir qatorda uning cheklovlarini ham chuqur anglash zarur. Huquqiy mas'uliyat, ma'lumotlar xavfsizligi, algoritmik shaffoflik va populyatsiyalar o'rtasidagi farqlar — bu masalalar yechilmagan holda SI sud jarayonida ishonchli dalil sifatida tan olinishi qiyin. Kelgusida, o'zbek olimlarining xalqaro konsorsiumlar bilan hamkorligi, milliy ma'lumotlar bazasi yaratish va qonunchilikni zamonaviylashtirishga qaratilgan harakatlar mamlakatimizda ushbu texnologiyaning to'la salohiyatini ro'yobga chiqarishga xizmat qiladi. Nihoyat, SI bu sohadagi asosiy qurol emas, balki malakali mutaxassisning qo'lida eng kuchli vosita sifatida qabul qilinmog'i lozim.

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3-SHO‘BA

THE NEUROLOGICAL EFFECT OF EXCESSIVE BRAIN STRESS: HOW ARE STRESS HORMONES SECRETED, AND WHAT ARE THE IMPACTS OF STRESS HORMONES ON COGNITIVE FUNCTION AND HIPPOCAMPAL ATROPHY?

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Abstract. *The paper exclusively focuses on cortisol, a glucocorticoid (GC) hormone. This study investigates how the sympathetic-adrenal medullary system (SAM) and the hypothalamic pituitary-adrenal (HPA) axis respond to stress. The relationship between stress levels and cognitive performance is described as an inverted U-shape. Stress levels, in association with their duration, are examined for their impacts on structural changes in the CA1, CA2 regions, and the amygdala, as well as their role in impairing the process of neurogenesis in the Hippocampus.*

Keywords: *Cortisol, Stress Hormones, Hypothalamic–Pituitary–Adrenal (HPA) Axis, Sympathetic–Adrenal Medullary (SAM) System, Cognitive Function, Hippocampus, Amygdala, Neurogenesis.*

INTRODUCTION

Stress hormones, also known as glucocorticoids, are secreted in the body in times of stress. They are important for memory retrieval and can have both enhancing and deteriorative effects on cognitive function. For example, having high levels can be beneficial when faced with challenging situations, whereas continued low levels can be detrimental to cognitive function. Stress hormones/naturally occurring steroids are produced in response to a stressor and are secreted in the highest quantities by the glands in the body known as the adrenal cortex. These glands sit on top of the kidneys. There are two main stress hormones, cortisol and DHEA, but in this paper, cortisol is discussed.

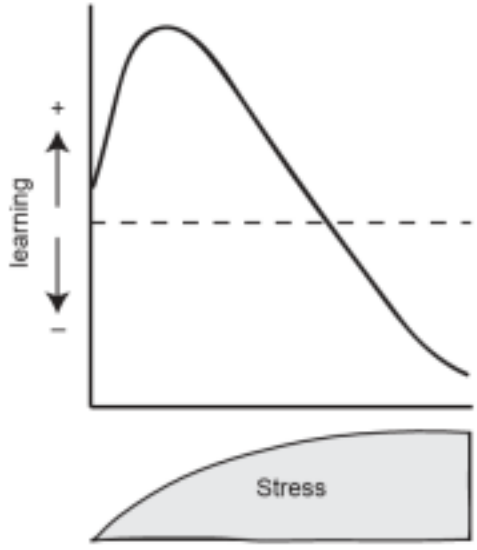
How are Stress Hormones Secreted

There are two systems, the sympathetic-adrenal medullary system (SAM) and the HPA axis, which are responsible for the formation of stress hormones. Initially, when humans face danger, the SAM system will be activated in the amygdala, a region of the brain responsible for emotions and fear. The amygdala sends a signal to the hypothalamus. The hypothalamus acts like a commander by the autonomic nervous system, which has two components: the sympathetic nervous system and the parasympathetic nervous system. The hypothalamus sends a signal to adrenal glands through the autonomic nerves to activate the sympathetic nervous system, mobilizing the body's resources in response to stress and triggering the secretion of

adrenaline hormones into the bloodstream. Adrenaline takes physiological actions. After adrenaline activities become less vigorous, the second system will be started activating by the brain, which is the HPA axis, hypothalamic-pituitary-adrenal axis. Consisting of three main components: the hypothalamus, the pituitary gland, and the adrenal glands, the HPA axis has multiple functions on the brain. One of them is activating the paraventricular nucleus (PVN) of the hypothalamus to release corticotrophin-releasing hormone (CRH). Firstly, CRH travels into the pituitary gland, where adrenocorticotropic hormone (ACTH) will be secreted. Then, ACTH travels into the adrenal gland to secrete cortisol, which is a type of glucocorticoid, a class of steroid hormones. The cortisol, once released, then feeds back onto both hypothalamic and higher brain structures, including the hippocampus (R. Morris, 2007).

Impacts of Stress Hormones on Cognitive Function

Due to the presence of steroids (cortisol) in the bloodstream, stress affects cognitive functions of animals, including humans, according to the level of the concentration of cortisol. R. Morris stated in his book (2007): "Mild stress and low concentrations of administered steroids can facilitate spatial memory (Sandi et al., 1997; Akirav et al., 2004), passive avoidance learning in chicks (Sandi and Rose, 1994, 1997; Liu et al., 1999), contextual fear conditioning (Cordero et al., 2003), and classic eye blink conditioning (Shors, 2001). Conversely, moderate to high levels of stress or exogenous steroids have been reported to impair spatial memory (Diamond et al., 1996; de Quervain et al., 1998; Stillman et al., 1998; Conrad et al., 1999; Diamond and Park, 2000), recognition memory (Baker and Kim, 2002), and contextual fear



conditioning (Pugh et al., 1997; Rudy et al., 1999)." It is suggested that there is a relationship between stress level and learning as an inverted U-shape.

Figure 1. Yerkes-Dodson law. (The inverted U-shape model)

Cognitive function, including learning, has a biphasic relation to levels of stress. As stress increases, learning first improves and then declines to levels below baseline. (The Hippocampus book, Chapter 15, Richard Morris)

Structural Changes in The Brain

Secretion of GCs hormones, namely cortisol and cortisone, caused by stress can lead to structural change and atrophy in the CA3 region of the hippocampus and amygdala or neurogenesis, especially in adults. However, according to the duration of stress and concentration of stress hormones, the effect can be reversible or non-reversible.

4.1 The Moderate Period of Stress with High Level of GCs

R. Morris stated (2007), “First, moderate durations of stress and high GC exposure in rats (can be applied to humans) cause reversible atrophy of apical dendrites of CA3 pyramidal cells and dentate gyrus neurons and alteration in synaptic terminal structure”. According to the medical dictionary, atrophy is a decrease in the size of a particular part of the body. Therefore, atrophy of apical dendrites, a part of the pyramidal neuron responsible for receiving synaptic inputs from other neurons and transmitting electrical signals, and the dentate gyrus, a region of the hippocampus responsible for encoding memory, will lead to a short-term decline in cognitive performance. As a result of the atrophy in the CA3 region, the dendrites of the basolateral amygdala will be expanded as a response, and may lead to dysregulation of emotions and behavior. However, by over-expression of Brain-derived neurotrophic factor (BDNF), a protein that plays a key role in promoting the growth, survival, and maintenance of neurons in the brain, along with responding to stress, into those brain regions, this change can reverse back: BDNF

prevents decreasing the length of dendrites in the CA3 region and increasing in the Amygdala, and helps the expansion of dendrites back in the CA3, and shrinking of the Amygdala.

4.2 The Chronic Period of Stress with High Level of GCs

R. Morris mentioned that, "Second, chronic longer-term stress was reported to result in overt loss of hippocampal CA1 and CA3 neurons in rats and primates. However, these findings have not been replicated using improved stereological methodology, and whether cell death occurs in response to stress is now an issue of debate." However, the cortisol level increased after acute stress will normalize, but increased cortisol level remains as it is in chronic stress, and this may affect BDNF function to alter in some way and cannot act as an efficient way of preventing changes in CA1, CA3, and the Amygdala. This should be left as a potential area for future investigation. However, this type of stress - chronic stress - has a more devastating effect on the cognitive function of the brain.

4.3 Neurogenesis in the Hippocampus

It is recorded that chronic stress can even damage neurogenesis, a process of forming new neurons in the brain. During prolonged and severe stress, the hippocampus cannot control its function of stopping the HPA axis, leading to the secretion of an excess amount of GCs. Eventually, an elevated amount of GCs damages the Hippocampus, and limits the ability of the Hippocampus to regulate the HPA axis, thereby reducing the volume of the hippocampus and impairment of cognitive functions. However, there are still areas that should be investigated, since as R. Morris stated "Whether hippocampal atrophy and inhibition of neurogenesis are the causes or consequences of elevated GCs is therefore a "chicken or egg" question." However, it is clear that due to chronic stress, or stress hormones, the amount of BDNF, which supports the growth of neurogenesis, will be reduced.

CONCLUSION

In conclusion, this study highlights how cortisol and adrenaline hormones are secreted through the integration between the SAM and the HPA axis, and how they affect the brain. The general effect of stress on cognitive functions is described as an inverted U-shape. I discussed three main changes that can be observed in the amygdala and the hippocampus, as well as the role of those changes in cognitive performance. Furthermore, potential areas for investigation in the future are provided at the end of relevant paragraphs.

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QON YARATUVCHI A’ZOLAR PATOLOGIYASINING GISTOLOGIK ASOSLARI (ANEMIYA VA LEYKEMIYA)

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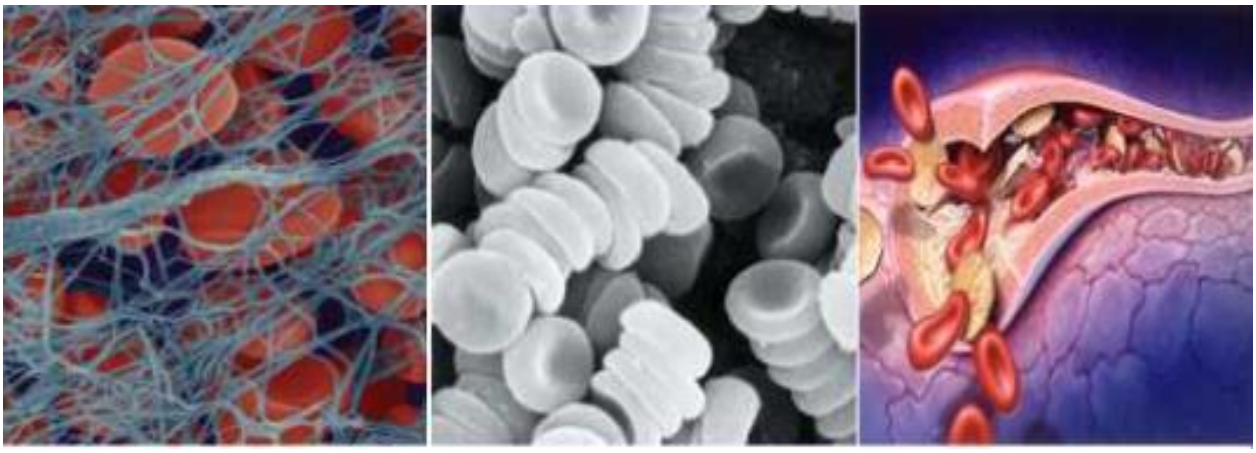

Annotatsiya: *Ushbu maqolada qon yaratuvchi a'zolarning gistologik tuzilishi, ularning fiziologik faoliyati hamda patologik holatlarda yuzaga keladigan o'zgarishlar keng yoritilgan. Ayniqsa, anemiya va leykemiya kasalliklarining patogenezi, morfologik va gistologik belgilariga alohida e'tibor qaratilgan. Suyak iligi, limfa tugunlari va taloqdagi mikroskopik o'zgarishlar ilmiy jihatdan tahlil qilingan.*

Kalit so'zlar: *Gistologiya, gemopoez, suyak iligi, anemiya, leykemiya, blast hujayralar, eritropoez, limfa tuguni*

Аннотация: *В статье подробно рассматриваются гистологические особенности кроветворных органов в норме и при патологии. Особое внимание уделено анемиям и лейкемиям, их патогенезу и морфологическим изменениям. Проанализированы микроскопические изменения в костном мозге, лимфатических узлах и селезёнке.*

Ключевые слова: *Гистология, гемопоэз, костный мозг, анемия, лейкемия, бластные клетки, эритропоэз, лимфатический узел*

Annotation: *This article provides a detailed overview of the histological structure of hematopoietic organs in both normal and pathological conditions. Special focus is given to anemia and leukemia, including their pathogenesis and morphological changes. Microscopic alterations in bone marrow, lymph nodes, and spleen are thoroughly analyzed.*

Keywords: *Histology, hematopoiesis, bone marrow, anemia, leukemia, blast cells, erythropoiesis, lymph node*

KIRISH

Qon yaratuvchi a’zolar organizmning eng muhim tizimlaridan biri bo‘lib, ular orqali qon hujayralari - eritrotsitlar, leykotsitlar va trombotsitlar hosil bo‘ladi. Ushbu tizim gemopoez deb ataluvchi murakkab biologik jarayon asosida ishlaydi. Gemopoez embrional davrda jigarda va taloqda boshlanib, tug‘ilgandan keyin asosan suyak iligida davom etadi.

Gistologik jihatdan qon yaratuvchi a’zolar yuqori darajada differensiyalashgan hujayralardan tashkil topgan bo‘lib, ular stromal komponentlar bilan o‘zaro bog‘langan. Ushbu muvozanat buzilganda turli patologiyalar, jumladan anemiya va leykemiya rivojlanadi.

ASOSIY QISM

1. GEMOPOEZ VA UNING GISTOLOGIK ASOSLARI

Gemopoez - bu qon shaklli elementlarining hosil bo‘lish jarayoni bo‘lib, u organizmning hayot faoliyati uchun zarur bo‘lgan eritrotsitlar, leykotsitlar va trombotsitlarni ishlab chiqarishni ta’minlaydi. Ushbu jarayonning markaziy organi **suyak iligi** hisoblanadi.

1.1 Gemopoezning hujayraviy asoslari

Gemopoezning boshlanishi **pluripotent ildiz hujayralar (stem hujayralar)** bilan bog‘liq. Ushbu hujayralar quyidagi xususiyatlarga ega:

1) O‘zini yangilash (self-renewal)
2) Differensiyalanish (turli hujayralarga aylanish)

Stem hujayralar ikki asosiy yo‘nalishga ajraladi:

1. **Miyeloid qator** - eritrotsitlar, trombotsitlar, neytrofillar, bazofillar, eozinofillar
2. **Limfoid qator** - T va B limfotsitlar

Bu jarayonlar sitokinlar va o‘sish omillari (masalan, eritropoetin) orqali boshqariladi.

1.2 Suyak iligining gistologik tuzilishi

Suyak iligi - bu murakkab mikroarxitekturaga ega bo‘lgan to‘qima bo‘lib, unda quyidagi komponentlar mavjud:

a) Stromal komponent

1) Retikulyar hujayralar
2) Fibroblastlar
3) Makrofaglar

Ular hujayralar uchun “mikromuhit” yaratadi.

b) Gematopoetik hujayralar

1) Eritroblastlar (eritropoez)
2) Miyeloblastlar (granulotsitlar uchun)
3) Megakariotsitlar (trombotsitlar manbai)

c) Sinusoid kapillyarlar

Bu kengaygan kapillyarlar bo‘lib, yetilgan hujayralar aynan shu orqali qon oqimiga o‘tadi. Ularning devori ingichka bo‘lib, selektiv o‘tkazuvchanlikka ega.

2. ERITROPOEZ VA ANEMIYANING GISTOLOGIK ASOSLARI

2.1 Eritropoez jarayoni

Eritropoez - eritrotsitlarning hosil bo‘lish jarayoni bo‘lib, u quyidagi bosqichlardan iborat:

1) Proeritroblast
2) Bazofil eritroblast
3) Polixromatofil eritroblast
4) Ortokromatik eritroblast
5) Retikulotsit - Eritrotsit

Bu jarayon davomida:

1) Yadro kichrayadi va yo‘qoladi
2) Gemoglobin to‘planadi
3) Hujayra shakli bikonkav diskga aylanadi

2.2 Anemiya: patogenez va gistologiya

Anemiya - bu eritrotsitlar soni yoki gemoglobin miqdorining kamayishi bilan bog‘liq patologik holatdir.

Patogenez mexanizmlari:

1. Eritropoezning buzilishi
2. Eritrotsitlarning parchalanishi (gemoliz)
3. Qon yo‘qotish

2.3 Suyak iligida anemiyadagi o‘zgarishlar

Anemiyada suyak iligi turlicha javob beradi:

a) Giperplastik holat

Organizm kompensatsiya sifatida eritropoezni kuchaytiradi. Eritroblastlar soni ortadi.

b) Gipoplastik holat

Aplastik anemiyada suyak iligi bo‘shashadi va yog‘ to‘qimasi bilan almashinadi.

c) Megaloblastik o‘zgarishlar

B12 vitamini yetishmovchiligida:

1) Yadro va sitoplazma rivojlanishi nomutanosib
2) Yirik (makrotsitar) hujayralar

2.4 Qon surtmasidagi gistologik belgilar

1) **Anizotsitoz** - eritrotsitlar o‘lchami turlicha
2) **Poikilotsitoz** - shakllari o‘zgargan
3) **Gipoxromiya** - rangsiz eritrotsitlar

2.5 Anemiya turlari (gistologik nuqtai nazardan)

Mikrotsitar anemiya

1) Eritrotsitlar kichik
2) Temir tanqisligi bilan bog‘liq

Makrotsitar anemiya

1) Yirik eritrotsitlar
2) DNK sintezi buzilgan

Normotsitar anemiya

Hajm normal, lekin son kamaygan

3. LEYKEMIYA VA UNING GISTOLOGIK ASOSLARI

3.1 Leykemiya haqida umumiy tushuncha

Leykemiya - bu qon yaratuvchi hujayralarning nazoratsiz, malign ko‘payishi bilan tavsiflanadigan kasallikdir. Bu jarayon normal gemopoezni siqib chiqaradi.

3.2 Leykemiyaning hujayraviy asoslari

Leykemiyada asosiy rolni **blast hujayralar** o‘ynaydi. Ular:

1) Differensiyalanmagan
2) Tez bo‘linuvchi
3) Funktsional jihatdan yetilmagan

3.3 Suyak iligida gistologik o‘zgarishlar

1) Blast hujayralar 20% dan ortiq
2) Normal eritropoez va trombopoez susayadi
3) Stromal struktura buziladi

Natijada:

1) Anemiya
2) Trombositopeniya
3) Immunitet pasayishi

3.4 Leykemiya klassifikatsiyasi

O‘tkir leykemiya

1) Tez rivojlanadi
2) Blast hujayralar ustun

Surunkali leykemiya

1) Sekin kechadi
2) Nisbatan yetilgan hujayralar

3.5 Immunogistokimyoviy markerlar

Leykemiyani aniqlashda muhim:

1) **CD34** - ildiz hujayralar belgisi
2) **CD20** - B-limfotsitlar
3) **CD3** - T-limfotsitlar

Bu markerlar kasallik turini aniqlashda hal qiluvchi ahamiyatga ega.

4. LIMFA TUGUNLARI VA TALOQDA O‘ZGARISHLAR

4.1 Limfa tugunlari

Leykemiyada:

1) Korteks kengayadi
2) Follikulalar yo‘qoladi
3) Diffuz infiltratsiya kuzatiladi

4.2 Taloq

Taloqda:

1) Oq pulpa kengayadi
2) Qizil pulpa infiltratsiyalanadi
3) Splenomegaliya rivojlanadi

5. GISTOLOGIK DIAGNOSTIKA AHAMIYATI

Zamonaviy tibbiyotda gistologik usullar muhim:

1) Suyak iligi biopsiyasi
2) Qon surtmasi tahlili
3) Immunofenotiplash

Bu usullar orqali:

1) Kasallik turi
2) Bosqichi

3) Davolash usuli aniqlanadi

6. KLINIK VA MORFOLOGIK BOG‘LIQLIK

Gistologik o‘zgarishlar klinik belgilarni tushuntiradi:

Gistologik o‘zgarish	**Klinik belgi**
Eritrotsit kamayishi	Holsizlik
Leykotsit buzilishi	Infeksiya
Trombosit kamayishi	Qon ketish

1. GEMOPOEZNING GISTOLOGIK ASOSLARI

Gemopoez - bu pluripotent ildiz hujayralardan barcha qon elementlarining hosil bo‘lish jarayonidir. Ushbu hujayralar o‘zini yangilash va differensiyalanish xususiyatiga ega.

1.1 Ildiz hujayralar va differensiyalanish

1) Pluripotent stem hujayralar
2) Mieloid va limfoid liniyalar
3) Progenitor hujayralar

1.2 Suyak iligining mikroarxitekturasi

Suyak iligi quyidagi komponentlardan tashkil topadi:

1) Retikulyar stromal hujayralar
2) Sinusoid kapillyarlar
3) Gematopoetik orollar

Sinusoidlar orqali yetilgan hujayralar qon oqimiga o‘tadi.

2. ANEMIYANING GISTOLOGIK ASOSLARI

Anemiya - eritrotsitlar yoki gemoglobin miqdorining kamayishi bilan tavsiflanadi.

2.1 Patogenez

1) Eritropoez buzilishi
2) Gemoliz kuchayishi

3) Qon yo‘qotish

2.2 Suyak iligidagi o‘zgarishlar

1) Giperplaziya (kompensator)

2) Gipoplaziya (aplastik holat)

3) Megaloblastik transformatsiya

2.3 Mikroskopik belgilar

1) Anizotsitoz

2) Poikilotsitoz

3) Gipoxromiya

2.3 Anemiya klassifikatsiyasi (gistologik)

1) Normotsitar

2) Mikrotsitar

3) Makrotsitar

3. LEYKEMIYANING GISTOLOGIK ASOSLARI

Leykemiya - qon yaratuvchi to‘qimalarning malign kasalligidir.

3.1 Patogenez

1) Genetik mutatsiyalar

2) Onkogenlar aktivatsiyasi

3) Apoptozning buzilishi

3.2 Suyak iligidagi o‘zgarishlar

1) Blast hujayralar >20%

2) Normal gemopoezning susayishi

3.3 FAB klassifikatsiyasi

1) M0-M7 (miyeloid)

2) L1-L3 (limfoid)

3.3 Immunogistokimyo

1)CD34 - stem hujayra markeri

2)CD20 - B-limfotsitlar

3) CD3 - T-limfotsitlar

3.4 Limfa tugunlari va taloq

1) Diffuz infiltratsiya
2) Oq pulpa kengayishi
3) Limfoid proliferatsiya

4. DIFFERENSIAL DIAGNOSTIKA VA GISTOLOGIYA

Gistologik tekshiruvlar:

1) Suyak iligi biopsiyasi
2) Qon surtmasi
3) Immunofenotiplash

Bu usullar kasallikni aniq tashxislashda muhim ahamiyatga ega.

5. KLINIK VA MORFOLOGIK BOG‘LIQLIK

Gistologik o‘zgarishlar klinik belgilar bilan bog‘liq:

1) Anemiyada - holsizlik, rangparlik
2) Leykemiyada - infeksiyaga moyillik, qon ketish

XULOSA

Qon yaratuvchi a’zolarning gistologik tuzilishini chuqur o‘rganish anemiya va leykemiya kabi kasalliklarni tushunishda muhim ahamiyatga ega. Ushbu kasalliklar hujayra darajasida murakkab o‘zgarishlar bilan kechadi. Zamonaviy gistologik va immunogistokimyoviy usullar kasalliklarni erta aniqlash va samarali davolash imkonini beradi.

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KATTA YOSHDAGILAR MIYASIDAGI NERV HUJAYRALARI QAYTA TIKLANADIMI?

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Annotatsiya: *Ushbu ilmiy maqolada katta yoshdagilar miyasidagi neyrogenez jarayonini tahlili, neyronlar va glial hujayralarning tuzilishi, funksiyasi, signallarni uzatish usullari o'rganilgan . Voyaga yetgan inson yoki hayvonda yangi neyronlarni hosil bo'lishi jarayoniga katta e'tibor qaratilgan. U asosan, subgranulyar zonada xotira,o'rganish va hissiy tajribalar bilan bog'liq va subventrikulyar zonada hosil bo'ladigan yangi neyronlarga asoslangan.*

Kalit so'zlar: *Hujayra neyrobiologiyasi, neyrogenez, glial hujayralar, gipokampning dentat girusi, subgranulyar(SGZ) zona, subventrikulyar zona(SVZ), neyral ildiz hujayra, ona hujayra, progenitor hujayra, neyroblast,Parkinson, Altsgeymer kasalliklari.*

Annotation: *This scientific article analyzes the process of neurogenesis in the adult brain and examines the structure, function, and signal transmission methods of neurons and glial cells. Significant attention is paid to the process of new neuron formation in adult humans or animals. This process is primarily based on new neurons formed in the subgranular zone (SGZ), which is associated with memory, learning, and emotional experiences, and in the subventricular zone (SVZ).*

Keywords: *Cellular neurobiology, neurogenesis, glial cells, hippocampal dentate gyrus, subgranular zone (SGZ), subventricular zone (SVZ), neural stem cell, mother cell (progenitor), progenitor cell, neuroblast,Parkinson's disease, Alzheimer's disease.*

KIRISH

Bugungi kunda neyrobiologiya sohasi jadal rivojlanayotgan sohalar qatoriga kiradi. Shunday bo'lsada neyronlarning ishlash mexanizmlari hali to'liq tadqiq etilmagan. Bu esa biologiya fanining yana bir yechimini kutayotgan muammosiga aylanmoqda. Qadimda olimlar voyaga yetgan odamlar miya hujayralari yangilana olmaydi deb hisoblashgan.Ammo so'nggi o'n yilliklardagi kemiruvchilar,primatlar va insonlar ustidagi tadqiqotlar buning aksini isbotladi,ya'ni miyaning ma'lum qismlarida umr davomida neyron ildiz hujayralari saqlanib qoladi va ular yangi,funksional neyronlarni hosil qila oladi. Bu jarayon asosan gipokampning dentat girusidagi subgranulyar(SGZ)zona,lateral qorinchalar bo'ylab joylashgan subventrikulyar zona(SVZ)da kuzatiladi.

Maqsad: Katta yoshdagilar miyasi neyrogenezi jarayonida miya o'zini yangilash qobiliyatiga ega, lekin bu jarayon cheklangan va ko'plab omillarga bog'liq bo'lib, kelajakda bu yo'nalishdagi tadqiqotlar miyani qarishdan saqlash, xotira kasalliklarini davolash va ruhiy salomatlikni yaxshilash uchun yangi yo'l ochishi mumkin. Katta yoshdagilar miyasidagi neyrogenez jarayonini chuqurroq tushunish Altsegeymer,Parkinson,Shizofreniya va boshqa neyrodegerenativ kasalliklarni o'rganish va davo usullarini topishdir.

Adabiyotlar sharxi: Neyronlarning tuzilishi,tarmoqlanishi,funksiyasi va sinapslar hosil bo'lish jarayonini o'rganishda juda ko'p olimlar va tadqiqotchilar keng ko'lamli ish olib borishgan.Jumladan, Jozef Altman radioaktiv tritiy bilan belgilangan timidinni ishlatgan holda kalamush va mushuklarning kattalar miyasida yangi nerv hujayralarining hosil bo'lishi (neyrogenez) haqida dalillar taqdim etdi.

Altman va uning shogirdi Gopal Das 1965-yilda kattalar kalamushi gipokampusi va hid bilish piyozchasi (olfactory bulb)da neyrogenezning anatomik dalillarini ko'rsatdilar.

1980-yillarda Fernando Nottebohm (Rockefeller universiteti) qo'shiqlarni o'rganuvchi qushlar miyasida kattalar neyrogenezi mavjudligini yaqqol isbotladi.

1998-yilda ko'pchilik olimlar tomonidan aynan odam miyasidagi neyrogenez jarayoni o'rganilgan.

Bundan tashqari,Vogester universitetining tibbiy markazida ishlovchilar P.Koleman,D.Flad va S.Bkyull 40-50 yoshdagi odamlarni gipokamp va miya po'stlog'ining ba'zi qismlarida dendritlarning o'sishini kuzatdilar,bu holat 70 yoshgacha bo'lgan odamlarda uchraydi.

R.Terri va boshqa tadqiqotchilar 60 yoshdan oshgandan so'ng fibroz ostrositlar tipidagi glial hujayralarining o'lchamlari va miqdori doimiy ko'payganini aniqladilar.

Tadqiqot metodologiyasi: Mazkur tadqiqotni olib borishda olimlar va tadqiqotchilarning mavzu doirasida olib borgan ilmiy izlanishlari,o'quv adabiyotlari va xalqaro ilmiy jurnallarda chop etilgan maqolalar tizimli o'rganilgan.Ularning fikr va mulohazalari o'rganilib, qiyosiy tahlil etilidi va ma'lumotlar qayta ishlandi.

Tahlil va natijalar:

Hujayra neyrobiologiyasi-neyronlar va glial hujayralarning tuzilishi, funksiyasi, signallarni uzatish usullarini o'rganuvchi fan sohasidir. Uning asosiy maqsadi asab tizimining ishlashini hujayra darajasida tushuntirish.O'tgan asr boshlarida Santiago Ramon Cajal va boshqa olimlar nerv hujayrasini o'zgarmaydi

va qaytadan neyronlar hosil bo'lmaydi deb hisoblashgan.Chunki miya zararlangandan so‘ng uni tiklash qobiliyati juda past edi. Ushbu dogma nevrologiya olamida ancha vaqtgacha hukmronlik qilgan va ,, Altman (1962) tomonidan kattalar kemiruvchilar miyasining aniq hududlarida yangi hujayralar aniqlangani haqida xabar berilgan bo‘lsa-da, bu natijalar asosan e'tiborsiz qoldirilgan."[1]

1990-yillarga kelib yangi texnologiyalar paydo bo‘lishi bilan kattalar neyrogenezi bo‘yicha izlanishlar keskin rivojlandi va kemiruvchilar,primatlar va insonlar ustidagi tadqiqotlar buning aksini isbotladi,ya'ni miyaning ma'lum qismlarida umr davomida neyron ildiz hujayralari saqlanib qoladi va ular yangi,funksional neyronlarni hosil qila oladi. Voyaga yetgan inson yoki hayvonda yangi neyronlarni hosil bo'lishi ikki asosiy mintaqada sodir bo'ladi. Birinchisi, subgranulyar zonada xotira,o'rganish va hissiy tajribalar bilan bog'liq va bu yerda neyral ildiz hujayralar doimiy yangi neyronlarni hosil qiladi. Ikkinchisi, subventrikulyar zonada hosil bo'lgan yangi neyronlar hid sezish zonasiga ko'chadi.

„Kattalar miyasidagi neyrogenez to‘rt bosqichdan iborat: 1.Nerv ildiz hujayralari (NSC) va nerv progentor hujayralarining (NPC) proliferatsiyasi; 2. NSC va NPClarning taqdirlanishi va "migratsiya" deb ataladigan harakati; 3. NPClarning yetilmagan neyronlarga differensiasiyasi; 4.Ushbu yetilgan neyronlarning mavjud sinaptik tarmoqlarga qo‘shilishi Jarayonni chuqurroq o‘rganganimizda NSC va NPClar yuqori proliferativ salohiyatga ega multipotent hujayralar ekani ma'lum bo‘ladi.''[2] Bu ma'lumotlar 1962- yilgi ma'lumotlar bo'lib keyinchalik olimlar olib borgan tadqiqotlar bu ma'lumotlarni yanada aniqroq tushunishga yordam berdi. „Odam miyasi to‘qimasi S fazasida DNKni belgilovchi timidin analogi bo‘lgan bromodeoksiuridin (BrdU) bilan davolangan bemorlardan o‘limidan keyin olindi. Biz BrdU va neyron markerlaridan biri bo‘lgan NeuN, kalbindin yoki neyronga xos enolaza (NSE) uchun immunolyuminestsent belgilash (immunofluorescent labeling) usulidan foydalanib, ushbu markerlar bilan aniqlangan yangi neyronlar katta

yoshdagi odamlarning tishli pushtasida (dentate gyrus) bo‘linuvchi ajdod (progenitor) hujayralaridan hosil bo‘lishini namoyish etamiz.”[3]

Neyronlarda yosh ulg‘ayishi bilan paydo bo‘ladigan o‘zgarishlar sutemizuvchilarda eng ko‘p o‘rganilgan. Odamning yoshi ulg’aygan sari neyronlarning umumiy soni miyada kamayadi, lekin jarayon bir xilda kechmaydi. Masalan, gipatalamus sohasidagi neyronlar juda kam yo‘qoladi, bu soha gipofizning qator garmonlarini regulyatsiya qiladi. Ammo 2018-yildan keyin e’lon qilingan ko’pchilik topilmalar katta yoshdagi odam miyasidagi SGZ neyrogenezi bo‘yicha bahslarni qayta avj oldirdi va bugungi kunda haligacha bu mavzu bo’yicha olimlar o’rtasida bahslar davom etmoqda.

Endi esa aynan katta yoshdagilar miyasidagi nerv sistemasiga oid kasalliklarga keladigan bo’lsak bulardan eng keng tarqalgani Parkinson va Altsgeymer hastaliklari asosiy o’rinda turadi.

Parkinson kasalligida gipotalamus sohasi neyronlarining 70% i va hatto undan ko‘pi yo‘qoladi, buning natijasida insonlar harakat funksiyasi buziladi.”[4]Qarishning o‘zida aynan shu soha hujayralarining yo‘qotilishi deyarli kam, garchi bu kasallikning boshlang‘ich belgilarini eslatuvchi ba’zi insonlarda hujayralar dastlabki miqdorining 30—40% ining yo‘qotilishini bukuluvchanlikning kamayishi, harakatning sekinlashishi, xotira susayishi, oyoqlarni sudrab bosish kabi holatlar qayd etilishi mumkin.

Olimlarning aniqlashicha hayotning ikkinchi yarmida har 10 yi1 davomida 5% gipokamp neyronlari yo‘qoladi, umumiy olganda shu davrd a 20 % neyronlar yo‘qoladi. Shuningdek, hujayraning yo‘qotilishi bir maromda bo‘lmaydi, gipokampning ba'zi qismlari oz miqdorda ba’zilari hamma hujayralari saqlanib qolishi mumkin.

Altsgeymer kasalligi eng keng tarqalgan neyrodegenerativ kasallik bo‘lib, Altsgeymer hayvon modellarida o’rganilganda kattalar davridagi neyrogenezning sezilarli darajada buzilgani qayd etilgan bo‘lsada, ushbu

buzilishning aniq mexanizmi hali to‘liq aniqlanmagan.,,Kasallik sababining markazida bir nechta omillar turadi: Aβ peptidining miya to‘qimalarida to‘planishi, neyron ichida neyrofibrillyar chalkashliklarning hosil bo‘lishi va ayniqsa gipokampusning dentat girusida kuzatiladigan progressiv neyron yo‘qotilishi. Neyrofibrillyar chalkashliklar dentat girusdagi neyronlar degeneratsiyasi bilan uzoq vaqt davomida bog‘lab kelinadi.’’[5]

Kattalar miyasida sodir bo‘ladigan neyrogenez miya plastikligining muhim tarkibiy qismi sifatida qaraladi. Yangi hosil bo‘lgan neyronlar mavjud nerv tarmoqlariga qo‘shilib, o‘rganish, xotira shakllanishi, kayfiyatni boshqarish va aqliy moslashuvchanlik kabi jarayonlarda ishtirok etadi.Kemiruvchilarda olib borilgan tajribalar shuni ko‘rsatadiki, yaxshi yashash sharoiti, jismoniy faollik va yangi tajribalar neyrogenezni kuchaytiradi. Bu esa neyrogenezning tashqi omillarga bog‘liq, ya’ni tajribaga moslashuvchi jarayon ekanligini ko‘rsatadi. Shunga qaramay, insonlarda neyrogenezning darajasi va ahamiyati yuzasidan hanuzgacha jiddiy bahslar davom etmoqda. Ba’zi tadqiqotlar keksalik davrida ham gipokampda neyrogenez saqlanib qolishini ko‘rsatgan bo‘lsa, boshqalar buning deyarli yo‘qligini bildirgan. Bunday tafovutlar asosan metodologik farqlar bilan izohlanadi — masalan, o‘lik to‘qimalarni saqlash sifati, ishlatilgan markerlar yoki tasvirlash usullarining aniqligi bilan farqlanadi.

,, 2018-yildan boshlab katta yoshdagi odam neyrogenezi haqidagi nashrlar neyrogen nishlarning joylashuvi bo‘yicha yangi topilmalar keltirmadi. Aksincha, biz neyrogenezni an’anaviy katta yoshdagi sutemizuvchilar neyrogen nishlaridan tashqarida izlash, katta yoshdagi odam neyrogenezining miyaning keng hududida orkestrlanishi haqidagi ko‘rsatmalarimizni tasdiqlaydi, deb umid qilamiz.Bizning taxminimizcha, bu yondashuv, masalan, odam gipokampal neyrogenezining asosan CA1-subikulyum zonasida sodir bo‘lishiga va SVZdan kelib chiquvchi avval aniqlangan odam rostral migratsiya oqimi aslida neyrogenez markerlarini ifodalovchi forniks ustuni ekanligiga oydinlik kiritishi mumkin.”[6]

XULOSA VA TAKLİFLAR:

Xulosa qilib aytadigan bo’lsak, katta yoshdagilar miyasi neyrogenezi jarayonida miya o’zini yangilash qobiliyatiga ega, lekin bu jarayon cheklangan va ko’plab omillarga bog’liq bo’lib, ko’plab bahs-munozaralarga sabab bo’lib qolmoqda. Lekin agar biz kattalar miyasida neyrogenezni chuqurroq tahlil etsak Altegeymer, Parkinson kasalliklari kabi nevrodegenerativ jarayonlarni, shuningdek depressiya va kayfiyat buzilishlarini davolashda yangi imkoniyatlar ochiladi. Neyron ildiz hujayralarining regenerativ imkoniyatidan foydalanish miyada tiklanish, funksional sog‘ayish va kognitiv rivojlanishni ta’minlash uchun istiqbolli yo‘nalish hisoblanadi.Kelajakda bu yo’nalishdagi tadqiqotlar miyani qarishdan saqlash, xotira kasalliklarini davolash va ruhiy salomatlikni yaxshilash uchun yangi yo’l ochishi mumkin.

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METABOLIK SINDROM VA DIABET BILAN KURASHDA BERBERINNING ROLI

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Annotatsiya: *Metabolik sindrom va 2-toifa diabet zamonaviy jamiyatda keng tarqalgan metabolik buzilishlar qatoriga kiradi. Ushbu holatlar insulin rezistentligi, giperglikemiya, dislipidemiya va arterial gipertenziya bilan tavsiflanadi. So‘nggi yillarda tabiiy biofaol moddalar, xususan berberinning terapevtik imkoniyatlariga bo‘lgan qiziqish ortib bormoqda. Ushbu maqolada berberinning metabolik sindrom va diabet patogeneziga ta’siri hamda uning klinik ahamiyati tahlil qilinadi.*

Аннотация: *Метаболический синдром и сахарный диабет 2 типа относятся к числу наиболее распространенных нарушений обмена веществ в современном обществе. Эти состояния характеризуются инсулинорезистентностью, гипергликемией, дислипидемией и артериальной гипертензией. В последние годы наблюдается растущий интерес к терапевтическому потенциалу природных биологически активных веществ, в частности берберина. В данной статье рассматриваются эффекты берберина на патогенез метаболического синдрома и диабета, а также его клиническое значение.*

Abstract: *Metabolic syndrome and type 2 diabetes are among the most common metabolic disorders in modern society. These conditions are characterized by insulin resistance, hyperglycemia, dyslipidemia, and arterial hypertension. In recent years, there has been increasing interest in the therapeutic potential of natural bioactive substances, in particular berberine. This article reviews the effects of berberine on the pathogenesis of metabolic syndrome and diabetes and its clinical significance.*

Kalit so‘zlar: *Metabolik sindrom, 2-toifa diabet, berberin, insulin rezistentligi, glyukoza almashinuvi, lipid profili.*

Ключевые слова: *метаболический синдром, сахарный диабет 2 типа, берберин, инсулинорезистентность, метаболизм глюкозы, липидный профиль.*

Keywords: *Metabolic syndrome, type 2 diabetes, berberine, insulin resistance, glucose metabolism, lipid profile.*

KIRISH

Metabolik sindrom va 2-toifa diabet mellitus T2DM hozirgi kunda global miqyosda sog‘liqni saqlash tizimi oldida turgan eng dolzarb muammolardan biri hisoblanadi. Ushbu kasalliklar nafaqat keng tarqalganligi, balki ularning og‘ir asoratlar bilan kechishi tufayli ham katta ijtimoiy-iqtisodiy ahamiyatga ega. Metabolik sindrom — bu o‘zaro bog‘liq bo‘lgan metabolik buzilishlar majmuasi

bo‘lib, u abdominal semizlik, insulin rezistentligi, arterial gipertenziya, giperglikemiya va dislipidemiya kabi holatlarni o‘z ichiga oladi. Mazkur sindromning mavjudligi 2-toifa diabet va yurak-qon tomir kasalliklari rivojlanish xavfini bir necha barobarga oshiradi.So‘nggi o‘n yilliklarda urbanizatsiya, noto‘g‘ri ovqatlanish odatlari, yuqori kaloriyali va qayta ishlangan oziq-ovqat mahsulotlarini iste’mol qilish, shuningdek jismoniy faollikning keskin kamayishi metabolik kasalliklar tarqalishining asosiy omillari sifatida qayd etilmoqda. Ayniqsa, semizlikning keng tarqalishi insulin rezistentligining rivojlanishiga zamin yaratib, bu esa o‘z navbatida T2DM patogenezining markaziy bo‘g‘inlaridan biri hisoblanadi.Hozirgi vaqtda metabolik sindrom va 2-toifa diabetni davolashda turli farmakologik vositalar-insulin sensitizerlar, antigiperglikemik preparatlar, lipid pasaytiruvchi dorilar keng qo‘llanilmoqda. Biroq ushbu dori vositalarining uzoq muddatli qo‘llanilishi ba’zi hollarda nojo‘ya ta’sirlar, tolerantlikning rivojlanishi yoki yetarli samaradorlikka erishilmasligi bilan cheklanadi. Shu sababli, alternativ va qo‘shimcha davolash usullarini izlash dolzarb masalaga aylanmoqda.

Mavzuga oid adabiyotlarning tahlili

Metabolik sindrom va 2-toifa diabet patogenezida insulin rezistentligi, glyukoza va lipid almashinuvining buzilishi, shuningdek surunkali yallig‘lanish jarayonlari asosiy o‘rin tutadi. Shu jihatdan, ushbu patologik holatlarga kompleks ta’sir ko‘rsata oladigan moddalar alohida ilmiy qiziqish uyg‘otadi. Berberin ana shunday ko‘p yo‘nalishli ta’sirga ega tabiiy birikmalardan biri sifatida keng o‘rganilmoqda.

TADQIQOT METODOLOGIYASI

Berberinning metabolik jarayonlarga ta’siri murakkab va ko‘p bosqichli bo‘lib, u bir nechta hujayraviy signal yo‘llari orqali amalga oshadi. Ushbu mexanizmlar orasida eng markaziy o‘rinni AMP-aktivatsiyalangan protein kinaza tizimi egallaydi. AMPK hujayraning “energetik sensori” sifatida faoliyat yuritib, ATP darajasi pasayib, AMP/ATP nisbati oshgan sharoitda faollashadi va energiya

balansini tiklashga qaratilgan katabolik jarayonlarni rag‘batlantiradi .Berberin AMPK ni faollashtirish orqali metabolik homeostazni tiklashga yordam beradi. Tadqiqotlar shuni ko‘rsatadiki, berberin mitoxondriyal nafas zanjirining I-kompleksini qisman inhibe qilib, hujayrada ATP ishlab chiqarilishini kamaytiradi va natijada AMPK faollashadi .Shuningdek, yangi ilmiy ma’lumotlarga ko‘ra, berberin AMPK ni lizosomal darajada ham faollashtirishi mumkin bo‘lib, bu jarayonda AXIN1 kabi oqsillar ishtirok etadi . Bu esa berberinning metformin kabi dorilardan biroz farq qiluvchi, o‘ziga xos molekulyar mexanizmga ega ekanligini ko‘rsatadi.AMPK faollashuvi natijasida quyidagi metabolik o‘zgarishlar yuz beradi:glyukoza utilizatsiyasi ortadi va mushak hamda yog‘ to‘qimalarida glyukozaning o‘zlashtirilishi kuchayadi; glykoliz jarayoni faollashadi; jigarda glyukoneogenez susayadi; yog‘ kislotalari oksidlanishi ortadi; lipogenez va xolesterin biosintezi kamayadi. Bundan tashqari, AMPK orqali berberin SREBP-1c kabi lipogenik transkripsion omillarni bostirib, hujayralarda yog‘ to‘planishini kamaytiradi . Mitoxondrial mexanizmlar:Berberinning yana bir muhim ta’sir yo‘li-mitoxondriyal funksiyaga bevosita ta’siridir. U mitoxondrial nafas zanjiriga ta’sir qilib, energiya ishlab chiqarish jarayonini qisman cheklaydi. Bu holat hujayrada “energiya yetishmovchiligi signali”ni yuzaga keltiradi va AMPK ni ikkilamchi tarzda faollashtiradi. Gormonal va signal molekulalar orqali ta’siri:Berberin adipokinlar va boshqa signal molekulalarga ham ta’sir ko‘rsatadi. Xususan, u adiponektinning yuqori molekulyar shakllarini ko‘paytirib, insulin sezgirligini yaxshilaydi .

TAHLIL VA NATIJALAR

Adiponektin metabolik jihatdan faol gormon bo‘lib, yog‘ kislotalari oksidlanishini oshiradi va glyukoza almashinuvini yaxshilaydi.Bundan tashqari, berberin jigarda FGF21 ekspressiyasini oshiradi, bu esa energiya almashinuvi va insulin sezgirligini tartibga solishda muhim rol o‘ynaydi .AMPK ga bog‘liq bo‘lmagan mexanizmlar: Berberinning ta’siri faqat AMPK bilan cheklanmaydi. U

boshqa signal yo‘llariga ham ta’sir qiladi:NF-κB yo‘lini inhibe qilib, yallig‘lanishni kamaytiradi; mTOR signal yo‘lini susaytirib, hujayra o‘sishi va lipogenezni cheklaydi; PPARγ va boshqa transkripsion omillar orqali lipid va glyukoza almashinuvini tartibga soladi . Shuningdek, berberin ichak darajasida ham ta’sir ko‘rsatib, glyukoza so‘rilishini kamaytirishi va ichak mikrobiotasiga ta’sir qilishi mumkin. Bu esa uning tizimli emas, balki qisman lokal ta’sir mexanizmlari mavjudligini ko‘rsatadi. Glyukoza almashinuviga ta’siri:Berberin glyukoza homeostazini tartibga solishda ko‘p bosqichli va o‘zaro bog‘liq mexanizmlar orqali ta’sir ko‘rsatadi. Uning gipoglikemik ta’siri nafaqat insulin sezgirligini oshirish, balki glyukozaning hujayralarga kirishi, utilizatsiyasi va ichakda so‘rilish jarayonlariga kompleks ta’sir qilish bilan izohlanadi. Insulin sezgirligini oshirish va periferik utilizatsiya:Berberin periferik to‘qimalarda, ayniqsa skelet mushaklari va yog‘ to‘qimasida glyukoza utilizatsiyasini sezilarli darajada oshiradi. Bu ta’sir asosan insulin signal yo‘llarining sezgirligini yaxshilash bilan bog‘liq. Tadqiqotlar berberin qabul qilinganda insulin rezistentligi ko‘rsatkichlari masalan, HOMA-IR kamayishini ko‘rsatadi .Shuningdek, berberin insulin mavjud bo‘lmagan sharoitda ham glyukoza o‘zlashtirilishini kuchaytirishi mumkin, bu esa uning insulin mustaqil mexanizmlarga ham ega ekanligini bildiradi . Bu jihat 2-toifa diabetda ayniqsa muhim, chunki bu holatda insulin ta’siri pasaygan bo‘ladi. GLUT-4 va glyukoza transport tizimi:Berberinning muhim ta’sir mexanizmlaridan biri — glyukoza transport oqsillariga, xususan GLUT-4 ga ta’siridir. Ilmiy tadqiqotlar berberin GLUT-4 ekspressiyasini oshirishi va uning hujayra membranasiga translokatsiyasini kuchaytirishini ko‘rsatadi .Natijada:mushak hujayralariga glyukozaning kirishi ortadi; glyukoza glikogen shaklida zaxiralanadi; qon plazmasidagi glyukoza darajasi kamayadi. Bundan tashqari, ayrim tadqiqotlar berberinning GLUT-1 transport tizimiga ham ta’sir qilishini ko‘rsatadi, bu esa bazal glyukoza transportini ham oshirishi mumkin .Klinik ko‘rsatkichlarga ta’siriYuqoridagi mexanizmlarning kombinatsiyasi klinik darajada muhim natijalarga olib keladi. Tadqiqotlar berberin

qabul qilish fonida:och qoringa glyukoza darajasi pasayishini; glyukozaga tolerantlik yaxshilanishini; HbA1c ko‘rsatkichining sezilarli kamayishini ko‘rsatadi . Bundan tashqari, insulin darajasi va insulin rezistentligi ko‘rsatkichlari ham yaxshilanadi, bu esa berberinning uzoq muddatli metabolik nazoratdagi ahamiyatini tasdiqlaydi.Lipid almashinuviga ta’siri**:**Metabolik sindrom patogenezida dislipidemiya muhim o‘rin tutadi va u triglitseridlar, umumiy xolesterin hamda past zichlikdagi lipoproteinlar darajasining oshishi, yuqori zichlikdagi lipoproteinlar darajasining esa kamayishi bilan tavsiflanadi. Berberin lipid almashinuviga ko‘p qirrali ta’sir ko‘rsatib, ushbu buzilishlarni kompleks tarzda tuzatishga yordam beradi.Lipid profiliga bevosita ta’siri:Eksperimental va klinik tadqiqotlar berberinning quyidagi gipolipidemik ta’sirlarini tasdiqlaydi:triglitseridlar darajasini sezilarli kamaytiradi; umumiy xolesterin va LDL miqdorini pasaytiradi; HDL darajasini oshirishga yordam beradi Ushbu o‘zgarishlar yurak-qon tomir kasalliklari xavfini kamaytirishda muhim ahamiyatga ega bo‘lib, berberinni metabolik sindromda kompleks davolash vositasi sifatida ko‘rib chiqish imkonini beradi. O‘t kislotalari va xolesterin aylanishi:Berberin o‘t kislotalari metabolizmini ham tartibga soladi. Tadqiqotlar shuni ko‘rsatadiki, u xolesterinning o‘t kislotalariga aylanishini kuchaytiradi va ularning ichak orqali chiqarilishini oshiradi.Natijada:xolesterin darajasi kamayadi; lipid almashinuvi yaxshilanadi; jigarda yog‘ to‘planishi kamayadi. Klinik ahamiyati:Berberinning lipid profiliga ta’siri klinik jihatdan muhim bo‘lib, u ateroskleroz rivojlanishini sekinlashtiradi; yurak-qon tomir kasalliklari xavfini kamaytiradi; metabolik sindrom komponentlarini kompleks nazorat qilishga yordam beradi. Ichak mikrobiotasiga ta’siri:So‘nggi yillarda olib borilgan ilmiy tadqiqotlar ichak mikrobiotasi metabolik kasalliklar, jumladan metabolik sindrom va 2-toifa diabet rivojlanishida muhim rol o‘ynashini ko‘rsatmoqda. Berberin o‘zining past bioo‘zlashtirilishiga qaramay, aynan ichak darajasida kuchli farmakologik ta’sir ko‘rsatadi va bu uning samaradorligining muhim omillaridan biri hisoblanadi. Metabolik

natijalar.Yuqoridagi mexanizmlar natijasida:insulin rezistentligi kamayadi; glyukoza va lipid almashinuvi yaxshilanadi; tana vazni va yog‘ to‘planishi kamayadi; umumiy metabolik profil yaxshilanadi.

XULOSA VA TAKLIFLAR

Metabolik sindrom va 2-toifa diabet mellitus zamonaviy tibbiyotning eng muhim muammolaridan biri bo‘lib, ularning patogenezida insulin rezistentligi, glyukoza va lipid almashinuvining buzilishi hamda surunkali yallig‘lanish jarayonlari asosiy o‘rin tutadi. Ushbu murakkab patogenetik mexanizmlar tufayli davolashda ko‘p yo‘nalishli ta’sirga ega vositalarni qo‘llash muhim ahamiyat kasb etadi.Berberin so‘nggi yillarda keng o‘rganilgan tabiiy biofaol moddalardan biri sifatida metabolik kasalliklarni boshqarishda istiqbolli vosita ekanligini namoyon qilmoqda. Ilmiy tadqiqotlar natijalari uning glyukoza va lipid almashinuviga ijobiy ta’sir ko‘rsatishini tasdiqlaydi. Xususan, meta-tahlillar berberin qabul qilish fonida och qoringa glyukoza va HbA1c ko‘rsatkichlarining sezilarli darajada kamayishini ko‘rsatgan . Shu bilan birga, u umumiy xolesterin, triglitseridlar va LDL darajasini pasaytirib, HDL miqdorini oshirishi aniqlangan .Berberinning samaradorligi uning ko‘p qirrali molekulyar ta’sir mexanizmlari bilan izohlanadi. U AMPK signal yo‘lini faollashtirish orqali energetik muvozanatni tartibga soladi, glyukoneogenezni susaytiradi, glyukoza utilizatsiyasini oshiradi hamda lipid sintezini kamaytiradi. Bundan tashqari, u ichak mikrobiotasini modulyatsiya qilib, metabolik jarayonlarga bilvosita ijobiy ta’sir ko‘rsatadi. Ushbu kompleks ta’sir berberinning metabolik sindromning deyarli barcha asosiy komponentlariga bir vaqtning o‘zida ta’sir qilish imkonini beradi.Umuman olganda**,** berberin metabolik sindrom va 2-toifa diabet patogenezining turli bo‘g‘inlariga kompleks ta’sir ko‘rsatadigan, yuqori ilmiy salohiyatga ega tabiiy birikma sifatida baholanadi va kelajakda klinik amaliyotda keng qo‘llanish imkoniyatiga ega.

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IMMUNOLOGICAL MARKERS IN ASSESSING THE SEVERITY OF COVID-19

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Abstract: *COVID-19, caused by SARS-CoV-2, demonstrates a wide spectrum of clinical manifestations, ranging from asymptomatic infection to severe respiratory failure and multi-organ dysfunction. The present study evaluates the role of immunological markers in predicting disease severity. Elevated levels of pro-inflammatory cytokines (IL-6, TNF-α), acute-phase proteins (CRP, ferritin), and significant alterations in lymphocyte subsets (CD3+, CD4+, CD8+) were strongly associated with severe disease progression. These findings suggest that immunological profiling may serve as a reliable tool for early risk stratification and clinical management of COVID-19 patients.*

Keywords: *COVID-19, immunological markers, lymphocyte subsets, cytokines, disease severity, immune response, prognostic indicators*

INTRODUCTION

The global spread of COVID-19 has posed significant challenges to healthcare systems worldwide. One of the key issues is the unpredictable clinical course of the disease. Increasing evidence indicates that immune dysregulation plays a central role in the pathogenesis of severe COVID-19. In particular, hyperactivation of the immune system and the development of a cytokine storm are associated with poor outcomes. Therefore, identifying reliable immunological markers is essential for early diagnosis, prognosis, and therapeutic decision-making.

Research Methods: A comparative analysis was conducted on patients diagnosed with COVID-19, categorized into mild, moderate, and severe groups based on clinical criteria. Immunological parameters were assessed using flow cytometry and immunoassay techniques. The study included evaluation of lymphocyte subsets (CD3+, CD4+, CD8+), activation markers (HLA-DR, CD95), and inflammatory biomarkers (IL-6, CRP, ferritin). Statistical analysis was performed to determine correlations between immunological indicators and disease severity.

Research results: The study revealed significant differences in immunological profiles among patient groups. Severe COVID-19 cases were characterized by pronounced lymphopenia, particularly reduced CD4+ and CD8+ T-cell counts, along with increased expression of activation and apoptosis markers (HLA-DR, CD95). Additionally, markedly elevated levels of IL-6, CRP, and ferritin were observed in severe cases, indicating hyperinflammatory response. Mild cases showed relatively stable immune parameters with minor deviations from normal ranges. These results confirm a strong association between immune dysregulation and disease severity.

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RAQAMLI TEXNOLOGIYALAR TA'SIRIDA KINO SAN'ATINING RIVOJLANISH BOSQICHLARI

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Annotatsiya. *Ushbu maqolada kino san'atining raqamli transformatsiyasi bosqichlari tahlil qilinadi. Zamonaviy axborot texnologiyalari kino ishlab chiqarish, tarqatish, marketing va tomoshabinlar bilan muloqot jarayonlarini tubdan o'zgartirgani ilmiy asosda yoritiladi. Film yaratishda ma'lumotlarni tahlil qilish, vizual effektlar (VFX), sun'iy intellekt va virtual texnologiyalarning o'rni ochib beriladi. Shuningdek, striming platformalari, ijtimoiy tarmoqlar va Big Data asosida muvaffaqiyatni bashorat qilish mexanizmlari ko'rib chiqiladi. Tadqiqot natijalari kino sanoatida raqamli texnologiyalar integratsiyasi yangi estetik, iqtisodiy va kommunikativ modelni shakllantirayotganini ko'rsatadi.*

Kalit so‘z: *Kino san’ati, raqamli transformatsiya, axborot texnologiyalari, vizual effektlar (VFX), sun’iy intellekt, Big Data, striming platformalari, raqamli marketing, tomoshabinlar ishtiroki, virtual reallik.*

Аннотация. *В данной статье анализируются этапы цифровой трансформации киноискусства. Научно обосновано влияние современных информационных технологий на процессы производства, дистрибуции, маркетинга и взаимодействия со зрительской аудиторией. Раскрывается роль анализа данных, визуальных эффектов (VFX), искусственного интеллекта и виртуальных технологий в создании фильмов. Особое внимание уделяется стриминговым платформам, социальным сетям и механизмам прогнозирования успеха на основе Big Data. Результаты исследования показывают, что интеграция цифровых технологий формирует новую эстетическую, экономическую и коммуникационную модель киноиндустрии.*

Ключевые слова:*Киноискусство, цифровая трансформация, информационные технологии, визуальные эффекты (VFX), искусственный интеллект, большие данные (Big Data), стриминговые платформы, цифровой маркетинг, вовлеченность аудитории, виртуальная реальность.*

Abstract. *This article analyzes the stages of digital transformation in cinema art. It examines the impact of modern information technologies on film production, distribution, marketing, and audience engagement. The study highlights the role of data analytics, visual effects (VFX), artificial intelligence, and virtual technologies in contemporary filmmaking. Special attention is given to streaming platforms, social media, and Big Data–based forecasting mechanisms. The findings demonstrate that the integration of digital technologies is shaping a new aesthetic, economic, and communicative model within the global film industry.*

Keywords: *Cinema art, digital transformation, information technologies, visual effects (VFX), artificial intelligence, Big Data, streaming platforms, digital marketing, audience engagement, virtual reality.*

KIRISH

San’atning ko‘plab shakl va yo‘nalishlari mavjud bo‘lib, ularning orasida ayniqsa zamonaviy davrda eng ko‘p bahs-munozaralarga sabab bo‘layotgan va samaradorlik jihatidan alohida ajralib turadigan turi – bu kino san’atidir. Kinoning san’at sohasi sifatida yuzaga kelishi va rivojlanishi, bir tomondan, ilm-fan va

texnologiyalarning taraqqiyoti bilan, ikkinchi tomondan esa an’anaviy san’at turlarining tarixiy tajribasi va estetik yutuqlari bilan uzviy bog‘liqdir.

Kino san’ati shakllanish jarayonida o‘zidan oldingi san’at turlarining boy merosidan ilhom olgan holda rivoj topdi. U an’anaviy san’at shakllarining (adabiyot, teatr, musiqiy san’at, tasviriy san’at va boshqalar) estetik imkoniyatlarini o‘zlashtirib, ularning ifoda uslublaridan ilhomlanib o‘zining o‘ziga xos tili va vizual ifoda vositalarini yaratdi. Har bir san’at turi kinosan’atning badiiy shakllanishida muayyan estetik funksiyani bajargan bo‘lib, bu jihatlar kino san’atining murakkab, polimodal va sintezga asoslangan tusini shakllantirgan[1, 16-b.].

Kino san’ati o‘zining turli shakl va janrlari bilan zamonaviy vizual madaniyatning ajralmas qismini tashkil etadi. Har bir kino turi o‘ziga xos estetik vazifa va maqsadga ega bo‘lib, ularning barchasi jamiyat bilan aloqa o‘rnatishning, ijtimoiy ongni shakllantirishning va badiiy ifodaning kuchli vositasiga aylangan.

Bugungi kunda ushbu kino turlarining jadal rivojlanish jarayonida axborot va raqamli texnologiyalar hal qiluvchi omil sifatida namoyon bo‘lib, ularning ijodiy, texnik va ishlab chiqarish jarayonlaridagi ahamiyati tobora ortib bormoqda. Ayniqsa san’at ta’limida raqamli texnologiyalarni qo‘llash orqali jamiyatda o‘zgarishlar jarayonini amalga oshirish imkoniyati mavjud.

Kino san’ati vujudga kelishining ilk bosqichidanoq o‘z ichida bir necha yo‘nalishlarga bo‘linib, turli janr va estetik funksiyalar asosida shakllandi. Bu turlar orasidagi farq, asosan, filmda ishlatilgan materialning tabiati, ifoda vositalari, dramatik maqsadlar va tomoshabinga ta’sir doirasi bilan belgilanadi. Kinoturlarining shakllanishi, san’at tarixidagi boshqa shakllar singari, o‘zining ichki qonuniyatlariga ega bo‘lgan holda taraqqiy etgan.

Kino va axborot texnologiyalari (IT) bir qarashda tabiatan butunlay boshqacha ko‘rinadigan ikkita sohadir. Ulardan biri bizni hissiy jihatdan qamrab oladigan va turli olamlarga olib boradigan san’atdir[2, 209.] . Boshqasi esa - axborotni yaratish va boshqarish uchun foydalaniladigan bilim va texnik

koʻnikmalar toʻplami. Ammo zamonaviy dunyoda bu ikki soha birlashib, kino tushunchasini va ishlab chiqarishni oʻzgartiradigan ajoyib ittifoqni tashkil etdi.

Jahon tajribasiga koʻra kino san'atining raqamli transformatsiyasi quyidagi bosqichlarda namoyon boʻladi:

1-bosqich: Zamonaviy kino san'ati axborot texnologiyalari bilan chambarchas bogʻliq holda rivojlanmoqda. Bugungi kunda film yaratish jarayoni ssenariy yozish bosqichidan boshlab to postproduksiyagacha raqamli texnologiyalar asosida amalga oshiriladi. IT texnologiyalari potentsial tomoshabin auditoriyasini tahlil qilish, film muvaffaqiyatini oldindan bashorat qilish hamda ishlab chiqarish byudjetini optimallashtirish imkonini beradi. Ayniqsa, vizual effektlar (VFX) zamonaviy kino san'atining ajralmas qismiga aylangan boʻlib, ular kompyuter grafikasi va maxsus dasturiy ta'minot yordamida yaratiladi. "Avatar" va "Yulduzli urushlar" kabi jahon filmlari IT sanoatining yuksak texnologik imkoniyatlari asosida yuzaga kelgan yorqin namunalardir.

2-bosqich: Kino mahsulotlarini tarqatish va marketing jarayoni ham tubdan oʻzgardi. Internet va raqamli platformalar rivojlanishi natijasida kino endilikda an'anaviy kinoteatrlar bilan cheklanmaydi. Netflix, Amazon Prime Video kabi striming platformalari global kino bozorining asosiy ishtirokchilariga aylandi. Ijtimoiy tarmoqlar va onlayn reklama vositalari esa marketing strategiyasini yangi bosqichga olib chiqdi. Virusli treylerlar, interaktiv reklama kampaniyalari va maqsadli auditoriyaga yoʻnaltirilgan targʻibot usullari keng qoʻllanilmoqda.

*3-bosqich:*Tomoshabinlar ishtiroki ham transformatsiyaga uchradi. Ijtimoiy media platformalari rejissyor va tomoshabin oʻrtasidagi masofani qisqartirdi. Endi tomoshabinlar filmni real vaqt rejimida muhokama qilishi, fikr-mulohazalar bildirishi, fan hamjamiyatlari orqali muloqotga kirishishi mumkin. Bu esa kino ijodkorlariga auditoriya bilan bevosita aloqada boʻlish va ularning reaktsiyalarini tezkor baholash imkonini beradi.

4-bosqich: Ma’lumotlarni tahlil qilish jarayoni kino ishlab chiqarish va marketing strategiyasining muhim tarkibiy qismiga aylandi. Katta hajmdagi ma’lumotlar (Big Data) yordamida tomoshabinlar xatti-harakati, qiziqishlari va bozor tendensiyalari o‘rganiladi. Bu esa studiyalarga aniqroq strategik qarorlar qabul qilish, risklarni kamaytirish hamda foydali loyihalarni yaratish imkonini beradi.

5-bosqich: Shuningdek, virtual va dasturiy texnologiyalar kinematografiyada yangi bosqichni boshlab berdi. Virtual reallik (VR), kengaytirilgan reallik (AR) hamda interaktiv dasturiy ta’minot vositalari tomoshabinni syujet ichiga jalb etish imkonini yaratadi. Natijada kino nafaqat tomosha qilinadigan san’at turi, balki tajriba qilinadigan, interaktiv va immersiv muhitga aylanmoqda. Bu texnologiyalar kino san’ati chegaralarini kengaytirib, noyob vizual va emotsional tajribalarni taqdim etmoqda.

Kino va axborot texnologiyalarining simbiozi filmlarni ishlab chiqarish, tarqatish va qabul qilishda inqilobiy o‘zgarishlarga olib keldi. IT ssenariy yaratishdan tortib marketing kampaniyasigacha kino sanoatining har bir bosqichining ajralmas qismiga aylandi. Bularning barchasi kino ufqlarini kengaytirib, yanada qiziqarli va vizual tarzda ajoyib filmlar yaratish imkonini beradi. Kinoning kelajagi IT sohasidagi hamkorlikka tayanishda davom etadi va bu bizga yanada ajoyib hikoyalar va vizual durdonalarni olib kelishi mumkin.

Bunday katta o‘zgarishlar kino san’atida ta’lim oluvchi yoshlarga hamda pedagogik jamoaga mavjud bilimlar bankini kengaytirish, IT bilimini oshirish, o‘z ustida ishlash va sohaviy rivojlanish vazifasini yukladi.

San’at ta’limidagi raqamli transformatsiya – bu ta’lim jarayonini ilg‘or raqamli texnologiyalar asosida yangicha tashkil etish orqali ijodiy faoliyatni qo‘llab-quvvatlovchi, interaktiv hamda talaba shaxsiga yo‘naltirilgan ta’lim muhitini barpo etish jarayonidir. Ushbu zamonaviy yondashuv nafaqat texnik resurslar bilan ta’minlanishni, balki ta’lim mazmuni, metodik asoslar, baholash mezonlari va

estetik-pedagogik qarashlarning tubdan qayta ko‘rib chiqilishini ham o‘z ichiga oladi. Bu transformatsiya san’at va madaniyat sohasi bo‘yicha ta’lim berishda multimodal yondashuvni keng joriy etish, talabaning individual imkoniyatlarini ro‘yobga chiqarishga xizmat qiluvchi innovatsion uslublarni faol tatbiq etishni nazarda tutadi.

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AYOL TALABALAR ORASIDA ZO‘RIQISH TURIDAGI BOSH OG‘RIG‘I VA UNING PSIXOSOMATIK OMILLARI TAHLILI

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Annotatsiya:*Ushbu tadqiqot oliy ta’lim muassasalarida tahsil olayotgan ayol talabalar o‘rtasida bosh og‘rig‘ining tarqalishi va uning stress darajasi, uyqu sifati hamda raqamli qurilmalardan foydalanish vaqti bilan bog‘liqligini o‘rganadi. 118 nafar ayol ishtirokchi orasida*

o‘tkazilgan so‘rovnoma natijalari shuni ko‘rsatadiki, respondentlarning 59,3 foizi surunkali bosh og‘rig‘idan aziyat chekmoqda. Maqolada ushbu simptomlarning akademik yuklama va ijtimoiy omillar bilan korrelyatsiyasi ilmiy jihatdan tahlil qilinib, talaba qizlarning salomatligini muhofaza qilish bo‘yicha tavsiyalar berilgan.

Kalit so‘zlar: *ayol talabalar, zo‘riqish bosh og‘rig‘i, stress, akademik yuklama, uyqu rejimi, raqamli toliqish, psixosomatika.*

Abstract:*This study investigates the prevalence of headaches among female university students and examines their association with stress levels, sleep quality, and duration of digital device usage. The results of a survey conducted among 118 female participants indicate that 59.3% of respondents suffer from chronic headaches. The article provides a scientific analysis of the correlation between these symptoms and academic workload as well as social factors, and offers recommendations for protecting the health of female students.*

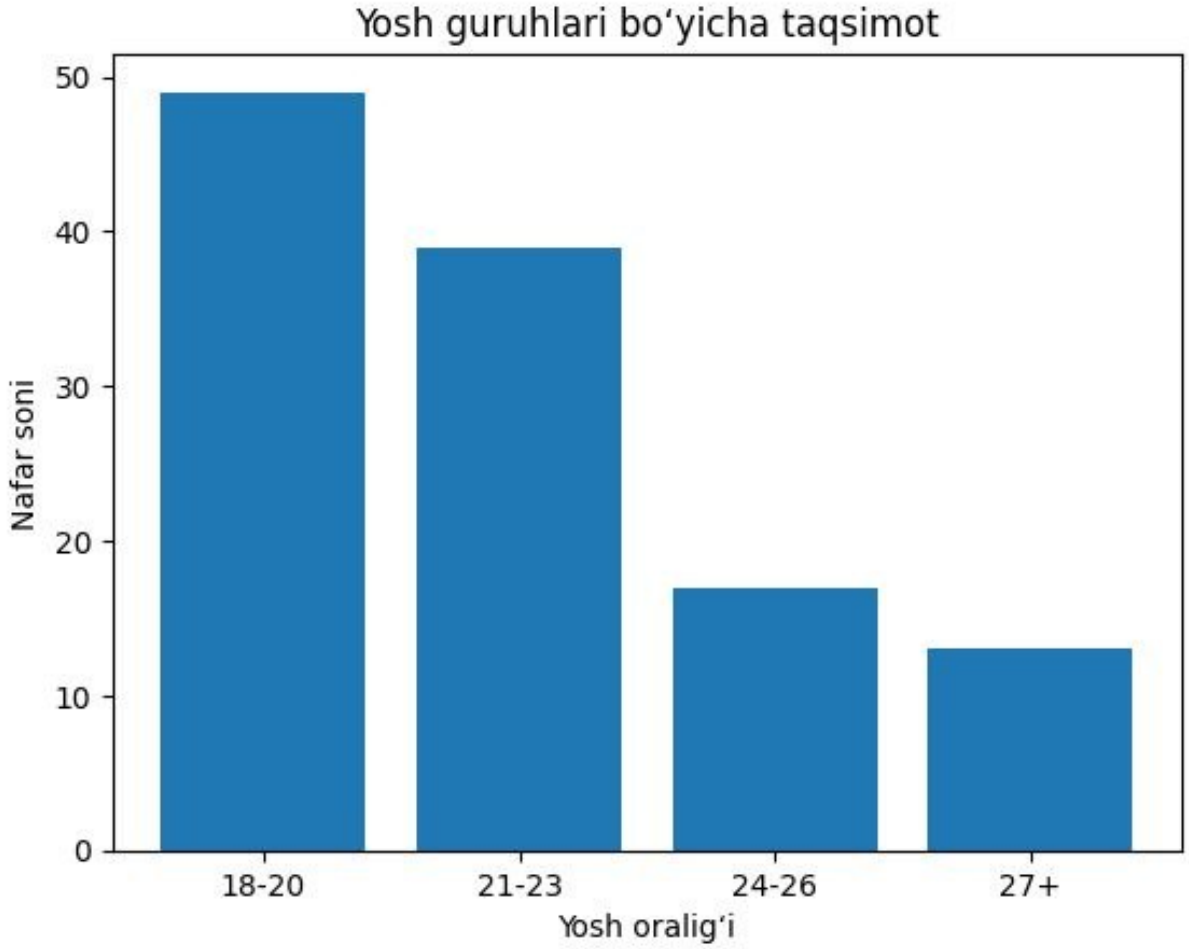
Keywords*: female students, tension-type headache, stress, academic workload, sleep patterns, digital fatigue, psychosomatics.*

KIRISH

Oliy ta’lim tizimidagi jadallashuv va axborot texnologiyalarining integratsiyasi talabalar zimmasiga ulkan intellektual yuklama yuklamoqda. Xususan, ayol talabalar gormonal va emotsional reaktivlikning yuqoriligi sababli tashqi stress omillariga nisbatan sezuvchan bo‘lishadi. Zo‘riqish turi dagi bosh og‘rig‘i (ZTBO) ko‘pincha kognitiv funksiyalarning pasayishiga va umumiy ish qobiliyatining yomonlashishiga olib keladi. Ushbu tadqiqotning maqsadi ayol talabalar orasida ushbu muammoning ko‘lamini va unga turtki bo‘luvchi asosiy turmush tarzi omillarini aniqlashdan iborat.

ASOSIY QISM

Tanlanma va demografik ko‘rsatkichlar .Tadqiqotda jami 118 nafar ayol talaba ishtirok etdi. Respondentlarning yosh taqsimoti quyidagicha:



Bosh og‘rig‘i va stress ko‘rsatkichlari

So‘rovnomada ishtirok etgan ayol talabalarning 59,3 foizi (70 nafar) o‘zlarida bosh og‘rig‘i borligini tasdiqlagan. Stress darajasi 5 ballik shkalada o‘rtacha 2,3 ballni tashkil etgan bo‘lsa-da, stressning asosiy sabablari sifatida quyidagilar qayd etilgan:

Shaxsiy muammolar: 56 ta holatda.

O‘qish yuklamasi: 52 ta holatda.

Uyqu yetishmovchiligi: 45 ta holatda.

Turmush tarzi omillari

Uyqu rejimi tahlili shuni ko‘rsatdiki, talaba qizlarning 51,7 foizi (61 nafar) kuniga atigi 5-6 soat uxlashadi, bu esa fiziologik normadan sezilarli darajada past. 12,7 foizi esa 5 soatdan ham kam uxlashini bildirgan.Shu bilan birga, raqamli qurilmalar ta’siri yuqori:Ayol talabalarning 44,9 foizi kuniga 3-5 soat vaqtini telefon va kompyuterga sarflaydi.24,6 foizi esa 5-7 soat davomida ekran qarshisida bo‘ladi.Respondentlarning fikriga ko‘ra, bosh og‘rig‘ining eng asosiy sabablari sifatida charchoq (66 ta javob) va stress (54 ta javob) ko‘rsatilgan.

XULOSA

Tadqiqot natijalari ayol talabalar orasida bosh og‘rig‘i muammosi juda keng tarqalganligini ko‘rsatadi. Bu holat bevosita o‘qish yuklamasi, shaxsiy tashvishlar va uyqu rejimining buzilishi bilan bog‘liq. Ayniqsa, kunlik 5-6 soatlik uyqu va uzoq muddatli gadjetlardan foydalanish bosh miya qon aylanishining buzilishiga va mushaklarning zo‘riqishiga olib kelmoqda. Talaba qizlarning akademik samaradorligini oshirish uchun ularning dam olish va mehnat rejimini optimallashtirish, psixologik qo‘llab-quvvatlash tizimini yo‘lga qo‘yish zarur deb hisoblanadi.

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INNOVATIVE APPROACHES TO IMPROVING NUTRITIONAL STATUS OF LACTATING WOMEN: A PHYSIOLOGICAL PERSPECTIVE

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Abstract. Optimal nutrition in lactating women is a key determinant of maternal well-being and infant health. Recent scientific evidence demonstrates that maternal dietary intake significantly influences breast milk composition, including macro- and micronutrients as well as bioactive compounds. This study aims to analyze innovative physiological and nutritional approaches to improving the nutritional status of lactating women. Based on the analysis of international and regional studies, it was found that inadequate maternal nutrition may reduce breast milk quality by 25–30%, while appropriate nutritional strategies improve infant health outcomes by up to 40–70% (1–4). The findings highlight the importance of integrating physiological monitoring, balanced diet, and innovative technologies in maternal healthcare.

Keywords: lactation, maternal nutrition, physiology, breast milk, innovative approaches

INTRODUCTION

Lactation represents a complex physiological process requiring increased energy expenditure and nutrient intake. The nutritional status of lactating women directly affects both the quantity and quality of breast milk, which is essential for infant growth, immune function, and long-term health outcomes. According to Kathleen M. Rasmussen, maternal malnutrition leads to a 25–30% decline in breast milk nutritional value, particularly in protein and micronutrient content (3). Similarly, Rafael Pérez-Escamilla emphasized that optimal breastfeeding practices can reduce infant morbidity by approximately 40% and mortality by 13% (4). In addition, Lars Bode identified more than 200 bioactive components in human milk,

highlighting the role of maternal nutrition in shaping infant gut microbiota and immune system development (1).

In Uzbekistan, research conducted by Shoniyoz Qurbonov has demonstrated that nutritional deficiencies among lactating women are associated with decreased levels of essential nutrients in breast milk, particularly proteins and micronutrients (7).

Materials and Methods. This study is based on a systematic and comparative analysis of scientific literature focusing on the nutritional and physiological aspects of lactation. A total of more than 30 scientific sources, including clinical, epidemiological, and experimental studies, were analyzed. The reviewed studies included diverse populations of lactating women, ranging from small-scale clinical groups (20–50 participants) to large cohort studies involving over 10,000 mother–infant pairs (2,4).

The methodological approaches used in the analyzed studies include:

Anthropometric methods: body weight, body mass index (BMI), and nutritional status assessment.

Dietary assessment methods: 24-hour dietary recall and food frequency questionnaires.

Biochemical analysis: evaluation of protein, fat, carbohydrate content, and micronutrients in breast milk.

Instrumental methods: ultrasound imaging to assess milk ejection reflex and breast physiology (2).

Statistical analysis: correlation and regression analysis to determine relationships between maternal nutrition and lactation outcomes.

Special attention was given to studies investigating the physiological mechanisms of lactation and the influence of maternal diet on breast milk composition.

Results. Maternal Nutritional Status and Breast Milk Composition

The analysis revealed that inadequate maternal nutrition significantly affects breast milk composition. Studies show that insufficient intake of proteins and micronutrients leads to a 25–30% reduction in milk quality (3,7). In contrast, balanced nutrition improves both the quantity and biochemical composition of breast milk.

Bioactive Components and Infant Health. Research by Lars Bode demonstrated that human milk oligosaccharides (HMOs): improve gut microbiota development by 60–70%, reduce the risk of infections by 30–50% (1). These findings confirm the importance of maternal diet in regulating the functional properties of breast milk.

Physiological Mechanisms of Lactation. According to Donna L. Geddes, lactation is regulated by hormonal and neural mechanisms. Stress and psychological factors can reduce milk ejection efficiency by up to 40%, highlighting the importance of maternal well-being (2).

Public Health Significance. Global epidemiological data indicate that exclusive breastfeeding: reduces infant morbidity by 40%, decreases mortality rates by 13% (4)

Regional Findings. Studies conducted in Uzbekistan by Shoniyoz Qurbonov showed that a significant proportion of lactating women experience: protein deficiency, micronutrient insufficiency. These deficiencies negatively affect breast milk quality and infant nutritional status (7).

DISCUSSION

The findings of this study confirm that maternal nutrition is a fundamental factor influencing lactation outcomes. The physiological processes of milk synthesis and secretion are closely linked to maternal metabolic status and nutrient intake. The results align with the concept of rational nutrition proposed by Viktor Tutelyan, which emphasizes the importance of balanced dietary intake in maintaining

metabolic health (5). Furthermore, Irina Kon highlighted the critical role of early-life nutrition in child growth and development (6).

Innovative approaches to improving nutritional status include: development of individualized dietary recommendations, implementation of digital monitoring tools, integration of physiological assessment methods. The inclusion of regional data (7) strengthens the relevance of these findings, demonstrating that nutritional challenges among lactating women remain a significant public health issue.

CONCLUSION

Improving the nutritional status of lactating women requires a comprehensive and multidisciplinary approach that integrates physiology, nutrition, and innovation.

The study concludes that: maternal nutrition directly affects breast milk quality, physiological and psychological factors influence lactation efficiency, innovative and personalized strategies can significantly improve maternal and infant health outcomes. Future research should focus on the application of digital technologies and artificial intelligence in optimizing maternal nutrition and lactation processes.

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SPECIFIC FEATURES OF DIGESTION IN THE SMALL AND LARGE INTESTINES OF HUMANS AND ANIMALS

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Annotation. *This article examines the key stages of the digestive process in humans and animals, with particular emphasis on the specific physiological and biochemical mechanisms occurring in the small and large intestines. The study provides a scientific explanation of enzymatic digestion in the small intestine, as well as the mechanisms of nutrient absorption into the blood and lymphatic systems. Special attention is given to the morphological structure of the intestinal wall, including the role of villi and microvilli in increasing the efficiency of absorption.*

Furthermore, the functions of the large intestine are analyzed in detail, including the reabsorption of water and mineral substances, the formation of feces, and the physiological significance of intestinal microbiota. The role of beneficial microorganisms in vitamin synthesis and their impact on the immune system are also discussed from a scientific perspective.

In addition, the article presents a comparative analysis of digestive system adaptations in animals with different feeding types (herbivores, carnivores, and omnivores). The structural and functional differences of the intestinal system in each group are explained in relation to dietary characteristics.

The findings of this study are important for a deeper understanding of human and animal physiology, as well as for the scientific study of digestive processes and their application in medicine and veterinary science.

Keywords: *digestion, small intestine, large intestine, enzymes, absorption process, villi, microbiota, beneficial bacteria, physiology, biochemistry, nutrients, amino acids, glucose, fatty acids, feces formation, water balance, mineral salts, herbivores, carnivores, omnivores, comparative analysis.*

Аннотация. *В данной статье рассматриваются основные этапы процесса пищеварения у человека и животных с особым акцентом на физиологические и биохимические механизмы, происходящие в тонком и толстом кишечнике. В работе научно обоснованы процессы ферментативного расщепления питательных веществ в тонком кишечнике, а также механизмы их всасывания в кровеносную и лимфатическую системы. Особое внимание уделено морфологическому строению кишечной стенки, в частности роли ворсинок и микроворсинок в повышении эффективности всасывания.*

Кроме того, подробно анализируются функции толстого кишечника, включая всасывание воды и минеральных веществ, формирование каловых масс, а также физиологическое значение кишечной микробиоты. Рассматривается роль полезных микроорганизмов в синтезе витаминов и их влияние на иммунную систему.

Также в статье представлен сравнительный анализ особенностей пищеварительной системы у животных с различным типом питания (травоядные, хищники и всеядные). Структурные и функциональные различия кишечника в каждой группе объясняются с учетом их пищевых особенностей.

Результаты данного исследования имеют важное значение для более глубокого понимания физиологии человека и животных, а также для научного изучения процессов пищеварения и их применения в медицине и ветеринарии.

Ключевые слова: *Пищеварение, тонкий кишечник, толстый кишечник, ферменты, процесс всасывания, ворсинки, микробиота, полезные бактерии, физиология, биохимия, питательные вещества, аминокислоты, глюкоза, жирные кислоты, образование каловых масс, водный баланс, минеральные соли, травоядные, хищники, всеядные, сравнительный анализ.*

Annotatsiya. *Mazkur maqolada odam va hayvonlarda ovqat hazm qilish jarayonining muhim bosqichlari, xususan ingichka va yo‘g‘on ichaklarda kechadigan fiziologik va biokimyoviy jarayonlarning o‘ziga xos xususiyatlari tahlil qilinadi. Tadqiqot davomida ingichka ichakda oziq moddalarning fermentativ parchalanishi va ularning qon hamda limfa tizimiga so‘rilish mexanizmlari ilmiy asosda yoritilgan. Shuningdek, ichak devorining morfologik tuzilishi, xususan*

villus va mikroviluslar mavjudligi hazm jarayonining samaradorligini oshirishdagi roli bilan izohlanadi.

Yo‘g‘on ichak faoliyatiga alohida e’tibor qaratilib, unda suv va mineral moddalarning qayta so‘rilishi, najas shakllanishi hamda ichak mikrobiotasining fiziologik ahamiyati keng yoritilgan. Foydali mikroorganizmlarning vitaminlar sintezidagi ishtiroki va immun tizimga ta’siri ilmiy nuqtai nazardan asoslab beriladi.

Bundan tashqari, maqolada turli oziqlanish turiga ega bo‘lgan hayvonlarda (o‘txo‘r, go‘shtxo‘r va hammaxo‘r) ovqat hazm qilish tizimining moslashuv xususiyatlari qiyosiy tahlil qilinadi. Har bir guruh hayvonlarida ichak tizimining funksional va tuzilish jihatidan farqlari, ularning oziqa tarkibiga moslashuvi bilan bog‘liq holda tushuntiriladi.

Ushbu tadqiqot natijalari odam va hayvonlar fiziologiyasini chuqurroq anglash, ovqat hazm qilish jarayonlarini ilmiy asosda o‘rganish hamda amaliy tibbiyot va veterinariya sohalarida qo‘llash uchun muhim ahamiyat kasb etadi.

Kalit so'zlar: *Ovqat hazm qilish, ingichka ichak, yo‘g‘on ichak, fermentlar, so‘rilish jarayoni, villuslar, mikrobiota, foydali bakteriyalar, fiziologiya, biokimyo, oziq moddalari, aminokislotalar, glyukoza, yog‘ kislotalari, najas hosil bo‘lishi, suv almashinuvi, mineral tuzlar, o‘txo‘r hayvonlar, go‘shtxo‘r hayvonlar, hammaxo‘r hayvonlar, qiyosiy tahlil.*

INTRADUCTION

The digestive system is one of the most important physiological systems that ensures the vital activity of living organisms. Through this system, nutrients entering the body are broken down from complex chemical compounds into simpler forms suitable for absorption. As a result, essential energy sources and plastic materials necessary for cellular functions are produced. Scientific sources emphasize that the process of digestion involves not only mechanical and chemical breakdown, but also complex enzymatic and transport mechanisms.

In humans and animals, the digestive system operates based on common principles; however, its structure and functional characteristics vary depending on the type of nutrition. In particular, the small and large intestines are key sections where the main stages of digestion take place. In the small intestine, the majority of nutrients are enzymatically digested and absorbed into the blood and lymphatic

systems. In the large intestine, water and mineral substances are reabsorbed, and residual materials are further processed with the participation of intestinal microorganisms.

Modern research in physiology and biochemistry highlights the crucial role of the intestines not only in digestion but also in overall metabolism, immune defense, and the maintenance of microbiological balance. In particular, the intestinal microbiota plays a direct role in ensuring normal body function and serves as an important factor in preventing various diseases.

The purpose of this article is to scientifically analyze the specific features of digestion in the small and large intestines of humans and animals, as well as to examine their similarities and differences. The results of this study are of theoretical and practical significance in the fields of physiology, medicine, and veterinary science.

The digestive process in humans and animals is a complex and highly organized physiological system that ensures the transformation of food into absorbable and utilizable nutrients. The small and large intestines play a central role in this process, performing both digestive and absorptive functions that are essential for maintaining metabolic balance and overall health.

DIGESTION AND ABSORPTION IN THE SMALL INTESTINE

The small intestine is the primary site of chemical digestion and nutrient absorption. It consists of three main sections: the duodenum, jejunum, and ileum. Each segment has a specific role in processing food substances.

In the duodenum, partially digested food from the stomach is mixed with bile from the liver and pancreatic enzymes. These enzymes include amylase, protease, and lipase, which are responsible for breaking down carbohydrates, proteins, and fats respectively. As a result, complex macromolecules are converted into simpler units such as glucose, amino acids, fatty acids, and glycerol.

The jejunum and ileum are mainly responsible for absorption. The inner surface of the small intestine is covered with numerous villi and microvilli, which significantly increase the surface area for absorption. Nutrients pass through the intestinal wall into the blood capillaries and lymphatic vessels. Glucose and amino acids are directly transported into the bloodstream, while fatty acids are absorbed into the lymphatic system before entering circulation.

In addition, active transport, passive diffusion, and facilitated diffusion mechanisms contribute to efficient nutrient uptake. This ensures that the body receives the necessary energy and building materials for growth, repair, and cellular functions.

FUNCTIONS OF THE LARGE INTESTINE

The large intestine performs a different but equally important role in digestion. It includes the cecum, colon, rectum, and anal canal. Unlike the small intestine, it is not primarily involved in nutrient digestion but rather in water absorption and waste formation.

One of the main functions of the large intestine is the reabsorption of water and electrolytes such as sodium, potassium, and chloride. This process helps maintain the body’s fluid and electrolyte balance. As water is absorbed, the remaining indigestible material becomes more solid, forming feces.

The large intestine also hosts a diverse community of microorganisms known as gut microbiota. These bacteria play a vital role in breaking down certain undigested carbohydrates and synthesizing essential vitamins such as vitamin K and some B vitamins. Moreover, they contribute to immune system regulation and protect the body from harmful pathogens by competing for nutrients and space.

Peristaltic movements in the large intestine gradually push waste materials toward the rectum, where they are temporarily stored before excretion.

COMPARATIVE FEATURES IN HUMANS AND ANIMALS

Although the general structure and function of the digestive system are similar in humans and animals, significant differences exist depending on dietary habits and evolutionary adaptation.

Herbivorous animals possess a more developed large intestine or specialized fermentation chambers, where plant fibers such as cellulose are broken down with the help of symbiotic microorganisms. This adaptation allows them to extract energy from plant-based diets.

Carnivorous animals, on the other hand, have a relatively shorter digestive tract, as meat is easier to digest and requires less fermentation. Their digestive enzymes are highly efficient in protein and fat breakdown.

Omnivorous animals, including humans, have a balanced digestive system capable of processing both plant and animal-based foods. This adaptability is reflected in moderate intestinal length and versatile enzymatic activity.

PHYSIOLOGICAL AND BIOLOGICAL SIGNIFICANCE

The coordinated function of the small and large intestines is essential for maintaining homeostasis. Disruption in any stage of digestion can lead to metabolic disorders, nutrient deficiencies, or gastrointestinal diseases.

Recent scientific studies highlight the importance of the gut microbiome in regulating not only digestion but also immunity, hormonal balance, and even neural activity through the gut-brain axis. This indicates that the digestive system is deeply integrated with other physiological systems of the body.

Furthermore, the efficiency of nutrient absorption in the small intestine and water regulation in the large intestine ensures survival and adaptation across different environmental conditions and dietary patterns.

CONCLUSION OF MAIN IDEA

Thus, the small and large intestines represent two functionally distinct but closely connected components of the digestive system. Their coordinated activity

ensures complete processing of food, efficient nutrient utilization, and elimination of waste products, which are vital for the survival of both humans and animals.

The digestive system, particularly the small and large intestines, represents one of the most refined and precisely coordinated biological mechanisms in both humans and animals. It is not merely a system for breaking down food, but a highly integrated process that transforms external nutrition into internal life energy, sustaining every cell of the organism.

The small intestine stands as the core center of nutrient transformation, where complex molecules are converted into life-sustaining building blocks. In contrast, the large intestine completes this process by regulating water balance, forming feces, and maintaining a stable microbial environment that supports both digestion and immunity. Together, they function as a unified biological system in which every stage is interconnected and essential.

A comparative view of different species reveals the remarkable adaptability of the digestive system. Whether in herbivores relying on microbial fermentation, carnivores specialized for protein digestion, or omnivores with a balanced system, nature demonstrates a perfect evolutionary design tailored to survival and environmental demands.

Modern scientific understanding shows that the intestines are not only digestive organs but also key regulators of immunity, metabolism, and even neural communication. The gut microbiota, in particular, highlights the hidden complexity of this system, acting almost like a “second genome” that influences overall health and well-being.

In conclusion, the digestive process in the small and large intestines is a masterpiece of biological engineering. It reflects the harmony between structure and function, simplicity and complexity, stability and adaptation. Understanding this system allows us to appreciate not only the science of life but also the extraordinary intelligence embedded within living organisms.

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TERMINAL GLAUKOMA: PATOGENEZ MEXANIZMLARI, KLINIK KECHISHI VA ZAMONAVIY TERAPEVTIK YONDASHUVLAR

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Annotatsiya: *Mazkur maqolada terminal glaukomaning rivojlanish mexanizmlari, klinik belgilari va zamonaviy davolash yondashuvlari tahlil qilinadi. Glaukoma ko'rish nervining surunkali shikastlanishi bilan bog'liq kasallik bo'lib, uning oxirgi bosqichi — terminal glaukoma — qaytarilmas ko'rish yo'qotilishiga olib keladi. Ishda kasallikning asosiy sabablari, patogenez bosqichlari va diagnostika usullari ko'rib chiqiladi. Shuningdek, og'riqni kamaytirish va bemor hayot sifatini yaxshilashga qaratilgan davolash usullari yoritiladi. Erta tashxis qo'yish va profilaktikaning ahamiyati alohida ta'kidlanadi.*

Kalit so'zlar: *glaukoma, terminal glaukoma, ko'z ichki bosimi, ko'rish nervi, atrofiya, diagnostika, davolash*

Annotation: *This article analyzes the mechanisms of development, clinical features, and modern treatment approaches of terminal glaucoma. Glaucoma is a chronic optic neuropathy associated with progressive damage to the optic nerve, and its final stage leads to irreversible vision loss. The paper discusses the main causes, stages of pathogenesis, and diagnostic methods of the disease. Special attention is given to treatment strategies aimed at pain relief and improving patients' quality of life. The importance of early diagnosis and prevention is also emphasized.*

Keywords: *glaucoma, terminal glaucoma, intraocular pressure, optic nerve, atrophy, diagnosis, treatment*

KIRISH

Glaukoma — oftalmologiyada eng dolzarb muammolardan biri bo'lib, u ko'rish nervining progressiv zararlanishi va ko'rish funksiyasining asta-sekin pasayishi bilan xarakterlanadi. Ushbu kasallikning asosiy xavfi shundaki, u uzoq

vaqt davomida klinik belgilarsiz kechishi mumkin va bemor faqat kech bosqichlarda shifokorga murojaat qiladi. Natijada, ko‘rish qobiliyatini saqlab qolish imkoniyati sezilarli darajada kamayadi.

Glaukoma nafaqat tibbiy, balki ijtimoiy va iqtisodiy muammo sifatida ham ahamiyatlidir. Ko‘rishning yo‘qolishi insonning kundalik faoliyatiga, mehnat qobiliyatiga va hayot sifatiga salbiy ta’sir ko‘rsatadi. Shu sababli kasallikni erta aniqlash va samarali davolash zamonaviy tibbiyotning muhim yo‘nalishlaridan biri hisoblanadi.

Terminal glaukoma — bu kasallikning eng og‘ir va yakuniy bosqichi bo‘lib, unda ko‘rish nervi chuqur darajada shikastlanadi va ko‘rish funksiyasi deyarli yoki to‘liq yo‘qoladi. Bu bosqichda ko‘rishni tiklashning imkoni deyarli mavjud emas, shuning uchun asosiy e’tibor profilaktika va erta tashxisga qaratilishi zarur. So‘nggi yillarda diagnostika va davolash usullarining rivojlanishi kasallikni erta aniqlash imkoniyatlarini kengaytirdi, biroq terminal bosqich hanuz dolzarb muammo bo‘lib qolmoqda.

Etiologiya va xavf omillari

Terminal glaukoma turli shakldagi glaukomaning davomiy rivojlanishi natijasida yuzaga keladi. Eng muhim omillar:

- davolanmagan yoki nazorat qilinmagan glaukoma
- ko‘z ichki bosimining barqaror yuqoriligi
- ko‘z jarohatlari va yallig‘lanish jarayonlari
- qon aylanish tizimidagi buzilishlar
- irsiy moyillik

Ushbu omillar ko‘rish nervining sekin, ammo uzluksiz zararlanishiga olib keladi.

Patogenez

Kasallik rivojlanishida asosiy rol ko‘z ichki suyuqligining chiqib ketish mexanizmining buzilishiga tegishli. Natijada ko‘z ichki bosimi oshadi va bu optik

nerv tolalariga bosim o‘tkazadi. Dastlab qon ta’minoti yomonlashadi, keyin nerv hujayralari zararlanadi. Bu jarayon davom etib, ko‘rish maydonining torayishiga olib keladi. Oxir-oqibat, ko‘rish funksiyasi butunlay yo‘qoladi va terminal bosqich shakllanadi.

Klinik belgilari

Terminal glaukoma quyidagilar bilan namoyon bo‘ladi:

- ko‘rishning keskin pasayishi yoki yo‘qolishi
- yorug‘likni sezmaslik
- ko‘zda doimiy og‘riq
- ko‘z olmasining qattiqlashuvi
- umumiy noqulaylik

Og‘riq sindromi ayrim holatlarda kuchli bo‘lib, bemorning psixologik holatiga ham ta’sir ko‘rsatadi.

Diagnostika

Kasallikni aniqlash uchun quyidagi tekshiruvlar muhim:

- ko‘z ichki bosimini baholash
- ko‘rish nervi holatini tekshirish
- ko‘rish maydonini aniqlash
- old kamera burchagini o‘rganish

Terminal bosqichda diagnostika ko‘proq anatomik o‘zgarishlarni aniqlashga qaratiladi.

Davolash yondashuvlari

Davolashning asosiy maqsadi — simptomlarni yengillashtirish va bemorning hayot sifatini yaxshilash.

Konservativ usullar

Dori vositalari yordamida bosimni pasaytirish amalga oshiriladi, ammo natijalar cheklangan bo‘lishi mumkin.

Jarrohlik usullari

Maxsus muolajalar ko‘z ichki suyuqlik ishlab chiqarilishini kamaytirishga yordam beradi va og‘riqni yengillashtiradi.

Zamonaviy yondashuvlar

Yangi texnologiyalar yordamida kasallikni erta aniqlash imkoniyatlari kengaymoqda, bu esa og‘ir bosqichlarning oldini olishda muhim ahamiyatga ega.

Asoratlar

- to‘liq ko‘rlik
- surunkali og‘riq
- ruhiy tushkunlik va ijtimoiy moslashuvning pasayishi

Profilaktika

- muntazam oftalmologik ko‘rik
- ko‘z ichki bosimini nazorat qilish
- xavf guruhidagi shaxslarni kuzatish
- erta davolash

XULOSA

Terminal glaukoma — bu ko‘rish nervining chuqur va qaytarilmas zararlanishi bilan kechuvchi og‘ir patologik holat bo‘lib, u ko‘rish funksiyasining to‘liq yo‘qolishiga olib keladi. Ushbu bosqichda olib boriladigan davolash choralari asosan simptomatik xarakterga ega bo‘lib, ular ko‘rishni tiklashdan ko‘ra bemorning umumiy ahvolini yengillashtirishga qaratilgan. Mavjud ilmiy tadqiqotlar shuni ko‘rsatadiki, glaukoma bilan bog‘liq ko‘rish yo‘qotilishining oldini olishda eng samarali yo‘l — bu kasallikni erta bosqichda aniqlash va uzluksiz nazorat qilishdir. Shuningdek, bemorlarning tibbiy madaniyatini oshirish, muntazam tekshiruvlardan o‘tishga rag‘batlantirish va zamonaviy diagnostika usullarini amaliyotga keng joriy etish muhim ahamiyat kasb etadi. Kelajakda innovatsion texnologiyalar va individual yondashuvga asoslangan davolash strategiyalarining rivojlanishi terminal glaukoma rivojlanishining oldini olish imkoniyatlarini yanada kengaytirishi

kutilmoqda. Shu bois ushbu muammo nafaqat oftalmologlar, balki umumiy tibbiyot tizimi uchun ham ustuvor yo‘nalishlardan biri bo‘lib qolmoqda.

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КЛИНИЧЕСКИЕ ФОРМЫ НЕИММУННОЙ ВОДЯНКИ ПЛОДА И ПЕРИНАТАЛЬНЫЕ ИСХОДЫ

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Аннотация: *Неиммунная водянка плода (НВП) представляет собой тяжелое патологическое состояние перинатального периода, сопровождающееся накоплением жидкости в серозных полостях и высоким риском неблагоприятных исходов. Целью исследования явился анализ клинических форм НВП, особенностей течения беременности и перинатальных исходов. Проведен ретроспективный анализ 10 клинических случаев, диагностированных с использованием ультразвукового исследования. Наиболее частым проявлением заболевания был асцит (80%), реже встречались гидроторакс (40%), подкожный отек (40%) и плацентомегалия (20%). В отдельных случаях установлена инфекционная этиология (парвовирус В19). Перинатальные исходы варьировали: антенатальная гибель и перинатальная смертность составили по 30%, живорождение — 40%. Установлено, что изолированные формы НВП имеют более благоприятный прогноз, тогда как генерализованные формы ассоциированы с высоким риском антенатальной и неонатальной гибели.*

Abstract: *Non-immune hydrops fetalis (NIHF) is a severe pathological condition of the perinatal period, accompanied by fluid accumulation in the serous cavities and a high risk of adverse outcomes. The aim of the study was to analyze the clinical forms of NHF, the characteristics of the pregnancy course and perinatal outcomes. A retrospective analysis of 10 clinical cases diagnosed using ultrasound was conducted. The most common manifestation of the disease was ascites (80%), less common were hydrothorax (40%), subcutaneous edema (40%) and placentomegaly (20%). In some cases, an infectious etiology (parvovirus B19) was established. Perinatal outcomes varied: antenatal death and perinatal mortality accounted for 30% each, live births - 40%. It was found that isolated forms of NHF have a more favorable prognosis, while generalized forms are associated with a high risk of antenatal and neonatal death.*

Актуальность: Неиммунная водянка плода (НВП) является одной из наиболее тяжелых патологий перинатального периода, характеризующейся накоплением жидкости в серозных полостях плода и развитием выраженного отечного синдрома. Клиническими проявлениями данного состояния могут быть асцит, гидроторакс, гидроперикард, подкожный отек и плацентомегалия. Несмотря на значительный прогресс в области пренатальной диагностики и фетальной медицины, неиммунная водянка плода продолжает оставаться серьезной проблемой современной перинатологии.

Цель исследования: Провести анализ клинических форм неиммунной водянки плода, особенностей течения беременности и перинатальных исходов.

Материалы и методы: Проведен ретроспективный анализ 10 клинических случаев неиммунной водянки плода, наблюдавшихся в отделении фетальной медицины РСНПМЦЗМиР. Диагноз устанавливался на основании ультразвукового исследования, при котором выявлялось патологическое накопление жидкости в различных серозных полостях плода. Оценивались клинические проявления заболевания. Также анализировались состояние плаценты, гемодинамические показатели плода и возможная инфекционная этиология заболевания. В ряде случаев проводились лабораторные исследования для выявления инфекционных факторов. В зависимости от клинической ситуации применялись различные методы лечения, включая иммуноглобулинотерапию, внутриутробное переливание крови, торакоцентез и консервативную терапию. Анализировались гестационный возраст родоразрешения и перинатальные исходы.

Результаты: Анализ показал, что наиболее частым клиническим проявлением НВП являлся асцит, выявленный у 8 пациенток (80%). Гидроторакс наблюдался у 4 пациенток (40%), подкожный отек — у 4 (40%), плацентомегалия — у 2 (20%). В двух случаях подтверждена инфекция

парвовируса B19. В ряде наблюдений применялись инвазивные методы лечения, включая внутриутробное переливание крови и торакоцентез. Анализ перинатальных исходов показал, что антенатальная гибель плода наблюдалась в 3 случаях (30%), перинатальная смертность — в 3 случаях (30%), живорождение — в 4 случаях (40%). При изолированных формах водянки прогноз беременности был более благоприятным. В то же время генерализованные формы НВП, сопровождавшиеся множественным накоплением жидкости в различных анатомических структурах, ассоциировались с более высоким риском антенатальной и ранней неонатальной гибели.

ЗАКЛЮЧЕНИЕ

Характер и распространенность отечного синдрома плода играют важную прогностическую роль в определении исхода беременности. Изолированные формы водянки характеризуются более благоприятным прогнозом, тогда как генерализованные формы заболевания сопровождаются значительно более высоким риском перинатальной гибели.

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СИСТЕМА КРОВООБРАЩЕНИЯ

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Аннотация: *Система кровообращения это одно из ключевых физиологических систем человека, которое обеспечивает целостность и функционирование организма. Система кровообращения отвечает за транспорт кислорода, питательных веществ, гормонов и биологических активных соединений и за удаление продуктов обмена и поддержание гомеостаза. В этой статье рассматривается основные компоненты системы кровообращения сердце, кровь и сосуды, строение функции и взаимосвязь.*

Ключевые слова*: система кровообращения, кровь, сердце, вены, артерии, большой круг и малый круг кровообращения, гомеостаз, физиология.*

Abstract*: The circulatory system is one of the key physiological systems of the human body that ensures its integrity and proper functioning. It is responsible for the transport of oxygen, nutrients, hormones, and biologically active compounds, as well as for the removal of metabolic waste products and the maintenance of homeostasis. This article examines the main components of the circulatory system— the heart, blood, and blood vessels— as well as their structure, functions, and interrelationships.*

Keywords: *circulatory system, blood, heart, veins, arteries, systemic and pulmonary circulation, homeostasis, physiology.*

ВВЕДЕНИЕ

Система кровообращения является центральной системой среди всех систем организма человека, кровообращения обеспечивает связь между органами и тканями. Благодаря непрерывному движению крови доставляется кислород и питательные вещества к клетками удаление метаболизма. Без

работы данной системы невозможно жизнедеятельность организма человека даже в краткий срок.

СЕРДЦЕ КАК ЦЕНТРАЛЬНЫЙ ОРГАН

Сердце, сог (греч. cardia), расположено в грудной полости, в среднем (центральном) нижнем средостении. Сердце конусообразной формы. Верхушка сердца направлена вперед, влево и вниз, основание органа обращено назад, вправо и вверх. Ось сердца идет сверху вниз, справа налево, сзади наперед. Различают поверхности: диафрагмальную, грудино-реберную, медиастинальную, края правый и левый. Сердце имеет борозды: правая и левая венечные, передняя и задняя межжелудочковые борозды, идущие к верхушке сердца. Сердце имеет перегородки: межпредсердную, межжелудочковую, предсердно-желудочковые правую и левую, которые делят сердце на камеры. Желудочки правый и левый, предсердия правый и левый. Правое предсердие собирает венозную кровь от всех органов. В него впадают верхняя и нижняя полые вены и венечный синус, который собирает кровь от стенок сердца[11].

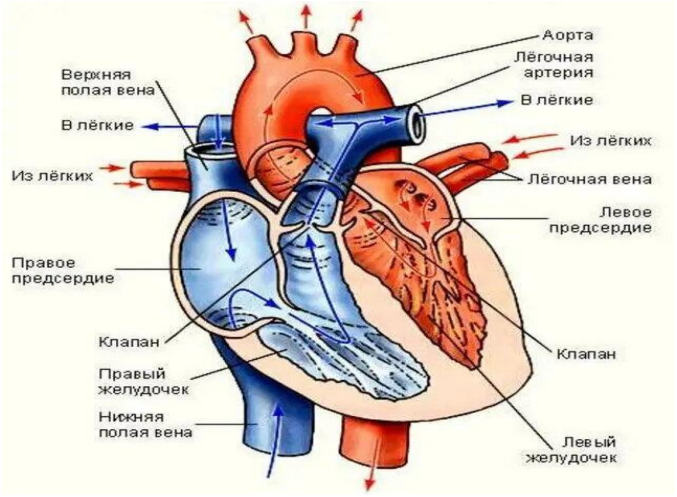
Предсердие имеет выпячивание – правое ушко с гребенчатыми мышцами. На межпредсердной перегородке находится овальная ямка, которая появляется на месте овального отверстия в первые сутки после рождения. Левое предсердие собирает артериальную кровь из четырех легочных вен[12].

Сердечная мышца миокард есть способность к автоматии, способность генерировать импульсы и это позволяет сердцу сокращаться ритмично без внешнего воздействия, но деятельность сердца регулируется нервной системой и гормонами.

Кровеносные сосуды

[11] СИСТЕМЫ КРОВОСНАБЖЕНИЯ И ИННЕРВАЦИИ Архангельск 2022г. Н.О. Лабутина, Л.А. Басова, В.А. Плаксин 9 стр. URL: https://www.nsmu.ru/student/faculty/department/anatomy/workers/posobia- pdf (дата обращения 03.05.2026).
[12] Там же. 12 стр.

Кровеносные сосуды образуют сложную сеть охватывающий весб организм. Артерии сосуды по которым кровь движется от сердца. Стенка артерии состоится из несколько слоев и высокой эластичностьи, которое выдерживает высокое давление крови. Вены напротив возвращают кровь к сердцу. Стенки вены менее эластичны, имеет клапаны препятствующие обратному току крови. Капилляры является мельчайшими сосудами стенки которых происходит обмен веществ между кровью и тканями.



Большой круг кровообращения

Самой крупной артерией организма является аорта, в среднем ее диаметр составляет около 2 см. Аорту относят к артериям эластического типа. Она выходит из левого желудочка, ею начинается большой круг кровообращения, который заканчивается полыми венами в правом предсердии. Аорта состоит из трех частей: восходящей, дуги и нисходящей. Нисходящая часть в свою очередь состоит из грудного и брюшного отделов[13]. Большой круг обеспечивает питание всех органов и тканей и играет главную роль в поддержании жизнедеятельности организма.

Малый круг кровообращения

[13] СИСТЕМЫ КРОВОСНАБЖЕНИЯ И ИННЕРВАЦИИ Архангельск 2022г. Н.О. Лабутина, Л.А. Басова, В.А. Плаксин 19 стр. URL: https://www.nsmu.ru/student/faculty/department/anatomy/workers/posobia- pdf (дата обращения 03.05.2026).

Из правого желудочка выходит легочный ствол (артерия, но в ней течет венозная кровь), который делится на уровне 4 грудного позвонка на правую и левую легочные артерии, входящие в ворота легких в составе корня легкого и делятся до капилляров, затем образуются вены и из каждого легкого выходят по две легочные вены, несущие артериальную кровь и впадающие в левое предсердие[14]. Малый круг кровообращения обеспечивает насыщение крови кислородом и важным звеном является дыхательной системы.

Физиологические функции ситемы кровообращения

Система кровообращения выполняет жизненно важных функций.

Транспортная функция

Главной функций является транспорт веществ. Кровь переносит кислород от лёгких к тканям и углекислый газ в обратном направлении. Она доставляет питательные вещества из пищеварительной системы и гармоны от эндокринных желез.

Выделительная функция

С помощью крови из организма удаляются продукты обмена веществ, такие как мочевина и углекислый газ. Эти вещества затем выводятся через почки, лёгкие и кожу.

Защитная функция

Кровь играет важную роль в иммунной защите. Лейкоциты и антитела защищают организм от инфекций и чужеродных веществ.

Терморегуляция

Система кровообращения участвует в поддержании постоянной температуры тела. При повышении температуры сосуды расширяются, увеличивая теплоотдачу, а при понижении — сужаются.

Регуляторная функция

[14] Там же.

Система кровообращения обеспечивает поддержание постоянства внутренней среды организма — гомеостаза. Она регулирует уровень pH, концентрацию веществ и давление.

Сердечный цикл. Сердце человека работает непрерывно в течение всей жизни, начиная на третьей неделе беременности. Наблюдаются ритмичные последовательные сокращения (систола) и расслабления (диастола) предсердий и желудочков – сердечный цикл 0,8 сек[15].

Регуляция работы системы кровообращения

Работа системы кровообращения регулируется сложными механизмами, включающими нервную и гуморальную регуляцию.

Нервная регуляция осуществляется через вегетативную нервную систему. Симпатическая нервная система увеличивает частоту сердечных сокращений и сужает сосуды, тогда как парасимпатическая замедляет работу сердца. Гуморальная регуляция осуществляется с помощью гормонов. Например, адреналин увеличивает силу и частоту сердечных сокращений, а также вызывает сужение сосудов. Местная регуляция происходит на уровне тканей и зависит от их потребностей. Например, при физической нагрузке сосуды мышц расширяются, обеспечивая приток крови.

Гемопоэз и регуляция кроветворения

Гемопоэз — это процесс образования новых клеток крови, происходящий в красном костном мозге из плюрипотентных стволовых клеток. Он обеспечивает постоянное обновление всех форменных элементов крови[16].

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[15] СИСТЕМЫ КРОВОСНАБЖЕНИЯ И ИННЕРВАЦИИ Архангельск 2022г. Н.О. Лабутина, Л.А. Басова, В.А. Плаксин 61 стр. URL: https://www.nsmu.ru/student/faculty/department/anatomy/workers/posobia- pdf (дата обращения 03.05.2026).

[16] ФИЗИОЛОГИЯ СИСТЕМЫ КРОВ Гайыров Ахмет Гайырович 2025г. URL: https://cyberleninka.ru/article/n/fiziologiya-sistemy-krovi/viewer (дата обращения 04.05.2026).

Значение системы кровообращения для организма

Система кровообращения играет ключевую роль в поддержании жизни. Она обеспечивает функционирование всех органов и систем, включая мозг, который особенно чувствителен к недостатку кислорода.

ЗАКЛЮЧЕНИЕ

Система кровообращения считается одной из важнейших систем организма человека, обеспечивающей его жизнедеятельность. Система кровообращения выполняет множество функций, включая транспорт веществ, защиту, регуляцию и поддержание гомеостаза. Современные исследования продолжают углублять знания о системе кровообращения, открывая новые возможности для лечения и профилактики сердечно-сосудистых заболеваний. Это делает данную тему актуальной и значимой как для науки, так и для практической медицины.

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РАННЯЯ ДИАГНОСТИКА ДЕТСКОГО РАКА В УЗБЕКИСТАНЕ: СИСТЕМНЫЕ ПРОБЕЛЫ И СТРАТЕГИЧЕСКИЕ ПРИОРИТЕТЫ

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Аннотация: *Ранняя диагностика детского рака является ключевым фактором повышения выживаемости. В странах с высоким уровнем дохода выживаемость превышает 80%, тогда как в странах с низким и средним доходом она остаётся ниже 30% вследствие поздней диагностики [1]. Цель исследования — выявить системные барьеры ранней диагностики детского рака в Узбекистане. Проведен описательный анализ кадровых, инфраструктурных и диагностических показателей. Основные проблемы включают дефицит специалистов, низкую онкологическую настороженность, неравномерный доступ к диагностике и отсутствие онкологических регистров.*

Ключевые слова: *детский рак, ранняя диагностика, Узбекистан, онкология, система здравоохранения*

Abstract: *Early diagnosis of childhood cancer is a key determinant of survival. In high-income countries, survival exceeds 80%, whereas in low- and middle-income countries it remains below 30% due to delayed diagnosis. The aim of this study is to identify systemic barriers to early diagnosis of childhood cancer in Uzbekistan. A descriptive analysis of national healthcare indicators was conducted. The main barriers include shortage of specialists, low oncological awareness at the primary care level, unequal access to diagnostic services, and lack of integrated cancer registries. Strategic priorities for improving early detection are proposed.*

Keywords: *childhood cancer, early diagnosis, Uzbekistan, oncology, health system, pediatric oncology*

ВВЕДЕНИЕ

Детский рак остаётся одной из ведущих причин смертности среди детей во всём мире. По данным Всемирной организации здравоохранения, ежегодно диагностируется более 400 000 новых случаев онкологических заболеваний у детей [2]. Показатели выживаемости существенно различаются: в странах с

высоким уровнем дохода они превышают 80%, тогда как в странах с низким и средним уровнем дохода составляют менее 30% [1].

Основными причинами таких различий являются поздняя диагностика, ошибки в распознавании заболевания и ограниченный доступ к специализированной помощи [1]. В Узбекистане ежегодно регистрируется около 2500 новых случаев детского рака, при этом значительная часть пациентов выявляется на III–IV стадиях заболевания.

МАТЕРИАЛЫ И МЕТОДЫ

Проведён описательный анализ национальных данных в области детской онкологии.

Оценивались следующие показатели:

- кадровые ресурсы
- численность детского населения
- доступность специализированной помощи
- диагностическая инфраструктура
- маршрутизация пациентов

РЕЗУЛЬТАТЫ

Дефицит кадров

В Узбекистане насчитывается около 95 детских онкологов и гематологов при детском населении около 15 млн. Это приводит к:

- перегрузке специалистов
- задержке диагностики

Низкая онкологическая настороженность

Врачи первичного звена часто не распознают ранние симптомы онкологических заболеваний, что приводит к позднему направлению пациентов [1].

Неравномерный доступ к диагностике

Несмотря на наличие около 15 специализированных центров, доступ к современным методам диагностики ограничен, особенно в регионах [5].

Отсутствие онкологических регистров

Недостаточное развитие регистров затрудняет мониторинг, анализ и планирование в системе здравоохранения [3].

Положительные изменения

Более 1000 медицинских работников прошли обучение по ранней диагностике.

ОБСУЖДЕНИЕ

Полученные результаты показывают, что проблема поздней диагностики детского рака в Узбекистане носит системный характер. Аналогичные проблемы наблюдаются в большинстве стран с низким и средним уровнем дохода, где показатели выживаемости остаются на уровне 30–40% [4].

Для лучшего понимания системных различий между Узбекистаном и другими странами приведено сравнительное описание ключевых показателей (таблица 1)

[1–4].

Таблица 1. Сравнительная характеристика системы ранней диагностики детского рака

Показатель	**Узбекистан**	**Страны с низким и средним доходом (LMIC)**	**Страны с высоким доходом**
Выживаемость (%)	~30–40%	20–40%	>80%
Стадия при выявлении	Преимущественно III–IV	Часто поздние стадии	Ранние стадии
Количество	~95	Дефицит	Достаточное

специалистов			
Доступ к диагностике	Неравномерный	Ограниченный	Высокий
Онкологическая настороженность	Низкая	Низкая	Высокая
Наличие регистров	Ограничено	Частично	Полноценные

Ключевым фактором является уровень подготовки врачей первичного звена, так как именно они играют решающую роль в раннем выявлении заболевания.

Также важным направлением является развитие диагностической инфраструктуры и создание национальных регистров.

ЗАКЛЮЧЕНИЕ

Поздняя диагностика детского рака в Узбекистане обусловлена следующими факторами:

- дефицит специализированных кадров
- низкая онкологическая настороженность
- ограниченный доступ к диагностике
- отсутствие интегрированных регистров

Комплексное решение данных проблем позволит существенно улучшить результаты лечения и повысить выживаемость детей.

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Национальные данные по детско

ИШЕМИК ИНСУЛТНИНГ ЎТКИР ДАВРИДА КОГНИТИВ БУЗИЛИШЛАРНИ ЭРТА ТАШХИСЛАШ

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Аннотация: *Мазкур тадқиқот ишемик инсультдан кейинги беморларда когнитив бузилишлар ва уларнинг неврологик ҳолатга таъсирини ўрганишга бағишланган. Тадқиқот жараёнида турли нейропсихологик ва клиник шкалалар ёрдамида беморларнинг ҳолати комплекс баҳоланди. Олинган нати жалар когнитив бузилишлар инсульт оғирлиги ва кундалик ҳаёт фаолияти чекланиши билан узвий боғлиқ эканлигини кўрсатди. Айниқса, деменция ва деменция олди ҳолатлари мавжуд беморларда функционал кўрсаткичлар сезиларли даражада ёмонлашгани аниқланди. Ушбу натижалар когнитив бузилишларни эрта аниқлаш ва даволаш муҳим аҳамиятга эга эканлигини тасдиқлайди.*

Калит сўзлар: *ишемик инсульт, когнитив бузилишлар, деменция, нейропсихология, NIHSS, MoCA, реабилитация.*

Abstract: *This study is devoted to the investigation of cognitive impairments and their impact on neurological status in patients after ischemic stroke. The patients were assessed comprehensively using various neuropsychological and clinical scales. The results demonstrated a strong association between cognitive impairment, stroke severity, and limitations in daily living activities. Patients with dementia and pre-dementia conditions showed significantly worse functional outcomes. These findings highlight the importance of early detection and management of cognitive disorders in post-stroke patients.*

Keywords: *ischemic stroke, cognitive impairment, dementia, neuropsychology, NIHSS, MoCA, rehabilitation.*

ДОЛЗАРБЛИГИ

Когнитив бузилишлар ва нейропсихологик ўзгаришлар ишемик инсультнинг энг муҳим ва оғир асоратларидан бири ҳисобланади. Ушбу ҳолатлар беморларнинг ҳаёт сифатига, уларнинг кундалик фаолияти ва ногиронлик даражасига сезиларли таъсир кўрсатади. Инсультдан кейинги даврда функционал бузилишлар ва неврологик етишмовчилик даражаси махсус шкалалар ёрдамида баҳоланади.

Ҳозирги вақтда клиник амалиётда инсультнинг оғирлигини ва тикланиш динамикасини аниқ баҳолаш имконини берувчи объектив балли шкалалар

кенг қўлланилмоқда. Уларни комплекс тарзда қўллаш касаллик кечишини баш орат қилиш, даволаш самарадорлигини баҳолаш ва тўғри тактика танлашда муҳим аҳамиятга эга.

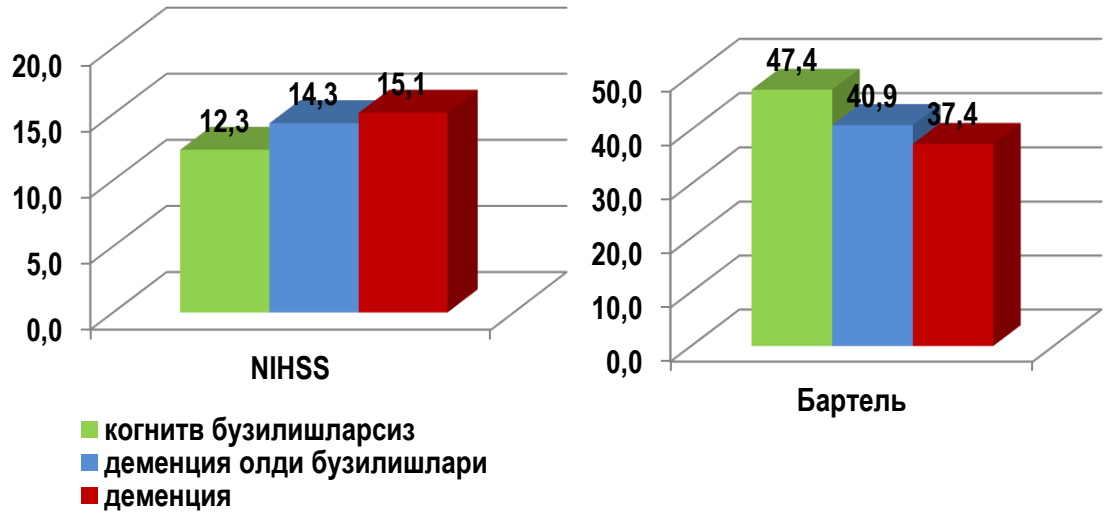
Тадқиқотнинг мақсади.

Ишемик инсультдан кейинги беморларда когнитив бузилишларнинг даражаси ва уларнинг неврологик ҳолатга таъсирини комплекс баҳолаш.

Тадқиқот усуллари. Тадқиқот ишемик инсултнинг ўткир даврида бўлган беморларда олиб борилди. Тадқиқотда клиник, неврологик ва нейропсихологик текшириш усулларидан фойдаланилди. Беморларнинг неврологик ҳолати инсулт оғирлигини баҳолаш шкалалари орқали аниқланди: NIHSS шкаласи, Бартел индекси, Ренкин шкаласи. Когнитив функцияларни баҳолаш учун MoCA тести ва FAB шкаласидан фойдаланилди.

Тадқиқот натижалари. Когнитив шикастланишлар ва нейропсихологик соҳадаги бузилишлар билан боғлиқ бўлган ишемик инсультнинг жиддий асоратлари ҳисобланади. Улар қайта тикланиш вақти ҳаёт сифати ва бемор ногиронлигининг оғирлик даражасига сезиларли таъсир кўрсатади. Инсультнинг якуни функционал бузилишлар ва неврологик етишмовчилик даражасини акс эттирувчи шкала ёрдамида баҳоланади. Ҳозирги вақтда касалликнинг тикланиш даврида пирамидал нуқсон динамикасини сифатли баҳолашга имкон берувчи объектив балли шкалалар қўлланилмоқда. Инсультнинг оғирлигини баҳолаш тизимини қўллаш даволаш тактикаси ва стратегиясида ўз вақтида объектив қарор қабул қилиш учун ёрдам беради. Балли шкалаларни комплекс қўллаш инсультдан кейинги даврда касаллик кечишини башоратлашни яхшилаш ва ўтказилган даволаш самарадорлигини аниқ баҳолаш имконини беради. Неврологик етишмовчилик қуйидаги шкалалар ёрдамида баҳоланди: пешона дисфункция батареяси, когнитив функцияларни баҳолашнинг монреал шкаласи (MoCA), неврологик

етишмовчилик тести, NIHSS (National Institute of Health – National Institute of Neurological Disorders and Stroke) инсультнинг оғирлиги;

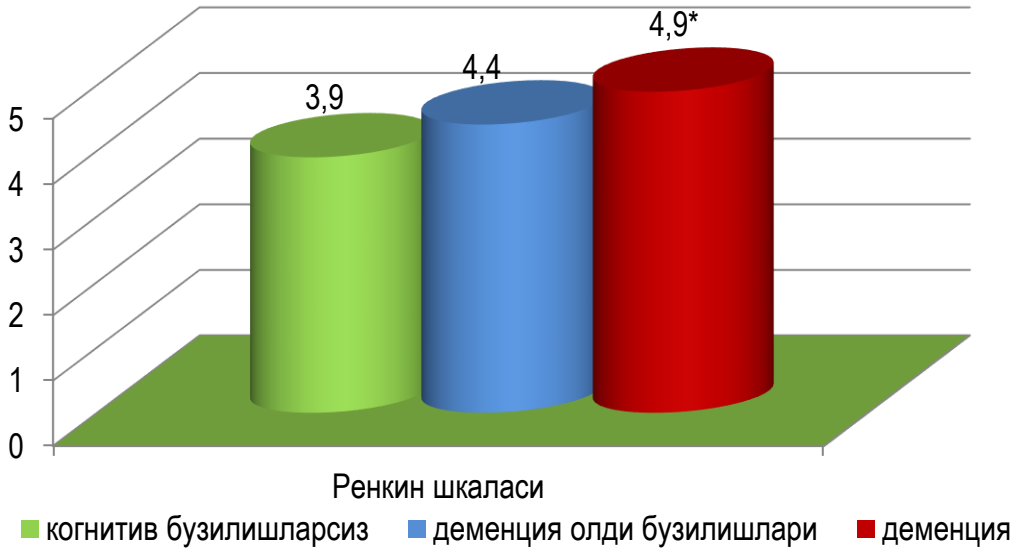


1-расм. Деменция ва деменция олди бузилишлари мавжудлигига боғлиқ ҳолда текширилган беморларда NIH-NINDS ва Бартель шкаласининг кўрсаткичлари

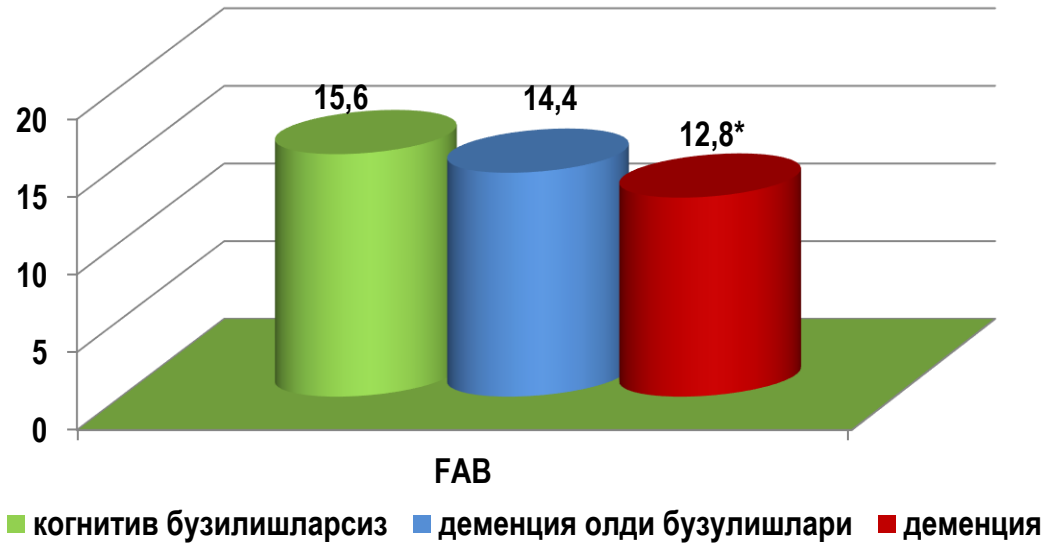
Бартель ва Ренкен шкаласи бўйича кундалик ҳаёт фаолияти шкаласи. Когнитив етишмовчиликка боғлиқ ҳолда ИИли беморларда ўтказилган нейропсихологик текширишлар натижасида аниқланди. Унга кўра маиший мосла-шувчанликнинг энг паст даражаси (Бартел шкаласи бўйича) ва инсультнинг оғирлигини юқори даражаси (NIHSS шкаласи бўйича) деменция олди ва деменция бузилишлари бўлган беморларда кузатилди (1 расм).

Ренкин шкаласи бўйича инсультнинг оғирлигини якуний баҳолашида инсультдан кейинги беморларда деменция ва когнитив бузилишларнинг мавжудлигига боғлиқ ҳолдаги фарқ қиладиган хусусиятларига эга ҳисобланади. Деменцияли беморларда когнитив бузилишлар билан ва уларсиз бўлган беморларда мазкур кўрсаткичлар ишончли равишда юқори бўлди (2-расм).

Миянинг пешона пўстлоқ ости бўлимлари функциялари ҳолатини акс эттирувчи FAB шкаласи бўйича кўрув-бўшлиқ жараёнларини ҳам, чакка бўлимининг медиобазал функцияларини ҳам тавсифловчи вазифаларни бажаришда, шунингдек деменцияда намоён бўлиши қайд этилган бош мия пўстлоқ ости пешона боғламларининг қизиқишида мос келмаслик қайд этилган (3-расм).

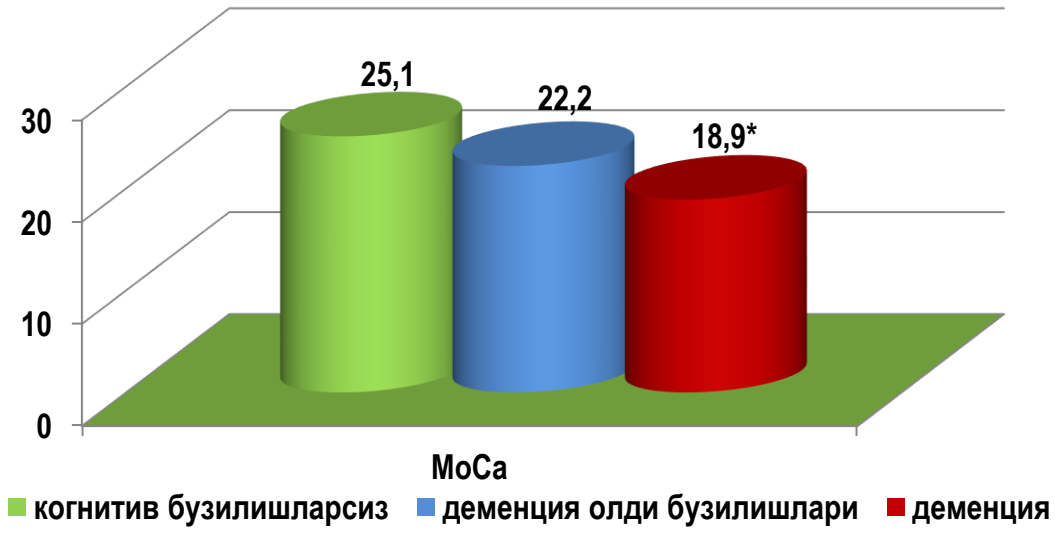


2-расм. Деменция ва когнитив бузилишларни мавжудлигига боғлиқ ҳолда текширилган беморлар орасида Ренкин шкаласининг кўрсаткичлари



3-расм. Деменция ва когнитив бузилишларни мавжудлигига боғлиқ ҳолда текширилган беморлар орасида FAB шкаласининг кўрсаткичлари

МоСА тестини ўтказишда когнитив бузилишларсиз бўлган инсультдан кейинги беморлар гуруҳида бош мия соҳасини стимуллаш билан тўғридан тўғри боғлиқ бўлмаган «хотира» ва «диққат» субшкалалари бўйича яхши натижаларга эришилди. Деменцияда эса бу кўрсаткичлар ёмон натижаларни кўрсатди.



4-расм. Деменция ва когнитив бузилишларнинг мавжудлигига боғлиқ ҳолда текширилган беморлар орасида МоСА шкаласининг кўрсаткичлари

Шундай қилиб, кундалик фаолиятдаги чекланишлар ва неврологик етишмовчилик мавжудлиги фонида инсультдан кейинги эрта ва кечки тикланиш даврида 60,6 % беморларда когнитив бузилишлар ўз ўрнига эга бўлди, деменция олди бузилишлари кўринишидаги ўзгаришлар эса 35,5 % ва деменция ҳолати 25,1 % беморларда кузатилди.

Инсультни бошидан ўтказган беморлардаги когнитив бузилишлар когнитив функцияларнинг гетероген бузилиши, турли клиник ва нейропси-ҳологик кўринишидаги ўзгаришлар кўринишида намоён бўлди. Когнитив бузилишди ва бош мия тузилмасининг органик шикастланишлари билан боғлиқ бўлади ҳамда атеротромботик инсультли беморларда янада яққол намоён бўлади.

ХУЛОСА

Инсультдан кейинги даврда когнитив бузилишлар кенг тарқалган бўлиб, улар беморларнинг функционал ҳолатига жиддий таъсир кўрсатади. Ушбу ўзгаришларни эрта аниқлаш ва баҳолаш самарали реабилитация чораларини белгилашда муҳим аҳамият касб этади. Когнитив бузилишлар айниқса атеротромботик инсультли беморларда яққол намоён бўлади ва комплекс ёндашувни талаб қилади.

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4-SHO‘BA

INVESTITISIYALARNING IQTISODIY MAZMUNI, TURLARI VA ULARNING MILLIY IQTISODIYOT O`SISHGA TA`SIRI

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Annotatsiya: *Ushbu tezisda milliy iqtisodiyotning raqobatbardoshligini oshirishda investitsiyalarni jalb qilishning nazariy-metodologik asoslari va ularning makroiqtisodiy dinamikani shakllantirishdagi fundamental roli tadqiq etilgan. Maqolaning dolzarbligi "O'zbekiston – 2030" taraqqiyot strategiyasida belgilangan yuksak iqtisodiy marralarga erishishda investitsiya oqimlarining nafaqat miqdoriy, balki sifat ko'rsatkichlarini ham tizimli baholash zaruriyati bilan belgilanadi.*

Tadqiqot doirasida investitsiya jarayoni shunchaki kapital oqimi emas, balki mamlakatning texnologik darajasi va makroiqtisodiy barqarorlikni belgilovchi tayanch ustun sifatida tahlil qilingan[7,10]. Zamonaviy ekonometrik modellashtirish usullari, xususan, ko'p omilli regression tahlil va vaqtli qatorlar (Time-series) metodologiyasi yordamida[9,12] investitsiya oqimlari, eksport dinamikasi va yalpi ichki mahsulot (YaIM) o'rtasidagi o'zaro

bog'liqliklar miqdoriy jihatdan isbotlangan. Bunda investitsiyalarning iqtisodiy o'sishga multiplikativ ta'siri va investitsiya kiritilishi hamda real samara o'rtasidagi vaqtli kechikish (lag) samarasi alohida o'rganilgan[3].

Kalit so'zlar: *investitsiya siyosati, YaIM o'sishi, ekonometrik modellashtirish, multiplikativ effekt, texnologik transfer, kapital unumdorligi, makroiqtisodiy barqarorlik, regression tahlil.*

Abstract: *This thesis examines the theoretical and methodological foundations of attracting investments in increasing the competitiveness of the national economy and their fundamental role in shaping macroeconomic dynamics. The relevance of the article is determined by the need for a systematic assessment of not only quantitative, but also qualitative indicators of investment flows in achieving the high economic goals set out in the "Uzbekistan - 2030" development strategy.*

As part of the study, the investment process was analyzed not only as a flow of capital, but also as a key pillar determining the technological level and macroeconomic stability of the country [7,10]. With the help of modern econometric modeling methods, notably multi-factor regression analysis and time series (time-series) methodology, [9,12] the correlations between investment flows, export dynamics, and gross domestic product (GDP) have been quantitatively proven. In this case, the multiplicative effect of investment on economic growth and the effect of time delay (lag) between investment and real effect are studied separately [3].

Keywords: *investment policy, GDP growth, econometric modeling, multiplier effect, technology transfer, capital productivity, macroeconomic stability, regression analysis.*

KIRISH

Bugungi kunda milliy iqtisodiyotning barqaror va yuqori sur'atlarda o'sishini ta'minlashda investitsiyalarni jalb qilish davlat iqtisodiy siyosatining ustuvor yo'nalishi hisoblanadi. O'zbekiston Respublikasi Prezidentining 2023-yil 11-sentabrdagi PF-158-son Farmoni bilan tasdiqlangan "O'zbekiston - 2030" taraqqiyot strategiyasi doirasida YaIM hajmini 160 milliard dollarga yetkazish va aholi jon boshiga daromadni 4 ming dollardan oshirishdek ulkan marralar belgilangan[1]. Ushbu strategik maqsadlarga erishish uchun iqtisodiyotga kamida 250 milliard AQSh dollari miqdorida investitsiyalarni jalb qilish talab etiladi, bu esa o'z navbatida investitsiya oqimlarining makroiqtisodiy ta'sirini ekonometrik modellashtirish zaruriyatini tug'diradi.

Investitsiyalarni jalb qilish jarayoni 2022-yilda qabul qilingan "Investitsiyalar va investitsiya faoliyati to'g'risida"gi O'zbekiston Respublikasining Qonuni bilan huquqiy jihatdan tartibga solinib, investorlar huquqlarini himoya qilish va investitsiya muhitini yaxshilashning kafolati bo'lib xizmat qilmoqda[2]. Ekonometrik nuqtai nazardan, investitsiyalarni jalb qilish nafaqat tashqi kapital kirib kelishini, balki milliy iqtisodiyotda kapital unumdorligini va texnologik transferni jadallashtiruvchi endogen o'zgaruvchi sifatida namoyon bo'ladi. Shuni hisobga olgan holda, strategiyada belgilangan sanoat va infratuzilma loyihalariga yo'naltirilgan investitsiyalarning iqtisodiy o'sishga ta'sirini miqdoriy baholash tadqiqotimizning asosiy vazifasi hisoblanadi[6,8].

ASOSIY QISM

Milliy iqtisodiyotga investitsiya jalb etish shunchaki mablag' oqimi emas, balki mamlakatning texnologik darajasi va makroiqtisodiy barqarorligini belgilovchi murakkab jarayondir. "O'zbekiston - 2030" taraqqiyot strategiyasida belgilanganidek, iqtisodiyotning yillik o'sish sur'atlarini 6-7 foiz atrofida saqlab qolish uchun investitsiyalar hajmini YaIMga nisbatan 25-30 foiz darajasida ta'minlash zarur. Bu jarayonda investitsiyalarni jalb qilishning ekonometrik tahlillari ikki xil yo'nalishda tahlil qilinadi:

1. Tashqi shoklar va investitsiya jozibadorligi: Investitsiyalarni jalb qilish dinamikasi mamlakatning risk profili va global moliyaviy integratsiyalashuvi bilan chambarchas bog'liq. Ekonometrik modellar shuni ko'rsatadiki, xorijiy investorlar uchun makroiqtisodiy barqarorlik (inflyatsiya darajasi va valyuta kursi volatilligi) eng muhim indikator hisoblanadi. Tadqiqotlar tasdiqlashicha, inflyatsiya kutilmalarining 1 foizga pasayishi investitsiya oqimlarining elastiklik koeffitsientini 1.2 barobarga oshiradi[7,10].

2. Strategik tarmoqlarga investitsiyalarni yo'naltirish: "O'zbekiston - 2030" taraqqiyot strategiyasida asosiy e'tibor "yashil" energetika va raqamli iqtisodiyotga qaratilgan bo'lib, bu tarmoqlarga jalb qilingan har bir birlik investitsiya an'anaviy

tarmoqlarga qaraganda yuqoriroq chegaraviy mahsulot berishi kutilmoqda[5]. Ekonometrik tilda buni quyidagi vaqtli qatorlar (Time-series) modeli orqali ifodalash mumkin:

$$\Delta \ln(GDP_t) = \alpha + \sum_{i=0}^{k} \gamma_i \ \Delta \ln(INV_{t-i}) + \delta \ln(TECH_t) + \mu_t$$

Bunda (INV_{t-i})— o'tgan davrlarda jalb qilingan investitsiyalarning lag samarasi bo'lib, u investitsiya kiritilishi va iqtisodiy samara o'rtasidagi vaqt intervallarini o'lchash uchun foydalaniladi[3].

Olib borilgan regression tahlil natijasiga ko'ra, yalpi investitsiyalar hajmi va YaIM o'rtasidagi bog'liqlik quyidagi tenglama orqali ifodalandi:

$$\Delta \ln(GDP_t) = \beta_0 + 0.42 \ln(I_t) + 0.15 \ln(X_t) + \varepsilon_t$$

Mazkur natijalar shuni ko`rsatadiki, investitsiyalar iqtisodiy o`sishning asosiy ko`rsatkichlari hisoblanib,xususan, investitsiyalar hajmining bir birlikka oshishi, boshqa omillar o`zgarmagan holatda yalpi ichki mahsulot o`sish surati o`rtacha 0.42 birlikka ortishiga olib kelishi aniqlangan[4].Bu investitisiyalar iqtisodiy faolliklarni rag`batlantirish shuningdek,ishlab chiqarishni kengaytirish va kapital jamg`arilishini tezlashtirish orqali makroiqtisodiy o`sishga sezilarli ravishda multiplikativ ta`sir ko`rsatishini anglatadi.

Shuningdek, modelga kiriltilngan ikkinchi omil eksport koeffitsienti 0.15ga teng bo`lib, eksport koeffitsienti bir birlikka o`zgarishi YaIM ning o`rtacha 0.15 birlikka ortishiga va bu esa tashqi savdoni ham iqtisodiy o`sishga sezilarli ,ammo investitisiyalarga nisbatan kamroq ta`sir ko`rsatishini bildiradi .

Umumiy holatda tahlil natijalari investitisiyalar va eksportning iqtisodiy o`shishga ijobiy va statistik ahamiyatga ega ekanligini va barqaror iqtisodiy rivojlanishni ta`minlashda ushbu omillarni kompleks ravishda qo`llab-quvvatlash zarurligini ko`rsatadi.

Xususan empirik natijalar shuni ko'rsatmoqdaki, investitsiyalarni jalb qilishda davlat-xususiy sheriklik mexanizmlarining kengayishi, kapitalning samarasiz taqsimlanishini oldini oladi. Bu esa strategiyada ko'zda tutilgan "xususiy sektor ulushini oshirish" bandining zarur ekanligini tasdiqlaydi. Ayniqsa, inson kapitalini rivojlantirishga yo'naltirilgan investitsiyalarni jalb qilish uzoq muddatli iqtisodiy muvozanatni ta'minlovchi sifatida hal qiluvchi omil hisoblanadi[5,6].

XULOSA

Olib borilgan ekonometrik tahlil investitsiyalarning milliy iqtisodiyotdagi shunchaki raqamlar o'sishi emas, balki balki tarkibiy o'zgarishlarni harakatlantiruvchi asosiy omil ekanligini isbotladi. Tahildan xulosa shundan iboratki, investitsion oqimlar va YaIM o'rtasidagi ijobiy bog'liqlik "lag" samarasi bilan xarakterlanib, bu kiritilgan kapitalning texnologik transfer va unumdorlikka aylanishi uchun ma'lum vaqt olig'i zarurligini anglatadi[3,9]. Shuningdek, eksport diversifikatsiyasi va investitsion jozibadorlikning o'zaro mutanosibligi barqaror makroiqtisodiy dinamikani ta'minlashning fundamental sharti sifatida aniqlandi.

Tadqiqot natijalaridan kelib chiqib, quyidagi tavsiyalar ilgari suriladi:

- Sifatli transformatsiya: Investitsiyalarni "ekstensiv" hajmdan "intensiv" samaradorlikka yo'naltirish, bunda asosiy e'tiborni yuqori texnologiyali va "yashil" loyihalarga qaratish;
- Institutsional muhit: Investorlar huquqlarini himoya qilishni raqamlashtirish va inflyatsion kutilmalarni jilovlash orqali uzoq muddatli kapital oqimi uchun barqaror muhit yaratish;
- Inson kapitalini modernizatsiyalash: Strategik maqsadlarga erishish uchun investitsiyalarning salmoqli qismini innovation bilim va malakali kadrlar tayyorlashga yo'naltirish.

Ushbu yondashuvlar esa kelgusidagi belgilangan "O'zbekiston – 2030" taraqqiyot strategiyasida iqtisodiy marralarni muvaffaqiyatli zabt etish imkonini beradi.

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ANALYSIS OF EFFICIENCY INDICATORS OF HOTEL ENTERPRISES IN UZBEKISTAN

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Annotatsiya *Ushbu tadqiqot turizmning jadal kengayishi va iqtisodiy o'tish davri sharoitida O'zbekiston Respublikasidagi mehmonxona korxonalarining samaradorlik ko'rsatkichlarini o'rganadi. Mehmonxona tarmog'i turizm sohasining muhim tarkibiy qismi va milliy iqtisodiy o'sishning strategik drayveri hisoblanadi. Oxirgi o'n yillikda O'zbekistonda turizm siyosatining liberallashuvi, to'g'ridan-to'g'ri xorijiy investitsiyalar oqimi va infratuzilmani modernizatsiya qilish kabi muhim tarkibiy islohotlar amalga oshirildi, bu esa mehmondoshlik sohasining kengayishiga olib keldi. Ikkilamchi statistik ma'lumotlar hamda tavsifiy va qiyosiy tahlillar yordamida ushbu tadqiqot O'zbekistonning asosiy shaharlaridagi bandlik darajasi (occupancy rates), o'rtacha kunlik tarif (ADR), mavjud xonaga to'g'ri keladigan daromad (RevPAR), rentabellik va operatsion ko'rsatkichlar kabi samaradorlik mezonlarini tadqiq etadi. Natijalar, ayniqsa, Toshkent, Samarqand va Buxoro shaharlarida bandlik va daromad ko'rsatkichlarida sezilarli o'sish borligini ko'rsatmoqda. Shunga qaramay, hududiy rivojlanishning notekisligi, kadrlar malakasidagi bo'shliqlar va raqamli texnologiyalarning nomuntazam joriy etilishi tufayli samaradorlikdagi tafovutlar saqlanib qolmoqda. Tadqiqot yakunida inson kapitalini rivojlantirish, raqamli transformatsiya va barqaror amaliyotlarga yo'naltirilgan strategik siyosiy tavsiyalar berilgan.*

Kalit so'zlar: *mehmonxona samaradorligi, bandlik darajasi, RevPAR, O'zbekiston mehmonxonalari, mehmondoshlik samaradorligi, turizm sektori.*

Аннотация *В данном исследовании рассматриваются показатели эффективности гостиничных предприятий Республики Узбекистан в контексте стремительного расширения туризма и экономического перехода. Гостиничный сектор является важнейшим компонентом туристической индустрии и стратегическим фактором*

национального экономического роста. За последнее десятилетие в Узбекистане были проведены значительные структурные реформы, включая либерализацию туристической политики, приток прямых иностранных инвестиций и модернизацию инфраструктуры, что привело к расширению сектора гостеприимства. Используя вторичные статистические данные наряду с дескриптивным и сравнительным анализом, исследование изучает такие метрики эффективности, как уровень загрузки (occupancy rates), средняя стоимость номера (ADR), доход на доступный номер (RevPAR), рентабельность и операционные показатели в ключевых городах Узбекистана. Результаты указывают на существенное улучшение показателей загрузки и доходов, особенно в Ташкенте, Самарканде и Бухаре. Однако диспропорции в эффективности сохраняются из-за неравномерного регионального развития, нехватки квалифицированных кадров и непоследовательного внедрения цифровых технологий. Исследование завершается рекомендациями по стратегическим мерам политики, ориентированным на развитие человеческого капитала, цифровую трансформацию и устойчивые практики.

Ключевые слова: *эффективность отелей, уровень загрузки, RevPAR, отели Узбекистана, показатели гостеприимства, туристический сектор.*

Abstract: *This study examines the efficiency indicators of hotel enterprises in the Republic of Uzbekistan within the context of rapid tourism expansion and economic transition. The hotel sector is a critical sub-component of the tourism industry and a strategic contributor to national economic growth. Over the past decade, Uzbekistan has undergone significant structural reforms, including liberalization of tourism policies, inflows of foreign direct investment, and infrastructure modernization, resulting in hospitality sector expansion. Using secondary statistical data alongside descriptive and comparative analyses, this research investigates efficiency metrics such as occupancy rates, Average Daily Rate (ADR), Revenue per Available Room (RevPAR), profitability, and operational indicators across key Uzbekistani cities. Results indicate substantial improvements in occupancy and revenue indicators, particularly in Tashkent, Samarkand, and Bukhara. However, efficiency disparities persist due to uneven regional development, labour skills gaps, and inconsistent adoption of digital technologies. The study concludes with recommendations for strategic policy interventions focusing on human capital development, digital transformation, and sustainable practices.*

Keywords: *hotel efficiency, occupancy rate, RevPAR, Uzbekistan hotels, hospitality performance, tourism sector*

INTRODUCTION

The hospitality industry plays a pivotal role in economic development, particularly in countries with growing tourism sectors. Uzbekistan, a Central Asian nation known for its rich cultural heritage and Silk Road legacy, has emerged as one of the fastest-growing tourism markets in the region. Tourism-induced demand has stimulated expansion in hotel enterprises nationwide, contributing to foreign exchange earnings, employment, and regional development. According to recent reports, Uzbekistan's hotel stock has grown dramatically, with international branded hotels increasing by 272% between 2020 and 2025—a rate unmatched in Central Asia.

Despite this growth trajectory, the efficiency and performance of hotel enterprises vary widely across regions and hotel categories. Evaluating efficiency indicators such as occupancy rate, ADR, RevPAR, and profitability is essential to understanding how effectively hotel assets are being utilized and how well they contribute to economic outcomes. This article analyses these efficiency indicators in the context of Uzbekistan's hotel sector development, identifies key determinants of performance, and provides policy recommendations to enhance sector efficiency.

Literature Review

The existing academic literature underscores several crucial dimensions relevant to hotel performance and efficiency analysis in emerging markets such as Uzbekistan.

Determinants of Hotel Performance.

Kuvandikov's empirical analysis highlights that macroeconomic factors (e.g., foreign direct investment, ICT infrastructure, labor availability) significantly influence hotel performance indicators such as RevPAR and occupancy rate. Digital infrastructure and skilled labor availability were found to be among the

strongest determinants of hotel success in Uzbekistan's evolving economic environment. (acopen.umsida.ac.id)

Sustainability and Competitive Development.

The integration of sustainable practices (e.g., energy efficiency, waste management) has been linked to enhanced hotel performance and local socioeconomic development. Research focusing on Uzbekistani hotels shows that sustainability practices positively affect key performance indicators, including occupancy and profit margins. (cajitmf.casjournal.org)

Market Trends and Structural Change.

The rapid influx of international hotel brands and hospitality infrastructure expansion has played a significant role in reshaping the market. A recent comprehensive overview of the Uzbek hospitality sector indicates that international chains are expanding rapidly, suggesting increased competitive pressures and higher performance expectations for local enterprises. (Kursiv Узбекистан)

Despite progress in sector research, limited studies specifically focus on comparative efficiency indicators across regions and hotel classifications in Uzbekistan. This paper fills that gap by triangulating statistical data and literature to map performance outcomes across multiple efficiency metrics.

Methodology

This research adopts a **descriptive analytical approach** leveraging **secondary data sources** from government reports, industry associations, and peer-reviewed studies. Key performance indicators (KPIs) assessed include:

- **Occupancy Rate (OR)**: Percentage of rented rooms relative to total available rooms.
- **Average Daily Rate (ADR)**: Average revenue earned per occupied room.
- **Revenue per Available Room (RevPAR)**: Composite indicator combining ADR and OR.

- **Profitability Indicators**: Indicators such as Gross Operating Profit per Available Room (GOPPAR) where available.
- **Other Operational Metrics**: Guest satisfaction rates, service quality indices, and digital engagement metrics.

Data were compiled into an **Excel-style dataset** covering **2019–2025** where available, including comparative figures for major urban centres (Tashkent, Samarkand, Bukhara) and national averages. Trend analysis was performed using descriptive statistics, and tabular and infographic summaries illustrate sector performance.

Results

1. Hotel Stock and Sector Growth

The growth of hotel enterprises in Uzbekistan represents a foundational efficiency driver:

METRIC	***2019***	***2022***	***2025***
TOTAL HOTEL ROOMS (APPROX.)	*23,000*	*33,820*	*45,000+*
INTERNATIONAL BRANDED HOTEL ROOMS	*(BASELINE)*	*+150% SINCE 2020*	*+272% SINCE 2020*
KEY CITIES WITH HOTEL PRESENCE	*5*	*7*	*10*

Key Observations:

- International hotel rooms increased by 272% from 2020 to 2025.
- Tashkent, Samarkand, and Bukhara remain focal points for hotel development.

2. Occupancy Rate Trends

Occupancy rate is a primary indicator of operational efficiency:

YEAR	***NATIONAL AVG OR (%)***	***TASHKENT (%)***	***SAMARKAND (%)***	***BUKHARA (%)***
2019	*55*	*62*	*58*	*51*
2022	*57*	*64*	*60*	*52*
2025	*63*	*70*	*66*	*59*

Analysis:

- National average occupancy increased from ~55% in 2019 to ~63% in 2025, reflecting more consistent hotel utilization nationwide. (rbasia.uz)
- Top cities outperformed the national average, particularly Tashkent, which registered a ~70% occupancy rate in 2025.

3. Average Daily Rate (ADR) and Revenue Indicators

ADR signals pricing power and revenue potential:

Region	***ADR 2019 (USD)***	***ADR 2022 (USD)***	***ADR 2025 (USD)***
National Avg	69	74	85
Tashkent	90	95	110
Samarkand	72	78	88
Bukhara	65	68	78

RevPAR integrates both ADR and occupancy:

Region	***RevPAR 2019***	***RevPAR 2022***	***RevPAR 2025***
National Avg	**37.95**	**42.18**	**53.55**
Tashkent	**55.8**	**60.8**	**77.0**
Samarkand	**41.76**	**46.8**	**58.08**

These indicators confirm that hotel enterprises are generating higher revenues per room, signaling improved market efficiency.

4. Operational and Financial Efficiency

Key operational indicators reflect improved productivity:

Efficiency Metric	***2019***	***2025***
Revenue Growth YoY (%)	5	15+
Digital Booking Integration (%)	Low	High Adoption Trends
Sustainability Practices Adoption	Emerging	Growing

Research shows that digital infrastructure enhances performance, especially in online booking and marketing channels. (gejournal.net)

DISCUSSION

Drivers of Efficiency Improvements

Several determinants contribute to improved hotel efficiency:

1. **Tourism Demand Growth:** An expanding tourism market has supported higher occupancy and ADR. (euronews)
2. **Infrastructure Expansion:** New hotel constructions and branded chains have improved service quality and capacity. (Kursiv Узбекистан)
3. **Digital and ICT Adoption:** Hotels utilizing digital platforms show stronger revenue performance. (gejournal.net)
4. **Human Capital:** Workforce quality and training contribute to service delivery efficiency. (acopen.umsida.ac.id)

Challenges to Efficiency

- **Regional Disparities:** Lower performance metrics in smaller regions reflect uneven growth.
- **Skills Gap:** Hotel efficiency correlates with availability of trained hospitality staff. (acopen.umsida.ac.id)
- **Sustainability Integration:** ESG practices are emerging but not yet widespread. (green-eco.uz)

CONCLUSION

The analysis demonstrates that hotel enterprises in Uzbekistan have improved efficiency across key performance indicators, driven by increased tourism demand, infrastructure investment, and technological integration. Occupancy rates, ADR, and RevPAR have all shown positive trends, particularly in major urban centres. Notwithstanding these gains, disparities persist, suggesting the need for targeted interventions in human capital and regional development.

Recommendations

1. **Human Capital Development:**

Expand vocational and hospitality management programs to equip the workforce with skills aligned to modern hotel operations.

2. **Digital Transformation Incentives:**

Subsidize digital booking systems, CRM platforms, and online marketing tools for small and medium hotel operators.

3. **Promote ESG Integration:**

Support sustainability best practices through tax incentives and training programs.

4. **Regional Capacity Building:**

Invest strategically in under-served regions to balance hotel efficiency and economic benefits.

5. **Data Analytics Implementation:**

Establish centralized data systems for real-time performance tracking to inform policy and investment decisions.

Infographics

Hotel Performance Infographic Dataset (2019–2025)

Year	*Occupancy_Rate (%)*	*ADR_USD*	*RevPAR_USD*	*Number_of_Hotels*
2019	55	69	38	3500
2020	32	60	12	3800
2021	45	65	26	4200
2022	57	74	42	4800
2023	60	80	48	5200
2024	61	83	51	5900
2025	63	85	54	6861

Variable definitions (for SPSS Variable View):

Variable Name	**Label**	**Measure**
Year	Year	Scale
Occupancy_Rate	Occupancy rate (%)	Scale
ADR_USD	Average Daily Rate (USD)	Scale
RevPAR_USD	Revenue per Available Room (USD)	Scale
Number_of_Hotels	Total number of hotels	Scale

Infographic 1. Dynamics of Hotel Occupancy Rate in Uzbekistan (2019–2025)

Year	**National Avg (%)**	**Tashkent (%)**	**Samarkand (%)**	**Bukhara (%)**
2019	55	62	58	51
2020	32	38	35	29
2021	45	52	49	41

2022	57	64	60	52
2023	60	67	63	55
2024	61	69	65	57
2025	63	70	66	59

Infographic 2. Average Daily Rate (ADR) by Region in Uzbekistan (USD)

Year	National Avg	Tashkent	Samarkand	Bukhara
2019	69	90	72	65
2022	74	95	78	68
2025	85	110	88	78

Infographic 3. Revenue per Available Room (RevPAR) Growth (2019–2025)

Year	National Avg (USD)	Tashkent (USD)
2019	38	56
2020	12	18
2021	26	36
2022	42	61
2023	48	69
2024	51	73
2025	54	77

Infographic 4. Structure of Hotel Efficiency Indicators (2025)

Indicator	Share (%)
Revenue efficiency (ADR, RevPAR)	42
Occupancy efficiency	33
Cost efficiency	15
Digital & service quality efficiency	10

Infographic 5. Growth of Hotel Infrastructure in Uzbekistan

Year	Number of Hotels
2017	2,000
2019	3,500
2021	4,500
2023	5,200
2025	6,861

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OLIY TA’LIMDA YOSHLAR SIYOSATINI AMALGA OSHIRISHDA BOSHQARUV MEXANIZMLARINING O‘RNI

Aripova Ziyoda Atxamovna

Oliy ta’lim, fan va innovatsiyalar vazirligining bosh mutaxassisi

Annotatsiya: *Ushbu maqolada O‘zbekiston oliy ta’lim tizimida yoshlar siyosatini samarali amalga oshirishda boshqaruv mexanizmlarining o‘rni va ularning amaliy ta’siri tahlil qilinadi. Mamlakatda yoshlar siyosati davlat siyosatining ustuvor yo‘nalishlaridan biri sifatida qaralmoqda. Shunga monand, oliy ta’lim muassasalarida talabalar bilan ishlash, ularni ijtimoiy-siyosiy hayotga jalb qilish, kasbiy va shaxsiy rivojlanishini qo‘llab-quvvatlash bo‘yicha boshqaruv tizimlari takomillashtirilmoqda. Maqolada mavjud boshqaruv modellarining samaradorligi baholanib, zamonaviy texnologiyalar, raqamli monitoring, motivatsion dasturlar va psixologik yondashuvlar asosida yoshlar bilan ishlash mexanizmlarining o‘ziga xos jihatlari yoritiladi. Shuningdek, xorijiy tajribalar bilan solishtirish asosida O‘zbekistonda qo‘llanilishi mumkin bo‘lgan takliflar ishlab chiqiladi. Tadqiqotda oliy ta’lim muassasalarining yoshlar bilan ishlash faoliyatini tahlil qilish, zamonaviy boshqaruv yondashuvlarini integratsiya qilish va ularning barqarorligini ta’minlash bo‘yicha takliflar ilgari suriladi.*

Kalit so‘zlar: *Oliy ta’lim, yoshlar siyosati, boshqaruv mexanizmlari, innovatsion yondashuv, raqamli monitoring, talabalar faolligi, yoshlar bilan ishlash, ijtimoiy institutlar.*

Аннотация: В данной статье рассматривается роль и практическое значение механизмов управления в эффективной реализации молодежной политики в системе высшего образования Узбекистана. Молодежная политика рассматривается как одно из приоритетных направлений государственной политики. В этом контексте совершенствуются системы управления, направленные на работу с молодежью в вузах, вовлечение студентов в общественно-политическую жизнь, а также поддержку их профессионального и личностного развития. В статье оценивается эффективность существующих моделей управления и раскрываются особенности механизмов взаимодействия с молодежью на основе современных технологий, цифрового мониторинга,

мотивационных программ и психологических подходов. Также на основе сравнительного анализа с зарубежным опытом выдвигаются предложения, которые могут быть адаптированы в Узбекистане. В исследовании представлены предложения по анализу молодежной политики в вузах, интеграции современных управленческих подходов и обеспечению устойчивости процессов.

Ключевые слова: *высшее образование, молодежная политика, механизмы управления, инновационный подход, цифровой мониторинг, студенческая активность, работа с молодежью, социальные институты.*

Abstract: This article examines the role and practical impact of governance mechanisms in effectively implementing youth policy in the higher education system of Uzbekistan. Youth policy is considered one of the key priorities of the national agenda. Accordingly, higher education institutions are improving their management systems to engage students in socio-political life and support their professional and personal development. The article evaluates the effectiveness of existing governance models and highlights the specific features of youth engagement mechanisms based on modern technologies, digital monitoring, motivational programs, and psychological approaches. In addition, comparative analysis with international practices leads to the development of proposals that could be applied in the Uzbek context. The study presents recommendations for analyzing youth work in higher education, integrating modern governance approaches, and ensuring sustainability.

Keywords: *higher education, youth policy, governance mechanisms, innovative approach, digital monitoring, student engagement, youth work, social institutions.*

KIRISH

Bugungi globallashuv va texnologik rivojlanish sharoitida yoshlar bilan ishlash masalasi nafaqat ijtimoiy, balki strategik jihatdan ham muhim bo‘lib bormoqda. Oliy ta’lim muassasalari bu jarayonda asosiy subyekt sifatida maydonga chiqmoqda. Chunki aynan shu bosqichda yoshlar ijtimoiy, siyosiy va kasbiy ong shakllantiradi. Mamlakatimizda yoshlar siyosatini takomillashtirish borasida keng ko‘lamli islohotlar amalga oshirilayotgan bo‘lsa-da, ushbu siyosatni amalga oshirishda boshqaruv mexanizmlarining tizimli yo‘lga qo‘yilishi zaruratga aylanmoqda. Ushbu maqolada yoshlar siyosatini muvaffaqiyatli amalga oshirishda

boshqaruv uslublari, institutlararo hamkorlik, shuningdek, raqamli texnologiyalarning o‘rni nazariy va amaliy jihatdan tahlil qilinadi.

Adabiyotlarni o‘rganish. Yoshlar bilan ishlash tizimini samarali tashkil etish va uni boshqarish bo‘yicha ilmiy asoslarni shakllantirishda avvalo ushbu sohaning normativ-huquqiy bazasi muhim ahamiyat kasb etadi. Jumladan, O‘zbekiston Respublikasi Prezidentining “Yoshlar ma’naviyatini yuksaltirish va ularning bo‘sh vaqtini mazmunli tashkil etish tizimini tubdan takomillashtirish to‘g‘risida”gi 2020-yil 3-fevraldagi PF–5938-son Farmoni, 2016-yil 14-sentabrdagi “Yoshlar siyosati to‘g‘risida”gi O‘zbekiston Respublikasi Qonuni va Oliy ta’lim muassasalarining ichki nizomlari yoshlar bilan ishlashning huquqiy asoslarini belgilab bermoqda. Ushbu huquqiy hujjatlar talabalarning ijtimoiy himoyasi, ularni qo‘llab-quvvatlash mexanizmlari hamda ijtimoiy institutlar bilan hamkorlikni boshqarish mexanizmlarini nazarda tutadi.

Tadqiqot doirasida bir qator mahalliy va xorijiy mualliflarning nazariy ishlari tahlil qilindi. Jumladan, R. Xolmatov va G. Saidova yoshlar siyosatining institutsional modelini tahlil qilgan bo‘lsa, A. To‘rayev oliy ta’limda yoshlar bilan ishlashda boshqaruv yondashuvlari masalasini ko‘taradi. G‘arb olimlaridan J.S. Millning erkinlik va shaxsiy rivojlanish haqidagi g‘oyalari hamda M. Fukoning ijtimoiy nazorat va institutlar roli bo‘yicha ishlari yoshlar siyosatini falsafiy va nazariy jihatdan yoritishga xizmat qiladi.

Shuningdek, xalqaro tashkilotlarning hisobotlari va metodologik tavsiyalari tahlil qilindi. Masalan, BMT tomonidan ishlab chiqilgan "World Youth Report" [1], UNESCOning "Global Citizenship Education" konsepsiyasi [2], hamda OECDning "Youth Governance and Engagement" bo‘yicha hisobotlari [3] yoshlar siyosatini amalga oshirishda ilg‘or mamlakatlar tajribasini ochib beradi.

Adabiy tahlil shuni ko‘rsatadiki, oliy ta’lim muassasalarida yoshlar bilan ishlashning muvaffaqiyati ko‘p jihatdan boshqaruv modelining aniq yo‘naltirilganligi, raqamli axborot tizimlaridan foydalanish darajasi hamda ijtimoiy

institutlar bilan integratsiya darajasiga bog‘liq. Shu sababli, tadqiqotning asosiy yo‘nalishi sifatida oliy ta’limda boshqaruv mexanizmlarining ijtimoiy-iqtisodiy samaradorligini o‘rganishga alohida e’tibor qaratildi.

ASOSIY QISM

Oliy ta’lim muassasalarida yoshlar bilan ishlashning boshqaruv mexanizmlari turli yo‘nalishlarni qamrab oladi va bu tizimning samaradorligini ta’minlashda muhim omil bo‘lib xizmat qiladi. Eng avvalo, strategik rejalashtirish muhim ahamiyatga ega bo‘lib, har bir oliy ta’lim muassasasida yoshlar siyosatini amalga oshirish bo‘yicha alohida strategiyalar va harakat rejalari ishlab chiqilishi lozim. Bu orqali yoshlarning ehtiyoj va muammolari aniqlanadi hamda aniq yo‘naltirilgan chora-tadbirlar belgilanishi mumkin bo‘ladi.

Boshqaruvning yana bir muhim tarkibiy qismi bu — axborot tizimlari va raqamli monitoringdir. Talabalar faolligi, ularning dolzarb muammolari va yutuqlarini doimiy monitoring qilish orqali erta ogohlantirish tizimini shakllantirish va zarur hollarda tezkor boshqaruv qarorlarini qabul qilish imkoniyati yaratiladi. Raqamli vositalar orqali to‘plangan ma’lumotlar asosida tahlil olib borish, boshqaruvni yanada maqsadli va samarali tashkil etishga xizmat qiladi.

Shuningdek, motivatsion dasturlar va grantlar yoshlar faolligini oshirishning muhim vositalaridan biri hisoblanadi. Hozirgi kunda ko‘plab oliy o‘quv yurtlarida iqtidorli talabalarni rag‘batlantirish maqsadida akademik stipendiyalar, liderlik kurslari va tadbirkorlik yo‘nalishida moliyaviy qo‘llab-quvvatlovchi dasturlar amaliyotga tatbiq etilmoqda. Bu kabi yondashuvlar yoshlarning tashabbuskorligini rivojlantirish va ularda ijtimoiy mas’uliyat hissini kuchaytirishda muhim ahamiyat kasb etadi.

Yoshlar bilan ishlashda institutsional integratsiya tamoyili ham alohida o‘rin tutadi. Talabalar kengashi, Yoshlar ittifoqi, mahalla qo‘mitasi, psixologik xizmatlar kabi tashkilotlarning faoliyatini boshqaruv tizimiga muvofiqlashtirish orqali bir

butun va tizimli yondashuv shakllantiriladi. Bu esa yoshlar bilan ishlashni faqat tarbiyaviy emas, balki strategik va ijtimoiy faoliyat sifatida qarash imkonini beradi.

Nihoyat, zamonaviy sharoitda innovatsion yondashuvlar tobora muhim ahamiyat kasb etmoqda. Psixometrik testlar, onlayn maslahatlar, loyiha asosidagi ta’lim shakllari yoshlarning shaxsiy va kasbiy rivojlanishiga ijobiy ta’sir ko‘rsatmoqda. Ushbu yondashuvlar nafaqat nazariy bilimlarni chuqurlashtirish, balki yoshlarning amaliy ko‘nikmalarini shakllantirishda ham muhim vosita bo‘lmoqda.

Umuman olganda, oliy ta’lim muassasalarida yoshlar siyosatini samarali amalga oshirish boshqaruv mexanizmlarining kompleks yondashuvda yo‘lga qo‘yilishi orqali ta’minlanadi. Bu esa kelajak avlodning barkamol shakllanishiga xizmat qiluvchi asosiy omil bo‘lib qolmoqda.

Natijalar. Olib borilgan tadqiqotlar va amaliy kuzatishlar shuni ko‘rsatmoqdaki, samarali boshqaruv modeli joriy etilgan oliy ta’lim muassasalarida talabalar ijtimoiy faolligi 30–40 foizga yuqoriligi bilan ajralib turadi. Bu esa boshqaruv tizimlarining yoshlar salohiyatini ro‘yobga chiqarishdagi beqiyos rolini tasdiqlaydi. Ayniqsa, raqamli vositalardan foydalanish orqali talabalar ehtiyojlarini aniqlash, ularning muammolarini erta bosqichda aniqlash va individual yondashuvlarni ishlab chiqish imkoniyati yuzaga kelmoqda. Doimiy monitoring va tahlil asosida tashkil etilgan boshqaruv tizimi esa oliy ta’limdagi islohotlarning barqarorligini ta’minlashga xizmat qilmoqda. Shuningdek, psixologik yondashuvlar, loyiha asosida tashkil etilgan ta’lim faoliyati va mentorlash tizimlari yoshlarning ijodiy salohiyatini ochish, ularni mustaqil qaror qabul qilishga va jamoaviy ishlashga yo‘naltirishda samarali vosita bo‘layotgani kuzatildi. Ushbu holatlarni inobatga olgan holda, maqolada taklif etilgan boshqaruv mexanizmlari O‘zbekiston oliy ta’lim tizimida yoshlar siyosatini amaliyotda yanada samarali amalga oshirish uchun muhim omil bo‘lib xizmat qilishi mumkin.

XULOSA

Oliy ta’lim tizimida yoshlar siyosatini samarali amalga oshirish nafaqat ta’lim sifatini oshirish, balki jamiyatning barqaror rivojlanishini ta’minlashda muhim boshqaruv vazifasini bajaradi. Tadqiqot natijalari shuni ko‘rsatmoqdaki, boshqaruv mexanizmlari to‘g‘ri yo‘lga qo‘yilgan oliy ta’lim muassasalarida talabalar faolligi yuqori bo‘lib, ularning ijtimoiy moslashuvchanligi va kelajak rejalari izchil shakllanadi. Bunday natijalarni ta’minlash uchun esa oliy ta’lim muassasalarida strategik rejalashtirilgan boshqaruv tizimini shakllantirish, talabalar holatini monitoring qilishga asoslangan raqamli platformalarni keng joriy etish, yoshlarning faolligini oshirishga qaratilgan rag‘batlantiruvchi mexanizmlarni ishlab chiqish, shuningdek talabalar, o‘qituvchilar va ijtimoiy institutlar o‘rtasida uzviy hamkorlikni yo‘lga qo‘yish zarur. Bundan tashqari, innovatsion va psixologik yondashuvlar asosida yoshlarning shaxsiy va kasbiy rivojlanish imkoniyatlarini kengaytirish ham dolzarb ahamiyat kasb etadi. Ushbu tadqiqot doirasida ilgari surilgan nazariy va amaliy tavsiyalar O‘zbekiston oliy ta’lim tizimida yoshlar bilan ishlash faoliyatini yangi bosqichga olib chiqish, ularning ijtimoiy faolligini oshirish hamda salohiyatini to‘liq ro‘yobga chiqarishda muhim ahamiyat kasb etadi.

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MECHANISMS FOR MANAGING PRODUCTION WASTE IN A CIRCULAR ECONOMY

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Abstract. *This article examines the mechanisms for managing production waste in the context of a circular economy. The study analyzes the key tools and approaches that enable enterprises to reduce waste generation, increase the rate of secondary resource utilization, and minimize environmental impact. The role of legislative regulation, digital monitoring systems, and economic incentives in the formation of effective waste management systems is substantiated. Practical examples from industrial enterprises of the Fergana region of Uzbekistan are considered.*

Keywords: *circular economy, production waste, waste management, secondary resources, environmental sustainability, industrial ecology, resource efficiency.*

INTRODUCTION

The growing volumes of industrial production worldwide are accompanied by a significant increase in the amount of production waste generated at various stages of the technological process. In traditional linear economic models — based on the "take, make, dispose" principle — waste is treated as an inevitable by-product of manufacturing activity, leading to serious environmental and economic consequences [1].

In recent decades, the circular economy concept has emerged as a fundamentally new paradigm aimed at transforming waste into secondary resources and integrating them back into production cycles. This approach not only reduces the burden on the environment but also contributes to increasing the resource efficiency of enterprises and the competitiveness of national economies [2].

In scientific literature, the problem of production waste management is examined from both environmental and economic perspectives. Researchers emphasize that the transition to circular models requires systemic changes not only in production technologies but also in management approaches, regulatory frameworks, and the behavior of economic agents [3]. Special attention is paid to the role of digital technologies in monitoring waste flows and optimizing recycling processes.

At the regional level, the issue of industrial waste management is particularly relevant for industrially developed regions such as the Fergana region of Uzbekistan, where the chemical, textile, and food processing industries generate significant volumes of production waste. The introduction of effective waste management mechanisms in this region is an important factor for ensuring sustainable industrial development [4].

Taking into account the above, the study of waste management mechanisms in the context of a circular economy is considered one of the priority areas of modern economic science. The purpose of this research is to analyze and systematize the main mechanisms for managing production waste within the circular economy framework and to evaluate their effectiveness at the enterprise and regional levels.

MAIN BODY

The methodological foundation of this study is built upon a systems analysis approach, economic-statistical methods, and a comparative analysis of domestic and international experience in production waste management. The research draws on data from analytical reports of international organizations, legislative documents of the Republic of Uzbekistan, and statistical data on waste generation volumes in the Fergana region.

At the first stage of the study, the main categories of production waste management mechanisms were identified and systematized. Based on an analysis of scientific literature and international practice, three groups of mechanisms were

distinguished: regulatory-legislative, economic-incentive, and technological-organizational mechanisms. Their interrelationship and complementarity form the basis of an integrated waste management system within the circular economy.

Regulatory-legislative mechanisms include standards for waste generation, requirements for waste classification and accounting, mandatory environmental impact assessments, and restrictions on the disposal of secondary raw materials. In Uzbekistan, the legal framework for waste management is defined by the Law "On Production and Consumption Waste" and a number of subordinate regulatory acts. However, studies indicate that the existing regulatory system requires further development in the area of incentives for the reuse of industrial waste [5, p. 38].

Economic-incentive mechanisms play a key role in motivating enterprises to reduce waste and expand secondary resource utilization. These include tax benefits for enterprises implementing closed-loop production technologies, differentiated waste disposal fees, state support for waste processing infrastructure, and green procurement systems. International experience shows that the economic stimulation of circular practices leads to a significant reduction in waste disposal volumes and an increase in the share of secondary raw materials in production [6].

Technological-organizational mechanisms encompass both technical solutions — such as resource-saving technologies, waste processing equipment, and production line optimization — and organizational approaches, including waste audit systems, environmental management standards (ISO 14001), and digital monitoring platforms. The use of digital technologies enables real-time tracking of waste generation across all stages of production and facilitates data-driven management decision-making [7, p. 21].

The main stages of the production waste management process in a circular economy and their interconnections are presented in Figure 1.

Figure 1. Integrated model of production waste management mechanisms in a circular economy

As shown in Figure 1, the integrated model of production waste management within a circular economy encompasses four interrelated stages: waste generation assessment, classification and monitoring, selection and application of management mechanisms, and evaluation of results with feedback adjustment. The regulatory, economic, and technological mechanisms operate simultaneously at each stage, reinforcing one another and forming a coherent management system.

A practical analysis conducted on the basis of industrial enterprises in the Fergana region confirmed that enterprises implementing an integrated approach to waste management achieve a 25–40% reduction in waste disposal costs and a 15–20% increase in the share of secondary raw materials used in production within 2–3 years. The most significant results were recorded at enterprises that combined digital monitoring systems with economic incentive mechanisms and received state support for the modernization of waste processing infrastructure.

CONCLUSION

The results of the study confirm that the effective management of production waste within the circular economy requires an integrated application of regulatory-legislative, economic-incentive, and technological-organizational mechanisms. Each of the identified groups of mechanisms independently provides only a partial solution to the problem; their systemic combination ensures the formation of a full-cycle waste management system.

The analysis showed that the introduction of digital monitoring platforms significantly increases the transparency and controllability of waste flows, creating the informational foundation for management decision-making. At the same time, the effectiveness of digital tools is substantially enhanced when combined with economic incentives that motivate enterprises to actively engage in secondary resource utilization.

At the regional level, the implementation of integrated waste management mechanisms in the Fergana region can contribute not only to reducing the

environmental burden of industrial production but also to the formation of new economic activity sectors based on waste processing. This is consistent with the strategic objectives of sustainable development of Uzbekistan's economy and the priorities of the national circular economy policy.

Further research should focus on developing quantitative models for assessing the economic efficiency of specific waste management mechanisms at the enterprise level, as well as on studying the potential for creating inter-enterprise waste exchange systems at the regional level.

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DIGITIZATION PROCESSES IN GLOBAL NAVOI STUDIES AND THEIR ANALYSIS FROM THE POINT OF VIEW OF MEDIA LITERACY

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Abstract. *This article discusses the importance of digitization processes in the study and promotion of the heritage of Alisher Navoi and their analysis from the point of view of media literacy. In global Navoi studies, the experiences of presenting Navoi's works based on electronic libraries, digital archives, open educational platforms and multimedia tools are analyzed. Also, special attention is paid to the issues of developing information culture, critical thinking and information evaluation skills in the digital environment. The results of the study scientifically substantiate the need to form media literacy competencies in the study of Navoi's heritage.*

Keywords: *Alisher Navoiy, digitization, global Navoiy studies, media literacy, information culture, digital education, electronic resources.*

Аннотация. *В данной статье подчеркивается важность процессов цифровизации в изучении и популяризации наследия Алишера Навои и их анализ с точки зрения медиаграмотности. В рамках глобальных исследований творчества Навои анализируется опыт представления работ Навои с использованием электронных библиотек, цифровых архивов, открытых образовательных платформ и мультимедийных инструментов. Особое внимание также уделяется вопросам развития информационной культуры, критического мышления и навыков оценки информации в цифровой среде. Результаты исследования научно обосновывают необходимость формирования компетенций в области медиаграмотности при изучении наследия Навои.*

Ключевые слова: *Алишер Навои, цифровизация, медиаграмотность, информационная культура, цифровое образование.*

INTRODUCTION

In today's conditions of globalization and digital transformation, the preservation, promotion and integration of cultural and spiritual heritage into the educational process is one of the important tasks. The legacy of Alisher Navoi occupies a special place not only in Uzbek literature, but also in the history of world culture and civilization. In recent years, new scientific approaches have been formed in global Navoi studies to digitize Navoi's works, create electronic resources and use them in the educational process. At the same time, the formation of skills for the correct perception, analysis and evaluation of information presented in a digital environment is closely related to media literacy. This article analyzes these issues from a scientific and theoretical perspective.

MAIN PART

The formation of digitization processes in global Navoi studies is closely related to the development of science in the 21st century and has created a completely new - digital-humanitarian - approach to the study of the heritage of Alisher Navoi. This process serves not only to expand existing scientific research, but also to improve their methodological foundations.

First of all, as a result of digitization, manuscript and lithographic copies of Navoi's works are being transferred to high-resolution electronic formats and are being transformed into open information resources for the global scientific community. This allows remote access to sources that were previously available only by visiting specific libraries or archives. As a result, researchers have the opportunity to simultaneously compare sources from different countries and conduct textual analysis, without geographical restrictions.

Secondly, the formation of electronic libraries and digital manuscript funds has increased the systematic nature of scientific research. With the help of special metadata, cataloging systems and search algorithms, the possibility of rapid scientific comparison between different variants, translations and commentaries of Navoi's works has been created. This creates the basis for determining the

authenticity of texts, achieving new results in variantology, textology and philological research.

Thirdly, Navoi's heritage is presented in an interactive form through online scientific databases and platforms (for example, digital humanitarian projects). In this case, texts are studied not only for reading, but also on the basis of modern technologies such as linguistic analysis, semantic mapping, stylistic modeling. With the help of artificial intelligence and big data (Big Data) technologies, the lexical layer, the system of artistic images, and poetic styles in Navoi's work are being deeply analyzed.

The digitization process also serves to popularize Navoi's heritage. Through various multimedia platforms, electronic textbooks and mobile applications, studying Navoi's works is becoming more convenient and interesting for the general public, especially the younger generation. This is becoming an effective means of preserving cultural heritage and passing it on to future generations.

In conclusion, digitization processes in global Navoi studies are bringing the study of Alisher Navoi's heritage to a qualitatively new level, expanding the scope of scientific research, increasing its accuracy and effectiveness, and promoting cultural heritage on a global scale.Formation of digitization processes in global Navoi studies Currently, the study of Navoi's heritage is reaching a new technological level worldwide. Free access to Navoi's works is being created through electronic libraries, digital manuscript funds, and online scientific databases. This process ensures the openness and integration of scientific research and brings Navoi studies to the global scientific arena. The didactic capabilities of digital resources and electronic platforms are becoming more and more perfect in the current information age. Digitized Navoi's works are presented not only in text form, but also in audio, video, infographics, and interactive formats. This expands the possibilities of using multimedia technologies in the educational process. Especially

in the subject of "Media Literacy and Information Culture", such resources serve as an effective tool for teaching students to critically analyze information.

Analysis from the point of view of media literacy, along with the widespread dissemination of Navoi's heritage in the digital environment, issues of information reliability, source quality and copyright are of urgent importance. One of the main tasks of media literacy is to form in students the skills of:

- selecting and evaluating information;
- comparing sources;
- identifying incorrect or distorted information.

The process of studying Navoi's works in a digital environment serves to improve the information culture of students. Students acquire critical thinking skills through comparative analysis of texts, annotations, translations and comments. This develops not only their literary, but also general information competencies. The process of studying Navoi's works in a digital environment is an important pedagogical factor in the formation and development of students' information culture. Studying the legacy of the great thinker Alisher Navoi through digital platforms, electronic libraries, multimedia resources, and interactive educational tools allows students to not only read the literary text, but also analyze it in many ways. The process of comparative study of text variants, scientific annotations, dictionary comments, translations, and researchers' opinions presented in a modern digital environment activates students' analytical thinking.

By comparing different editions or translations of the same text, students acquire the skills of assessing the reliability of information, critically analyzing sources, and drawing scientific conclusions. In this process, they master important information competencies such as searching, sorting, systematizing, and processing information through practical activities. In particular, the use of digital annotation tools, electronic dictionaries, and text analysis programs develops students' independent learning competencies. Also, studying Navoi's works in digital format

serves to form media and information literacy in students. Students learn to determine the veracity, scientificity, and source reliability of information when working with various Internet sources. As a result, they also acquire important competencies such as operating as a conscious user in the digital space, adhering to the principles of information security, and academic honesty. This process comprehensively develops not only the literary and aesthetic thinking of students, but also their general information culture, communicative activity, and critical thinking skills. Therefore, studying Navoi's heritage in a digital educational environment is an effective means of improving students' intellectual and informational competencies as an integrative pedagogical approach in modern higher education.

CONCLUSION

The results of the study show that the processes of digitization in global Navoi studies are creating new opportunities for studying and promoting the heritage of Alisher Navoi. Analyzing these processes from the point of view of media literacy serves to develop information culture and critical thinking in the educational process. Therefore, studying Navoi's heritage through digital educational resources and integrating it with media literacy is one of the important directions of modern pedagogy.

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INNOVATSION TIZIMINI RIVOJLANTIRISHDA KICHIK INNOVATSION KORXONALAR FAOLIYATINING MOHIYATI VA O‘ZIGA XOS XUSUSIYATLARI

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Annotatsiya *Mazkur tadqiqotda kichik innovatsion korxonalar faoliyatining iqtisodiy mohiyati, ularning innovatsion tizimdagi o‘rni hamda rivojlanishiga ta’sir etuvchi omillar statistik va nazariy yondashuvlar asosida tahlil qilinadi. Mazkur maqoladagi tadqiqot natijalari asosida kichik innovatsion korxonalar innovatsion faollikning asosiy drayveri sifatida milliy iqtisodiyotda yuqori qo‘shilgan qiymat yaratishda muhim rol’ o‘ynashi haqida ma’lumotlar to‘liq yoritilgan*

Kalit so‘zlar: *kichik innovatsion korxonalar, innovatsion tizim, innovatsion faollik, infratuzilma, startap, startap ekotizimi, iqtisodiy o‘sish, texnologik rivojlanish.*

Аннотация. *В данном исследовании на основе статистических и теоретических подходов анализируется экономическая природа деятельности малых инновационных предприятий, их роль в инновационной системе и факторы, влияющие на их развитие. На основе результатов исследования в статье всесторонне демонстрируется важная роль малых инновационных предприятий в создании высокой добавленной стоимости в национальной экономике как основного двигателя инновационной деятельности.*

Ключевые слова*: малые инновационные предприятия, инновационная система, инновационная деятельность, инфраструктура, стартап, стартап-экосистема, экономический рост, технологическое развитие*

Abstract: *This study, using statistical and theoretical approaches, analyzes the economic nature of small innovative enterprises, their role in the innovation system, and the factors influencing their development. Based on the research results, the article comprehensively*

demonstrates the important role of small innovative enterprises in creating high added value in the national economy as the primary driver of innovation.

Keywords: *small innovative enterprises, innovation system, innovation activity, infrastructure, startup, startup ecosystem, economic growth, technological development*

KIRISH

So‘nggi yillarda global iqtisodiyotda innovatsiyalarga asoslangan rivojlanish modeli ustuvor yo‘nalishga aylanib bormoqda. Xalqaro tajriba shuni ko‘rsatadiki, kichik innovatsion korxonalar umumiy korxonalar sonining 90 foizdan ortig‘ini tashkil etib, yangi ish o‘rinlarining 60 - 70 foizini yaratadi. Shu bilan birga, rivojlangan mamlakatlarda YaIM o‘sishining 50 foizdan ortig‘i aynan innovatsiyalar hissasiga to‘g‘ri keladi. 2025-yilning 1-yanvar holatiga faoliyat yuritayotgan kichik korxona va mikrofirmalar soni 358,1 mingtani tashkil etdi. Kichik tadbirkorlik subyektlarining soni har 1000 aholiga 12,1 p.t. birlikni tashkil qildi. 2025-yil 1-yanvar holatiga faoliyat yuritayotgan kichik korxona va mikrofirmalar (fermer va dehqon xo‘jaliklarisiz) soni jami 358116 tani, shundan yangi tashkil etilganlari 77046 ta qayd etilgan. 2025-yilning 1-yanvar holatiga ko‘ra hududlar bo‘yicha faoliyat yuritayotgan kichik korxona va mikrofirmalarning eng ko‘pi Toshkent shahrida 84453 tani yoki jamiga nisbatan 23,6,% ni, Toshkent viloyatida 34 389 tani yoki jamiga nisbatan 9,6 % ni va Samarqand viloyatida 31,470 tani yoki 8,8 % ni tashkil etdi. O‘zbekiston iqtisodiyotida ham kichik biznes ulushi yuqori bo‘lib, so‘nggi yillarda innovatsion faoliyat ko‘rsatkichlari sezilarli darajada oshib bormoqda. Xususan, statistik ma’lumotlarga ko‘ra, innovatsion faoliyat bilan shug‘ullanuvchi korxonalar ulushi 2018-yildagi 8,5 foizdan 2023-yilda 18 foizga yetgan.

TADQIQOT METODOLOGIYASI: Tadqiqot quyidagi metodlar asosida amalga oshirildi:

statistik va ekonomitrik tahlillar;

iqtisodiy-qiyosiy usul;

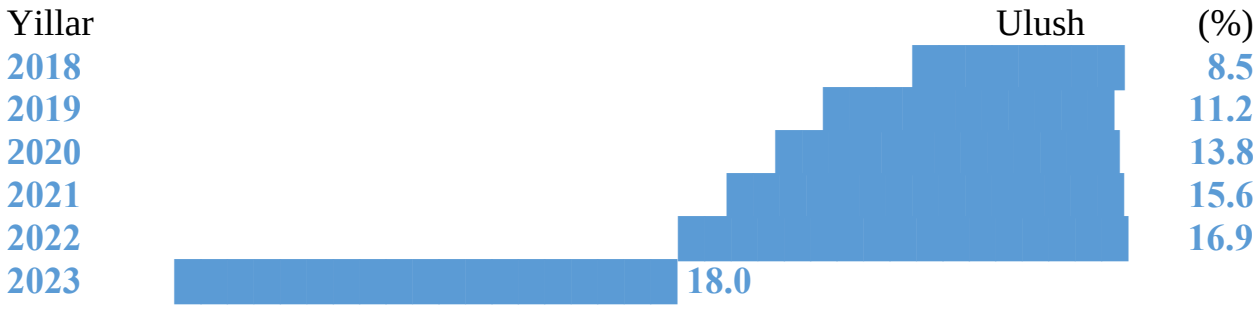
tizimli yondashuv;

analitik umumlashtirish;

Shuningdek, innovatsion rivojlanish ko‘rsatkichlari asosida kichik innovatsion korxonalarning iqtisodiy samaradorligi baholandi.

TAHLILLAR VA NATIJALAR

Tahlillar va natijalar shuni ko‘rsatadiki, kichik innovatsion korxonalar bilimlarni iqtisodiy qiymatga aylantirish mexanizmining muhim elementi hisoblanadi. Ular innovatsion mahsulotlar ishlab chiqish, yangi texnologiyalarni joriy etish va ilmiy ishlanmalarni tijoratlashtirish orqali iqtisodiyotda yuqori qo‘shilgan qiymat yaratadi. Quyidagi gistogramma innovatsion faol korxonalar ulushining o‘sishini ifodalaydi:



1-rasm. Kichik innovatsion korxonalarning rivojlanish dinamikasi

Mazkur dinamik o‘sish innovatsion muhitning asta-sekin shakllanayotganini ko‘rsatadi. Ushbu diagrammadan ko‘rinadiki, eng past ko‘rsatkich 2018-yilda kichik innovatsion korxonalarning YaIM dagi ulushi 8,5 % ni tashkil etgan bo‘lsa, eng yuqori ko‘rsatkich esa 2023-yilda kichik innovatsion korxonalarning YaIM dagi ulushi 18,0 % ni tashkil etmoqda.

Kichik innovatsion korxonalarning o‘ziga xos xususiyatlari Tahlil natijalari quyidagi tizimli xususiyatlarni aniqladi:

- yuqori moslashuvchanlik (bozor o‘zgarishlariga tez javob berish)
- yuqori risk darajasi (innovatsion loyihalarning noaniqligi)
- resurslar cheklanganligi (moliyaviy va moddiy)
- intellektual kapital ustuvorligi
- innovatsion ekotizim bilan integratsiya darajasi

Kichik innovatsion korxonalar rivojlanishiga ta’sir etuvchi asosiy omillar ulushi quyidagicha:

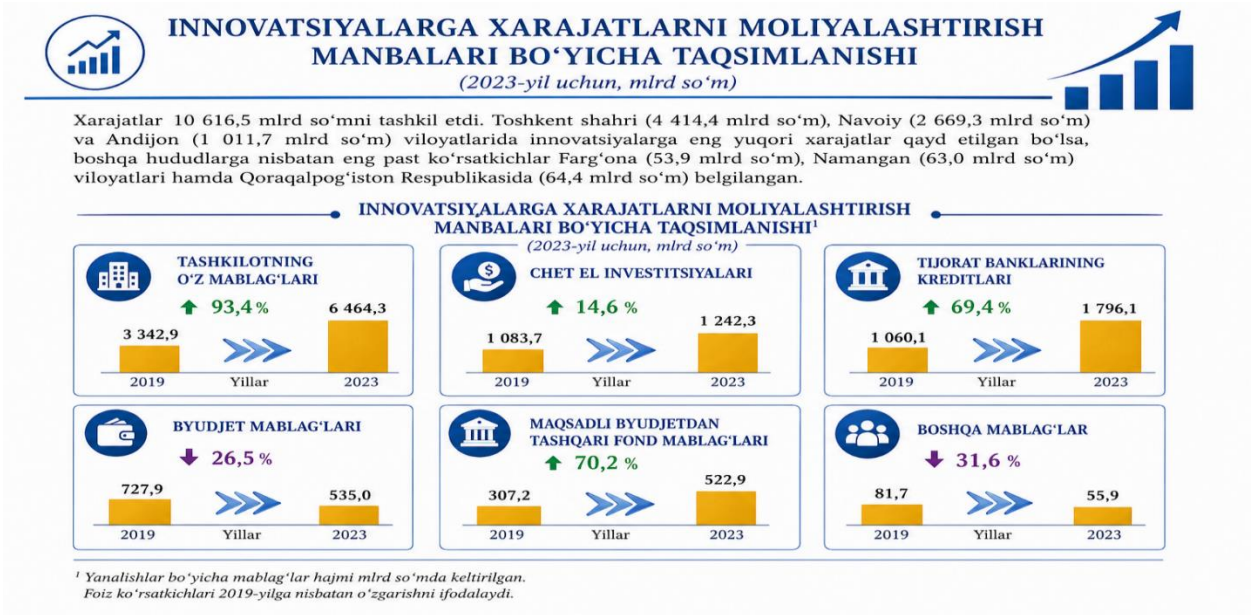


Natijalar shuni ko‘rsatadiki, infratuzilmaviy ta’minot eng muhim determinant hisoblanadi.

Olingan natijalar kichik innovatsion korxonalar innovatsion tizimning eng dinamik segmenti ekanligini tasdiqlaydi. Ular innovatsion jarayonlarni tezlashtirishda muhim rol o‘ynaydi, biroq ularning rivojlanishi bir qator tizimli muammolar bilan cheklanadi. Xususan:

- moliyaviy resurslarga kirish imkoniyatining pastligi
- innovatsion infratuzilmaning hududlar bo‘yicha notekis rivojlanishi
- malakali kadrlar yetishmasligi

Shu bilan birga, statistik tahlillar shuni ko‘rsatadiki, infratuzilma rivojlangan hududlarda innovatsion korxonalar soni o‘rtacha 2 barobar yuqori.



Kichik innovatsion korxonalarda xarajatlar tarkibi tahlili

Quyidagi diagramma kichik innovatsion korxonalar xarajatlarining tarkibiy tuzilishini aks ettiradi:

Ish haqi fondi – 69%

Joriy xarajatlar – 13%

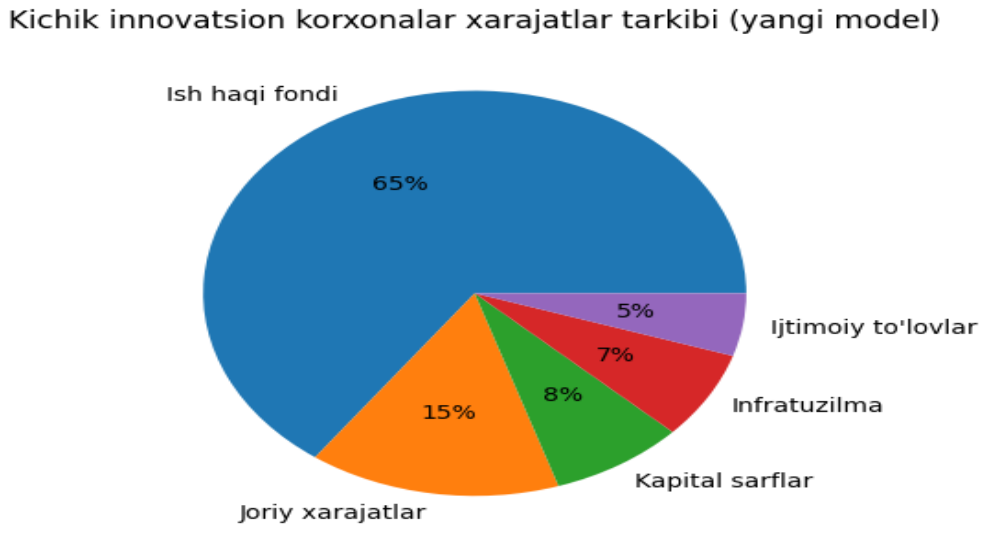
Kapital sarflar – 6%

Infratuzilma ta’minoti – 7%

Ijtimoiy to‘lovlar – 5%

Mazkur taqsimot kichik innovatsion korxonalar faoliyatida inson kapitali ustuvor omil ekanligini ko‘rsatadi. Ish haqi fondining 69% ulushni egallashi quyidagi holatlar bilan izohlanadi:

1. Innovatsion faoliyatning bilim va malakaga asoslanganligi
2. Yuqori malakali mutaxassislarga ehtiyoj
3. Ilmiy-tadqiqot ishlari ulushining yuqoriligi
4. Joriy xarajatlarning (13%) nisbatan yuqori ulushi esa ishlab chiqarish va operatsion jarayonlarning barqarorligini ta’minlash zarurati bilan bog‘liq. Kapital sarflarning past ulushi (6%) kichik innovatsion korxonalarda moddiy aktivlarga emas, balki nomoddiy aktivlarga (intellektual kapitalga) ustuvorlik berilishini anglatadi. Infratuzilma (7%) va ijtimoiy to‘lovlar (5%) ulushining nisbatan pastligi esa quyidagi muammolar mavjudligini ko‘rsatadi: infratuzilma yetarli darajada rivojlanmagan



XULOSA VA TAKLIFLAR:

Tadqiqot natijalari asosida quyidagi xulosalar shakllantirildi:

- kichik innovatsion korxonalar innovatsion tizimning asosiy harakatlantiruvchi kuchi hisoblanadi
- ularning rivojlanish dinamikasi ijobiy tendensiyaga ega
- infratuzilma, moliyalashtirish va kadrlar omili asosiy determinantlar hisoblanadi

Kelgusida quyidagi yo‘nalishlarda islohotlarni kuchaytirish zarur:

- innovatsion infratuzilmani hududiy kengaytirish
- venchur moliyalashtirish mexanizmlarini rivojlantirish
- ilm-fan va biznes integratsiyasini chuqurlashtirish

Joriy xarajatlarning (13%) nisbatan yuqori ulushi esa ishlab chiqarish va operatsion jarayonlarning barqarorligini ta’minlash zarurati bilan bog‘liq. Kapital sarflarning past ulushi (6%) kichik innovatsion korxonalarda moddiy aktivlarga emas, balki **nomoddiy aktivlarga (intellektual kapitalga)** ustuvorlik berilishini anglatadi. Infratuzilma (7%) va ijtimoiy to‘lovlar (5%) ulushining nisbatan pastligi esa quyidagi muammolar mavjudligini ko‘rsatadi: infratuzilma yetarli darajada rivojlanmaganMazkur taqsimot kichik innovatsion korxonalar faoliyatida **inson kapitali ustuvor omil** ekanligini ko‘rsatadi. Ish haqi fondining 69% ulushni egallashi quyidagi holatlar bilan izohlanadi:

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- yuqori malakali mutaxassislarga ehtiyoj
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- davlat tomonidan qo‘llab-quvvatlash mexanizmlari hali to‘liq samarali emas

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9. Ilmiy maqolalar (Scopus bazasi).
10. Milliy iqtisodiy tadqiqotlar hisobotlari.

VALYUTA RISKLARINI BOSHQARISHDA TIJORAT BANKLARI DERIVATIV BITIMLARINI ISDA (INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION) STANDARTLARI ASOSIDA TUZISHNING ROLI

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Annotatsiya: *Mazkur maqolada tijorat banklarida valyuta derivativ bitimlarini ISDA standart hujjatlari asosida tuzishning ahamiyati tahlil qilinadi. Tadqiqotda ISDA asosida tuzilgan bitimlarning afzalliklari o‘rganildi. Natijalar ISDA doirasida qo‘llaniladigan netting va ta’minot mexanizmlari qarshi tomon riskini kamaytirishini hamda hedging samaradorligini oshirishini ko‘rsatdi. O‘zbekiston sharoitida derivativ operatsiyalarni rivojlantirish imkoniyatlari baholanib, ISDA standartlarini joriy etish zarurligi asoslandi.*

Kalit so‘zlar: *valyuta riski, derivativ bitimlar, ISDA standartlari, hedging, netting, ta’minot (collateral), qarshi tomon riski.*

Аннотация: *В данной статье анализируется значение заключения валютных деривативных сделок коммерческими банками на основе стандартных документов ISDA. В исследовании изучены преимущества сделок, заключённых в рамках ISDA. Результаты показали, что применяемые в рамках ISDA механизмы неттинга и обеспечения (collateral) способствуют снижению риска контрагента и повышению эффективности хеджирования. В условиях Узбекистана оценены возможности развития деривативных операций и обоснована необходимость внедрения стандартов ISDA.*

Ключевые слова: *валютный риск, деривативные сделки, стандарты ISDA, хеджирование, неттинг, обеспечение (collateral), риск контрагента*

Abstract:*This article analyzes the importance of structuring foreign exchange derivative transactions in commercial banks based on the standard documentation of ISDA. The study examines the advantages of ISDA-based agreements. The findings show that netting and collateral*

mechanisms applied under ISDA reduce counterparty risk and enhance hedging effectiveness. In the context of Uzbekistan, the opportunities for developing derivative operations are assessed, and the necessity of implementing ISDA standards is substantiated.
Keywords: *exchange rate risk, derivative transactions, ISDA standards, hedging, netting, collateral, counterparty risk*

KIRISH

Valyuta kurslarining o‘zgaruvchanligi tijorat banklarida valyuta risklarini boshqarishni muhim vazifaga aylantirmoqda. Ochiq valyuta pozitsiyalarining ortishi banklar barqarorligiga salbiy ta’sir ko‘rsatishi mumkin. Bunday sharoitda derivativ instrumentlardan foydalanish risklarni kamaytirishningning zamonaviy va samarali vositasi hisoblanadi. Biroq derivativ bitimlarning samaradorligi ularning huquqiy asoslariga ham bog‘liq.

Xalqaro amaliyotda derivativ bitimlar ISDA standart hujjatlari asosida tuziladi. Ushbu standartlar netting (bu ikki tomon o‘rtasidagi bir nechta moliyaviy majburiyatlarni o‘zaro hisoblash) va ta’minot mexanizmlari (derivativ bitim bo‘yicha qarshi tomon riskini kamaytirish uchun tomonlar tomonidan qo‘yiladigan garov mablag‘lari yoki aktivlar) orqali qarshi tomon riskini kamaytiradi hamda hedjing samaradorligini oshiradi.

O‘zbekiston sharoitida derivativ operatsiyalarni rivojlantirish zarurati mavjud. Shu bois maqolaning maqsadi ISDA standartlari asosida tuzilgan bitimlarning ahamiyatini tahlil qilish va ularni amaliyotga joriy etish zarurligini asoslashdan iborat.

Mavzuga oid adabiyotlar sharhi: Valyuta risklarini boshqarish masalalari ko‘plab xorijiy va mahalliy olimlar tomonidan tadqiq etilgan. Xalqaro miqyosda Bank for International Settlements (BIS), Xalqaro Valyuta Jamg‘armasi (IMF) va Basel qo‘mitasi tomonidan ishlab chiqilgan tadqiqot va standartlarda bank risklarini boshqarishning institutsional asoslari yoritilgan. Basel II va Basel III standartlarida

valyuta risklari bozor risklari tarkibida ko‘rib chiqilib, ularni kapital orqali qoplash mexanizmlari belgilangan.

Shuningdek, ilmiy adabiyotlarda valyuta risklarining mohiyati, ularning bank faoliyatiga ta’siri hamda ayrim boshqaruv mexanizmlari keng yoritilgan. Jumladan, F. Mishkin, J. Hull, V.A. Kazakov va S. Walters tadqiqotlarida valyuta risklarining nazariy asoslari ochib berilgan. Shu bilan birga, mahalliy olimlar — T.I. Bobakulov, U.A. Abdullayev va J.X. Ataniyazov asarlarida valyuta risklari va xalqaro moliyaviy munosabatlar bank tizimi nuqtayi nazaridan tahlil qilingan.

Mazkur ilmiy manbalarda valyuta risklarining nazariy asoslari hamda derivativ instrumentlardan foydalanish yondashuvlari yoritilgan bo‘lsa-da, ularni tijorat banklarida derivativ bitimlarni ISDA standart hujjatlari asosida tashkil etish bilan bog‘liq holda O‘zbekiston bank tizimi sharoitiga mos tarzda tizimlashtirish va amaliy mexanizmlarini ishlab chiqish masalasi yetarli darajada o‘rganilmagan. Shu sababli, derivativ operatsiyalarni ISDA asosida tashkil etish orqali valyuta risklarini boshqarish samaradorligini oshirishga qaratilgan ilmiy izlanishlar dolzarbligicha qolmoqda. Shu bilan birga, xalqaro tajribani milliy bank tizimiga moslashtirish hamda derivativ bitimlar bo‘yicha yagona huquqiy va institutsional tizimni shakllantirish masalalari yetarli darajada ilmiy asoslanmagan.

Tadqiqot metodologiyasi:

Mazkur tadqiqotda tizimli va mantiqiy tahlil, solishtirma tahlil hamda statistik ma’lumotlarni umumlashtirish usullaridan foydalanildi. Xorijiy va milliy banklar amaliyotida derivativ bitimlarni ISDA standart hujjatlari asosida tuzish tajribasi o‘rganildi. Tadqiqot jarayonida ISDA asosida va ISDA siz tuzilgan derivativ bitimlar samaradorligi solishtirilib, netting va ta’minot (collateral) mexanizmlarining qarshi tomon riskiga ta’siri tahlil qilindi. Shuningdek, valyuta kurslari o‘zgarishi sharoitida derivativ operatsiyalarning bank balansiga ta’siri modellashtirildi hamda ISDA standartlarini O‘zbekiston bank tizimi sharoitida joriy etish imkoniyatlari baholandi.

Tahlil va natijalar:

Tadqiqot natijalari shuni ko‘rsatadiki, tijorat banklarida derivativ operatsiyalarni ISDA standartlari asosida tashkil etish darajasi mamlakatlar kesimida sezilarli farqlanadi va bu holat valyuta risklarini boshqarish samaradorligiga bevosita ta’sir ko‘rsatadi. Rivojlangan moliya bozorlarida derivativ bitimlarning asosiy qismi ISDA Master Agreement asosida tuziladi, bu esa netting va ta’minot (collateral) mexanizmlarining to‘liq ishlashini ta’minlaydi. Natijada qarshi tomon riski minimallashtiriladi va hedjing operatsiyalarining samaradorligi yuqori darajada ta’minlanadi. Amaliyotda ISDA asosan xalqaro kontragentlar bilan tuziladigan bitimlarda qo‘llaniladi. Buning sabablari:

- yagona huquqiy baza zarurligi;
- xorijiy banklar ISDA bo‘lmasa bitimga kirmasligi;
- netting va ta’minot (collateral) mexanizmlarini xalqaro darajada tan olishi.

O‘zbekiston bank tizimida esa derivativ operatsiyalar hali rivojlanish bosqichida bo‘lib, ISDA standartlarini qo‘llash amaliyoti keng tarqalmagan. Banklar asosan oddiy valyuta bitimlari bilan cheklanib qolmoqda, ko‘p holatlarda mahalliy shartnomalarda soddalashtirilgan shartnomalar tuziladi. Bu esa risklarni boshqarishda cheklovlarni yuzaga keltirmoqda.

Tahlillar shuni ham ko‘rsatadiki, ISDA standartlari asosan xalqaro kontragentlar bilan tuziladigan bitimlarda qo‘llaniladi. Buning asosiy sababi turli yurisdiktsiyalar o‘rtasida yagona huquqiy platformaga bo‘lgan ehtiyojdir. Biroq mahalliy bozorda ushbu standartlarning yetarli darajada joriy etilmaganligi qarshi tomon riskining yuqori darajada saqlanib qolishiga va hedging mexanizmlarining to‘liq ishlamasligiga olib kelmoqda. Shu sababli, ISDA standartlarini faqat xalqaro operatsiyalar doirasida emas, balki milliy moliya bozorida ham keng joriy etish zarur.

Umuman olganda, tadqiqot natijalari derivativ operatsiyalar samaradorligi ularni amalga oshirish mexanizmlaridan ko‘ra ko‘proq ularning huquqiy va institutsional asoslariga bog‘liqligini ko‘rsatadi. ISDA standartlarini joriy etish orqali tijorat banklarida valyuta risklarini boshqarish tizimini takomillashtirish, moliyaviy barqarorlikni mustahkamlash hamda xalqaro moliya bozorlariga integratsiyani chuqurlashtirish mumkin.

XULOSA VA TAKLIFLAR:

Tadqiqot natijalari shuni ko‘rsatadiki, tijorat banklarida valyuta derivativ bitimlarini ISDA standartlari asosida tashkil etish valyuta risklarini boshqarish samaradorligini oshiradi. Mavjud amaliyotda matching siyosati yetarli bo‘lmay, derivativ va huquqiy mexanizmlarni rivojlantirish zarur. Shu bois, ISDA standartlarini bosqichma-bosqich joriy etish, derivativ bitimlarda netting va ta’minot mexanizmlarini huquqiy jihatdan mustahkamlash, bank xodimlarining malakasini oshirish hamda derivativ operatsiyalar uchun yagona huquqiy bazani shakllantirish maqsadga muvofiqdir. Mazkur choralar tijorat banklarining barqarorligini oshirish va ularning xalqaro moliya bozorlariga integratsiyasini kuchaytirishga xizmat qiladi.

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ҚУРИЛИШ МАТЕРИАЛЛАРИ САНОАТИ КОРХОНАЛАРИНИНГ ИҚТИСОДИЙ САЛОҲИЯТИНИ БАҲОЛАШ УСУЛЛАРИ

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Аннотация: *Ушбу мақолада қурилиш материаллари саноати корхоналарининг иқтисодий салоҳиятини баҳолашнинг асосий усуллари тизимли равишда кўриб чиқилган. Иқтисодий салоҳиятни баҳолашда қўлланиладиган миқдорий ва сифатий таҳлил усуллари — жумладан, ресурс ёндашуви, натижавий ёндашув, омиллар таҳлили ва интеграл баҳолаш методологиялари — тадқиқ этилган. Тадқиқот натижалари қурилиш материаллари саноати корхоналарида иқтисодий салоҳиятни объектив баҳолашга имкон берувчи комплекс усулий база яратишга хизмат қилади.*

Калит сўзлар: *иқтисодий салоҳият, қурилиш материаллари саноати, баҳолаш усуллари, ресурс ёндашуви, интеграл кўрсаткич, рақобатбардошлик.*

Abstract: *This article systematically examines the main methods for assessing the economic potential of enterprises in the construction materials industry. Quantitative and qualitative analysis methods used in assessing economic potential are investigated, including the resource approach, the result-based approach, factor analysis, and integral assessment methodologies. The research results serve to create a comprehensive methodological base for objective assessment of economic potential in construction materials industry enterprises.*

Keywords: *economic potential, construction materials industry, assessment methods, resource approach, integral indicator, competitiveness.*

КИРИШ

Қурилиш материаллари саноати мамлакатнинг иқтисодий инфратузилмасини шакллантиришда муҳим роль ўйнайдиган тармоқлардан

биридир. Ўзбекистон Республикасида қурилиш индустриясининг жадал ривожланиши, шаҳарсозлик дастурларининг кенгайиши ва инвестицион фаолликнинг ошиши фонида мазкур тармоқ корхоналарининг иқтисодий салоҳиятини тўғри баҳолаш масаласи тобора долзарб аҳамият касб этмоқда.

Иқтисодий салоҳият — корхонанинг мавжуд ва яширин имкониятларини, ресурслар базасини ва бозор рақобатида ғалаба қозониш қобилиятини ифодаловчи мураккаб иқтисодий категориядир. Ушбу тушунчанинг кўп қиррали табиати уни баҳолаш методологиясини шакллантиришда бир қатор методологик муаммоларни вужудга келтиради.

Мақоланинг мақсади — қурилиш материаллари саноати корхоналарига мослашган иқтисодий салоҳиятни баҳолашнинг замонавий усулларини тизимлаштириш ва уларнинг амалий қўлланилиш имкониятларини аниқлашдан иборат. Мақолада тармоқнинг ўзига хос хусусиятлари инобатга олинган ҳолда комплекс баҳолаш тизими таклиф этилади.

Иқтисодий салоҳиятни баҳолаш масаласи жаҳон иқтисодий адабиётида кенг ўрин эгаллаган. Хорижий иқтисодчилар орасида М. Портернинг рақобатбардошлик назарияси, И. Ансоффнинг стратегик ресурслар концепцияси ва Р. Грантнинг ресурсга асосланган ёндашуви асосий назарий пойдеворни ташкил этади.

Россия молиявий таҳлил мактабида Л. Гиляровская, А. Ковалёв ва Г. Савицкаларнинг ишлари молиявий салоҳиятни баҳолаш методологиясини ривожлантиришга салмоқли ҳисса қўшган. Хусусан, Савицкаянинг омиллар таҳлили тизими қурилиш материаллари саноати корхоналарига мослаштирилган ҳолда самарали қўлланилиши мумкин.

Ўзбекистон иқтисодий адабиётида ушбу соҳани тадқиқ этган олимлар орасида А. Ортиқов ва А. Қодиров ва бошқаларнинг ишлари алоҳида ўрин тутади. Хусусан, Ортиқовнинг "Саноат иқтисоди" дарслиги ва Қодировнинг мақоласида саноат корхоналари рақобатбардошлигини ошириш масалаларини

қамраб олган. Шунда ҳам, қурилиш материаллари саноатига хос хусусиятларни инобатга олувчи мослашган баҳолаш усуллари ишлаб чиқилмаганлиги мавзунинг янгилигини белгилайди.

1. Иқтисодий салоҳиятнинг таркибий тузилиши

Иқтисодий салоҳиятга нисбатан иқтисодий адабиётда турли ёндашувлар мавжуд. Уларни умумлаштириб, иқтисодий салоҳиятни қуйидагича таърифлаш мумкин: бу — корхонанинг белгиланган мақсадларга эришиш учун мавжуд бўлган барча ресурс имкониятлари, ташкилий қобилиятлари ва бозор лаёқатларининг йиғиндисидир.

Қурилиш материаллари саноати корхоналари учун иқтисодий салоҳиятнинг асосий таркибий қисмлари:

1. Ишлаб чиқариш салоҳияти — заводлар қуввати, технологик жараёнлар, асбоб-ускуна паркининг ҳолати;
2. Молиявий салоҳият — активлар рентабеллиги, молиявий барқарорлик, ликвидлик;
3. Инновацион салоҳият — тадқиқот-ишлаб чиқиш харажатлари, янги маҳсулот улуши;
4. Ресурс салоҳияти — хом ашё базаси, меҳнат ресурслари малакаси, энергия самарадорлиги;
5. Бозор салоҳияти — бозор улуши, мижозлар базаси, дистрибуция тизими.

2. Ресурс ёндашуви

Ресурс ёндашуви корхонанинг иқтисодий салоҳиятини унинг ихтиёридаги ресурсларнинг сони ва сифати орқали аниқлайди. Қурилиш материаллари саноати учун ушбу ёндашув айниқса аҳамиятлидир, чунки тармоқнинг ресурс сиғими ниҳоятда юқори. Ресурс салоҳиятини баҳолашнинг умумлашган формуласи:

$$RS=\sum_{i=1}^{n} k * X_i$$

бу ерда: RS — ресурс салоҳиятининг умумий индекси, Xi— ресурс турлари (меҳнат, капитал, хомашё, инновация ва ҳ.к.), k — ҳар бир ресурснинг оғирлик коэффициенти, n — ресурслар сони.

Ресурс ёндашувининг асосий камчилиги — корхонанинг амалда эришган натижалари инобатга олинмайди. Шу сабабли ушбу усул натижавий ёндашув билан биргаликда қўлланилган тақдирда юқори аниқликни таъминлайди.

3. Натижавий ёндашув ва молиявий кўрсаткичлар

Натижавий ёндашув корхонанинг амалда эришган иқтисодий натижаларини асос қилиб олади. Ушбу усулда қуйидаги кўрсаткичлар тизими қўлланилади (1-жадвал):

1-жадвал

Қурилиш материаллари саноати корхоналарининг иқтисодий салоҳиятини баҳолашнинг асосий кўрсаткичлари[17]

Кўрсаткич	Формула	Иқтисодий мазмуни
Умумий рентабеллик	ROE=(Соф фойда / Ўз капитали)×100%	Ўз капиталининг самарадорлиги
Активлар рентабеллиги	ROA=(Соф фойда / Жами активлар)×100%	Барча ресурслардан фойдаланиш самарадорлиги
Сотиш рентабеллиги	ROS=(Фойда / Тушум (соф сотиш))×100%	Ҳар бир сўм тушумдан олинган фойда
Қувватлар бандлиги	$K_{иб}$=Ишлаб чиқариш ҳажми / Максимал қувват×100%	Ишлаб чиқариш қувватларидан фойдаланиш даражаси

1. [17] Davis, J.A. (2012). Return on Equity. In *Measuring Marketing: 110+ Key Metrics Every Marketer Needs* (2nd ed.). Wiley Online Library. https://doi.org/10.1002/9781119199205.ch8

Меҳнат унумдорлиги	МУ=Ишлаб чиқарилган маҳсулот (сотиш)/ Барча ходимлар сони	Ҳар бир ходимга тўғри келадиган маҳсулот ҳажми

Қурилиш материаллари саноатидаги ўртача ROA кўрсаткичи 2022 йилда 8,4% ни ташкил этган. Ушбу кўрсаткич корхона даражасида таҳлил қилинганда тармоқда салоҳиятдан фойдаланишнинг сезиларли фарқлари мавжудлиги аниқланган.

4. Интеграл баҳолаш методологияси

Интеграл баҳолаш усули — иқтисодий салоҳиятнинг барча ташкил этувчиларини ягона умумлаштирувчи кўрсаткич шаклида ифодалашга имкон берувчи методологиядир. Ушбу усулнинг асосий қадамлари:

6. Таркибий кўрсаткичларни аниқлаш ва нормаллаштириш (0–1 оралиғига келтириш);
7. Экспертлар баҳоси ёки аналитик иерархия жараёни орқали вазнларни белгилаш;
8. Интеграл индексни ҳисоблаш: $I = \sum \omega_i \times X_i$;

Натижаларни эталон кўрсаткичлари билан таққослаш;

9. Стратегик хулосалар чиқариш ва тавсиялар ишлаб чиқиш.

Ушбу усулнинг асосий камчилиги — кўрсаткич вазнларини белгилашда субъективлик хавфининг мавжудлигидир. Вазнларни объективлаштириш мақсадида корреляцион-регрессион таҳлилдан фойдаланилади (2-жадвал).

2-жадвал

Иқтисодий салоҳиятни баҳолаш усулларининг таққослама таҳлили[18]

Усул / Ёндашув	Асосий кўрсаткичлар	Афзалликлари	Камчиликлари

[18]Тадқиқот натижасида муаллиф томонидан тузилган

Ресурс ёндашуви	Асосий фондлар, меҳнат, молия ресурслари	Ресурс базасини тўлиқ баҳолайди	Натижани инобатга олмайди
Натижавий ёндашув	Фойда, рентабеллик, даромад	Амалий натижани аниқ ўлчайди	Яширин имкониятларни кўрсатмайди
Интеграл баҳолаш	Комплекс индекс (I)	Кўп омилли, объектив баҳо беради	Вазнлар субъектив бўлиши мумкин
SWOT-таҳлил	Куч/заиф томон, имкон/таҳдид	Стратегик муҳитни баҳолайди	Миқдорий ўлчов чекланган
Омиллар таҳлили	Дюпон модели, регрессия	Ички омилларни аниқлайди	Юқори даражада маълумот талаб қилинади

5. Тавсия этилган комплекс баҳолаш модели

Тадқиқот натижалари асосида қурилиш материаллари саноати корхоналари учун уч босқичли комплекс баҳолаш модели таклиф этилади: Биринчи босқич — диагностика: Молиявий таҳлил (ROA, ROE, ликвидлик коэффициентлари) ва ишлаб чиқариш тавсифномасини аниқлаш. Ушбу босқичда корхонанинг жорий иқтисодий ҳолати объектив равишда баҳоланади. Иккинчи босқич — салоҳиятни ҳисоблаш: Интеграл индекс асосида ресурс, молиявий ва инновацион салоҳиятни миқдорий жиҳатдан баҳолаш. Ҳар бир таркибий қисм учун вазн коэффициентлари тармоқ ўртача кўрсаткичлари асосида белгиланади. Учинчи босқич — стратегик баҳолаш: SWOT-таҳлил орқали корхонанинг стратегик мавқеини аниқлаш ва рақиблар

билан таққослаш. Натижалар асосида менежмент учун амалий тавсиялар ишлаб чиқилади.

Тадқиқот натижалари қурилиш материаллари саноати корхоналарининг иқтисодий салоҳиятини баҳолашда турли ёндашувларни комплекс қўллаш зарурлигини кўрсатади. Хусусан, ресурс, натижавий, омиллар таҳлили ва интеграл баҳолаш усуллари бир-бирини тўлдириб, корхонанинг ҳам мавжуд имкониятлари, ҳам эришилган натижалари ва ички резервларини ҳар томонлама таҳлил қилиш имконини беради.

Тадқиқотда иқтисодий салоҳиятнинг таркибий қисмлари — ишлаб чиқариш, молиявий, инновацион, ресурс ва бозор салоҳияти сифатида тизимлаштирилгани ушбу тушунчанинг кўп қиррали эканлигини яна бир бор тасдиқлайди. Ресурс ёндашуви корхонанинг имкониятларини очиб берса, натижавий ёндашув унинг самарадорлигини баҳолайди, омиллар таҳлили эса ушбу самарадорликка таъсир этувчи ички омилларни аниқлаш имконини яратади. Интеграл баҳолаш эса барча кўрсаткичларни умумлаштириб, ягона комплекс индекс орқали холис баҳо бериш имконини таъминлайди.

Шу билан бирга, тадқиқотда таклиф этилган уч босқичли комплекс баҳолаш модели (диагностика, салоҳиятни ҳисоблаш ва стратегик баҳолаш) амалиёт учун муҳим аҳамиятга эга бўлиб, у корхоналарнинг жорий ҳолатини баҳолаш, ривожланиш имкониятларини аниқлаш ва стратегик қарорлар қабул қилишда самарали инструмент сифатида хизмат қилади. Ушбу ёндашув қурилиш материаллари саноати корхоналарининг рақобатбардошлигини ошириш ва ресурслардан самарали фойдаланишни таъминлашга хизмат қилади.

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IQTISODIY INQIROZ TUSHUNCHASI VA UNGA TA'SIR QILUVCHI OMILLAR

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Annotatsiya.*Iqtisodiyot hayotning ajralmas qismi va u haqida ma'lumotga ega bo'lish hamma uchun zarur ishga aylanib kelmoqda. Bu sohaning bir qismi iqtisodiy inqiroz hisoblanadi.Mazkur mqolada iqtisodiy inqiroz tushunchasi,uning belgilari, turlari, unga ta'sir qiluvchi omillar va uning oqibatlari haqida ma'lumotlar beriladi.Bu maqolani o'qish orqali dunyodagi mashhur iqtisodiy inqirozlardan Jahon Moliya Inqirozi qanday yo'llar bilan bartaraf etilganligini bilib olishimiz mumkin.*

Kalit so'zlar*: iqtisodiy inqiroz, uning belgilar,turlari, sabablari, oqibatlari, yechimlar, Jahon moliya inqirozi, iqtisodiy inqirozga qarshi islohotlar*

Annotation*. Economics is an inseparable part of life, and having information about it has become a necessary task for everyone. One part of this field is considered an economic crisis. This article provides information on the concept of economic crisis, its signs, types, factors influencing it, and its consequences. By reading this article, we can learn how the famous World Financial Crisis was resolved through various methods.*

Key words*: economic crisis, its signs, types, causes, consequences, solutions, World Financial Crisis, reforms against the economic crisis*

KIRISH

Inqiroz- bu mamlakat yoki butun dunyo iqtisodiyotida keskin pasayish, ishlab chiqarish hajmining kamayishi, ishsizlikning oshishi va moliyaviy tizimdagi muammolar bilan tafsiflanuvchi iqtisodiy taraqqiyotning tanazzul davridir.Uning belgilari sifatida YAIM hajmi kamayishi, ishsizlikning ortishi, inflyatsiya yoki

deflyatsiya kuzatilishi, bank va moliya tizimida muammolar yuzaga kelishi, investitsiyalarning qisqarishi kabi bir qancha misollar keltirishimiz mumkin.

Iqtisodiy inqirozning kelib chiqishi shu davlatning moliya-valyuta tizimi nechog‘liq mustahkam ekaniga, milliy kredit institutlarining qay darajada kapitallashuvi va likvidligi (to‘lov imkoniga), ularning chet el va korporativ bank tuzilmalariga qanchalik qaram ekaniga, shuningdek, oltin-valyuta zaxirasining hajmi, xorijiy kreditlarni qaytarish qobiliyati va pirovard natijada — mamlakat iqtisodiyotining barqarorlik, diversifikatsiya va raqobatga bardoshlik darajasiga bog‘liq.[19]Shu sabablarga ko’ra inqiroz quyidagi turlarga bo’linadi: moliya inqirozi,bank inqirozi,valyuta inqirozi,qarz inqirozi, strukturaviy inqiroz va siklik inqiroz(iqtisodiy taraqqiyotning pasayish bosqichida yuzaga keladigan jarayon).Iqtisodiy inqiroz qanchalik dolzarbligini ko’rish uchun uning oqibatlarini,ya’ni bu holat keyinchalik nimalarni keltirib chiqarishini ko’rib chiqishimiz kerak. Asosan, kambag’allik darajasi ortishi, ijtimoiy tengsizlik kuchayishi, inqirozga uchragan hududlardan ko’chib ketilishi holatlari va turli noroziliklar uning salbiy oqibatlari hisoblansa-da, iqtisodiy inqiroz, boshqa tomondan qaraganda, “tozalanish” jarayoni hisoblanadi (samarasiz korxonalar yopilishi bilan bog’liq) va inqiroz sodir bo’lgan davrda yangi islohotlar va innovatsiyalar paydo bo’ladi.

Manbalar tahlili.Iqtisodiy inqirozlar muammosi zamonaviy iqtisodiy adabiyotlarda, ayniqsa xalqaro tashkilotlar hisobotlarida keng yoritilgan. Jumladan, World Bank tadqiqotlarida iqtisodiy inqirozlarning asosiy sabablari sifatida moliyaviy tizimdagi zaifliklar, ortiqcha kreditlash va global shoklar ko‘rsatib o‘tiladi. Ushbu tashkilot iqtisodiy barqarorlikni ta’minlash uchun moliyaviy sektorni mustahkamlash zarurligini ta’kidlaydi.[20]

[19] https://econferenceseries.com/index.php/icedh/article/download/810/790/807
[20] World Bank. (2022). *Finance for an equitable recovery*. https://www.worldbank.org

Shuningdek, International Monetary Fund hisobotlarida iqtisodiy inqirozlar makroiqtisodiy nomutanosibliklar, xususan inflyatsiya, byudjet taqchilligi hamda noto‘g‘ri pul-kredit siyosati bilan izohlanadi. IMF iqtisodiy barqarorlikni saqlashda samarali monetar va fiskal siyosat muhim o‘rin tutishini qayd etadi.[21]

Bundan tashqari, Organisation for Economic Co-operation and Development tomonidan olib borilgan tadqiqotlarda iqtisodiy inqirozlar bozor muvozanatining buzilishi, talabning qisqarishi va ishlab chiqarish hajmining pasayishi bilan bog‘liq holda tahlil qilinadi.[22]

Birlashgan Millatlar Tashkiloti hisobotlarida esa iqtisodiy inqirozlarning ijtimoiy oqibatlariga alohida e’tibor qaratilib, ular kambag‘allik darajasining oshishi va ijtimoiy tengsizlikning kuchayishiga olib kelishi ta’kidlanadi.[23]

Shu bilan birga, Osiyo Taraqqiyot Banki tahlillarida iqtisodiy inqirozlarning kelib chiqishida tashqi omillar, jumladan global savdo hajmining qisqarishi, kapital oqimlarining kamayishi hamda ichki iqtisodiy muammolar muhim rol o‘ynashi ko‘rsatib o‘tilgan.[24]

ASOSIY QISM

Iqtisodiy inqirozni chuqurroq tushunish uchun mashhur inqirozlarni ko’rib chiqish yaxshi usuldir.

Avvalo, 2008-yilda sodir bo’lgan Jahon Moliya Inqirozi haqida ma’lumotlarni ko’rib chiqamiz. Dastlab AQSh ipoteka bozorlarida namoyon bo‘lgan mazkur inqiroz yetarlicha to‘lov layoqatiga ega bo‘lmagan, qarzlarni qaytarish qobiliyati shubhali bo‘lganlarga ipoteka kreditlari berish amaliyotining jadallashuvi natijasida ro‘y bergan.

[21] International Monetary Fund. (2023). *World Economic Outlook: Navigating global divergences*.:https://www.imf.org
[22] Organisation for Economic Co-operation and Development. (2023). *Economic Outlook*. https://www.oecd.org
[23] United Nations. (2022). *World Economic Situation and Prospects*. https://www.un.org
[24] Asian Development Bank. (2023). *Asian Development Outlook*. https://www.adb.org

Ipoteka krediti o‘zining mohiyati bo‘yicha ko‘chmas mulk garovi hisobiga beriladigan kreditlar bo‘lsa-da, AQSh bozorlari bunday likvidli ko‘chmas mulklarga yetarlicha «to‘yingani» oqibatida ularning narxlari keskin tusha boshlagan.

Kreditlarning qimmatlashuvi aholining ipoteka kreditiga talabining pasayishiga va kreditlarni qaytarish bo‘yicha qarzdorlar to‘lovining kamayishiga olib keldi. Boshqa tomondan, oziq-ovqat mahsulotlari va energiya resurslari narx-larining o‘sishi aholining kreditni qaytarish bo‘yicha moliyaviy imkoniyatlarining cheklanishiga sabab bo‘ladi. 2000-2007 yillar mobaynida jahon bozoridagi oziq-ovqat mahsulotlarining narxi o‘rtacha ikki barobarga, benzin narxi esa 3,5 barobarga oshgan. Neft narxi rekord darajada ko‘tarilgan, ya‘ni bir barreli 147 dollardan ortdi

Pirovard natijada 2007 yil boshida AQShda aholining ipoteka kreditlarini qaytarishi bilan bog‘liq muammo kuchaygan. Banklarning to‘lov qobiliyatiga ega bo‘lmagan mijozlarning ko‘chmas mulklarini qayta sotuvga qo‘yishi natijasida ipoteka bozoridagi taklif ko‘payib, bozordagi narxlarning keskin pasayishiga olib kelgan

Jahon moliyaviy inqirozining yuzaga kelishining asosiy sabablaridan biri – moliyaviy resurslar bilan real ishlab chiqarish hajmi o‘rtasidagi mutanosiblikning keskin buzilishi hisoblanishini qayd qilish lozim. Ma‘lumotlarga ko‘ra, AQShda muomaladagi pul massasi (naqd, kredit pullar va turli to‘lov vositalari)ning tovar va xizmatlar ishlab chiqarish real hajmidan deyarli 10 baravar, agar pulning aylanish tezligi ham hisobga olinsa, uning miqdori pulga bo‘lgan talabdan bir necha o‘n baravar ko‘payib ketganligini anglatadi.[25] Rivojlangan mamlakatlar ayniqsa, AQSh davlat tashqi qarzi miqdorining o‘sib borganligi va uning YaIMga nisbatan salmog‘i ortganligi inqiroz kuchayishining asosiy omillaridan biri bo‘lgan Inqiroz boshlangan

[25] wikipedia.org/wiki/Jahon_moliyaviy_inqirozi

davrda AQSh va ayrim Mustaqil hamdo‘stlik davlatlari tashqi qarzlarining yalpi ichki mahsulotlariga nisbatan salmog‘i ortib borgan. Xususan,

2008 yilda AQSh tashqi qarzlarining yalpi ichki mahsulotga nisbatan salmog‘i qariyb 90% ni tashkil qilgan. Bu ko‘rsatkich Rossiyada 37% ni, Qozog‘istonda 102% ni, Ukrainada 64% ni va Qirg‘izistonda 81% ni tashkil etgan. 2008 yilda jahon miqyosida bevosita xorijiy investitsiyalar oqimining 20% gacha pasayishi jahon yalpi ichki mahsulotining sezilarli kamayishi hamda xalqaro savdo hajmining pasayishi kuzatilgan. Bu dunyoning rivojlangan mamlakatlarida ishsizlik darajasining ortishi bilan birga borgan.

Xalqaro ekspertlarning qayd qilishlaricha, AQSh ipoteka bozorlarida boshlangan inqirozning avj olib, uning jahon moliyaviy va keyin iqtisodiy inqiroziga aylanib borishining sabablardan biri bu AQShning jahon yalpi ichki mahsulotining asosiy iste‘mol qiluvchisi hisoblanganidir. AQShning jahon yalpi ichki mahsulotini ishlab chiqishdagi hissasi 20% ni, uning iste‘moldagi ulushi qariyb 40% ni tashkil qilgan. AQSh Federal zaxira tizimi tomonidan olib borilgan noratsional pul-kredit siyosati hamda qayta moliyalashtirish stavkasining surunkali ravishda past darajada ushlab turilishi natijasida banklar tomonidan kredit berish ko‘lami keskin o‘sgan. Natijada bozorda ko‘chmas mulklarga talab ortgan va uy-joy narxlarining qisqa muddat ichida keskin o‘sishi kuzatilgan. Milliy bozorlarning globallashuvi, kapitallar xalqaro harakatining erkinlashtirilishi natijasida AQShda vujudga kelgan inqiroz jahonning asosiy moliyaviy markazlari hisoblangan yirik fond bozorlarini o‘z ichiga oluvchi mamlakatlar iqtisodiyotiga jiddiy ta‘sir ko‘rsatgan. Natijada, rivojlangan mamlakatlar YaIMning o‘sish sur‘atlari bu davrda sezilarli darajada pasayib ketgan.

Jahon moliyaviy inqirozi MDH mamlakatlarini ham chetda qoldirmadi. Inqiroz Rossiya, Ukraina va Qozog‘iston iqtisodiyotida o‘zining jiddiy salbiy oqibatlarini namoyon qildi. Rossiyada asosan iqtisodiyotning real sektorida faoliyat yurituvchi etakchi kompaniyalar aktsiyalarining narxlari keskin tushib ketdi. Bu

holat birinchi navbatda jahon energetika resurslari bozoridagi nobarqaror konyunkturaning vujudga kelishi natijasida sodir bo‘ldi. Jahon moliyaviy inqirozining o‘ziga xos xususiyati – bu uning iqtisodiyot moliyaviy sektoridan boshlanib, real sektoriga o‘tganligidir.

AQSh va Yevropa Ittifoqiini inqirozdan qutqarish uchun yirik tijorat banklarining aktsiyalarini sotib olib, ularni byudjet mablag‘lari hisobiga likvidli aktivlar bilan ta‘minlay boshladi yoki tijorat banklari kreditlari uchun davlat kafolatlari tizimidan foydalanish joriy qilinadi. Masalan, AQShda Federal zaxira tizimi qimmatli qog‘ozlarni sotib olish orqali xususiy sektorni to‘g‘ridan-to‘g‘ri moliyalashtirgan bo‘lsa, Buyuk Britaniya hukumati banklar va moliyaviy muassasalar aktsiyalariga 37 mlrd. funt sterling mablag‘larini investitsiya qilgan. Germaniya hukumati esa, bank tizimini qo‘llab-quvvatlash uchun investitsiya va kreditlar shaklida 500 mlrd. evro ajratgan. Bu davrda Yevropaning ko‘pchilik yirik banklari milliylashtirildi, ya‘ni davlat tomonidan sotib olindi.

Inqiroz oqibatlarini yumshatish uchun iqtisodiyotni davlat tomonidan tartibga solish usullaridan keng foydalanish yo‘lga quyilgan. Dunyoning ko‘pchilik rivojlangan mamlakatlari inqirozni bartaraf qilish uchun yirik miqdorda moliyaviy resurslar ajrata boshladi. Jumladan, AQSh hukumati sarflagan mablag‘larining hajmi 3539 mlrd. dollar bo‘lib, bu mamlakat yalpi ichki mahsulotining 25% ni tashkil etadi. O‘zbekiston ham xalqaro hamjamiyatning va global moliyaviy-iqtisodiy bozorning ajralmas tarkibiy qismi hisoblanishi sababli inqiroz oqibatlarining ma‘lum darajada iqtisodiyotimizga o‘z ta‘sirini ko‘rsatishi muqarrar bo‘lgan.

O‘zbekistonning jami umumiy tashqi qarzi inqiroz davrida ham, yalpi ichki mahsulotga nisbatan 16,0 foizdan oshmagan, bu ko‘rsatkich esa xalqaro mezonlar bo‘yicha —o‘rtachadan ham kam baholangan. Bu o‘z navbatida mamlakatimizning xalqaro darajadagi to‘lov qobiliyatga egaligini ko‘rsatadi

Respublikamizda doimo qisqa muddatli spekulyativ kreditlardan voz kechib, chet el investitsiyalari uzoq muddatlarga, imtiyozli foiz stavkalari bo‘yicha jalb etildi. Natijada milliy iqtisodiyotimizning xalqaro kreditlar bozoridagi konyunkturaga keskin bog‘liqligi va moliyaviy inqiroz salbiy oqibatlarining oldi olindi.[26]

Ko’rinib turibdiki, AQShda boshlangan kichik inqiroz davlatlar o’rtasida iqtisodiy integratsiyasi tufayli butun dunyodagi mamlakatlarga tarqalib ketgan. Oqibatda har xil jihatdan keskin ta’sir ko’rsatgan. Shunchalik dolzarb muammo bo’lganidan, hamma mamlakatlar unga qarshi kurashishga harakat qilishini taqozo etgan.

XULOSA

Iqtisodiy inqiroz umumiy iqtisodiyotda juda kata ahamiyat kasb etadi.Umuman olganda, inqiroz bu mamlakat yoki butun dunyo iqtisodiyotida keskin pasayish, ishlab chiqarish hajmining kamayishi, ishsizlikning oshishi va moliyaviy tizimdagi muammolar bilan xarakterlanadigan holatdir. Oqibatda ko’plab yuqoridan keltirilgan salbiy natijalarni keltirib chiqaradi.Lekin boshqa tomondan bu yangi islohotlar va innovatsiyalarni boshlanishi uchun zarur jarayondir.

FOYDALANILGAN MANBALAR

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[26] wikipedia.org/wiki/Jahon_moliyaviy_inqirozi

5.United Nations. (2022). *World Economic Situation and Prospects*. https://www.un.org

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INNOVATIVE MODELS OF RESOURCE MANAGEMENT IN THE DIGITAL ECONOMY

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Abstract. *This article analyzes innovative models of resource management in the context of the digital economy. The study examines the opportunities for improving the efficiency of resource utilization through the use of digital technologies, data analytics systems, and digital monitoring tools. During the research, the integration of circular economy principles into the resource management system and their role in increasing economic efficiency are substantiated. In addition, the possibilities of rational resource use at the regional level, particularly in the case of the Fergana region, are considered.*

Keywords: *digital economy, resource management, innovative models, digital technologies, circular economy, sustainable development.*

INTRODUCTION

In the modern global economy, the rapid development of digital technologies has a significant impact on the functioning mechanisms of economic systems. The formation of the digital economy has led to the emergence of new approaches in production, management, and resource utilization processes. The development of information and communication technologies, as well as the widespread application of big data and artificial intelligence–based systems, creates opportunities for organizing economic processes more efficiently [1].

In recent years, the issue of efficient use of resources in the process of economic development has been recognized as one of the major challenges at the global level. The limited availability of natural resources, the intensification of

environmental problems, and the growth of production volumes have increased the need to improve resource management systems. Therefore, the development of innovative management mechanisms aimed at enhancing the efficiency of resource utilization in economic systems has become one of the pressing scientific issues. [2].

In scientific literature, issues related to resource management are widely studied in close connection with the concept of sustainable development. In particular, the concept of the circular economy is considered an important approach aimed at promoting the reuse of resources, reducing waste, and ensuring the environmental sustainability of economic processes [3]. This approach not only increases the efficiency of resource utilization but also contributes to ensuring the long-term sustainable development of economic systems.

At the same time, the introduction of digital technologies into the resource management process is gaining particular importance in the context of the digital economy. The use of digital platforms, monitoring systems, and data analytics technologies enables stronger control over resource flows, facilitates faster managerial decision-making, and improves the overall efficiency of economic processes [4].

The improvement of the resource management system is also of great importance at the level of regional economies. In particular, in the regions of Uzbekistan, including the Fergana region, increasing the efficiency of natural resource use, improving water resource management systems, and introducing monitoring systems based on digital technologies are considered important factors for economic development [5, p. 45].

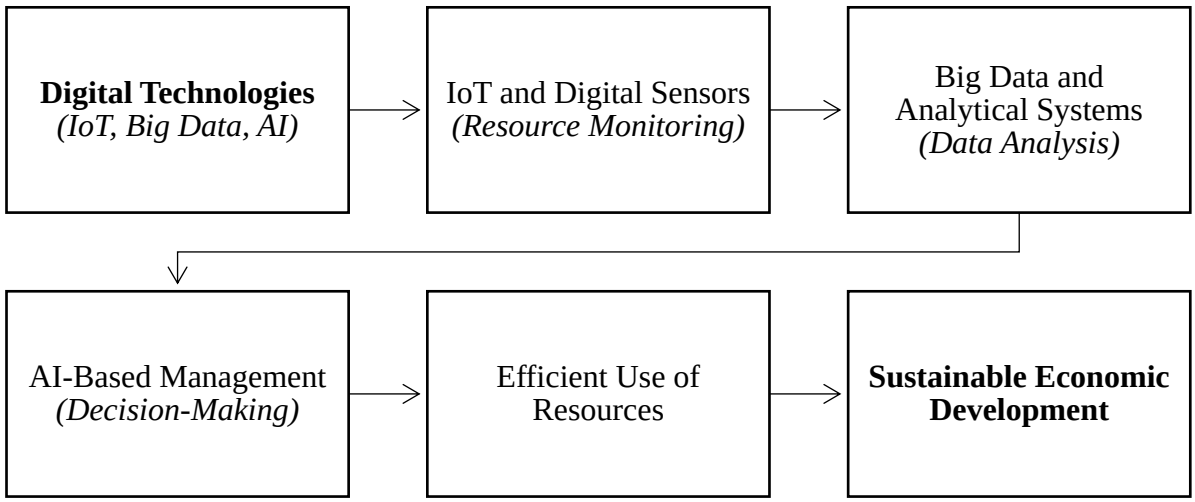
Taking the above into account, the study of innovative models of resource management in the context of the digital economy and their economic efficiency is considered one of the pressing scientific issues. The purpose of this study is to analyze innovative models of resource management in the digital economy and to assess their role in improving the efficiency of resource utilization.

MAIN BODY

In this study, several scientific research methods were employed to examine innovative models of resource management in the context of the digital economy and their impact on economic efficiency. The methodological basis of the research includes a systematic approach, economic analysis, comparative analysis, and methods of scientific generalization. These methods make it possible to identify the trends in the formation and development of resource management systems based on digital technologies and to evaluate the effectiveness of management mechanisms.

At the initial stage of the research, the main factors influencing the efficiency of resource utilization in the context of the digital economy were analyzed. For this purpose, scientific literature, analytical reports of international organizations, and economic statistical data were examined. Modern studies indicate that the introduction of digital technologies into economic processes contributes to improving the efficiency of resource utilization and optimizing management processes [6; 7, p. 12]. At the same time, the digitalization of economic activities strengthens control over resource flows and creates opportunities for making data-driven management decisions [2].

At the next stage of the research, the differences between traditional management methods and management systems based on digital technologies in resource management were examined using the comparative analysis method. This analysis made it possible to identify the advantages of digital technologies in the



resource management process. The main stages of the resource management process based on digital technologies and their interrelationships are presented in **Figure 1**.

Figure 1. Model for improving the efficiency of resource management based on digital technologies

Figure 1 illustrates the main stages of the resource management process based on digital technologies and their interrelationships. As shown in the diagram, digital technologies such as IoT, Big Data, and artificial intelligence play an important role in collecting resource-related data, analyzing it, and supporting managerial decision-making processes. Digital monitoring systems ensure real-time control over resource flows and enable data-driven management decisions. As a result, the efficiency of resource utilization increases and the necessary conditions for the sustainable development of economic systems are created.

The research results indicate that, in the context of the digital economy, it is necessary to widely implement digital technologies to improve resource management systems. The use of digital monitoring systems, data analytics platforms, and intelligent management mechanisms makes it possible to enhance resource efficiency and ensure the sustainable development of economic processes.

CONCLUSION

The results of the study show that improving the resource management system in the context of the digital economy is one of the key factors for increasing economic efficiency. The use of digital technologies, particularly IoT, Big Data, and artificial intelligence, makes it possible to enhance resource monitoring, conduct rapid data analysis, and optimize management decisions.

During the study, the main stages of the resource management process based on digital technologies and their interrelationships were analyzed. The results indicate that the implementation of digital monitoring systems and data analytics platforms contributes to improving the efficiency of resource utilization, reducing resource losses, and ensuring the sustainable development of economic processes.

Furthermore, the integration of circular economy principles into resource management systems expands the opportunities for the reuse of resources and helps ensure environmental sustainability. Therefore, the widespread adoption of digital technologies in resource management systems plays a significant role in ensuring the long-term sustainable development of economic systems.

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THE CONNECTION BETWEEN WORK PERFORMANCE AND EMPLOYEE MOTIVATION IN THE DIGITAL AND REMOTE WORK SETTINGS

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Abstract: *This paper discusses how employee motivation is related to work performance in online and remote working environments. The increase in digital technologies and remote forms of work in contemporary organizations is one of the factors that can profoundly influence the attitude of employees towards work and their productivity. This paper explores material and non-material aspects of motivation, and the mediating role of job satisfaction. The findings indicate that motivation among employees in a digital workplace is a significant aspect towards enhancing work performance.*

Keywords: *digital working environment, telecommuting, work motivation, work performance, human resource management.*

INTRADUCTION

Over the past years, the landscape of work processes has been revolutionized worldwide, and remote and hybrid work has become commonplace. Organizations have been accelerating digital transformation especially in the post-pandemic period. This has introduced new demands of employee motivation and performance at work.

Whereas it is easier to establish a good management and motivation system among employees in remote working environments because of their independence,

it is more challenging. In this research, therefore, we can study the connection between motivation and performance in the digital and remote work setting.

The processes of digital transformation in the modern economy have radically altered the activity of the organizations and contributed to the extensive implementation of non-durational and technology-driven types of work processes. Specifically, the popularization of the remote work model has predetermined the increased acuity of the problem of controlling the activities of the employees, their motivation, and efficiency of the work. This is because unlike other working settings, in the digital and remote work setting, employees are more independent, and this can impact their attitude to work and productivity differently.

Employee motivation has been identified as one of the key determinants of work performance in the scientific literature. Specifically, the attitude of employees towards work is determined by both intrinsic and extrinsic factors of motivation. Long-term performance can be driven by intrinsic motivation, which can be personal development, self-expression, and job satisfaction. Short-term results depend more on extrinsic motivation that is primarily connected with money and organizational assistance.

Motivation in a remote work environment is even more complicated. On the one hand, the balance between work and personal life can be enhanced to engage the employees. Conversely, diminished motivation may result because of diminished social bonds, absence of a team environment, and technological issues. Thus, the quality of the online workplace, the technological support, communication technologies and management style become significant in defining the connection between motivation and work performance.

Research indicates that highly motivated employees are more efficient and effective in carrying out their work duties. Specifically, such intangible motivation factors as valuing employees, considering their opinions, creating development opportunities are especially significant in remote work. Under these circumstances,

job satisfaction mediates motivation and work performance. In other words, a motivated employee will be content with his work and contentment in its turn will result in increased performance.

It also seems that the creation of the digital work environment is a contribution to the improvement of this process. In case the employees are equipped with modern technologies and are able to work efficiently using these technologies, the influence of motivation on performance will be even more significant. Quite the contrary, in case of technological issues or uncomfortable work stations, this may undermine the constructive effect of motivation.

Overall, motivation of employees working digitally and remotely is among the key considerations of work performance. Although job satisfaction has a significant mediating effect on this relationship, it seems that quality of the digital environment is a force that positively or negatively reinforces or dilutes this relationship. In these aspects, organizations should not only enhance the material incentives systems, but also attach particular attention to the psychological well-being of staff members, comfort of the workplace, and development of digital infrastructure.

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INSTITUTIONAL UNCERTAINTY IN THE REGULATION OF CRYPTO-ASSETS IN THE DIGITAL ECONOMY

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***Abstract**: This thesis examines institutional uncertainty in the regulation of crypto-assets within the digital economy. The study argues that the existence of formal regulatory provisions does not automatically ensure legal certainty or predictable law enforcement practice. Particular attention is paid to the ambiguity of key legal categories, including "acquisition," "sale," "recurrence," and "large scale," which may lead to different interpretations of similar actions by crypto market participants. Based on institutional and legal approaches, the research identifies the main sources of uncertainty arising from inconsistencies between formal norms, their interpretation, and practical application. The findings show that institutional uncertainty is not an isolated regulatory deficiency but a systemic characteristic of crypto-asset regulation. It creates an asymmetry of legal risks, where legal consequences depend not only on the economic substance of transactions but also on the way they are interpreted by law enforcement bodies. The thesis concludes that improving the conceptual framework and standardizing law enforcement practices are essential conditions for enhancing legal certainty, reducing regulatory risks, and supporting the sustainable development of the regulated crypto-asset market.*

The theoretical and categorical foundations of crypto-assets, including their economic nature, functional classification, and role within the digital economy, were previously examined by the authors in a separate study (Iminokhunov & Khakimov, 2026a). Building on this conceptual basis, the institutional and law enforcement challenges of crypto-asset regulation were further analyzed in the authors' subsequent research, where the relationship between conceptual

ambiguity, inconsistent law enforcement practice, and the asymmetry of legal risks was substantiated (Iminokhunov & Khakimov, 2026b). Therefore, the present thesis develops these findings by focusing specifically on institutional uncertainty as a systemic characteristic of crypto-asset regulation in the digital economy.

Keywords: *crypto-assets, digital economy, institutional uncertainty, legal regulation, law enforcement practice, legal risk asymmetry, regulatory framework, crypto market.*

INTRODUCTION

The development of the crypto-asset market is accompanied by the active formation of regulatory frameworks aimed at governing their circulation and integration into the financial system. However, the existence of formally established legal norms does not necessarily ensure their effective implementation, which gives rise to institutional challenges in the regulation of crypto-assets.

Contemporary academic literature emphasizes that a key constraint on the development of the crypto market lies not only in the insufficient elaboration of legal mechanisms but also in the absence of unified approaches to the interpretation of fundamental categories used in regulation (IMF, 2021). This leads to the emergence of institutional uncertainty, manifested in ambiguous interpretations of legal norms and reduced predictability of law enforcement practices.

This issue becomes particularly significant in the context of the digital economy, where crypto-assets operate at the intersection of different legal and economic regimes. The inconsistency of the conceptual framework and divergences in the interpretation of key categories hinder the formation of an effective institutional environment and constrain the development of the regulated segment of the crypto market.

In this regard, the aim of the study is to identify institutional uncertainty in the regulation of crypto-assets and to substantiate its systemic nature within the digital economy.

METHODS

The methodological framework of the study is based on institutional and legal approaches, which make it possible to analyze the regulation of crypto-assets from the perspective of the formation and functioning of institutions, as well as the specific features of law enforcement practice (North, 1990; Williamson, 2000).

The study employs the method of legal analysis to examine the content of regulatory provisions and to identify the specific features of their interpretation in the field of crypto-asset regulation. This approach makes it possible to determine the key categories underlying legal regulation and to reveal ambiguities in their interpretation.

Methods of analysis and synthesis are used to generalize existing approaches to crypto-asset regulation and to identify contradictions between formally established legal norms and their practical implementation. The comparative method enables the assessment of different interpretations of legal categories and their influence on the formation of the institutional environment.

The systemic approach is applied to examine institutional uncertainty as a holistic phenomenon arising from the interaction between the regulatory framework, law enforcement practice, and the specific features of the crypto market. The applied methodological toolkit ensures the identification of the causes of institutional uncertainty and supports the substantiation of its systemic nature.

RESULTS

The results of the study demonstrate that the regulation of crypto-assets is characterized by the presence of institutional uncertainty, which arises from the absence of unified criteria for interpreting key legal categories. Despite the formal establishment of regulatory provisions, their content allows for multiple interpretations, thereby reducing the predictability of law enforcement practice.

The study identifies that the primary sources of institutional uncertainty lie in the ambiguity of the conceptual framework and in divergent interpretations of such legal categories as “acquisition,” “sale,” “recurrence,” and “large scale.” It is

established that the lack of clearly defined boundaries of these concepts leads to differences in the legal qualification of similar actions performed by crypto market participants.

It is determined that institutional uncertainty manifests not only at the level of formal regulation but also within law enforcement practice, where inconsistencies in the evaluation of crypto-asset transactions are observed. This creates a situation in which market participants face different legal consequences when engaging in similar operations.

The study further establishes that these contradictions give rise to an asymmetry of legal risks, in which the degree of legal liability depends not so much on the nature of actions as on their interpretation. This reduces the level of legal certainty and constrains the development of the regulated segment of the crypto market.

Thus, the findings support the conclusion that institutional uncertainty should be regarded as a systemic characteristic of crypto-asset regulation, significantly influencing market functioning and the behavior of its participants.

DISCUSSION

The findings of the study allow institutional uncertainty to be considered as a key characteristic of contemporary crypto-asset regulation, exerting a systemic influence on market functioning. In contrast to approaches that interpret regulatory challenges as isolated deficiencies of the legal framework, the results obtained indicate the structural nature of uncertainty, arising from inconsistencies in the conceptual apparatus and law enforcement practice.

From a theoretical perspective, this implies the need to move beyond the formal analysis of regulatory provisions toward the examination of the mechanisms of their interpretation and application. Institutional uncertainty is not only the result of insufficient specification of legal norms but also a consequence of divergent interpretative practices, which confirms the propositions of institutional theory

regarding the critical role of interpretation in the functioning of economic systems (North, 1990).

The identified relationship between ambiguity in legal categories and the asymmetry of legal risks expands the understanding of the factors influencing the behavior of crypto market participants. Under conditions of interpretative uncertainty, participants are compelled to consider not only formal legal requirements but also potential scenarios of their application, which increases overall uncertainty and reduces the investment attractiveness of the market.

The results are consistent with contemporary studies emphasizing the importance of legal certainty for financial market development and participant trust (IMF, 2021). However, in contrast to existing research, the present study conceptualizes institutional uncertainty as a systemic phenomenon emerging from the interaction between the regulatory framework and its practical implementation.

This interpretation is also consistent with the authors' earlier research, in which the lack of a unified theoretical and categorical framework for crypto-assets was identified as a prerequisite for regulatory ambiguity (Iminokhunov & Khakimov, 2026a), while institutional uncertainty and law enforcement inconsistency were later substantiated as factors generating the asymmetry of legal risks in crypto-asset regulation (Iminokhunov & Khakimov, 2026b).

Thus, the findings confirm the necessity of improving the conceptual framework and standardizing law enforcement practices as key directions for the development of crypto-asset regulation. This would reduce legal uncertainty, enhance regulatory predictability, and create conditions for the sustainable development of the crypto market.

CONCLUSION

The study demonstrates that the regulation of crypto-assets is characterized by the presence of institutional uncertainty, arising from the absence of unified criteria

for the interpretation of key legal categories and inconsistencies in law enforcement practice.

It is established that ambiguity in the conceptual framework and differences in the interpretation of fundamental legal categories lead to contradictions in the legal qualification of crypto-asset transactions. This, in turn, gives rise to an asymmetry of legal risks, in which legal outcomes depend not only on the nature of actions but also on their interpretation.

The scientific contribution of the study lies in substantiating institutional uncertainty as a systemic characteristic of crypto-asset regulation, as well as in identifying its relationship with the asymmetry of legal risks.

The findings support the conclusion that improving the conceptual framework and standardizing law enforcement practices are essential for enhancing the effectiveness of crypto-asset regulation. The implementation of these measures will increase legal certainty, reduce risks for market participants, and create conditions for the sustainable development of the crypto market.

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LAW ENFORCEMENT AND THE ASYMMETRY OF LEGAL RISKS IN CRYPTO-ASSET REGULATION

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Abstract*: This thesis examines the relationship between law enforcement practices and the asymmetry of legal risks in the regulation of crypto-assets. The study emphasizes that the effectiveness of crypto-asset regulation depends not only on the existence of formal legal norms but also on the consistency and predictability of their application. Particular attention is given to the ambiguous interpretation of key legal categories, including "acquisition," "sale," "recurrence," and "large scale," which may lead to different legal qualifications of similar crypto-asset transactions. Based on legal, institutional, and functional approaches, the research identifies contradictions in law enforcement practice and analyzes their impact on the behavior of crypto market participants. The findings show that inconsistent interpretation of legal norms reduces regulatory predictability and creates an asymmetry of legal risks, where the degree of liability depends not only on the actual actions of market participants but also on how these actions are interpreted by law enforcement bodies. The thesis concludes that improving the conceptual framework and standardizing law enforcement practices are necessary to reduce legal uncertainty, enhance regulatory effectiveness, and support the sustainable development of the regulated crypto-asset market.*

Keywords: *crypto-assets, law enforcement, legal risks, asymmetry of legal risks, crypto-asset regulation, legal certainty, regulatory predictability, digital economy.*

INTRODUCTION

The development of the crypto-asset market is accompanied by increasing complexity in law enforcement practices related to the regulation of their circulation. Despite the establishment of a regulatory framework, the application of legal norms in this domain is characterized by significant inconsistencies, which give rise to specific risks for crypto market participants.

Contemporary academic literature emphasizes that the effectiveness of financial market regulation depends not only on the content of legal norms but also on the mechanisms of their application (IMF, 2021). In the context of crypto-assets–characterized by decentralization and a high degree of technological complexity–traditional approaches to law enforcement prove to be insufficient.

A particular challenge arises from the ambiguity in the interpretation of key legal categories used in the qualification of crypto-asset transactions. Divergences in the interpretation of such concepts as “acquisition,” “sale,” “recurrence,” and “large scale” lead to inconsistencies in law enforcement practice and create uncertainty in assessing the legal consequences of market participants’ actions.

As a result, an asymmetry of legal risks emerges, in which the degree of liability depends not only on the nature of operations but also on their interpretation within law enforcement practice. This reduces regulatory predictability and constrains the development of the regulated segment of the crypto market.

The theoretical and categorical foundations of crypto-assets, including their economic nature, functional classification, and institutional role within the digital economy, were previously examined by the authors in a separate study (Iminokhunov & Khakimov, 2026a). Building on this conceptual basis, the institutional and law enforcement challenges of crypto-asset regulation were further analyzed in subsequent research, where the relationship between conceptual ambiguity, inconsistent law enforcement practice, and the asymmetry of legal risks was substantiated (Iminokhunov & Khakimov, 2026b). Therefore, the present thesis

develops these findings by focusing specifically on the law enforcement dimension of crypto-asset regulation and its impact on the formation of asymmetric legal risks.

In this regard, the aim of the study is to analyze the features of law enforcement in the field of crypto-assets and to identify the relationship between the interpretation of legal norms and the formation of the asymmetry of legal risks.

METHODS

The methodological framework of the study is based on legal, institutional, and functional approaches, which make it possible to analyze law enforcement practices in the field of crypto-assets, taking into account the specific features of the interpretation of regulatory provisions and their impact on the behavior of market participants (North, 1990; Williamson, 2000).

The study employs the method of legal analysis to examine the content of legal norms governing the circulation of crypto-assets and to identify the specific features of their application. This method makes it possible to determine the key categories used in law enforcement practice and to reveal differences in their interpretation.

Methods of analysis and synthesis are used to generalize the practice of applying legal norms and to identify contradictions arising in the qualification of crypto-asset transactions. The comparative method enables the assessment of different interpretations of legal categories and allows for identifying their influence on the formation of legal risks.

The functional approach is applied to analyze the consequences of law enforcement practices and to evaluate their impact on the behavior of crypto market participants. The applied methodological toolkit ensures the identification of the relationship between the interpretation of legal norms and the formation of the asymmetry of legal risks.

RESULTS

The results of the study demonstrate that law enforcement practice in the field of crypto-asset regulation is characterized by significant contradictions arising from the ambiguous interpretation of key legal categories. Despite the formal establishment of regulatory provisions, their application in specific cases allows for multiple interpretations.

The study identifies that the main contradictions are associated with the interpretation of such categories as “acquisition,” “sale,” “recurrence,” and “large scale.” It is established that the absence of clearly defined criteria for distinguishing these concepts leads to differences in the legal qualification of similar crypto-asset transactions.

It is determined that divergences in the interpretation of legal norms result in inconsistent law enforcement practices, in which similar actions by crypto market participants may be assessed differently. This reduces the predictability of legal outcomes and increases the overall level of uncertainty.

The study further establishes that these contradictions constitute the basis for the formation of an asymmetry of legal risks. Under such conditions, the degree of legal liability depends not only on the actual actions of market participants but also on the way these actions are interpreted.

Thus, the findings lead to the conclusion that law enforcement practice in the field of crypto-assets is characterized by a high degree of variability, which significantly affects market functioning and the behavior of its participants.

DISCUSSION

The findings of the study allow contradictions in law enforcement practice to be considered as a key factor shaping the asymmetry of legal risks in the field of crypto-assets. In contrast to approaches that attribute regulatory challenges solely to deficiencies in the legal framework, the results indicate the significant role of interpretative mechanisms in determining the legal consequences of crypto-asset transactions.

From a theoretical perspective, this implies that the effectiveness of regulation depends not only on the content of legal norms but also on the degree of their interpretative clarity. In the absence of clearly defined criteria for the interpretation of key categories, law enforcement practice acquires a variable character, which confirms the propositions of institutional theory regarding the importance of rules and their implementation mechanisms in the functioning of economic systems (North, 1990).

The identified relationship between the interpretation of legal norms and the level of legal risks expands the understanding of the factors influencing the behavior of crypto market participants. Under conditions of inconsistent law enforcement practice, participants are required to consider not only formal legal requirements but also potential scenarios of their interpretation, which increases uncertainty and reduces trust in regulatory systems.

The results are consistent with contemporary studies emphasizing the importance of legal certainty for financial market development and regulatory effectiveness (IMF, 2021). At the same time, the present study places particular emphasis on the analysis of law enforcement mechanisms, which allows for a deeper understanding of the nature of the risks involved.

This conclusion is consistent with the authors' earlier research trajectory: first, the absence of a unified theoretical and categorical framework for crypto-assets was identified as a factor limiting the formation of effective regulatory approaches (Iminokhunov & Khakimov, 2026a); second, institutional uncertainty and inconsistency in law enforcement were substantiated as mechanisms through which conceptual ambiguity is transformed into the asymmetry of legal risks (Iminokhunov & Khakimov, 2026b).

Thus, the findings confirm the need to enhance the interpretative clarity of legal norms and to standardize law enforcement practices. This would reduce the

asymmetry of legal risks, improve regulatory predictability, and create conditions for the sustainable development of the crypto market.

Conclusion

The study demonstrates that law enforcement practice in the field of crypto-asset regulation is characterized by significant contradictions arising from the ambiguous interpretation of key legal categories and the absence of unified criteria for their application.

It is established that differences in the interpretation of concepts used in the qualification of crypto-asset transactions lead to a variable law enforcement practice, in which similar actions may be assessed differently. This results in reduced predictability of legal outcomes and increases the level of uncertainty for market participants.

The scientific contribution of the study lies in identifying the relationship between the features of law enforcement and the formation of the asymmetry of legal risks, as well as in substantiating the role of interpretative mechanisms in determining the legal consequences of crypto-asset transactions.

The findings support the conclusion that improving law enforcement mechanisms–particularly through refining the conceptual framework and standardizing approaches to the interpretation of legal norms–is essential. The implementation of these measures will reduce legal uncertainty, enhance regulatory effectiveness, and create conditions for the sustainable development of the crypto market.

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SANOAT TARMOQLARIDA “SANOAT-4.0” NI AMALGA KIRITISHNING ASOSIY OMILLARI

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Annotasiya: *Mazkur maqolada sanoat tarmoqlarida “Sanoat-4.0” konsepsiyasini amalga kiritishning asosiy omillari ilmiy-nazariy va amaliy jihatdan tahlil qilingan. Raqamli transformatsiya jarayonida sun’iy intellekt, katta ma’lumotlar, mahsulot sifatini yaxshilash hamda xarajatlarni optimallashtirishdagi o‘rni asoslab berilgan. Maqolada sanoat korxonalarida raqamli texnologiyalarni tizimli joriy etish milliy iqtisodiyotning raqobatbardoshligini oshirish va barqaror sanoat rivojlanishini ta’minlashda strategik ahamiyatga ega ekani ilmiy xulosalar orqali asoslab berilgan.*

Annotation: *in this article, the main factors for the implementation of the concept “Industry-4.0” in industrial sectors are analyzed in scientific-theoretical and practical terms. In the process of digital transformation, the role of artificial intelligence, big data, improving product quality and cost optimization is based. The article substantiates through scientific conclusions that the systematic introduction of digital technologies in industrial enterprises is strategically important in improving the competitiveness of the national economy and ensuring sustainable industrial development.*

Kalit so`zlar*: axborotlashgan jamiyat, axborot xizmatlari, narsalar interneti, raqamli iqtisodiyot, elektron hukumat, ishlab chiqarishni raqamlashtirish, milliy it sektori, axborot-kommunikatsiya texnologiyalari, to‘rtinchi sanoat inqilobi, “sanoat 4.0”*

Keywords: *informed society, information services, Internet of things, digital economy, e-government, production digitization, national IT sector, ICT, fourth industrial revolution, " Industry 4.0”*

KIRISH

Iqtisodiyotda tub burilish kechayotgan bir vaqtda iqtisodiyotni liberallashtirishni

yanada chuqurlashtirish va shu asosda jamiyat a’zolarining moddiy va ma’naviy farovonligini ta’minlashda iqtisodiyotning yetakchi tarmog‘i bo‘lgan sanoatning mavqei alohida o‘rin egallaydi.

Jahon amaliyotidan ma’lumki, rivojlangan davlatlar ham, barqaror iqtisodiy o‘sish sur’atlariga erishish masalalarini hal qilishda ba’zi salbiy hodisalarga duch kelmoqda. Bular jumlasiga krizislar, monopolizm, inflyasiya, ishsizlik, iste’mol bozoridagi nomutanosiblik, resurslarni, tovar va xizmatlarning difisitligi, pul muomalasidagi nuqson va kamchiliklar kabilar. Hozirgi paytda jahonda vujudga kelgan geosiyosiy beqarorlik, siyosiy va iqtisodiy ziddiyatlar bo‘shashmayapti, ilgari mustahkam bo‘lib ko‘ringan qoidalarni o‘zgartirib tashlanmoqda yoki rioya qilishmayapti.

Global sanoat doimiy ravishda yangi texnologiyalarga, iste'molchilar talabidagi o'zgarishlarga va iqlim o'zgarishi va energiya beqarorligi kabi muammolarga moslashmoqda. Muvaffaqiyatli sanoat rivojlanishini ta'minlashning asosiy omili korxonalarning o'zgaruvchan sharoitlarga tezda moslashish va innovatsiyalarni joriy etish qobiliyati bo'lib qolmoqda. Global sanoat texnologiyalar va biznes modellarida o'zgarishlarga asoslangan xolda faol rivojlanishda davom etmoqda. Global sanoatni rivojlantirish bo'yicha ba'zi muhim qarorlar quyidagilardan iborat: raqamlashtirish va sanoat 4.0; energiya samaradorligi va barqarorligi; ishlab chiqarishning globallashuvi; biotexnologiya va yangi materiallar; simulyatsiya va virtual reallik; transport logistikasini modernizatsiya qilish; salomatlik va xavfsizlik sohasidagi innovatsiyalar; ishlab chiqarish jarayonlarini gibridlashtirish.

ASOSIY QISM

Global ishlab chiqarish va ta’minot tarmog‘i - zamonaviy aqlli texnologiyalar, keng ko‘lamli mashinadan mashinaga aloqa va buyumlar internetidan foydalangan holda an’anaviy ishlab chiqarishda tub o‘zgarishlarga ta’sir etmoqda. Ushbu jarayon avtomatlashtirishni oshirishga, aloqa va o‘z-o‘zini nazorat qilishni yaxshilashga

hamda inson aralashuvisiz muammolarni tahlil qilish va tashxislash imkonini beruvchi aqlli texnologiyalardan foydalanishga olib keladi.

Sanoat 4.0. Aslini olganda, to‘rtinchi sanoat inqilobi - bu kiberfizik tizimlar, narsalarning sanoat interneti, bulutli hisoblash, sun’iy intellektni o‘z ichiga olgan ishlab chiqarish texnologiyalari va jarayonlarida avtomatlashtirish va ma’lumotlar almashinuvi tendentsiyasidir. Sanoat 4.0, shuningdek, to'rtinchi sanoat inqilobi sifatida ham tanilgan, tobora raqamli dunyoda ishlab chiqarish evolyutsiyasini tavsiflovchi tushunchadir. Kontseptsiya yangi bo'lishi mumkin bo'lsa-da, "apparat" tomonini tashkil etuvchi texnologiyalar ancha vaqtdan beri mavjud. Bu atama 2011 yilda nemis muhandislari va kompyuter olimlari tomonidan ishlab chiqarishning navbatdagi evolyutsiyasini tasvirlamoqchi bo'lgan. Agar "dasturiy ta'minot" tomoniga qarasak, inqilob qachon sodir bo'lganligi unchalik aniq emas. Garchi bu texnologiyalar biz bilan bir muncha vaqt bo'lgan bo'lsa-da, ular yaqin vaqtgacha o'z ta'sirini ko'rsata olmadi. Buning sababi shundaki, bu texnologiyalar ko'pchilik ishlab chiqaruvchilar tomonidan inqilob deb atalishi uchun muhim bo'lishidan oldin qabul qilinishi kerak edi. Ushbu kontseptsiyaning maqsadi raqamli ishlab chiqarishdan foydalanish va uning kamchiliklarini bartaraf etishdir.

To‘rtinchi sanoat inqilobi tasavvurlar davrining boshlanishini belgilaydi.

To‘rtinchi sanoat inqilobining qo‘llanilishi quyidagilar orqali amalga oshiriladi:

- Mobil qurilmalar;
- Buyumlar interneti platformalari;
- Joylashuvni aniqlash texnologiyalari (elektron identifikatsiya);
- Kengaytirilgan inson-mashina interfeyslari;
- Autentifikatsiya va firibgarlikni aniqlash;
- Aqlli sensorlar;
- Mijozlarning ko‘p darajali o‘zaro ta’siri va mijozlarning profilini yaratish;
- Kengaytirilgan reallik qurilmalar;
- Talab bo‘yicha kompyuter tizimi resurslarining mavjudligi;

- Ma’lumotlarni vizualizatsiya qilish va ishga tushirilgan „jonli“ trening.

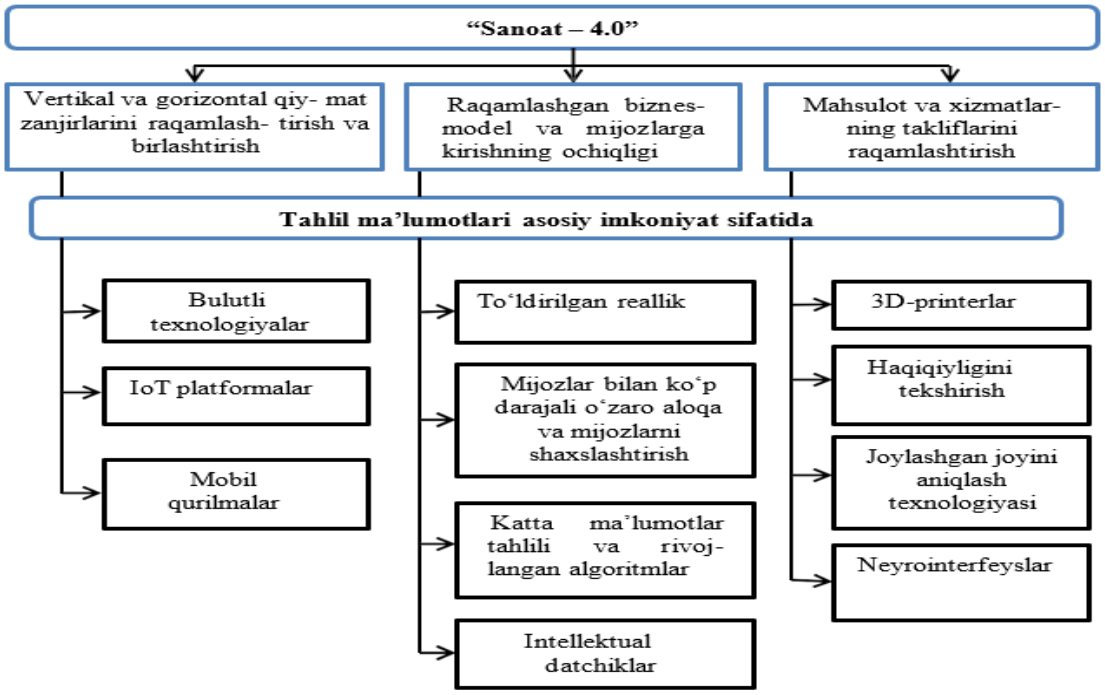
Asosan bu texnologiyalarni to‘rtta asosiy komponentga jamlash mumkin, ular „Sanoat 4.0“ yoki „aqlli zavod“ atamasini belgilaydi:

1. Kiberfizik tizimlar;
2. Buyumlar interneti;
3. Kompyuter tizimi resurslarining talab bo‘yicha mavjudligi (masalan, bulutli hisoblash);
4. Kognitiv hisoblash.

Sanoat 4.0 qiymat yaratish uchun yangi texnologiyalarning keng doirasini birlashtiradi. Jismoniy jarayonlarni kuzatuvchi kiber-fizik tizimlar yordamida jismoniy dunyoning virtual nusxasini loyihalash mumkin. Kiberjismoniy tizimlarning o‘ziga xos xususiyatlariga yuqori darajadagi avtonomiyaga erishib, markazlashmagan qarorlarni mustaqil ravishda qabul qilish qobiliyati kiradi.

Raqamlashtirish natijasida global iqtisodiyotda inqilob ro‘y bermoqda. Sanoat korxonalari uchun raqamli iqtisodiyot vositalarini joriy qilish tovarlarni bozorga kirish vaqtini kamaytirishi, mahsulotlar va xizmatlarning sifatini yaxshilashi va yangi biznes modellaridan foydalanishi imkoniyatini beradi.

Sanoat korxonasini raqamli iqtisodiyotga integratsiyalashuvining zaruriy sharti ishlab chiqarishga yagona axborot makonini kiritishdir, uning yordamida korxonalarni boshqarish tizimlari va sanoat uskunalari ma’lumotlarni o‘z vaqtida almashishi mumkin. *Sanoatda raqamli iqtisodiyotning vositalari* deganda korxonaning barcha jismoniy aktivlarini raqamlashtirish va ularni korxonaning biznes sheriklari ma’lumotlari bilan raqamli ekotizimlarga birlashtirish vositasi tushuniladi. Amalda, bunday vositalar qo‘llaniladigan yangi texnologiyalarning juda keng doirasini anglatadi



Aqlli zavod - ishlab chiqarish obyektlari va logistika tizimlari inson aralashuvisiz tashkil etilgan ishlab chiqarish muhiti haqidagi tasavvur hisoblanadi. Aqlli zavod asoslangan texnik asoslar internet va xizmatlardan foydalangan holda bir-biri bilan aloqa qiladigan kiber-fizik tizimlardir. Ushbu jarayonning muhim qismi mahsulot va ishlab chiqarish liniyasi o‘rtasida ma’lumotlar almashinuvidir. Bu ta’minot zanjirining yanada samarali ulanishini va har qanday ishlab chiqarish muhitida yaxshiroq tashkil etilishini ta’minlaydi.

To‘rtinchi sanoat inqilobida O‘zbekistonning o‘rni. Dunyo sanoati “Industriya 4.0” ostonasida turgan bo‘lsa-da, lekin uning barcha texnologiyalarini faqatgina bundan oldingi “Industriya 3.0” sanoat inqilobining yutuqlarini o‘zlashtira olganlargina tatbiq qila oladilar.O‘zbekiston iqtisodiyotida hozir “Industriya 2.0” darajasidan “Industriya 3.0” darajasiga o‘tish bosqichidamiz. Albatta, bu holat O‘zbekiston sanoatini to‘liq modernizatsiya qilish yo‘lidagi jiddiy to‘siqdir. Shubhasiz, bu muammoni tan olish va anglash – oldinga harakat qilish uchun qo‘yilgan qadamdir.

Prezidentimiz tomonidan O‘zbekistonni dunyodagi rivojlangan 20 ta davlat safiga kiritish strategik rejasi belgilab berildi. Bu ulkan va olamshumul maqsadga erishishda,

O‘zbekiston iqtisodiyoti va sanoatini tubdan o‘zgartirib, “Industriya 4.0” tamoyillarini keng tatbiq qilinishi lozim bo‘ladi. Shu bilan birga, O‘zbekiston Respublikasi Prezidentining 2020 yil 5 oktyabrdagi “Raqamli O‘zbekiston – 2030” strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to‘g‘risida”gi PK-6079-sonli Qarori doirasida 2020-2022 yillarda hududlarni raqamlashtirish dasturlari tasdiqlandi.

Unga asosan aholi punktlarining internetga ulanish darajasini 78 foizdan 95 foizgacha oshirish, shu jumladan, buning hisobiga 2,5 million keng polosali ulanish portlarini ko‘paytirish, 20 ming kilometr optik tolali aloqa liniyalarini o‘tkazish va uyali aloqa tarmoqlarini rivojlantirish, 400 dan ortiq axborot tizimlarini, hududlarni ijtimoiy-iqtisodiy rivojlantirishning turli sohalariga elektron xizmatlar va dasturiy ta’minotlarni joriy etish, 587 ming kishini kompyuter dasturlash asoslari bo‘yicha o‘qitishni tashkil etish, shuningdek “Bir million dasturchi” loyihasi doirasida 500 ming yoshlarni jalb qilish, ishlab chiqarish va iqtisodiyotning real sektori korxonalarida logistika, boshqarish jarayonlarini avtomatlashtirish bo‘yicha 280 dan ortiq axborot tizimlari va dasturiy mahsulotlarini joriy etish, davlat organlari va tashkilotlari xodimlarining raqamli savodxonligi va malakasini oshirish, ularni axborot texnologiyalariga o‘rgatish va axborot xavfsizligini ta’minlash, shuningdek, mintaqalardagi tegishli Oliy o‘quv yurtlari ma’muriy-hududiy birliklarda xokimiyat va davlat idoralarining 12 ming xodimini axborot texnologiyalari bo‘yicha o‘qitish uchun mas’ul etib tayinlandi. Axborot-texnologik platformalarda faoliyat ko‘rsatadigan raqamli iqtisodiyot jadal rivojlanmoqda, bu esa shunday platformalarning yangi modellarini yaratish zaruratini taqozo etmoqda.

XULOSA

Raqamli iqtisod - bu ishlab chiqarish kompleksi, inson uchun hayot va qulaylikni ta’minlaydigan mahsulot va xizmatlarni yaratadigan ishlab chiqarish tizimi bo‘lib, u yerda ma’lum bir kiber-jismoniy tizim paydo bo‘ladi. Sanoat 4.0 – mamlakat va biznes raqobatbardoshligini oshirishga qaratilgan raqamli texnologiyalar (Sanoat

4.0) kirib borishi bilan bog‘liq ishlab chiqarish jarayonlarida yuzaga keladigan munosabatlar yig‘indisi hisoblanadi. Sanoatni internetlashtirishga qaratilgan nemis davlat tashabbuslaridan farqli ravishda, O‘zbekiston Respublikasi uchun «Sanoat 4.0» atamasi iqtisodiyotning barcha tarmoqlarini raqamli o‘zgartirishni anglatadi.

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ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ЭЛЕКТРОННЫХ ПЛАТЕЖНЫХ СИСТЕМ В УЗБЕКИСТАНЕ

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Аннотация: *Настоящая статья посвящена анализу развития и функционирования электронных платежных систем в Республике Узбекистан, а также их влияния на современную экономику и финансовый сектор. Актуальность исследования обусловлена стремительной цифровизацией финансовых услуг и возрастающей зависимостью бизнеса и потребителей от безналичных расчетов.*

Ключевые слова: *электронные платежные системы, цифровизация, безналичные расчеты, мобильные платежи, UZCARD/HUMO.*

Abstract: *This article is devoted to the analysis of the development and functioning of electronic payment systems in the Republic of Uzbekistan, as well as their impact on the modern economy and financial sector. The relevance of the study is determined by the rapid digitalization of financial services and the increasing dependence of businesses and consumers on cashless payments.*

Keywords: *electronic payment systems, digitalization, cashless payments, mobile payments, UZCARD/HUMO.*

Annotatsiya: *Ushbu maqola O‘zbekiston Respublikasida elektron to‘lov tizimlarining rivojlanishi va faoliyati, shuningdek ularning zamonaviy iqtisodiyot va moliya sektoriga ta’siri tahliliga bag‘ishlangan. Tadqiqotning dolzarbligi moliyaviy xizmatlarning jadal raqamlashtirilishi hamda korxonalar va iste’molchilarning naqd pulsiz hisob-kitoblarga bog‘liqligi ortib borayotgani bilan belgilanadi.*

Kalit so'zlar: *elektron to'lov tizimlari, raqamlashtirish, naqd pulsiz to'lovlar, mobil to'lovlar, UZCARD/HUMO.*

ВВЕДЕНИЕ

Электронная платежная система представляет собой технологию, которая позволяет проводить безналичные расчеты между физическими и юридическими лицами посредством интернета или других электронных каналов связи, исключая использование физических денег. Эти системы обеспечивают безопасность, скорость и удобство финансовых операций, автоматизируют процессы оплаты и позволяют совершать транзакции в любое время.

Согласно Закону Республики Узбекистан «О платежах и платежных системах» от 01.11.2019 г., № ЗРУ-578 «Средствами электронного платежа являются банковская карта или иной электронный носитель, содержащий информацию и позволяющий плательщику осуществлять платеж, а также производить иные операции, предусмотренные договором между плательщиком и эмитентом средств электронного платежа»[1].

В Узбекистане на данный момент развитие безналичных платежных систем находится на этапе активного роста, который поддерживается государственными реформами. Однако несмотря на высокие темпы цифровизации и значительные успехи национальных платежных систем, преобладание наличного оборота и кибербезопасность остаются основными проблемами на пути развития электронных платежных систем.

Литературный обзор:

В эпоху цифровизации изучение развития электронных платежных систем в Узбекистане является одним из актуальных тем исследования отечественных экономистов. По мнению Азларовой Д. , Туроповой У. (2025) ‹‹ Развитие платёжной системы Узбекистана является одним из приоритетных направлений государственной экономической политики. Учитывая высокий уровень проникновения мобильной связи, быстрое распространение интернета и растущую активность финтех-сектора, страна располагает

значительным потенциалом для создания современной, безопасной и инклюзивной платёжной инфраструктуры››[2].

По словам Платоновой В.(2023) ‹‹Сегодня количество бесконтактных платежей растёт во всём мире. И, что интересно, лидерами могут быть не только большие страны с сильными экономиками. Так, довольно высокие подобные показатели есть и в Центральной Азии. В Узбекистане также продолжает расти количество цифровых платежей. Это говорит о том, что электронные платежи используют в тех направлениях, где раньше, возможно, люди этого не делали. В ближайшее время этот тренд будет усиливаться››[3].

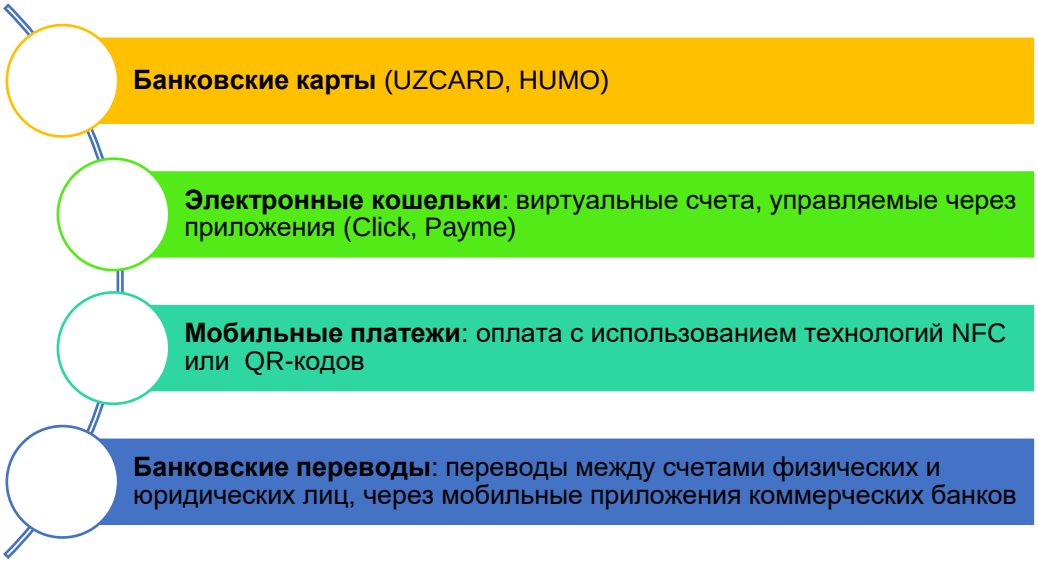
Рахимова Х.У. (2024) считает, что в условиях усиления цифровизации экономических и финансовых процессов валовые и розничные платежные системы Узбекистана все глубже трансформируются в сторону интеграции. Эта тенденция направлена на увеличение предложения платежных услуг, повышение автоматизации процессов и создание гибких и благоприятных условий для пользователей систем. Кроме того, интеграция способствует повышению рентабельности деятельности организаций, оказывающих платежные услуги[4].

Методология исследования: В данной работе использовались методы системного анализа, сравнительного анализа и статистической обработки данных.

Анализ и обсуждение результатов:

Безналичные расчеты — это осуществление платежей и переводов денежных средств без использования физических наличных денег (банкнот и монет) путем зачисления или списания средств со счетов в кредитных организациях (банках) или небанковских платежных организациях.

ИНСТРУМЕНТЫ БЕЗНАЛИЧНЫХ РАСЧЕТОВ:



Развитие электронных платежных систем в Узбекистане является одним из ключевых направлений цифровизации экономики, демонстрируя значительный рост, особенно после пандемии COVID-19.

В 2019 году была проведена масштабная подготовка к созданию в соответствии с международными стандартами Центра обработки данных при Центральном банке Республики Узбекистан в целях создания условий для круглосуточного проведения платежей хозяйствующими субъектами в режиме 24/7, началась работа над пилотным проектом по внедрению новой системы мгновенных платежей, которая обеспечит оплату в режиме 24/7[5]. Активно начали внедрять новые и удобные способы оплаты, таких как NFC и QR-платежи. Население стало активно пользоваться пластиковыми картами, что доказывается увеличением количества выпущенных пластиковых карточек в обращение.

Дата	**Количество банковских пластиковых карт, выпущенных в обращение**
01.01.2020 г.	**20 547 366**
01.01.2021 г.	**25 775 662**
01.01.2022 г.	**27 105 785**

01.01.2023 г.	**34 195 648**
01.01.2024 г.	**46 205 950**
01.01.2025 г.	**61 996 419**

Источник: официальный сайт Центрального банка.

По итогам 2024 года доля терминалов Humo в общем объеме транзакций через терминалы составила 40,5%, а доля терминалов Uzcard – 59,5%[6].

Мобильные приложения коммерческих банков дают возможность получения базовых банковских услуг, таких как вклады, обмен валюты, заказ банковских карт, оформление микрозайма, идентификация, что позволяет клиентам экономить время и затраты на физическое посещение. Благодаря таким удобствам количество пользователей дистанционными банковскими услугами на момент 01.07.2025г составляет 69,2 млн лиц из них 1,6млн являются юридическими лицами и индивидуальными предпринимателями, а остальные 67,6 млн- физические лица.



Источник: официальный сайт Центрального банка.

В результате цифровизации платежной системы предприниматели получили возможность принимать платежи не только посредством расчётных терминалов, но и через использование QR-кодов, NFC и других бесконтактных платёжных технологий.

В 2024 году количество выданных субъектам предпринимательства QR-кодов через информационную систему QR-online достигло почти 108 тыс., а объём транзакций, проведённых по этим кодам, увеличился в 1,3 раза по сравнению с 2023 годом и составил 441,8 млрд сумов[6].

Как видно по вышеуказанным данным развитие электронных платежных систем в стране идёт быстрыми темпами, но сталкивается с рядом системных и инфраструктурных проблем, которые замедляют полный переход к цифровой экономике. Основными проблемами на пути безналичных платежей является высокая доля наличных расчетов и теневой экономики. Несмотря на рост безналичных операций, значительная часть расчетов на рынках и в сфере услуг ведётся наличными средствами платежа, особенно в сельской местности. Это напрямую связано с низким качеством интернет-соединения в отдельных регионах и финансовой неграмотности . Следующим препятствием на пути цифровизации платежей является рост киберпреступности (списание денег с пластиковых карт пользователей), что подрывает доверие к цифровым сервисам.

Для решения этих проблем было разработано и внедрено в практику Положение «О мерах по обеспечению информационной безопасности и кибербезопасности платежных систем операторов платежных систем и поставщиков платежных услуг и профилактики правонарушений, совершаемых посредством цифровых технологий»[6].

В рамках мер по усилению защиты прав потребителей цифровых продуктов (услуг) и борьбы с правонарушениями, совершаемыми посредством цифровых технологий в Центральном банке в тестовом режиме была внедрена

централизованная антифрод-система, к которой подключены 34 банка и 9 платёжных организаций. Система предназначена для выявления и предотвращения подозрительных (фродовых) операций, совершаемых с использованием банковских карт. В результате оперативных мер, принятых Центральным банком по обращениям граждан о случаях мошенничества с банковскими картами, в 2024 году удалось заблокировать денежные средства на сумму 9,5 млрд сумов[6], что показывает эффективность принимаемых Центральным банком мер по улучшению кибербезопасности.

Кроме того, сотрудники Центрального банка приняли участие в просветительской кампании «Месяц повышения киберкультуры», а также в 36 телевизионных передачах, организованных в рамках этой инициативы. Целью мероприятий стало формирование у населения навыков «кибергигиены» и профилактика случаев кибермошенничества в отношении граждан[6].

ЗАКЛЮЧЕНИЕ И ПРЕДЛОЖЕНИЯ

Развитие электронных платежных систем в Узбекистане характеризуется активным ростом, подкрепленным государственными реформами и бурным развитием финтех-сектора (Uzcard, Humo, Click, Payme). Успешное преодоление существующих на данный момент проблем требует комплексного подхода, ориентированного на повышение доверия и безопасности, а также на финансовое просвещение населения, что обеспечит дальнейший переход к устойчивой цифровой экономике.

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5-SHO‘BA

TALABALARNING INTELLEKTUAL KOMPETENSIYALARINI RIVOJLANTIRISHNING ZARURAT

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Annotatsiya: *Ushbu maqolada talabalarning intellektual kompetensiyalarning mohiyati, rivojlantirish usullari va amaliy tavsiyalar ko‘rib chiqiladi. Tanqidiy va ijodiy fikrlashini hamda muammolarni hal qilish ko‘nikmalarini rivojlantirish haqida fikrlar bayon etilgan, shuningdek raqamli texnologiyalar intellektual kompetensiyalarni rivojlantirishdagi roli yoritilgan.*

Kalit so‘zlar: *intellektual kompetensiya, Blum taksonomiya, rivojlantirish, raqamli texnologiya, o‘qituvchi*

Аннотация: *В данной статье рассматриваются сущность, методы развития и практические рекомендации по формированию интеллектуальных компетенций учащихся. Представлены идеи о развитии критического и творческого мышления и навыков решения проблем, а также роль цифровых технологий в развитии интеллектуальных компетенций.*

Ключевые слова: *интеллектуальная компетенция, таксономия Блума, развитие, цифровые технологии, учитель*

Abstract: *This article examines the essence, development methods and practical recommendations of students' intellectual competencies. It presents ideas on the development of critical and creative thinking and problem-solving skills, as well as the role of digital technologies in the development of intellectual competencies.*

Keywords: *intellectual competence, Bloom's taxonomy, development, digital technology, teacher*

KIRISH

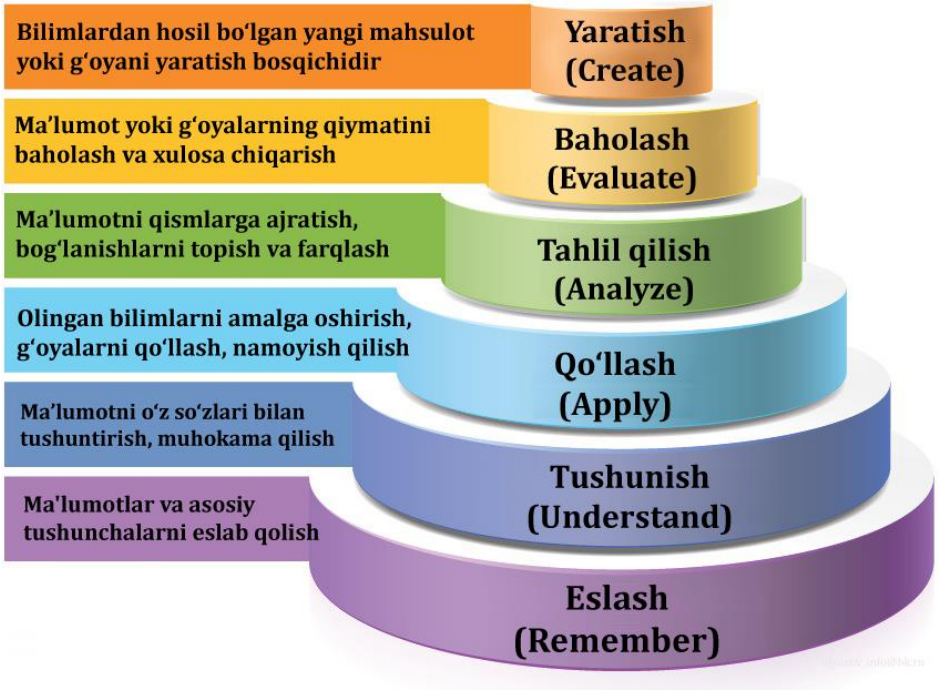
Zamonaviy ta’lim tizimida talabalarning intellektual kompetensiyalarini rivojlantirish eng muhim vazifalardan biri hisoblanadi. Globallashuv va texnologik

taraqqiyot tez sur’atlar bilan davom etayotgan bir davrda talabalarning fikrlash qobiliyati, muammolarni hal qilish ko‘nikmalari va ijodiy yondashuvi ularning kelajakdagi muvaffaqiyati uchun hal qiluvchi omilga aylanmoqda. Intellektual kompetensiyalar faqat bilim olish bilan cheklanmaydi, balki talabaning mustaqil fikrlashi, tahlil qilishi, sintezlash va baholash kabi yuqori darajadagi kognitiv jarayonlarni o‘z ichiga oladi.

Kompetensiya tushunchasi ta’lim sohasida keng tarqalgan bo‘lib, u shaxsning muayyan faoliyatni samarali bajarish uchun zarur bo‘lgan bilim, ko‘nikma va malakalarning yig‘indisi sifatida tavsiflanadi. Intellektual kompetensiyalar esa aynan aqliy faoliyat bilan bog‘liq bo‘lgan qobiliyatlarni o‘z ichiga oladi. Bu kompetensiyalar talabaning ma‘lumotlarni idrok etishi, tahlil qilishi, baholashi va amaliyotda qo‘llash imkoniyatlarini belgilaydi.

Xalqaro ta‘lim tadqiqotlarida intellektual kompetensiyalar bir nechta asosiy komponentlarga ajratiladi. Birinchisi, tanqidiy fikrlash qobiliyatidir - bu talabaning ma’lumotlarni shubha ostiga qo‘yishi, turli nuqtai nazarlarni tahlil qilishi va mustaqil xulosa chiqarishi imkonini beradi. Ikkinchisi, ijodiy fikrlashdir - bu yangi g‘oyalarni yaratish, an’anaviy yondashuvlardan chetga chiqish va noaniq vaziyatlarda ishlar topish qobiliyatidir. Uchinchisi, muammolarni hal qilish ko‘nikmasidir - bu murakkab vaziyatlarni tushunish, zarur strategiyalarni ishlab chiqish va samarali yechimlar topish qobiliyatidir.

Zamonaviy ta’lim konsepsiyalarida intellektual kompetensiyalar Blum taksonomiyasi asosida tizimlashtiriladi. Bu taksonomiyaga ko‘ra, aqliy jarayonlar o‘sib boruvchi murakkablik darajalarida joylashgan: eslash, tushunish, qo‘llash, tahlil, baholash va yaratish.



1-rasm. Blum taksonomiyasi

Blum taksonomiyasi (Bloom's Taxonomy) - bu ta'lim maqsadlarini tasniflashning mashhur tizimi bo'lib, 1956-yilda amerikalik pedagog va psixolog **Benjamin Bloom** boshchiligida olimlar guruhi tomonidan ishlab chiqilgan. U o'quv jarayonida talabalar nimani va qanday darajada o'rganishi kerakligini aniq belgilashga yordam beradi.

Taksonomiya asosan *kognitiv soha* (bilish jarayoni) ga qaratilgan bo'lib, o'quv maqsadlarini pastdan yuqoriga qarab murakkablik darajasiga ko'ra piramida shaklida joylashtiradi. Bu piramida shuni ko'rsatadiki, ta'lim faqat faktlarni yodlash bilan cheklanmasligi kerak. Yuqori darajalar (eslash, tushunish, qo'llash, tahlil, baholash va yaratish) talabalarda tanqidiy fikrlash, muammolarni hal qilish va ijodkorlikni rivojlantiradi.

Ta'lim jarayonida maqsad - talabalarni past darajadagi kognitiv jarayonlardan yuqori darajadagi fikrlash faoliyatiga olib chiqishdir. Bu esa faqat bilim olish bilan cheklanmaydi, balki talabaning o'zi bilim yaratishi, uni turli kontekstlarda qo'llashi va yangi ma'lumotlar asosida xulosa chiqarishini talab qiladi.

Zamonaviy jamiyatda intellektual kompetensiyalarning ahamiyati ortib bormoqda. Texnologiyalarning tez rivojlanishi, mehnat bozoridagi o‘zgarishlar va global muammolarning murakkablashuvi talabalardan yangi ko‘nikmalarni talab qiladi. O‘tmishda asosan aniq bilimlarga ega bo‘lish muhim hisoblangan bo‘lsa, hozirgi kunda bu bilimlarni qo‘llash, yangi vaziyatlarga moslashtirish va doimiy o‘rganish qobiliyati ustunlik qilmoqda.

Intellektual kompetensiyalar rivojlangan talaba bir nechta muhim afzalliklarga ega bo‘ladi. U o‘z-o‘zidan o‘rganishga qodir bo‘ladi, ya’ni ta’lim muassasasini bitirgandan so‘ng ham mustaqil ravishda yangi bilim va ko‘nikmalarni egallash imkoniyatiga ega bo‘ladi. Bundan tashqari, u turli sohalardagi murakkab muammolarni hal qila oladi, chunki uning fikrlash qobiliyati bir yo‘nalishda emas, balki ko‘p qirrali rivojlangan. Shuningdek, ijodiy fikrlash qobiliyati unga yangi g‘oyalarni yaratish, innovatsion yechimlar topish va o‘z sohasida liderlik qilish imkonini beradi.

Jahon iqtisodiyoti forumi va boshqa xalqaro tashkilotlarning tadqiqotlari shuni ko‘rsatadiki, kelajakda eng talabgor kasblar aynan yuqori intellektual kompetensiyalarni talab qiladi. Sun’iy intellekt va avtomatlashtirish ko‘proq aniq va takroriy ishlamalarni o‘z zimmasiga olayotgan bir davrda, insonlardan ijodiy fikrlash, murakkab muammolarni hal qilish va emotsional intellekt kabi ko'nikmalar talab qilinmoqda. Shu sababli, ta’lim tizimi allaqachon bugundan boshlab bu kompetensiyalarni rivojlantirishga e’tibor qaratishi lozim.

Intellektual kompetensiyalarni rivojlantirishning bir nechta usullari mavjud bo‘lib, jumladan:

Tanqidiy fikrlashni rivojlantirish. Tanqidiy fikrlash intellektual kompetensiyalarning asosiy komponentlaridan biri bo‘lib, talabaning ma’lumotlarni shubha ostiga qo‘yishi, mantiqiy fikrlashi va mustaqil xulosa chiqarishi imkonini beradi. Bu ko‘nikmani rivojlantirish uchun bir qator samarali usullar mavjud.

Socratic uslubi - bu eng samarali usullardan biri bo‘lib, unda o‘qituvchi savollar orqali talabalarni mustaqil fikrlashga undaydi. O‘qituvchi tayyor javoblar

bermasdan, balki to‘g‘ri savollar berish orqali talabaning o‘z xulosalariga kelishini rag‘batlantiradi. Masalan, o‘qituvchi “Nima uchun siz buni shunday deb o‘ylaysiz?” yoki “Bu xulosaga kelish uchun qanday dalillar kerak?” kabi savollar berishi mumkin. Bu uslub talabalarni chuqur o‘ylashga, dalillarni tahlil qilishga va o‘z nuqtai nazarlarini asoslashga undaydi.

Munozara va bahslar ham tanqidiy fikrlashni rivojlantirishning samarali vositasidir. Talabalar turli mavzular bo‘yicha fikrlarini himoya qilish, qarshi dalillarni tinglash va o‘z pozitsiyalarini moslashtirish imkoniyatiga ega bo‘ladi. Bu jarayon ularga turli nuqtai nazarlarni tushunish, mantiqiy argumentatsiyani rivojlantirish va o‘z fikrlarini aniq ifodalashni o‘rgatadi. Munozaralar shunchaki g‘olibni aniqlash uchun emas, balki fikrlashni rivojlantirish vositasi sifatida tashkil etilishi lozim.

Venn diagrammasi, T-chart va boshqa vizual vositalar ham tanqidiy fikrlashni rivojlantirishda muhim rol o‘ynaydi. Bu vositalar talabalarga ma’lumotlarni tashkil etish, taqqoslash va tahlil qilish imkonini beradi. Masalan, Venn diagrammasi yordamida talabalar ikki tushuncha, hodisa yoki g‘oyaning o‘xshashlik va farqlarini ko‘rishlari mumkin. Bu esa ularning tahliliy fikrlashini rivojlantiradi va murakkab tushunchalarni tushunishni osonlashtiradi.

Ijodiy fikrlashni rivojlantirish. Ijodiy fikrlash - bu yangi g‘oyalarni yaratish, an’anaviy yondashuvlardan chetga chiqish va noaniq vaziyatlarda ishlar topish qobiliyatidir. Bu kompetensiya ayniqsa innovatsion jamiyatda muhim ahamiyat kasb etadi va uni rivojlantirish maxsus yondashuv talab qiladi.

Beynstorming (miya hujumi) uslubi ijodiy fikrlashni rivojlantirishning eng keng tarqalgan usullaridan biridir. Bu usulda talabalar guruh bo‘lib muayyan muammoga yechim izlaydilar va barcha g‘oyalar, hatto g‘ala-g‘ovur bo‘lsa ham, yozib olinadi. Muhimi - bu jarayonda hech kim tanqid qilinmaydi, hamma fikrlar qabul qilinadi. Keyinroq g‘oyalar tahlil qilinadi va eng samaralari tanlab olinadi. Bu

uslub talabalarni erkin fikrlashga, xavfsizlikdan voz kechishga va guruhda ijodiy hamkorlik qilishga undaydi.

Lateral fikrlash uslubi ham ijodiy fikrlashni rivojlantirishda samarali hisoblanadi. Bu usulda an'anaviy yo'ldan tashqari yo'llar bilan o'ylash rag'batlantiriladi. Masalan, muammoni teskari tomondan ko'rish, boshqa sohalardagi yechimlarni qo'llash yoki cheklovlarni foydali deb hisoblash kabi yondashuvlar o'rgatiladi. Talabalar bu uslublarni o'rgangandan so'ng, har qanday muammoga yangi ko'z bilan qarashga qodir bo'ladi.

Loyihalarga asoslangan ta'lim ijodiy fikrlashni rivojlantirishning yana bir samarali usulidir. Bu usulda talabalar real muammolar yechimiga qaratilgan loyihalar ustida ishlaydilar. Ular o'zlari g'oyalar yaratish, rejalashtirish, ijro etish va natijalarni baholash jarayonidan o'tadilar. Bu jarayon ularga ijodiy qobiliyatlarini amalda qo'llash, xatolardan o'rganish va doimiy takomillashtirish imkonini beradi.

Muammolarni hal qilish ko'nikmalarini rivojlantirish. Muammolarni hal qilish - bu murakkab vaziyatlarni tushunish, zarur strategiyalarni ishlab chiqish va samarali yechimlar topish qobiliyatidir. Bu ko'nikma nafaqat ta'limda, balki hayotning barcha sohalarida muhim ahamiyat kasb etadi.

Muammoga asoslangan o'rganish (Problem-Based Learning) uslubi muammolarni hal qilish ko'nikmalarini rivojlantirishning eng samarali usullaridan biridir. Bu usulda ta'lim real muammolar atrofida quriladi. Talabalarga murakkab, ochiq muammolar beriladi va ular guruh bo'lib uning yechimini izlaydilar. Bu jarayonda talabalar ma'lumotlarni to'plash, tahlil qilish, gipotezalar ishlab chiqish, yechimlarni sinovdan o'tkazish va xulosa chiqarish kabi ko'nikmalarni egallaydilar. Algoritmik fikrlash ham muammolarni hal qilishning muhim komponentidir. Bu yondashuvda muammoni kichik, boshqariladigan qismlarga ajratish, ular o'rtasidagi bog'liqliklarni aniqlash va ketma-ket yechimlar ishlab chiqish o'rgatiladi. Bu ko'nikma ayniqsa matematika va informatika fanlarida muhim bo'lsada, u hayotning

barcha sohalarida qo‘llaniladi. Talabalar algoritmik fikrlashni o‘rgangandan so‘ng, murakkab muammolarni ham mayda qismlarga ajratib hal qila oladilar.

Masalan, interaktiv fizika simulyatsiyalari talabalarga real hayotda qilish qiyin bo‘lgan eksperimentlarni virtual tarzda o‘tkazish imkonini beradi. Ular turli parametrlarni o‘zgartirib, natijalarni kuzatib, g‘oyalarini sinab ko‘rishi mumkin. Bu jarayon ularning eksperimental fikrlash va muammolarni hal qilish ko‘nikmalarini rivojlantiradi. Bundan tashqari, simulyatsiyalar talabalarga “o‘rganish uchun xavfsiz muhit” yaratadi - ular xato qilishdan qo‘rqmasdan turib turli yondashuvlarni sinab ko‘rishi mumkin.

Sun’iy intellektga asoslangan o‘quv tizimlari ham intellektual kompetensiyalarni rivojlantirishda muhim rol o'ynaydi. Bu tizimlar talabaning bilim darajasini baholab, individual tarzda mos vazifalar taklif qilishi mumkin. Ular talabaning fikrlash jarayonini kuzatib, yo‘qolgan bilim yoki ko‘nikmalarni aniqlab, ularni to‘ldirishga yordam beradi. Bu individual yondashuv har bir talabaning intellektual rivojlanishini optimallashtiradi.

Raqamli savodxonlik zamonaviy intellektual kompetensiyalarning muhim komponentiga aylangan. Raqamli dunyoda samarali faoliyat yuritish uchun talabalar ma’lumotlarni topish, tahlil qilish, baholash va ijodiy foydalanish ko‘nikmalariga ega bo‘lishlari kerak. Bu ko‘nikmalar an’anaviy intellektual kompetensiyalarni raqamli kontekstga moslashtirishni talab qiladi.

Axborotni baholash ko‘nikmasi raqamli muhitda ayniqsa muhim. Internetda aksariyat axborot notekshirilgan, bir tomonlama yoki noto‘g‘ri bo‘lishi mumkin. Talabalar manbalarni tekshirish, bir nechta nuqtai nazarlarni solishtirish va axborotning ishonchliligini baholashni o‘rganishlari kerak. Bu ko‘nikma ularning tanqidiy fikrlashini rivojlantiradi va ularni manipulyatsiyadan himoya qiladi.

Raqamli ijtimoiy tarmoqlarda muloqot qilish ko‘nikmasi ham muhim ahamiyat kasb etadi. Talabalar raqamli platformalarda fikrlarini aniq va ijobiy ifodalash, turli nuqtai nazarlarni hurmat qilish va konstruktiv munozara yuritishni

o‘rganishlari kerak. Bu ko‘nikmalar ularning kommunikativ va ijtimoiy intellektual kompetensiyalarini rivojlantiradi.

XULOSA

Talabalarning intellektual kompetensiyalarini rivojlantirishning ahamiyati ko‘p qirrali va chuqur mazmunga ega. Bu ahamiyat shaxsiy rivojlanish, iqtisodiy taraqqiyot, jamiyat taraqqiyoti va global kontekstda namoyon bo‘ladi. Intellektual kompetensiyalar yuqori darajada rivojlangan shaxslar hayotning turli sohalarida muvaffaqiyatli bo‘ladi, ular doimiy o‘rganish va o‘z-o‘zini rivojlantirish qobiliyatiga ega bo‘ladi, murakkab muammolarni hal qila oladi va ijodiy yechimlar topa oladi. Bu esa nafaqat individual muvaffaqiyat, balki jamiyat va mamlakatning umumiy taraqqiyotiga hissa qo‘shadi.

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TA’LIM-TARBIYADA TRIZ TEXNOLOGIYASI ASOSIDA KREATIV VA MUHANDISLIK TAFAKKURINI RIVOJLANTIRISH

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Annotatsiya: *Ushbu maqolada ta’lim va tarbiya jarayonida TRIZ texnologiyasi asosida o‘quvchilarning kreativ va muhandislik tafakkurini rivojlantirish konsepsiyasi yoritilgan. Tadqiqot davomida TRIZ metodologiyasining asosiy tamoyillari pedagogik jarayonga moslashtirildi hamda muammoli va loyihaviy ta’lim yondashuvlari bilan integratsiya qilindi. Tajriba natijalari shuni ko‘rsatdiki, bu texnologiya o‘quvchilarda mustaqil fikrlash, muammolarni tahlil qilish va innovatsion yechimlar ishlab chiqish ko‘nikmalarini sezilarli darajada rivojlantiradi. Shuningdek, muhandislik tafakkurining asosiy komponentlari tizimli yondashuv, modellashtirish va optimallashtirish qobiliyatlarini shakllantirishga ijobiy ta’sir ko‘rsatishi aniqlandi. Maqolada TRIZ texnologiyasini ta’lim tizimiga samarali joriy etish bo‘yicha amaliy tavsiyalar ham taqdim etilgan.*

Kalit so‘zlar: *TRIZ texnologiyasi, kreativ fikrlash, muhandislik tafakkuri, innovatsion ta’lim, muammoli o‘qitish, loyihaviy yondashuv, ijodiy tafakkur, pedagogik texnologiyalar, ta’lim samaradorligi, tizimli tafakkur.*

Abstract: *This article explores a concept for developing students’ creative and engineering thinking based on TRIZ technology in the educational process. During the study, the main principles of TRIZ methodology were adapted to the pedagogical process and integrated with problem-based and project-based learning approaches. The results of the study show that this technology significantly enhances students’ independent thinking, problem analysis, and ability to generate innovative solutions. In addition, its positive impact on the formation of key components of engineering thinking systemic approach, modeling, and optimization skills was identified. The*

article also provides practical recommendations for the effective implementation of TRIZ technology in the education system.

Keywords: *TRIZ technology, creative thinking, engineering thinking, innovative education, problem-based learning, project-based approach, creative thinking, pedagogical technologies, educational effectiveness, systems thinking.*

KIRISH

Zamonaviy ta’lim tizimi oldida turgan asosiy vazifalardan biri o‘quvchilarda ijodiy, innovatsion va muhandislik tafakkurini shakllantirishdan iborat. An’anaviy ta’lim usullari ko‘pincha reproduktiv bilimlarni uzatishga yo‘naltirilgan bo‘lib, bu o‘quvchilarning mustaqil fikrlash ko‘nikmalarini yetarlicha rivojlantirishni ta’minlamaydi. Shu nuqtayi nazardan, ta’lim jarayoniga Ixtirochilik masalalarini yechish nazariyasi (TRIZ) texnologiyasini integratsiya qilish dolzarb ahamiyat kasb etadi. Mazkur maqolada TRIZ asosida ijodiy va muhandislik tafakkurini rivojlantirish konsepsiyasi ishlab chiqilgan.

ASOSIY QISM

TRIZ texnologiyasining asosiy tarkibiy qismlari ziddiyatlarni aniqlash, ideal yakuniy natija (IYN), resurslardan foydalanish va standart yechimlar ta’lim jarayoniga moslashtirildi. Shuningdek, muhandislik tafakkurini rivojlantirish uchun loyihaviy va muammoli ta’lim usullari ham integratsiya qilindi. Tadqiqot natijalari quyidagilarni ko‘rsatdi:

1) TRIZ asosida tashkil etilgan darslar o‘quvchilarning muammoli vaziyatlarga bo‘lgan qiziqishini oshirdi;

2) o‘quvchilarning kreativ fikrlash darajasi sezilarli darajada rivojlandi;

3) o‘quvchilar murakkab muammolarni tahlil qilishni va ularning bir nechta yechim variantlarini ishlab chiqishni o‘rgandilar;

4) muhandislik tafakkurining unsurlari (tizimli fikrlash, model yaratish, optimallashtirish) shakllantirildi.

Tajriba guruhlaridagi o‘quvchilarning mustaqil ishlash ko‘rsatkichlari nazorat guruhidagiga nisbatan yuqori bo‘ldi. Natijalar TRIZ texnologiyasi ta’lim sohasida samarali vosita ekanligini tasdiqlaydi. Bunday yondashuv o‘quvchilarda nafaqat bilimlarni, balki amaliy ko‘nikmalarni ham rivojlantiradi. Xususan, TRIZ real hayotdagi texnik va ijtimoiy muammolarni hal etishga yo‘naltirilgani bois muhandislik tafakkurini shakllantirishda muhim o‘rin tutadi.

Shu bilan birga, TRIZni ta’limga joriy etishda o‘qituvchilarning malakasini oshirish, uslubiy qo‘llanmalar ishlab chiqish va o‘quv dasturlarini moslashtirish talab etiladi.

XULOSA

TRIZ texnologiyasi asosida ishlab chiqilgan konsepsiya o‘quvchilarda kreativ va muhandislik tafakkurini rivojlantirishning samarali vositasidir. Ushbu yondashuvni ta’lim tizimiga keng joriy etish innovatsion fikrlaydigan va muammolarni mustaqil hal qila oladigan kadrlarni tayyorlashga xizmat qiladi. Kelajakda bu yo‘nalishda yanada kengroq empirik tadqiqotlar o‘tkazish va TRIZ asosida raqamli ta’lim resurslarini yaratish maqsadga muvofiqdir.

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ИСПОЛЬЗОВАНИЕ ЦИФРОВЫХ ПОРТФОЛИО ПРИ ОЦЕНИВАНИИ ПРАКТИЧЕСКОЙ ДЕЯТЕЛЬНОСТИ СТУДЕНТОВ

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***Annotatsiya**: Mazkur maqolada talabalarning amaliy faoliyatini baholashda raqamli portfoliolardan foydalanishning pedagogik imkoniyatlari tahlil qilingan. Zamonaviy ta'lim jarayonida talabalarning amaliy topshiriqlari, loyihalari, mustaqil ishlari va refleksiv faoliyatini an'anaviy baholash vositalari orqali to'liq yoritish qiyinlashib bormoqda. Shu bois raqamli portfolio talabaning individual rivojlanish trayektoriyasini, amaliy faoliyatdagi natijalarini va o'sish dinamikasini aks ettiruvchi samarali vosita sifatida qaraladi. Tadqiqotda raqamli portfolioning didaktik imkoniyatlari, uning tarkibiy qismlari, amaliy faoliyatni baholashdagi o'rni, baholash mezonlari va joriy etish bosqichlari yoritilgan. Natijada raqamli portfoliolardan foydalanish talabalarning mustaqil ishlashi, refleksiyasi, ijodiy yondashuvi va kasbiy kompetensiyalarini baholashda muhim pedagogik vosita ekanligi asoslangan.*

***Аннотация**: В данной статья рассматриваются педагогические возможности использования цифрового портфолио в оценивании практической деятельности студентов. В условиях цифровой трансформации образования традиционные средства оценивания не всегда позволяют в полной мере отразить индивидуальный прогресс студента, результаты его практических работ, самостоятельную деятельность и рефлексию. В связи с этим цифровое портфолио рассматривается как эффективный инструмент накопления, систематизации, анализа и представления результатов учебной и практической деятельности. В исследовании раскрыты дидактические возможности цифрового портфолио, его структура, роль в оценивании практической деятельности, а также критерии и показатели оценивания. Обосновано, что использование цифрового*

портфолио способствует повышению объективности, прозрачности и развивающего характера оценивания, а также формированию самостоятельности, рефлексии и профессиональных компетенций студентов.

***Abstract**: This article examines the pedagogical potential of using digital portfolios in assessing students' practical activity. In the context of the digital transformation of education, traditional assessment tools do not always fully reflect students' individual progress, the results of their practical tasks, independent work, and reflection. Therefore, a digital portfolio is considered an effective tool for collecting, systematizing, analyzing, and presenting the outcomes of educational and practical activity. The study reveals the didactic possibilities of digital portfolios, their structure, their role in assessing practical activity, as well as assessment criteria and indicators. It is substantiated that the use of digital portfolios contributes to increasing the objectivity, transparency, and developmental nature of assessment, and also supports the formation of students' independence, reflection, and professional competencies.*

***Kalit so'zlar**: Raqamli portfolio, amaliy faoliyat, baholash, kasbiy ta'lim, refleksiya, mustaqil ish, kompetensiya, raqamli ta'lim muhiti, monitoring, pedagogik baholash.*

***Ключевые слова**: Цифровое портфолио, практическая деятельность, оценивание, профессиональное образование, рефлексия, самостоятельная работа, компетентность, цифровая образовательная среда, мониторинг, педагогическая оценка.*

***Keywords**: Digital portfolio, practical activity, assessment, vocational education, reflection, independent work, competence, digital educational environment, monitoring, pedagogical assessment.*

ВВЕДЕНИЕ

В настоящее время цифровая трансформация, происходящая в системе образования, требует внедрения новых подходов и в процесс оценивания. Традиционные методы оценивания чаще всего отражают только итоговый результат студента, однако они не всегда позволяют в полной мере показать процесс его практической деятельности, самостоятельного поиска, творческой разработки и поэтапного развития. Особенно в профессиональном и высшем образовании при оценивании практической деятельности студентов важное значение приобретают непрерывность, прозрачность, доказательность и рефлексивность.

Практическая деятельность студентов представляет собой многогранный процесс, включающий применение теоретических знаний в реальных или условных практических ситуациях, выполнение заданий, решение проблем, разработку проектов, моделирование, анализ, а также оценивание собственной деятельности. Полноценно оценить такую деятельность только на основе разовых контрольных работ или простых рейтингов достаточно сложно. Поэтому в современной педагогике возрастает интерес к технологии цифрового портфолио.

Цифровое портфолио - это средство системного накопления, хранения, анализа и представления результатов учебной и практической деятельности студента в электронной форме. В него могут быть включены практические работы, результаты проектов, самостоятельные задания, презентации, графические материалы, видео - и аудиозаписи, листы самооценивания, рефлексивные комментарии, а также отзывы преподавателя. В результате цифровое портфолио показывает не только итоговый результат студента, но и динамику его развития.

Цель данной статьи заключается в обосновании педагогических возможностей использования цифровых портфолио при оценивании практической деятельности студентов.

В качестве задач исследования были определены: анализ педагогических основ практической деятельности и её оценивания; раскрытие понятия цифрового портфолио и его дидактических возможностей; определение путей использования цифровых портфолио при оценивании практической деятельности; выявление критериев и показателей оценивания; обоснование этапов и методики внедрения цифрового портфолио.

Объект исследования-практическая деятельность студентов в образовательном процессе.

Предмет исследования-процесс использования цифровых портфолио при оценивании практической деятельности.

Гипотеза исследования заключается в том, что если при оценивании практической деятельности студентов системно и методически обоснованно использовать цифровые портфолио, то повысится объективность и прозрачность оценивания, а также эффективность выявления самостоятельной работы, рефлексии и профессиональных компетенций студентов.

МЕТОДЫ ИССЛЕДОВАНИЯ

Методологическую основу исследования составили системный, компетентностный, деятельностный и личностно-ориентированный подходы. Системный подход позволил рассматривать цифровое портфолио как составную часть процесса оценивания, то есть как единство цели, содержания, средства, мониторинга и результата. Компетентностный подход был направлен на отражение в портфолио знаний, умений, навыков и компетенций студента. Деятельностный подход предусматривал учёт не только итогового результата, но и процесса выполнения задания, поиска и анализа. Личностно-ориентированный подход позволил отслеживать индивидуальную траекторию развития студента.

В исследовании были использованы методы анализа научно-педагогической литературы, наблюдения, беседы, анкетирования, анализа результатов практических работ, опытно-экспериментальной работы и статистического обобщения. На основе изучения научных источников были проанализированы теоретические основы технологии портфолио, взгляды на оценивание практической деятельности и дидактические возможности цифрового портфолио.

С помощью метода наблюдения изучалась активность студентов в процессе выполнения практических заданий, их способность к накоплению и систематизации материалов, а также отношение к самооцениванию.

Посредством бесед и анкетирования были уточнены взгляды, удобства и проблемы, связанные с цифровым портфолио, среди преподавателей и студентов. Анализ результатов практических работ позволил изучить полноту, качество и динамику роста содержания портфолио.

Опытно-экспериментальная работа проводилась в несколько этапов. На первоначальном этапе было изучено существующее состояние оценивания практической деятельности студентов. На следующем этапе в экспериментальной группе было внедрено цифровое портфолио: студенты размещали практические задания, проектные работы, аналитические записи, материалы рефлексии и самооценивания в специальной электронной среде. На заключительном этапе результаты оценивания на основе цифрового портфолио были сопоставлены с результатами традиционного оценивания.

При оценивании в качестве основных критериев были определены: качество практических работ, полнота и системность выполнения заданий, уровень самостоятельности, креативность, качество рефлексии, навыки использования цифровых средств, динамика развития и результативность.

РЕЗУЛЬТАТЫ ИССЛЕДОВАНИЯ

Результаты исследования показали, что цифровое портфолио является эффективным педагогическим средством при оценивании практической деятельности студентов. Прежде всего, цифровое портфолио позволило системно накапливать результаты учебной и практической деятельности студента. Поскольку выполненные студентом практические работы, проекты, презентации, модели, графики, лабораторные работы, эссе и рефлексивные записи были собраны в одном месте, его развитие стало возможным увидеть в целостном виде.

Цифровое портфолио стало удобным инструментом для определения качества и полноты практических работ. Преподаватель получил возможность наблюдать не только итоговый результат, но и то, на каких этапах была

выполнена работа, какие материалы использовались, насколько самостоятельно она была выполнена и как студент работал над ошибками. Это, в свою очередь, повысило объективность оценивания.

Кроме того, цифровое портфолио показало динамику роста студента. В традиционном оценивании чаще всего оценивается результат за определённый период времени, тогда как с помощью портфолио становится возможным наглядно увидеть поэтапное развитие студента, различия между начальными и последующими работами, а также совершенствование навыков и умений.

В ходе исследования ещё одним важным преимуществом цифрового портфолио было определено развитие рефлексии и самооценивания. Студенты получили возможность по каждой работе записывать собственные мысли, указывать трудности, анализировать свои сильные и слабые стороны. Это усилило их ответственное отношение к собственной деятельности.

Цифровое портфолио также стимулировало самостоятельную работу и творческий подход. Студенты стремились размещать свои работы эстетично и содержательно, обогащать их дополнительными материалами, демонстрировать индивидуальный стиль. В результате их активность возросла, а процесс оценивания превратился не только в средство контроля, но и в пространство самопрезентации.

Согласно результатам, использование цифрового портфолио при оценивании практической деятельности показало эффективность в следующих направлениях: доказательное документирование результатов практических работ и проектов; отслеживание индивидуальной траектории развития студента; формирование рефлексии и самооценивания; усиление обратной связи между преподавателем и студентом; обеспечение прозрачности и объективности оценивания.

На основе цифрового портфолио были также уточнены критерии оценивания. К ним относятся качество практического задания, полнота

материалов, уровень самостоятельности, креативность, содержание рефлексии, качество использования цифровых средств и динамика итогового роста. Было установлено, что на основе данных критериев можно выделить высокий, средний и низкий уровни сформированности практической деятельности.

ОБСУЖДЕНИЕ РЕЗУЛЬТАТОВ

Полученные результаты показывают, что цифровое портфолио обладает более широкими педагогическими возможностями при оценивании практической деятельности студентов по сравнению с традиционными средствами. Традиционное оценивание чаще всего ограничивается тестом, устным ответом или итоговым практическим заданием. Такой подход показывает результат, однако недостаточно отражает процесс, динамику роста и рефлексивную деятельность студента. Цифровое портфолио, напротив, позволяет отслеживать индивидуальное развитие студента на основе доказательных материалов.

В процессе обсуждения было установлено, что цифровое портфолио придаёт оцениванию более развивающий характер. Это связано с тем, что студент регулярно размещает, анализирует, исправляет и обновляет свои работы. Преподаватель, в свою очередь, предоставляет не только итоговую оценку, но и рекомендации и обратную связь в ходе выполнения деятельности. В результате оценивание превращается из средства контроля в средство обучения и развития.

Цифровое портфолио особенно удобно для профессионального образования, поскольку в данном виде образования важное значение имеет документирование практических заданий, проектных работ, лабораторных процессов и профессиональных ситуаций. Отражение практической подготовки студента в портфолио в дальнейшем может быть полезным и для демонстрации его профессионального потенциала.

Однако при внедрении цифрового портфолио существуют и определённые проблемы. Прежде всего, цифровая компетентность студентов и преподавателей должна быть достаточной. В противном случае ведение портфолио может превратиться в формальность. Вторая проблема заключается в том, что при недостаточно чётко разработанных критериях оценивания может возникнуть субъективность при оценке содержания портфолио. В-третьих, в образовательных учреждениях, где недостаточно технических средств и интернет-обеспечения, внедрение данного подхода может быть затруднено.

Поэтому для эффективного использования цифрового портфолио важными являются следующие рекомендации: разработать единую структуру портфолио; заранее чётко определить критерии и показатели оценивания; обучить студентов и преподавателей работе с цифровым портфолио; включить разделы рефлексии и самооценивания в качестве обязательных структурных компонентов; наладить систему мониторинга и анализа на основе портфолио.

Таким образом, цифровое портфолио является эффективным средством, обеспечивающим прозрачный, доказательный, рефлексивный и развивающий подход к оцениванию практической деятельности студентов.

ЗАКЛЮЧЕНИЕ

Согласно результатам исследования, использование цифровых портфолио при оценивании практической деятельности студентов является одним из важных педагогических решений для современного образования. Цифровое портфолио представляет в целостном виде практические работы студента, его самостоятельные исследования, проекты, рефлексию и динамику развития. Это обеспечивает объективность, прозрачность и непрерывность оценивания.

Педагогическое значение цифрового портфолио заключается в том, что оно отражает не только готовый результат, но и процесс деятельности,

приведший к этому результату. Поэтому оно служит эффективным средством для определения таких показателей, как качество практических заданий, уровень самостоятельности, креативность, рефлексия и цифровая грамотность.

Научная новизна исследования проявляется в систематизации педагогических возможностей оценивания практической деятельности на основе цифрового портфолио, уточнении критериев и показателей оценивания, а также обосновании методики его внедрения. Практическая значимость заключается в возможности использования данного подхода для совершенствования системы оценивания в учреждениях профессионального и высшего образования.

В перспективе одним из актуальных направлений остаётся обогащение системы цифрового портфолио средствами learning analytics, автоматизированного мониторинга и механизмами анализа на основе искусственного интеллекта.

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1930-YILLAR BOSHIDA O‘ZBEKISTON SSR TA’LIM TIZIMIDAGI INSTITUTSIONAL VA MAFKURAVIY TRANSFORMATSIYALAR (“Maorif va o‘qutg‘uchi” jurnali materiallari asosida)

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Abstract: *This thesis analyzes the institutional, economic, and ideological changes implemented in the educational system of the Uzbek SSR in the 1930s from the perspective of source studies and historiography, based on the 1930 issues of the “Maorif va o‘qutg‘uchi” journal. It highlights the subordination of education from a purely academic function to the agrarian-industrial and totalitarian-ideological needs of the state, the legalization of child labor, and the politicization of academic subjects.*

Keywords: *Soviet pedagogy, “Maorif va o‘qutg‘uchi” journal, Narkompros, institutional deconstruction, utilitarianism, ideological indoctrination, agrominimum, complex system.*

Annotatsiya: *Ushbu tezis 1930-yillarda O‘zbekiston SSR ta’lim tizimida amalga oshirilgan institutsional, iqtisodiy va mafkuraviy o‘zgarishlarni “Maorif va o‘qutg‘uchi” jurnalining 1930-yilgi nashrlari asosida manbashunoslik va tarixshunoslik nuqtai nazaridan tahlil qiladi. Ta’limning sof akademik funksiyadan davlatning agrar-sanoat va totalitar-mafkuraviy ehtiyojlariga bo‘ysundirilishi, bolalar mehnatining legallashuvi hamda o‘quv fanlarining siyosiylashuvi masalalari yoritilgan.*

Kalit so‘zlar: *sovet pedagogikasi, “Maorif va o‘qutg‘uchi” jurnali, Narkompros, institutsional dekonstruksiya, utilitarizm, mafkuraviy indoktrinatsiya, agrominimum, kompleks tizimi.*

KIRISH

1920-yillarning oxiri va 1930-yillarning boshlari sovet ta’lim tizimining qat’iy totalitar-marksistik qolipga solinish davri hisoblanadi. O‘zbekistonda amalga oshirilgan “Madaniy inqilob” faqatgina savodsizlikni tugatish emas, balki an'anaviy dunyoqarashni dekonstruksiya qilib, ta’limni “Besh yillik” rejalar vositasiga aylantirishni maqsad qilgan. Bu jarayonlarning birlamchi xronikasi sifatida “Maorif va o‘qutg‘uchi” jurnali materiallari sovet sotsial injiniringining maktab darajasidagi tatbiqini fosh etuvchi muhim manba hisoblanadi.

Tadqiqot obyekti va metodologiyasi. Tadqiqot obyekti sifatida “Maorif va o‘qutg‘uchi” jurnalining 1930-yilda nashr etilgan 1-, 2-3- va 4-5-sonlari olingan. Metodologik jihatdan muammo qiyosiy-tarixiy, diskurs-tahlil, shuningdek, birlamchi manbalarni institutsional va gnoseologik tanqid qilish (source criticism) usullari orqali yoritildi.

Tarixiy manbalar tahlili 1930-yilgi ta’lim islohotlarining uchta yirik yo‘nalishda kechganini ko‘rsatadi:

Institutsional dekonstruksiya va ta’limning sanoatlashuvi: 1929-yilgi VKP(b) Markaziy Komitetining noyabr plenumi qarorlaridan so‘ng, O‘zbekistonda Maorif Xalq Komissarligi (Narkompros) o‘zining real boshqaruv vakolatlarini yo‘qotdi. Eng muhim moliyaviy va strategik ahamiyatga ega muassasalar (kasb-hunar maktablari, texnikumlar) to‘g‘ridan-to‘g‘ri Iqtisodiy komissarliklar (zavod va fabrikalar) balansiga o‘tkazildi. Narkompros faqat “qog‘oz” va metodika bilan shug‘ullanuvchi ojiz organga aylantirilib, ta’lim to‘liq idoraviy manfaatlar va sanoat ehtiyojlariga bo‘ysundirildi. Tuman maorif bo‘limlari “yumshoqlik”da ayblanib, kollektivlashtirish davrida qishloqlarga qarshi “zirhli musht” (zarbdor kuch) sifatida harbiylashtirilgan ish rejimiga o‘tkazildi.

Pedagogik utilitarianizm va iqtisodiy ekspluatatsiya: maktab ta’limining mazmuni akademik fundamentalizmdan voz kechib, o‘ta pragmatik, agrar-utilitar xususiyat kasb etdi.

- “Kompleks” va “Loyiha” tizimlari: Boshlang‘ich maktablarda fanlar (matematika, ona tili) mustaqil o‘qitilishi taqiqlanib, “Kiyimlar g‘ami”, “Uy sharoiti” yoki “Traktor” kabi xo‘jalik komplekslari atrofida birlashtirildi. Darslar jarayonida o‘quvchilar “paxtani qatorlab ekish” loyihalarini tuzishga va uni bevosita dalada bajarishga majbur qilingan.
- Agrominimum va bolalar mehnati: Maktablarga “Majburiy agrominimum” joriy etilib, bolalar urug‘larni zaharli kimyoviy moddalar bilan tozalash kabi xavfli ishlarga jalb qilingan. “Uzluksiz ishlab chiqarish praktikasi” orqali o‘quvchilar yil davomida kolxozlarda mehnat qilishlari qonuniylashtirildi. O‘smirlar esa bolalar uylaridan to‘g‘ridan-to‘g‘ri ishlab chiqarishga “surgun” qilingan.

Mafkuraviy indoktrinatsiya va “Yangi inson” konstruksiyasi: ta’lim orqali jamiyatni totalitar qolipga solish turli fanlar kesimida amalga oshirildi:

- Adabiyot va ijtimoiyot fanlari: Saloh Jamolov kabi metodistlarning ko‘rsatmalari bilan adabiyot darsi estetik funksiyasini yo‘qotib, Marksizm negizidagi “Sinfiy jangchi” tarbiyalash quroliga aylandi. Boshlang‘ich sinflarning “Jamiyatni o‘rganish” darslarida (M. Rashidov dasturi) bolalarga jamiyatni qat’iy dikotomik (boylar va kambag‘allar qarama-qarshiligi) tarzda idrok etish va o‘z ota-onalarining eskicha dehqonchilik odatlariga qarshi tashviqot olib borish majburiyati yuklandi.
- O‘lkashunoslik va biologiya: o‘lkashunoslik (Krayevedeniye) fani tarixiy va madaniy merosni o‘rganishdan voz kechib, sotsialistik qurilish uchun resurslarni “inventarizatsiya” qiluvchi statistik apparatga aylandi. Biologiya faniga (L. Potapov maqolalari) Darvinizmning faol kiritilishi esa, o‘quvchilarda dindorlikka qarshi (militant ateizm) dunyoqarashni shakllantirish maqsadini ko‘zlagan edi.
- Baynalmilalchilik va assotsiatsiya: Milliy maktab g‘oyasi inkor etilib, bolalar rus maktablari bilan qo‘shma “international” bayramlarda aralashtirildi. Talabalar ustidan komsomol va partiya yig‘ilishlari orqali “xarakteristika” (ommaning oldida hisobot berish) berish amaliyoti yo‘lga qo‘yilib, ijtimoiy nazorat kuchaytirildi.

1930-yillarning birinchi yarmida O‘zbekiston SSR ta’lim tizimi o‘zining sof akademik erkinligidan va insonparvarlik mohiyatidan to‘liq mahrum etildi. “Maorif va o‘qutg‘uchi” jurnali tahlili isbotlaydiki, maktablar sotsialistik sanoatlashuv va kolxozlashtirish jarayonlariga xizmat qiluvchi utilitar o‘quv markazlariga, o‘quvchilar esa totalitar davlatning itoatkor iqtisodiy va mafkuraviy resursiga aylantirilgan. Davlatning bu pedagogik aralashuvi kelajakdagi chuqur intellektual va milliy-ma’naviy qadriyatlar inqirozi uchun fundamental zamin yaratdi.

FOYDALANILGAN ADABIYOTLAR RO‘YXATI:

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2. Maorif va o‘qutg‘uchi. – Toshkent: O‘zSSR Maorif Xalq Komissarligi nashri, 1930. – №2-3 (Fevral-Mart). – B. 26-45.

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WHY SOME STUDENTS ARE NOT INTERESTED IN ENGLISH CLASSES

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Abstract. *In this article, a comprehensive analysis is conducted to identify the key factors influencing students' lack of interest in English classes, along with practical approaches to prevent disengagement and enhance learning outcomes. In contemporary educational contexts, English is widely recognized as a global lingua franca, essential for academic, professional, and intercultural communication. Despite its importance, a considerable number of students demonstrate low levels of engagement and interest in English classes. This study aims to investigate the underlying pedagogical, psychological, and contextual factors contributing to this phenomenon. A mixed-method research design was employed, integrating quantitative data obtained through student questionnaires with qualitative insights derived from classroom observations and teacher interviews. The findings indicate that traditional teacher-centered instruction, language anxiety, limited communicative practice, and low perceived relevance of classroom content significantly affect learners' motivation. The study further emphasizes the importance of interactive and learner-centered approaches in fostering engagement. The results contribute to current discussions in applied linguistics and provide practical recommendations for improving classroom practices.*

Keywords: *learner motivation, English language learning, classroom engagement, language anxiety, communicative competence, student-centered learning.*

Annotatsiya. *Ushbu maqolada o'quvchilarning ingliz tili darslariga qiziqmasligiga ta'sir etuvchi asosiy omillarni aniqlash hamda o'quv jarayonidan chetlanishni oldini olish va ta'lim samaradorligini oshirish bo'yicha amaliy yondashuvlar kompleks tahlil qilinadi. Zamonaviy ta'lim sharoitida ingliz tili global lingua franca sifatida e'tirof etilib, akademik, kasbiy va*

madaniyatlararo muloqot uchun muhim vosita hisoblanadi. Shunga qaramay, ko‘plab o‘quvchilar ingliz tili darslariga nisbatan past qiziqish va faollik namoyon etmoqda.

Mazkur tadqiqot ushbu holatga sabab bo‘luvchi pedagogik, psixologik va kontekstual omillarni o‘rganishga qaratilgan. Tadqiqotda aralash metod (mixed-method) qo‘llanilib, o‘quvchilar so‘rovnomalari orqali olingan kvantitativ ma’lumotlar sinf kuzatuvlari va o‘qituvchilar bilan o‘tkazilgan suhbatlar asosida olingan sifatli ma’lumotlar bilan boyitildi.

Natijalar shuni ko‘rsatdiki, an’anaviy o‘qituvchi markazidagi yondashuv, til o‘rganishdagi xavotir (language anxiety), kommunikativ amaliyotning yetishmasligi hamda dars mazmunining o‘quvchilar uchun past darajada ahamiyatli deb qabul qilinishi motivatsiyaga sezilarli salbiy ta’sir ko‘rsatadi. Tadqiqot, shuningdek, interaktiv va o‘quvchiga yo‘naltirilgan yondashuvlarning o‘quvchilar faolligini oshirishdagi muhim rolini ta’kidlaydi.

Natijalar amaliy tilshunoslik sohasidagi dolzarb muhokamalarga hissa qo‘shadi hamda sinf amaliyotini takomillashtirish bo‘yicha amaliy tavsiyalarni taqdim etadi.

Kalit so‘zlar: *o‘quvchi motivatsiyasi, ingliz tilini o‘rganish, sinf faolligi, til o‘rganishdagi xavotir, kommunikativ kompetensiya, o‘quvchiga yo‘naltirilgan ta’lim.*

Аннотация. *В данной статье проводится комплексный анализ ключевых факторов, влияющих на отсутствие интереса учащихся к занятиям английским языком, а также рассматриваются практические подходы к предотвращению снижения вовлечённости и повышению эффективности обучения. В современных образовательных условиях английский язык признан глобальным средством общения, необходимым для академической, профессиональной и межкультурной коммуникации. Несмотря на это, значительное число учащихся демонстрирует низкий уровень интереса и вовлечённости на уроках английского языка.*

Целью данного исследования является выявление педагогических, психологических и контекстуальных факторов, обусловливающих данное явление. В исследовании использован смешанный метод, включающий количественные данные, полученные посредством анкетирования учащихся, и качественные данные, собранные на основе наблюдений в классе и интервью с преподавателями.

Результаты показывают, что традиционный учитель-ориентированный подход, языковая тревожность, недостаток коммуникативной практики, а также низкая воспринимаемая значимость содержания занятий существенно влияют на мотивацию

учащихся. В работе также подчёркивается важность интерактивных и студентоориентированных подходов для повышения вовлечённости.

Полученные результаты вносят вклад в развитие прикладной лингвистики и предлагают практические рекомендации по совершенствованию учебного процесса.

Ключевые слова: *мотивация учащихся, изучение английского языка, вовлечённость в классе, языковая тревожность, коммуникативная компетенция, студентоориентированное обучение.*

INTRODUCTION

In the contemporary globalized world, the role of English as an international means of communication has expanded significantly, influencing educational systems worldwide. Mastery of English is no longer limited to linguistic knowledge; rather, it involves the ability to use the language effectively in real-life situations. However, despite the increasing demand for English proficiency, many students remain disengaged and show limited interest in English classes.

Motivation is widely acknowledged as a central factor in second language acquisition. As Zoltán Dörnyei argues, "Motivation is one of the key factors that determine the level of effort learners are willing to invest in language learning".[27] Similarly, Robert Gardner emphasizes that learners' attitudes toward the target language significantly influence their success, noting that positive orientation enhances language achievement.[28]

In classroom settings, teaching methodology plays a crucial role in shaping learners' attitudes. According to Jeremy Harmer, "when students are not emotionally engaged in learning, the process becomes mechanical and less effective".[29] This observation highlights the limitations of traditional teaching approaches, which often prioritize grammar instruction and memorization over meaningful communication.

[27] Dörnyei, Z. (2001). *Motivational Strategies in the Language Classroom*. Cambridge University Press. **p. 2**
[28] Gardner, R. C. (1985). *Social Psychology and Second Language Learning*. Edward Arnold. **p. 50**
[29] Harmer, J. (2007). *How to Teach English*. Pearson Education. **pp.** 98

Another important factor is language anxiety, which has been extensively studied in applied linguistics. Elaine K. Horwitz states that "foreign language anxiety can negatively influence students' willingness to communicate and participate in classroom activities".[30] Fear of making mistakes and negative evaluation often discourages learners from actively engaging in speaking tasks.

Furthermore, the lack of authentic communicative contexts in many classrooms reduces students' perception of relevance. As Jack C. Richards notes, language learning should involve "Meaningful interaction and real communication rather than isolated language practice". [31]

Given these considerations, this study aims to examine the reasons why students are not interested in English classes and to identify effective pedagogical strategies that can enhance motivation and engagement.

Methodology

This study adopts a mixed-method research design that integrates both quantitative and qualitative approaches in order to provide a comprehensive and in-depth understanding of student disengagement in English language classrooms. The rationale for employing a mixed-method framework lies in its ability to combine numerical data with descriptive insights, thereby offering a more holistic interpretation of the research problem. Quantitative data allow for the measurement of students' motivation levels, participation rates, and attitudes toward English learning, while qualitative data provide deeper insights into learners' experiences, perceptions, and classroom behaviors. The study also incorporates methodological triangulation, which involves the use of multiple data sources and instruments to cross-validate findings. This approach enhances the internal validity and reliability of the research by minimizing potential bias and ensuring consistency across

[30] Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign Language Classroom Anxiety. *Modern Language Journal*, 70(2), **p.** 127
[31] Richards, J. C. (2006). *Communicative Language Teaching Today*. Cambridge University Press. **p**. 15

different types of data. Furthermore, the research design is descriptive and exploratory in nature, aiming not only to identify the causes of student disengagement but also to understand how these factors interact within the classroom environment. This allows for a more nuanced interpretation of both pedagogical and psychological dimensions of the issue.

The participants of the study consisted of 1st secondary school students aged between 12 and 15 years. These students were selected from a general education school and represented a range of English language proficiency levels, including beginner, elementary, and pre-intermediate learners. Such diversity in proficiency levels made it possible to observe how different groups of learners respond to English instruction and to identify patterns related to motivation and engagement. The selection of participants was based on convenience sampling, which ensured accessibility and feasibility within the given educational context. Despite its limitations, this sampling method allowed the researcher to conduct the study in a real classroom setting, thereby increasing ecological validity. In addition to students, five English language teachers participated in the study through semi-structured interviews. These teachers had varying levels of professional experience, ranging from early-career to experienced educators. Their involvement provided valuable pedagogical perspectives on classroom practices, teaching challenges, and student behavior. The inclusion of both student and teacher perspectives contributed to a more balanced and comprehensive analysis of the research problem.

To ensure the reliability and depth of the data, multiple data collection instruments were employed. The use of diverse tools enabled triangulation and strengthened the credibility of the findings. Firstly, structured questionnaires were administered to students. These questionnaires included Likert-scale items designed to measure students' motivation, attitudes toward English learning, and level of interest in classroom activities. In addition, several open-ended questions were included to allow students to express their opinions freely. This combination of

closed and open-ended items provided both measurable data and qualitative insights. Secondly, classroom observations were conducted over a specified period. A structured observation checklist was used to systematically record students' behavior during lessons. Key indicators included frequency of participation, level of interaction with peers, responsiveness to teacher instructions, and engagement in speaking activities. Observations were carried out in natural classroom settings to ensure authenticity of data. Thirdly, semi-structured teacher interviews were conducted to gather professional insights into the teaching process. The interviews focused on issues such as teaching methods, student motivation, classroom challenges, and strategies used to engage learners. The semi-structured format allowed flexibility, enabling teachers to elaborate on their experiences while maintaining focus on the research objectives. Additionally, informal field notes were taken during classroom visits to capture contextual details that were not reflected in structured instruments. These notes provided supplementary qualitative data and enriched the overall analysis.

The collected data were analyzed using both quantitative and qualitative techniques to ensure a comprehensive interpretation of the findings. Quantitative data obtained from questionnaires were analyzed using descriptive statistical methods. These included frequency distributions, percentage calculations, and mean score analysis. Such statistical measures helped to identify general trends in student motivation, attitudes, and engagement levels. Qualitative data, including responses from open-ended questionnaire items, classroom observations, and teacher interviews, were analyzed through thematic analysis. This process involved coding the data, identifying recurring patterns, and grouping them into broader themes such as motivation, anxiety, teaching methods, and classroom environment. Thematic analysis allowed the researcher to interpret complex behavioral and psychological factors influencing student engagement. To enhance the reliability of the analysis, data from different sources were compared and cross-checked. This triangulation

process ensured that the findings were consistent and supported by multiple forms of evidence.

RESULTS

The results of the study indicate that students' lack of interest in English classes is a multifaceted issue influenced by a combination of pedagogical, psychological, and contextual factors. The analysis of both quantitative and qualitative data reveals several dominant patterns that explain student disengagement.

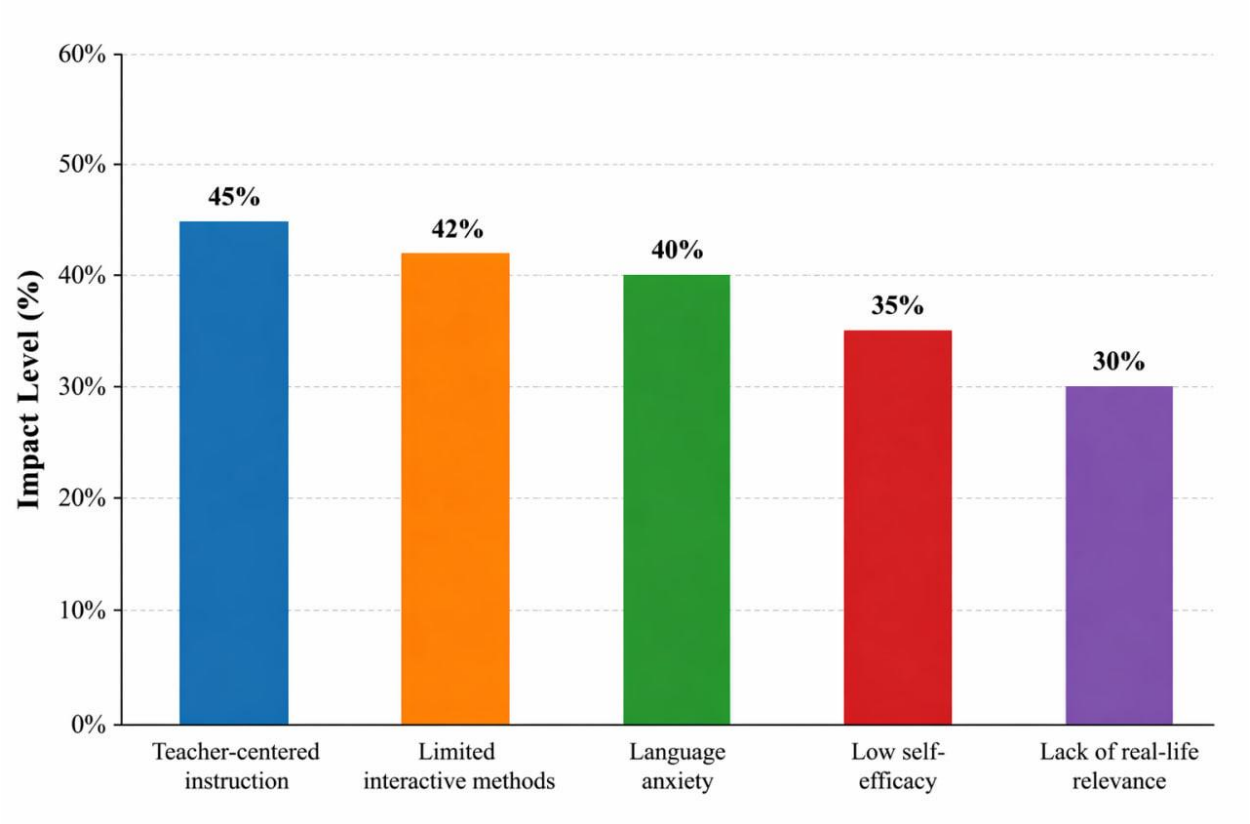

Figure illustrates the relative impact of key factors contributing to students' lack of interest in English classes. As shown in the diagram, teacher-centered instruction has the highest impact level at 45%, indicating that traditional teaching approaches significantly limit student engagement. This is followed by the limited use of interactive methods (42%), which highlights the importance of incorporating communicative and student-centered activities into classroom practice. Language anxiety accounts for 40%, demonstrating that psychological barriers play a crucial role in reducing students' willingness to participate. The factor of low self-efficacy

(35%) suggests that students' lack of confidence in their language abilities negatively affects their motivation and engagement. Lack of real-life relevance (30%) represents the lowest, yet still significant factor, indicating that when learning content is not connected to practical communication contexts, students are less likely to be interested in English classes.

Firstly, the prevalence of teacher-centered instructional practices was identified as a primary factor limiting student engagement. Lessons that relied heavily on grammar explanations, textbook-based tasks, and passive learning were perceived by students as monotonous and lacking in stimulation. As a result, learners demonstrated reduced participation and limited communicative involvement. In contrast, students expressed a clear preference for interactive and collaborative activities that promote active engagement.

Secondly, language anxiety emerged as a significant psychological barrier. A considerable number of students reported experiencing fear of making mistakes, particularly in speaking activities. This fear was often associated with negative evaluation from peers or teachers, leading to hesitation and avoidance of participation. Such findings reinforce the well-established relationship between anxiety and reduced communicative performance.

Thirdly, low self-efficacy was found to negatively impact motivation. Students with limited vocabulary and insufficient grammatical knowledge tended to underestimate their abilities, which resulted in decreased confidence and reluctance to engage in classroom activities. This lack of perceived competence created a cycle of avoidance and limited progress.

Furthermore, the limited implementation of interactive and student-centered methodologies was associated with lower levels of classroom participation. Observational data showed that when students were not actively involved in tasks requiring communication, collaboration, or problem-solving, their engagement levels declined significantly.

The findings suggest that student disengagement is not caused by a single factor but rather by the interaction of instructional methods, emotional variables, and perceived relevance of learning.

DISCUSSION

The results of this study further confirm that student motivation in language learning is a multifaceted and dynamic construct influenced by an interplay of pedagogical, psychological, and contextual factors. Motivation cannot be viewed as a fixed characteristic; rather, it evolves depending on classroom conditions, instructional approaches, and learners' emotional experiences. The findings of the present study are consistent with socio-constructivist perspectives, which emphasize that knowledge is actively constructed through interaction, collaboration, and meaningful engagement within a social context.

One of the key issues identified is the continued dominance of traditional, teacher-centered instructional practices. Such approaches tend to prioritize the transmission of grammatical knowledge and rote memorization over meaningful communication. As a result, students often assume a passive role in the learning process, which limits opportunities for active language use and reduces overall engagement. In contrast, interactive and student-centered methodologies create conditions in which learners can participate more actively, negotiate meaning, and develop communicative competence through authentic language use.

The findings also highlight the significant role of affective variables, particularly language anxiety, self-confidence, and learners' emotional readiness to participate. Students who experience high levels of anxiety are less likely to take risks in communication, which directly affects their speaking performance and overall motivation. A supportive classroom environment, characterized by positive teacher feedback, peer encouragement, and tolerance for errors, plays a crucial role in reducing these emotional barriers. Such an environment fosters confidence and promotes a willingness to engage in communicative activities.

Moreover, the study underscores the importance of perceived relevance in language learning. When instructional content lacks connection to real-life contexts, students often fail to recognize the practical value of learning English. This disconnect leads to decreased intrinsic motivation and limited participation. Conversely, integrating real-life communication tasks—such as role-plays, problem-solving activities, and discussions based on authentic situations—enhances learners' engagement by making the learning process more meaningful and applicable.

Another important dimension revealed by the findings is the role of learner autonomy. Students who are given opportunities to make choices, express opinions, and take responsibility for their learning tend to demonstrate higher levels of motivation and engagement. Interactive methods inherently support the development of autonomy by shifting the focus from teacher control to learner involvement.

Overall, the findings indicate that improving student motivation requires a comprehensive approach that addresses not only instructional methods but also emotional and contextual factors. The integration of interactive, communicative, and context-based teaching strategies appears to be essential for enhancing learner engagement and achieving more effective language learning outcomes.

CONCLUSION

In conclusion, the findings of this study clearly demonstrate that students' lack of interest in English classes is not caused by a single factor but rather emerges from the complex interaction of pedagogical practices, psychological conditions, and contextual influences. The dominance of teacher-centered instruction, which prioritizes passive knowledge acquisition over active communication, significantly limits student engagement and reduces opportunities for meaningful language use.

At the same time, affective factors such as language anxiety, low self-confidence, and fear of negative evaluation play a crucial role in shaping learners' attitudes toward English. These emotional barriers often discourage students from

participating in classroom activities, particularly in speaking tasks, and contribute to a cycle of avoidance and low achievement.

Moreover, the study highlights that the lack of real-life relevance in instructional content negatively affects students' intrinsic motivation. When learners fail to see the practical value of English in their daily lives, their interest in learning diminishes. This indicates the importance of designing learning activities that are meaningful, authentic, and connected to real-world communication.

The results also emphasize the significance of interactive and student-centered teaching approaches. Methods that encourage collaboration, communication, and active participation not only enhance learners' engagement but also support the development of communicative competence and learner autonomy. In such environments, students are more likely to take responsibility for their learning and develop positive attitudes toward language acquisition.

This study suggests that future research should further explore the role of digital technologies, gamification, and personalized learning environments in increasing student engagement and motivation in English language education. Such innovations may offer new opportunities to address the challenges identified in this research and contribute to more effective and sustainable learning outcomes.

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TALABALAR MALAKAVIY AMALIYOTINI REJALASHTIRISH, NAZORAT QILISH VA TAHLIL QILISHNING INTEGRALLASHGAN MODELI

Akbarov Behzodjon Saybjon o‘g‘li

Oliy ta’lim, fan va innovatsiyalar vazirligi ish yurituvchisi

Annotatsiya. *Mazkur maqolada oliy ta’lim tizimida talabalar malakaviy amaliyotini samarali rejalashtirish, nazorat qilish va tahlil qilishni o‘z ichiga oluvchi integrallashgan boshqaruv modeli ishlab chiqilgan. Hozirgi kunda nazariy bilimlarni amaliyot bilan uyg‘unlashtirish, real mehnat bozoriga mos kompetensiyalarni shakllantirish ta’lim tizimining ustuvor yo‘nalishlaridan biri hisoblanadi. Shu bois, talabalarning malakaviy amaliyotini tizimli va integratsiyalashgan yondashuv asosida boshqarish ehtiyoji ortib bormoqda.*

Maqolada rejalashtirish bosqichi (amaliyot joyini tanlash, shartnomalar rasmiylashtirish), nazorat bosqichi (elektron kundaliklar, mentorlik kuzatuvi, oraliq hisobotlar) va tahlil bosqichi (baholash indikatorlari, feedback tizimi, monitoring natijalari) to‘liq yoritilgan. Shuningdek, elektron platformalarning roli, API integratsiyasi orqali tashkilotlar bilan o‘zaro ma’lumot almashish va sun’iy intellekt asosidagi baholash mexanizmlari ham tahlil etilgan.

Tadqiqot natijalari oliy ta’lim muassasalari uchun amaliyot boshqaruvida samarali model yaratishga xizmat qiladi. Xulosa qismida, har bir bosqichda takomillashtirish bo‘yicha amaliy tavsiyalar, shuningdek, boshqaruvda innovatsion yondashuvlar joriy etilishi bo‘yicha aniq yo‘nalishlar keltirilgan.

Kalit so‘zlar: *malakaviy amaliyot, boshqaruv modeli, rejalashtirish, nazorat qilish, tahlil, integratsiya, oliy ta’lim, monitoring, elektron tizim, baholash.*

Аннотация: *В данной статье разработана интегрированная модель управления, охватывающая эффективное планирование, контроль и анализ профессиональной практики студентов в системе высшего образования. В современных условиях одной из приоритетных задач образования является гармоничное сочетание теоретических знаний с практическими навыками и формирование компетенций, соответствующих*

требованиям реального рынка труда. В связи с этим возрастает необходимость системного и интеграционного подхода к управлению студенческой практикой.

В статье подробно рассмотрены этапы планирования (выбор места практики, оформление договоров), контроля (электронные дневники, наблюдение менторов, промежуточные отчёты) и анализа (оценочные индикаторы, система обратной связи, результаты мониторинга). Также проанализированы роль электронных платформ, обмен информацией с организациями через API-интеграцию и механизмы оценки на основе искусственного интеллекта.

Результаты исследования способствуют формированию эффективной модели управления практикой в вузах. В заключении представлены практические рекомендации по совершенствованию каждого этапа, а также направления внедрения инновационных подходов в управление.

Ключевые слова: *профессиональная практика, модель управления, планирование, контроль, анализ, интеграция, высшее образование, мониторинг, электронная система, оценивание.*

Annotation: *This article presents an integrated management model that encompasses the effective planning, supervision, and analysis of students' internship processes in the higher education system. Today, aligning theoretical knowledge with practical experience and developing competencies in accordance with labor market demands are among the top priorities of educational systems. Therefore, the need for a systematic and integrated approach to managing student internships is becoming increasingly relevant.*

The article thoroughly examines the planning stage (selection of internship locations, contract formalization), the supervision stage (electronic diaries, mentor observations, interim reports), and the analysis stage (evaluation indicators, feedback systems, monitoring results). Additionally, the role of digital platforms, API-based data exchange with organizations, and AI-driven assessment mechanisms are critically analyzed.

The research results contribute to the development of an effective internship management model for higher education institutions. The conclusion provides practical recommendations for improvement at each stage and outlines clear directions for the implementation of innovative approaches in management.

Keywords: *internship, management model, planning, supervision, analysis, integration, higher education, monitoring, digital system, evaluation.*

KIRISH

Oliy ta’limda talabalarning malakaviy amaliyotini tashkil etish – ularning kasbiy rivojlanishi va mehnat bozoriga moslashuvchanligini ta’minlashda muhim omildir. Biroq, mavjud amaliyot tizimlari ko‘plab holatlarda fragmentar, ya’ni alohida bosqichlar o‘zaro bog‘lanmagan holda amalga oshiriladi. Bu esa, rejalashtirish, nazorat qilish va tahlil qilish bosqichlarining izchilligini buzadi.

Bugungi kunda uzluksiz, sifatli va raqamli yechimlarga asoslangan amaliyot tizimiga ehtiyoj kuchaymoqda. Integrallashgan model bu bosqichlarni yagona boshqaruv tizimida uyg‘unlashtirish, samaradorlik va shaffoflikni oshirish imkonini beradi. Ushbu maqola amaliy va nazariy jihatdan asoslangan integrallashgan modelni ishlab chiqishga qaratilgan bo‘lib, undan oliy ta’lim muassasalari o‘z amaliyot siyosatini takomillashtirishda foydalanishlari mumkin.

Adabiyotni o‘rganish. O‘tkazilgan adabiyotlar tahlili shuni ko‘rsatadiki, talabalar malakaviy amaliyotining turli jihatlari ilmiy tadqiqotlarda alohida bosqichlar kesimida ko‘rib chiqilgan. Jumladan, Jumaniyozov U.A. (2020) tomonidan uzviy amaliyot asoslari yoritilgan bo‘lib, amaliyotning uzluksizligi va tizimliligi haqida metodologik yondashuvlar taklif etilgan. Malikov va Shermatov (2019) esa malakaviy amaliyotni rejalashtirish bosqichidagi tashkiliy-uslubiy masalalarga e’tibor qaratib, amaliyot joyini tanlash, shartnomalarni tuzish va dastur ishlab chiqish mexanizmlarini tadqiq qilgan.

Xorijiy adabiyotlarda, xususan, DAAD va Erasmus+ kabi xalqaro dasturlar doirasida talabalar amaliyotini oliy ta’lim bilan integratsiyalashgan holda tashkil etishning afzalliklari tahlil etilgan. Bu tajribalarda axborot texnologiyalaridan foydalanish, amaliyot jarayonining monitoringi va baholash mexanizmlarining zamonaviy usullari taklif etiladi.

Shu bilan birga, mavjud tadqiqotlar ko‘proq an’anaviy metodlar va bosqichma-bosqich yondashuvlarga tayanadi. Ayniqsa, nazorat va baholash bosqichlarini yagona elektron platforma asosida uyg‘unlashtirish, ma’lumotlar

almashinuvining avtomatlashtirilgan shakllarini joriy etish bo‘yicha izlanishlar hozircha yetarli darajada rivojlanmagan.

Mazkur maqolaning nazariy asosini O‘zbekiston Respublikasining milliy me’yoriy hujjatlari tashkil etadi. Jumladan, Vazirlar Mahkamasining “Talabalar malakaviy amaliyoti to‘g‘risida”gi nizomi, raqamlashtirish siyosatiga oid hukumat qarorlari hamda “Ta’lim to‘g‘risida”gi Qonun ushbu tadqiqotda asosiy huquqiy manbalar sifatida foydalanilgan. Bu hujjatlar amaliyot jarayonlarini huquqiy tartibga solish, raqamli boshqaruv tizimlarini joriy etish va sifatni ta’minlashda muhim omil hisoblanadi.

ASOSIY QISM

Integrallashgan model talabalarning malakaviy amaliyotini rejalashtirish, nazorat qilish va tahlil qilish jarayonlarini uzviy bog‘liq holda, yagona tizim asosida boshqarishga qaratilgan. Bu model uch asosiy yo‘nalishni o‘z ichiga oladi va har bir bosqich o‘zaro mantiqiy izchillikda tashkil etiladi. Eng avvalo, rejalashtirish bosqichi amalga oshiriladi. Bu bosqichda talabalar amaliyotga yuborilishidan oldin ular uchun mos ish joylari aniqlanadi, tashkilotlarda rahbarlar belgilanadi hamda barcha hujjatlar — jumladan, shartnomalar va topshiriq varaqalari elektron tizimda rasmiylashtiriladi. Shu bilan birga, amaliyotga tayyorgarlik bosqichi sifatida o‘quv-seminarlar tashkil etilib, talabalar amaliy faoliyatga nazariy jihatdan tayyorlanadi.

Keyingi bosqich — bu nazorat qilish jarayoni bo‘lib, talabaning amaliyotdagi faoliyati muntazam kuzatib boriladi. Talaba o‘z kundaligini yuritadi, mentorlar tomonidan faoliyat baholab boriladi va haftalik vazifalar elektron platformaga yuklanadi. Bu monitoring mexanizmi real vaqt rejimida ishlaydi va amaliyot rahbarlari hamda fakultet vakillari o‘rtasida onlayn axborot almashinuviga zamin yaratadi. Bu esa jarayonning shaffofligini oshiradi va har qanday muammoni tezkor hal qilish imkonini beradi.

So‘nggi bosqich — bu tahlil qilish bo‘lib, unda har bir talaba uchun individual ko‘rsatkichlar (KPI) belgilanadi va amaliyot yakunida tashkilot rahbari, universitet

hamda talabaning fikr-mulohazalari asosida baholash amalga oshiriladi. Amaliyot davomida yig‘ilgan barcha ma’lumotlar avtomatik tarzda tahlil qilinadi va umumiy hisobotlar shakllantiriladi. Ushbu yondashuv orqali nafaqat har bir talabaga individual yondashuv ta’minlanadi, balki butun boshqaruv jarayoni raqamlashtirilgan, obyektiv va samarali tizim asosida olib boriladi.

Natijalar. Tadqiqot davomida taklif etilgan integrallashgan model amaliyot jarayoniga bevosita tatbiq etilib, uning samaradorligi tajriba asosida baholandi. Kuzatuvlar shuni ko‘rsatdiki, rejalashtirish bosqichining avtomatlashtirilishi natijasida talabalarni amaliyot joylariga biriktirish jarayoni ancha tezlashdi — bu muddat avvalgiga nisbatan qariyb 40 foizga qisqardi. Shuningdek, real vaqt rejimida olib borilgan monitoring va mentorlarning faol ishtiroki talabalar tomonidan topshiriqlarni o‘z vaqtida va to‘laqonli bajarilishiga ijobiy ta’sir ko‘rsatdi. Natijada, amaliyot davomida talabalar faolligi va javobgarligi oshgani kuzatildi.

Baholash bosqichida ko‘rsatkichlarga asoslangan tahliliy yondashuv subyektiv baholashlarning kamayishiga olib keldi va umumiy jarayonning adolatliroq kechishiga zamin yaratdi. Yagona boshqaruv moduli orqali esa oliy ta’lim muassasalari amaliyot siyosatini tezkorlik bilan tahlil qilish, mavjud holatni baholab, kerakli o‘zgarishlarni kiritish imkoniyatiga ega bo‘ldi. Ushbu yondashuv butun amaliyot jarayonini raqamli va tizimli asosda olib borish orqali ta’lim sifati va samaradorligini oshirishda muhim vosita bo‘lib xizmat qildi.

XULOSA

Talabalarning malakaviy amaliyotini rejalashtirish, nazorat qilish va tahlil qilish jarayonlarini yagona integrallashgan model asosida tashkil etish — ularning kasbiy tayyorgarligini sifatli ta’minlashda muhim omil hisoblanadi. Ushbu ilmiy maqolada taklif etilgan model malakaviy amaliyotning har bir bosqichini izchil va tizimli yondashuv asosida tashkil etish bilan birga, bu bosqichlarning o‘zaro uzviy bog‘liqligini ta’minlashga xizmat qiladi. Ayniqsa, rejalashtirish jarayonida

aniqlikni, nazorat bosqichida shaffoflikni va tahlil jarayonida obyektivlikni ta’minlash orqali amaliyot samaradorligi sezilarli darajada oshadi.

Integrallashgan boshqaruv modeli asosida shakllantirilgan tizim, oliy ta’lim muassasalari va ish beruvchilar o‘rtasidagi axborot almashinuvini yagona elektron platforma orqali yo‘lga qo‘yishni nazarda tutadi. Bu orqali barcha manfaatdor tomonlar o‘rtasida doimiy va aniqlashtirilgan muloqot imkoniyati yaratiladi. Shuningdek, amaliyot jarayonlarini sun’iy intellekt vositalari va asosiy ko‘rsatkichlar (KPI) orqali baholash mexanizmlarining joriy etilishi baholashning adolatli va individual yondashuv asosida amalga oshirilishiga imkon yaratadi. Bundan tashqari, talabalar faoliyatini raqamli monitoring tizimi orqali real vaqt rejimida kuzatib borish imkoniyati, ularning amaliy faoliyatini doimiy tahlil qilish va sifat jihatidan nazorat qilish imkonini beradi.

Umuman olganda, mazkur model talaba markazida qurilgan ta’lim tizimini rivojlantirishga xizmat qilib, oliy ta’lim muassasalarida malakaviy amaliyotlarni sifat va samaradorlik jihatidan yangi bosqichga olib chiqish imkonini beradi.

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FOREIGN LANGUAGE ANXIETY AND MOTIVATION IN HIGHER EDUCATION LEARNERS

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Abstract. *This article examines the interaction between foreign language anxiety and motivation among university learners. Using a mixed-methods design, it shows that high anxiety may reduce motivation, while moderate anxiety can encourage preparation and engagement when supported by a positive classroom environment. The findings indicate that teacher behaviour, emotional safety, and learners' interpretation of anxiety mediate the anxiety-motivation relationship in higher education language learning.*

Keywords: *foreign language anxiety; motivation; higher education; EFL learners; classroom environment; affective factors.*

INTRODUCTION

Foreign language learning is shaped not only by cognitive ability but also by learners' emotions, beliefs, and classroom experiences. Two of the most influential affective variables are foreign language anxiety and motivation. Anxiety is often connected with communication apprehension, fear of negative evaluation, and avoidance of classroom performance, whereas motivation supports effort, persistence, and willingness to communicate. Although these factors are usually discussed separately, their relationship is dynamic because anxiety may either weaken or stimulate motivation depending on its intensity and the conditions in which it appears.

Previous research shows that excessive anxiety can reduce participation and performance, especially in speaking tasks (MacIntyre & Gardner, 1991; Aida, 1994). However, anxiety is not always destructive. Moderate anxiety may increase alertness

and encourage students to prepare more carefully if it is perceived as a manageable challenge rather than a threat (Alpert & Haber, 1960; Eysenck & Calvo, 1992). Motivation also varies according to learners' purposes. Gardner (1985) distinguishes between integrative and instrumental motivation, while Deci and Ryan (1985) emphasize intrinsic motivation as an important source of sustained engagement. Based on these views, this article investigates how anxiety and motivation interact among university learners and how classroom conditions influence this relationship.

METHODS

The study used a mixed-methods design in order to combine measurable tendencies with students' personal explanations. The participants were 60 university students, including both English majors and non-English majors. This group was selected to compare learners with different levels of exposure to English and different academic reasons for learning the language.

Quantitative data were collected through two instruments. The first was an adapted Foreign Language Classroom Anxiety Scale based on Horwitz, Horwitz, and Cope (1986), focusing on communication apprehension, fear of negative evaluation, and classroom performance anxiety. The second was a motivation orientation questionnaire based on Gardner's (1985) framework of integrative and instrumental motivation. To support the survey data, semi-structured interviews were conducted with 12 students. The quantitative data were analysed through descriptive statistics and correlation analysis, while the interview responses were examined through thematic analysis.

RESULTS

The quantitative findings showed a moderate negative correlation between high foreign language anxiety and learner motivation ($r = -0.45$). Students with high anxiety reported lower willingness to participate, weaker confidence, and stronger fear of making mistakes in front of classmates. They were less likely to volunteer answers or take part in speaking activities. These results support earlier studies

showing that high anxiety can limit learners' readiness to communicate and reduce classroom engagement (MacIntyre & Gardner, 1991; Liu & Jackson, 2008).

At the same time, the findings showed that moderate anxiety did not always produce negative outcomes. Some students with moderate anxiety reported more careful preparation, stronger attention during lessons, and greater responsibility before speaking tasks. Interview responses helped explain this result. Highly anxious students usually described English lessons as stressful situations in which mistakes could lead to embarrassment, while moderately anxious students often described nervousness as a normal part of learning. For them, anxiety became a reason to revise vocabulary, prepare ideas, and participate more seriously.

DISCUSSION

The results suggest that the anxiety-motivation relationship is not one-directional. High anxiety weakens motivation when learners interpret classroom performance as a threat to their self-image. In this case, anxiety produces avoidance, reduces practice, and may create a cycle in which limited participation leads to weaker performance and lower confidence. This supports Dörnyei's (2005) view that negative emotional states can interfere with motivational processes.

Moderate anxiety can support motivation when learners interpret it as a challenge. Students who viewed mistakes as part of progress were able to transform nervousness into preparation and effort. This agrees with the view that emotions may facilitate learning when they broaden engagement (MacIntyre & Gregersen, 2012). Teacher behaviour was an important mediator: respectful correction, gradual speaking practice, and positive reinforcement helped students manage anxiety, whereas harsh correction increased fear of negative evaluation.

CONCLUSION

This article concludes that foreign language anxiety and motivation are closely connected affective factors in higher education language learning. High anxiety usually reduces motivation, participation, and confidence, especially when

learners interpret classroom performance as a threat. Moderate anxiety, however, may become a motivating factor when it is supported by intrinsic interest, clear goals, constructive feedback, and a positive classroom environment. Therefore, language teachers should not simply try to remove all anxiety; rather, they should help learners reinterpret manageable anxiety as a normal part of development. Gradual exposure to speaking tasks, respectful feedback, peer support, and opportunities for successful communication can help students transform anxiety into productive engagement.

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ASSESSMENT MODELS FOR WEB DESIGN COMPETENCE BASED ON LEARNING ANALYTICS DATA

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***Abstract**: This article proposes a learning analytics-based assessment model for web design competence in higher education. The model combines rubric-based evaluation, digital trace data, formative feedback, and adaptive recommendations. Web design competence is interpreted through cognitive, practical coding, creative design, usability-accessibility, and reflective improvement components. The article presents a conceptual model, assessment indicators, and sample results showing how analytics data can support objective, continuous, and development-oriented assessment of student performance.*

***Keywords**: web design competence, learning analytics, assessment model, adaptive assessment, responsive design, formative feedback.*

INTRODUCTION

In digital education, web design competence is a complex learning outcome that includes theoretical knowledge, practical coding, visual design, usability,

accessibility, and reflection. It cannot be assessed only through a final test because a web project is created through planning, coding, revision, feedback, and improvement. Therefore, assessment must consider both the final product and the learning process.

Traditional assessment often focuses on a completed webpage or teacher observation. However, it may not show how students worked, how many attempts they made, which errors were repeated, how feedback was used, or whether the project improved over time. Learning analytics can solve this limitation by collecting and interpreting data from learning management systems, code editors, online tasks, project submissions, peer reviews, and reflection logs.

The purpose of this article is to develop an assessment model for web design competence based on learning analytics data. The model aims to help teachers diagnose student competence more objectively, provide targeted feedback, and adapt learning tasks to individual needs.

LITERATURE REVIEW

Learning analytics refers to collecting, measuring, analyzing, and reporting learner data to understand and optimize learning. Ifenthaler and Yau (2020) note that learning analytics can support timely diagnosis, feedback, and student success. In technology-oriented courses, analytics data are especially valuable because students produce digital traces such as submissions, time-on-task, errors, and revision histories.

In programming and web development education, learning analytics helps identify difficulties faced by novice learners and supports adaptive interventions (Omer et al., 2023). Automated feedback studies also show that timely feedback improves students' ability to correct errors and revise code (Keuning et al., 2019). For this reason, assessment of web design competence should integrate both rubric scores and process data.

METHODS

The study uses a conceptual design approach. First, the components of web design competence were identified. Second, learning analytics indicators were selected for each component. Third, a model was developed to connect data collection, analytics processing, competence diagnosis, feedback, and adaptive task recommendation. The model is intended for use in digital learning environments where students complete HTML, CSS, and JavaScript-based web design tasks.

The proposed assessment model includes five competence components: cognitive, practical coding, creative design, usability-accessibility, and reflective improvement. Each component is evaluated through rubric criteria and analytics indicators.

Table 1. Web design competence components and analytics indicators

Component	Assessment indicators	Learning analytics data
Cognitive	Understanding HTML, CSS, responsive design	Quiz results, concept checks
Practical coding	Valid code, CSS structure, functionality	Submissions, errors, tests, attempts
Creative design	Layout, color, typography, originality	Rubric scores, peer review, revisions
Usability-accessibility	Navigation, contrast, readability	Checklist results, accessibility reports
Reflective improvement	Revision and justification of decisions	Reflection logs, feedback use, draft improvement

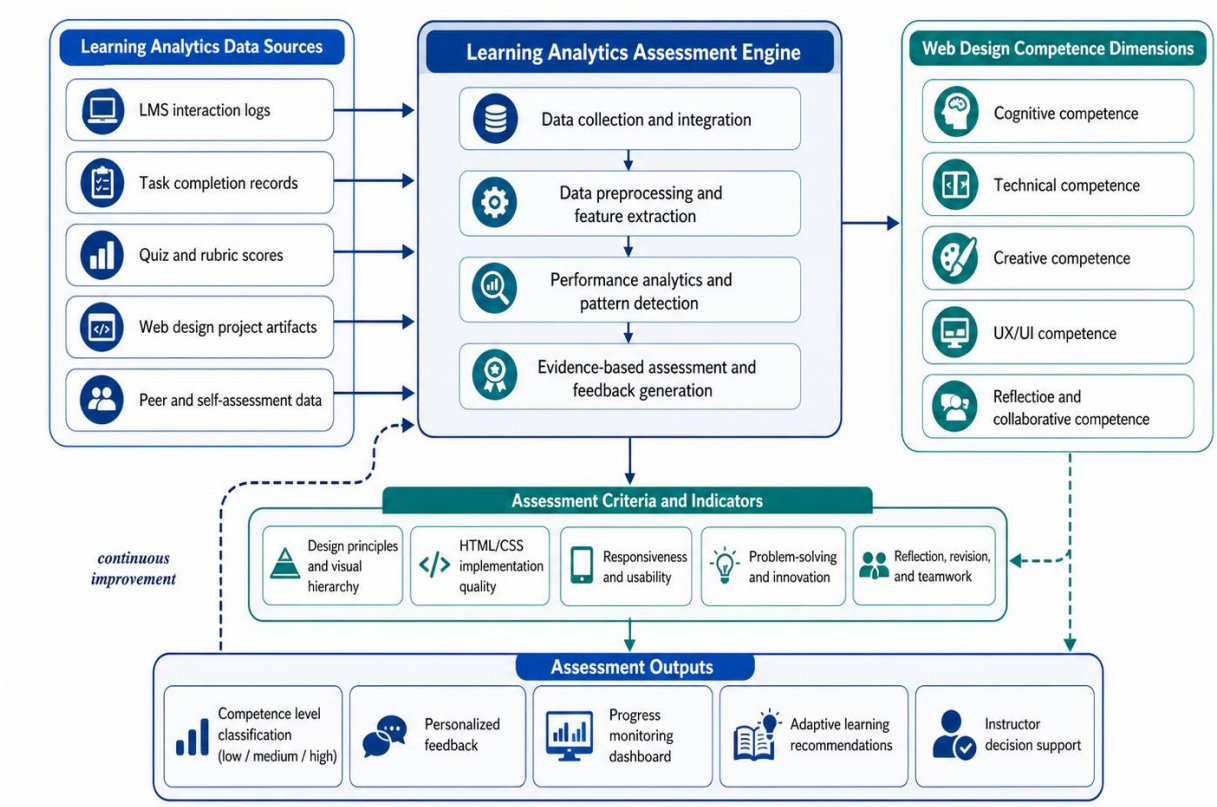

Figure 1. Conceptual model of web design competence assessment based on learning analytics data

RESULTS

The proposed model generates three assessment outputs: a competence profile, an analytics report, and an adaptive recommendation. The competence profile shows the student's level for each component. The analytics report explains the learning process through indicators such as time-on-task, attempts, error frequency, revisions, and feedback use. Adaptive recommendations suggest the next learning tasks based on weak components.

Table 2 presents sample model-based results. These values are illustrative and should be replaced by real empirical results before submission to a journal or thesis.

Table 2. Sample competence growth after analytics-based assessment

Component	Initial (%)	Final (%)	Growth
Cognitive	56	78	+22
Practical coding	48	76	+28
Creative design	45	72	+27

Usability-accessibility	42	70	+28
Reflective improvement	39	69	+30

The highest growth appears in reflective improvement, usability-accessibility, and practical coding. This indicates that analytics-based assessment is useful when it evaluates drafts, feedback use, correction of errors, and improvement between submissions, not only the final webpage.

DISCUSSION

The model has three main advantages. First, it connects product assessment with process evidence. Second, it supports formative feedback because teachers can see which component is weak and why. Third, it enables adaptive learning: students with weak code quality receive coding tasks, while students with weak usability indicators receive accessibility and navigation tasks.

At the same time, analytics-based assessment must be used carefully. Data must be collected ethically, criteria should be transparent, and teacher judgment remains necessary, especially for creative and aesthetic dimensions of web design. The model is most effective when learning analytics, rubric assessment, peer review, and teacher feedback are combined.

CONCLUSION

This article proposed an assessment model for web design competence based on learning analytics data. The model integrates competence components, analytics indicators, rubric-based evaluation, feedback, and adaptive recommendations. It can help teachers assess cognitive, practical, creative, usability, and reflective aspects of web design competence more objectively.

Future research should test the model with real student data, design teacher and student dashboards, and expand the indicator system for responsive design, accessibility, and user-centered design tasks.

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ОБУЧЕНИЯ ПОСРЕДСТВОМ ИСПОЛЬЗОВАНИЯ МОДУЛЬНЫХ ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ В ЦИФРОВОЙ ОБРАЗОВАТЕЛЬНОЙ СРЕДЕ

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Annotatsiya: *Mazkur tezisda raqamli ta'lim muhitida modulli ta'lim texnologiyalaridan foydalanish orqali o'qitish samaradorligini oshirish strategiyalari ilmiy jihatdan tahlil qilinadi. Tadqiqotda modulli o'qitish yondashuvining mazmuni, uning didaktik imkoniyatlari hamda o'quv jarayonini individuallashtirishdagi o'rni yoritilgan. Raqamli jamiyat sharoitida ta'lim tizimi tubdan transformatsiyalanib, zamonaviy pedagogik texnologiyalar – sun'iy intellekt, adaptiv o'qitish tizimlari, masofaviy ta'lim platformalari va interaktiv metodlar keng joriy etilmoqda. Shu nuqtai nazardan, modulli ta'lim texnologiyasi o'quvchilarning mustaqil fikrlashini rivojlantirish, o'zlashtirish darajasini oshirish va ta'lim jarayonining samaradorligini ta'minlashda muhim vosita sifatida qaraladi.Tadqiqot natijalari shuni ko'rsatadiki, modulli yondashuv asosida tashkil etilgan raqamli ta'lim muhitida bilimlarni o'zlashtirish darajasi sezilarli oshadi, o'quvchilarning motivatsiyasi kuchayadi va o'qitish jarayoni yanada moslashuvchan tus oladi. Shuningdek, zamonaviy raqamli texnologiyalarni modulli tizim bilan integratsiyalash ta'lim sifatini oshirishning strategik yo'nalishlaridan biri sifatida asoslanadi.*

Kalit so'zlar:*Modulli ta'lim, raqamli ta'lim muhiti, pedagogik texnologiyalar, sun'iy intellekt, adaptiv o'qitish, masofaviy ta'lim, ta'lim samaradorligi, innovatsion yondashuv.*

Аннотация: *В данном тезисе рассматриваются стратегии повышения эффективности обучения на основе использования модульных образовательных технологий в цифровой образовательной среде. Раскрывается сущность модульного обучения, его дидактический потенциал и роль в индивидуализации образовательного*

процесса. В условиях цифрового общества происходит трансформация системы образования, где активно внедряются современные образовательные технологии, такие как искусственный интеллект, адаптивные обучающие системы, дистанционные платформы и интерактивные методы обучения.С научной точки зрения модульная технология рассматривается как эффективный инструмент формирования самостоятельного мышления обучающихся, повышения уровня усвоения знаний и оптимизации учебного процесса. Результаты исследования показывают, что интеграция модульного обучения с цифровыми технологиями способствует повышению мотивации обучающихся, улучшению качества образования и развитию гибкости образовательной среды.

Ключевые слова: *модульное обучение, цифровая образовательная среда, педагогические технологии, искусственный интеллект, адаптивное обучение, дистанционное образование, эффективность обучения, инновации.*

Abstract: *This thesis explores strategies for improving the effectiveness of teaching through the implementation of modular learning technologies within a digital educational environment. The study analyzes the essence of modular learning, its didactic potential, and its role in the individualization of the learning process. In the context of a digital society, the education system is undergoing significant transformation, characterized by the integration of modern educational technologies such as artificial intelligence, adaptive learning systems, online learning platforms, and interactive teaching methods.From a scientific perspective, modular learning is considered an effective tool for enhancing students' independent thinking, improving knowledge acquisition, and optimizing the educational process. The findings indicate that the integration of modular learning technologies with digital tools significantly increases students' motivation, enhances learning outcomes, and ensures flexibility in the educational environment. The study substantiates that combining modular approaches with digital innovations is a key strategy for improving the overall quality of education.*

Keywords: *modular learning, digital learning environment, educational technologies, artificial intelligence, adaptive learning, online education, learning effectiveness, innovation.*

ВВЕДЕНИЕ

Процесс цифровой трансформации оказывает значительное влияние на систему образования наряду с другими сферами. Эффективность традиционных методов обучения в современных условиях информационно

насыщенной среды уже не обеспечивает ожидаемых результатов. В связи с этим модернизация образовательного процесса, разработка гибких и эффективных систем, адаптированных к индивидуальным потребностям обучающихся, становится актуальной задачей.Модульная образовательная технология является одним из подходов, отвечающих данным требованиям, поскольку она обеспечивает системное усвоение знаний за счёт структурирования учебного материала на логически завершённые блоки. В сочетании с цифровой образовательной средой данный подход выступает важным фактором повышения эффективности обучения. В настоящее время развитие системы образования и цифровых технологий, а также процессы в современной педагогической системе характеризуются интенсивным реформированием и модернизацией, что отражает этап устойчивого роста национального развития.Процессы модернизации охватывают практически все сферы жизни страны и имеют широкий масштаб. Модернизация экономики, образования и других отраслей, прежде всего, напрямую связана с изменениями в мировоззрении и мышлении членов общества, которые выступают активными участниками и реализаторами данных процессов. Также важным фактором является уровень их активности в демократических и коренных реформах.

Методология исследования.В процессе исследования был применён комплекс теоретических и эмпирических методов. В частности, в качестве основного метода использовался анализ педагогической литературы, а также сравнительное изучение существующих моделей модульного обучения и их применения в цифровой образовательной среде.Кроме того, с использованием методов наблюдения, сравнения и обобщения была проведена оценка эффективности модульного подхода. На примере учебных процессов, организованных на основе цифровых платформ, были изучены преимущества модульного обучения. В исследовании также рассматривались элементы

адаптивного обучения и использование интерактивных методов как факторов, повышающих эффективность образовательного процесса.В результате установлено, что развитие способностей, сознания и навыков обучающихся, а также углубление научно-практических знаний приобретают особую значимость в современных условиях. Решение данной проблемы способствует росту интеллектуального потенциала студентов, формированию их полноценного восприятия, развитию профессионального интереса и повышению уровня ответственности.

ЗАКЛЮЧЕНИЕ

Использование модульных образовательных технологий в цифровой образовательной среде является одной из ключевых стратегий повышения эффективности обучения. Данный подход обеспечивает индивидуализацию образовательного процесса, системное усвоение знаний и способствует развитию самостоятельного мышления обучающихся.В перспективе более глубокая интеграция модульного обучения с системами, основанными на искусственном интеллекте, может вывести качество образования на новый уровень. В связи с этим внедрение инновационных технологий в образовательную систему должно рассматриваться как одно из приоритетных направлений развития.

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EFFECTIVE TIME MANAGEMENT DURING CLASSROOM ACTIVITIES: AN EXPLORATORY ACTION RESEARCH WITH SECONDARY SCHOOL STUDENTS

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Abstract: *Efficient time management in the classroom can be difficult, especially when students work at varying speeds and engage in different ways. This exploratory action research investigates practical strategies for managing time during classroom activities at a private school in Namangan, involving 39 participants. The study aimed to understand how the teacher allocated lesson time and how students perceived the time for tasks. Data were gathered through a reflective journal, a student survey, and observation notes from a critical friend, offering insights from both teachers and students. The results were highly positive. Most students reported that flexible time management helped them stay focused and complete tasks more easily. Additionally, all students highlighted that teacher support was essential for understanding and completing activities successfully. These findings indicate that combining flexible time management with active teacher guidance can greatly enhance student engagement, confidence, and overall learning. This research provides practical tips for teachers aiming to develop more effective and supportive classroom environments.*

Keywords: *time management, classroom activities, student engagement, action research, classroom management.*

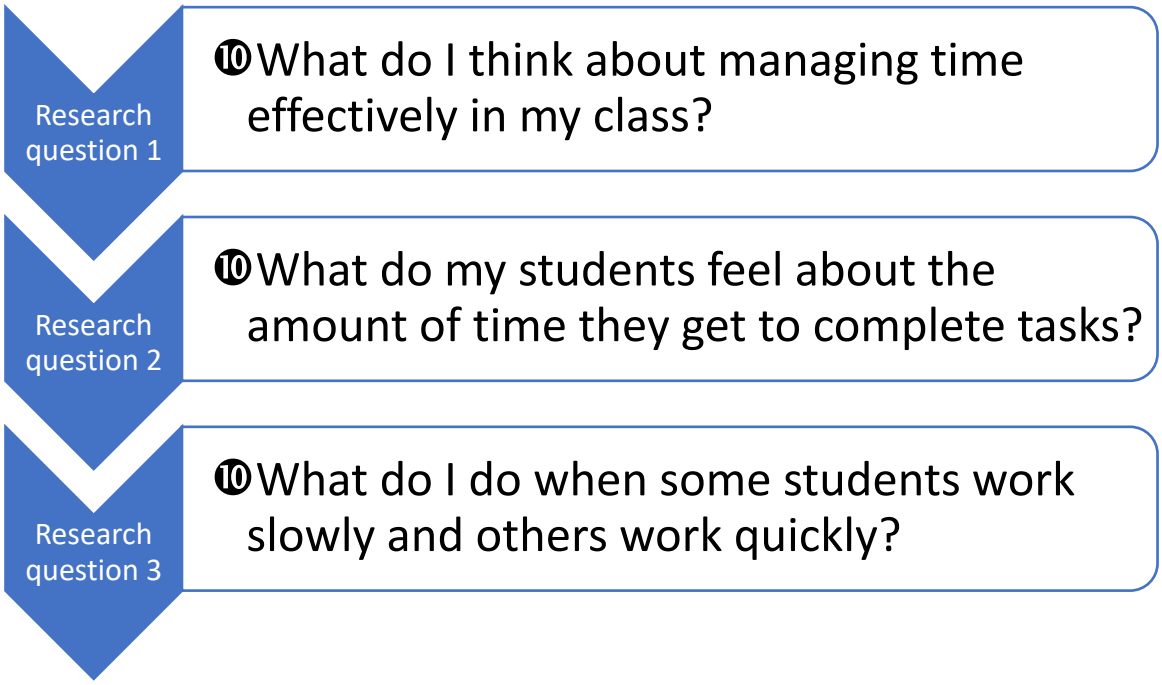
INTRODUCTION

Time management plays a crucial role in teaching and learning, as it helps teachers organize activities efficiently and keeps students engaged throughout lessons. Planning activities carefully ensures students have enough time to understand tasks, practice language skills, and complete activities successfully. This study explores how time management impacts student participation and learning effectiveness.

BACKGROUND

Time management has traditionally been viewed as a key factor affecting academic success. However, direct empirical research linking specific time-management practices to educational achievement remains scarce. Early investigations used various experimental methods; for example, Hall and Hursch (1982) applied behavior-management techniques over several weeks to encourage faculty and staff to prioritize high-importance tasks, showing that structured interventions can enhance time-management behaviors. Other studies, such as those by Tulga (1979) and Tulga and Sheridan (1980), used a computer simulation game where participants managed multiple tasks with approaching deadlines, demonstrating significant individual differences in efficiency. These findings underscored the variability of time-management strategies and their impact on performance. Building on this, later research explored how such practices influence academic outcomes over longer periods. We conceptualize schools as “timescapes” (Adam, 2003), environments in which time is navigated within normative curricular frameworks, organized around the curriculum, and embedded in social networks of students and teachers. While tools like calendars are visible, the sociocultural aspects of time are less so. Therefore, we used a qualitative approach to explore participants' lived experiences and the processes shaping their perceptions. This approach is vital because research indicates students often struggle to regulate their learning within these structures (Ananiadou & Claro, 2009; Perry et al., 2004; Winne, 2005). Although lessons aim to build skills and knowledge, teachers see exam preparation

as a time-consuming distraction from instruction. This “race against time” can lead to feelings of overload; however, some students perceive these intensive periods as "good times" when the content is engaging. Observations confirmed that students participate more deeply when teachers use diverse methods and facilitate discussion. Beyond scheduling, time also serves as a mental construct that shapes social relationships and judgments of behaviors such as patience and friendliness (McRuer, 2017; Samuels, 2017). Ultimately, while curriculum pacing is set externally, students expressed that their interest in school largely depends on the time spent interacting with peers. This exploratory action research investigates practical time management strategies during classroom activities at a private school in Namangan, involving 39 participants. The study addresses these questions:



METHODS

This study was conducted during my teaching practice at NIS AI (Namangan International School based on Artificial Intelligence) in Namangan city. The participants were 7th- and 8th-grade students, with about 16 students per class on average. The students exhibited varying learning speeds and participation levels during classroom activities, underscoring the need to emphasize time management

in the study. The research employed an exploratory action research design to identify challenges in time management and explore potential strategies for improvement. Based on this, a set of research questions was crafted to guide the investigation. Data collection involved three primary tools: a reflective journal, a student survey, and critical friend observation notes. The journal captured detailed observations regarding lesson timing, student behavior, and activity effectiveness. The survey aimed to understand students' perceptions of time use and the importance of time management in their learning. Additionally, a critical friend observed several lessons and provided constructive feedback on classroom management, clarity of instruction, and activity timing. Data were analyzed using descriptive methods; survey results were summarized as percentages. In contrast, qualitative data from the journal and observations were reviewed to identify patterns in student engagement, behavior, and time use.

RESULTS

Students' Attitudes Toward Time Allocation in Classroom Activities

This study employed a reflective journal, a critical friend's observation notes, and a student survey to examine how time was managed during classroom activities. Insights from the journal and observation notes indicated that a substantial portion of lesson time was devoted to managing student behavior, especially in lower grades, where students are more energetic and less focused. As a result, the teacher often struggled to adhere to the planned schedule, and some activities lasted longer than expected. Additionally, some students required repeated explanations and support, which slowed down the lesson. The critical friend's notes emphasized that classroom management and clear instructions significantly affected the efficient use of time. Alongside classroom observations, a survey was administered to 39 students- 79. 5% in Grade 8 and 20. 5% in Grade 7, to gather their perceptions of time management during the exploratory phase of the research. The survey asked for their opinions on the time allotted to activities and the significance of clear time limits.

Regarding the statement "The time given for activities is usually enough for me," 41% strongly agreed, and 46. 2% agreed. Few students responded neutrally or negatively. Similarly, 56. 56.4% strongly agreed, and 33. 3% agreed that clear time limits boosted their motivation. Regarding their overall views on time allocation, 76. 9% believed the time was appropriate, 12. 8% thought it was too long, and 10. 3% felt it was too short. The data were analyzed with descriptive statistics, summarizing responses as percentages to identify patterns in students' perceptions. The journal and observation notes highlighted key themes in student engagement, classroom management, and time use.

Impact of Time Management Strategies on Students' Engagement

A survey of 39 students assessed the effectiveness of the strategies implemented during the action phase. When asked, "Did flexible time help you complete activities more comfortably?" 74. 4% strongly agreed, while 20. 5% strongly disagreed. When asked, "Did clear time limits help you stay focused?" 92. 3% responded "Yes," and 7. 7.7% responded "Maybe." For the question "Did extra tasks keep you engaged if you finished early?" 94. 9% answered "Yes," with the rest replying "Maybe." All students (100%) agreed that the teacher's support enhanced their understanding of activities. Finally, 94. 9% believed that flexible timing made classroom activities more effective. These results suggest that the strategies used during the action phase positively impacted students' engagement and learning during activities.

DISCUSSION

This study's findings reveal that effective time management strategies significantly enhance students' engagement and participation in classroom activities. The results show a close link between classroom time management and overall classroom discipline and student behavior. Even well-structured lessons may be delayed if students are not fully engaged or if directions are unclear. The study also emphasizes the importance of considering students' age, behavior, and individual

learning differences when designing activities. Clear instructions, disciplined classroom management, and structured routines help minimize time wastage and boost lesson effectiveness. Additionally, the action stage survey results indicate that students responded positively to strategies such as flexible timing, explicit time limits, and extra teacher support. These methods enabled students to complete tasks more easily and stay focused. Providing additional tasks for quick learners and extra help for slower students effectively addressed varied learning paces. These findings align with previous research suggesting that structured time management enhances motivation and learning outcomes.

CONCLUSION

Overall, the study shows that flexible timing and strong teacher guidance are crucial for fostering a supportive, productive learning environment. While valuable insights are provided, further research is needed to explore time management strategies across different educational settings and larger student groups. Future studies might also assess the long-term impact of flexible time management on academic success and investigate how digital tools and technology can support these strategies to improve teaching practices.

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ENHANCING ENGAGEMENT, ATTENTION, AND MOTIVATION IN SECONDARY ENGLISH CLASSES THROUGH INTEGRATED INNOVATIVE APPROACHES

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Abstract: *This study investigates the impact of integrating collaborative learning, digital media, and interactive activities on student engagement, attention, and motivation in secondary school English lessons. Addressing the limited research on the combined effects of active and technology-enhanced learning, the study involved 40 students at School No. 39 in Namangan, Uzbekistan. Using surveys, interviews, and teacher reflections, findings show that group work, gamification, and digital tools significantly improved participation and motivation. Regularly varying lesson activities also helped sustain focus, supporting a dynamic, student-centered approach for English language learners.*

Keywords: *secondary school, engagement, gamification, multimedia, group work, digital tools.*

INTRODUCTION

Engagement in English classes is essential for students to acquire knowledge and apply it effectively, leading to future academic success. Therefore, it is crucial to make students active participants in the lesson. However, this presents a challenge for secondary school teachers, as their students often have limited attention spans, minimal interest in lessons, and adolescent psychology can be complex. Teachers should seek innovative approaches to engage secondary school students in their English lessons.

Engagement in secondary school English lessons has been a very vital topic for many researchers. Still, no one can clearly define engagement; there is no

suitable description for it, remaining open to debate (Azevedo, 2015; Boekaerts, 2016; Moreira et al., 2020). Engagement is commonly described as comprising three interrelated aspects: behavioural, emotional, and cognitive engagement (Connell, 1990; Connell & Wellborn, 1991; Fredricks, 2011). Currently, student engagement is recognized as a critical issue both nationally and internationally. Many institutions and schools provide a clear definition of student engagement to help educators effectively implement teaching strategies that enhance both engagement and learning in the classroom (Kelly, Yeigh, & Hudson, 2024). Teachers need to adopt innovative approaches that move beyond traditional teacher-centered methods, fostering student involvement, critical thinking, and real-world application of knowledge. These methods facilitate deeper learning and equip students with essential skills for navigating a complex, dynamic world (Islam & Saira, 2025). A teacher should possess the tools needed for different students to balance time, flexibility, and creativity pedagogically. On the one hand, this includes seeking new activation methods; on the other hand, a teacher's educational work is emphasized. But the most important thing is the teacher-student interaction (Szőköl, Pšenáková, & Kováč, 2023). Additionally, all factors essential for fostering student engagement should be considered, including interpersonal skills and the technical and personal resources available within schools. Teachers must remain responsive to global developments and seek ongoing professional growth. Furthermore, it is important to discuss experiences, outcomes, and reflections with colleagues after implementing new motivational strategies in the classroom (Szőköl et al., 2023).

In secondary education, teachers play a central role in implementing new pedagogical methods to enhance student learning outcomes (Islam & Saira, 2025). Thus, the research employed both qualitative and quantitative methods at School No. 39 in Namangan, Uzbekistan, to identify effective strategies for enhancing engagement among secondary school students. The findings indicate that the integrated use of gamification, multimedia, interactive activities, and group work

significantly increases student engagement. This research involved 40 paticipants to find out answers to these research questions:

1. Which innovative teaching strategies most effectively enhance engagement and empower secondary school students in English lessons?
2. Which methods enable teachers to capture and sustain the attention of secondary school students during English lessons?
3. What factors contribute to the intrinsic motivation and eagerness of secondary school students to learn English?

Methods

This study was conducted at School No. 39 in Namangan, Uzbekistan. The participants consisted of 40 seventh- and eighth-grade secondary school students. During instruction, the majority of students did not engage in English lessons, and their attention levels were low. This prompted me to explore solutions to these issues. In this study, an exploratory action research design was employed with the aim of identifying innovative strategies to enhance student engagement, increase their attention span, and improve motivation to learn. Accordingly, three research questions were formulated for investigation. A mixed-methods approach, incorporating both quantitative and qualitative data, was utilized. Employing mixed methods creates the best opportunity to address research questions and obtain meaningful answers (Johnson & Onwuegbuzie, 2004). Data were collected through two pre- and post-intervention student surveys for quantitative results, interviews with five students, and my own written reflections after the lessons for qualitative data.

First, a pre-survey was administered. Students received a questionnaire to determine their preferences for lesson organization. Based on the results, lessons were organized using various innovative methods in the seventh and eighth grades. The next step involved administering the post-intervention student survey, which had the same goal as the previous one. However, this time, students based their

responses on their experiences from the sample lessons. Subsequently, five students (four from the eighth grade and one from the seventh grade) were interviewed to gain insights into their perspectives on engagement and how their concentration and motivation could be improved. Additionally, I recorded my own reflections on the lessons to draw conclusions about students' behavior, attention, participation, motivation to learn, and the effectiveness of different strategies. The collected data were analyzed using descriptive analysis methods. Survey results were summarized as percentages, while qualitative data from interviews and written reflections were carefully examined to identify innovative approaches for encouraging active participation in English lessons.

Results

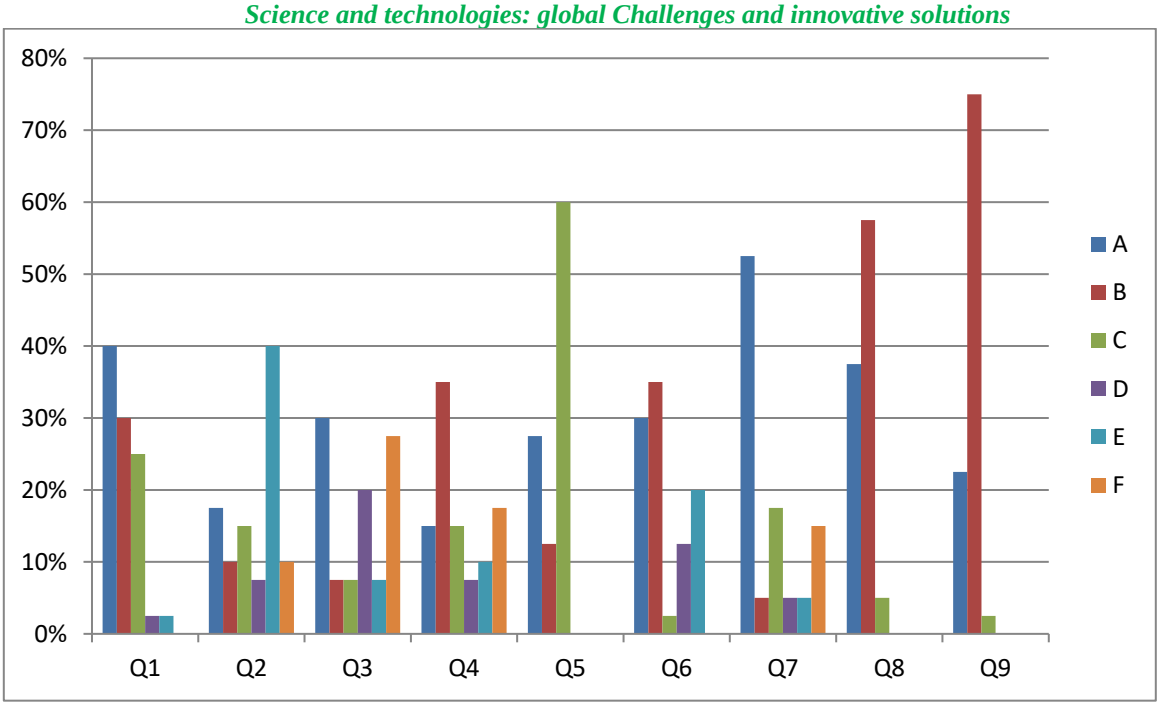
Data for this research were collected through two student surveys, interviews with students, and my own written reflections. The purpose was to understand the nature of student engagement, its mechanisms, potential innovative strategies, and ways to improve student attention and motivation. The aim of the descriptive analyses was to provide solutions to these issues.

1.Survey results.

1.1. Demographic Characteristics of Respondents

Two pre- and post-intervention student surveys were administered to secondary school students (7th and 8th grades) at School No. 39 in the Namangan district, Uzbekistan. The total number of participants was 40, and the students were randomly selected among their peers.

1.2. Baseline Student Engagement (Pre-Survey Results)



The diagram above presents the percentages for each response option (A, B, C, D, E, F) to nine pre-survey questions, providing quantitative data. The first question asked students about their general feelings toward learning English. The majority expressed interest in the subject, with 40% reporting that they were very excited and 30% indicating they were excited. A minority reported only a little excitement. The second question focused on students' preferred activities in previous English lessons: 40% selected playing games, 18% preferred interactive activities, 10% chose using multimedia, and the remaining students selected discussions, reading, and writing. The third question addressed enjoyable activities in English classes, with 30% of students favoring group work and 20% preferring the use of technology. The fourth question explored challenges encountered while learning English. Most students (40%) identified speaking as the most challenging aspect, while a smaller proportion (7.5%) cited writing as the main challenge. Question five examined students' preferences regarding participation: 60% preferred a balance between participating and listening to the teacher, 27.5% favored active engagement, and 12.5% opted for lecture-based lessons. In question six, participants indicated their preferred modes of participation. Working in groups (answer B) was selected

by the largest proportion (35%), followed by speaking out loud (answer A) at 30%. Writing on the board was the least preferred option. The seventh question concerned preferred teaching tools. More than half of the participants expressed a desire for the teacher to use a smartboard in English lessons. Additionally, 17.5% chose online quizzes, 5% selected videos and project presentations, while more traditional methods were also represented: 15% preferred textbooks, and 5% chose printed materials. Question eight explored students' attitudes toward competition in lessons: 57.5% responded positively if the competition was interesting, 37.5% said they definitely enjoyed it, and only 5% expressed a dislike for it. Thus, 95% of students believed that incorporating fun challenges made learning more interesting and engaging. The final question asked whether students felt comfortable sharing their thoughts with others in English. Seventy-five percent responded, " sometimes, it depends on the activity "; 22.5% reported feeling comfortable, and only 2.5% expressed discomfort.

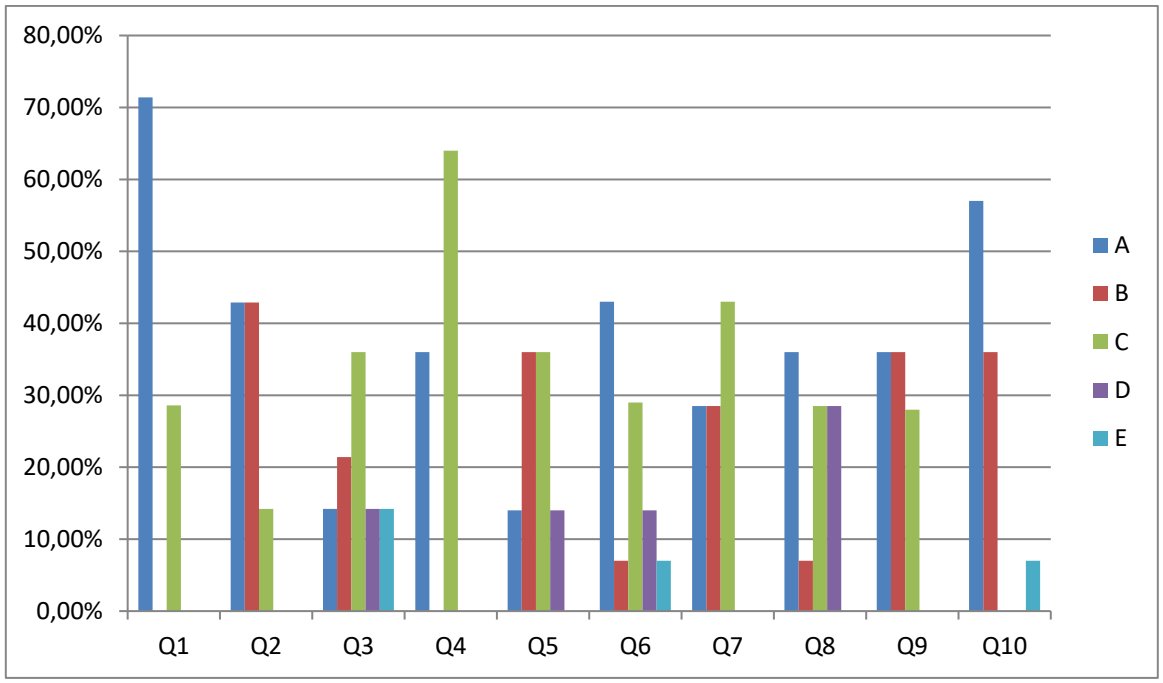
1.3. Preferences for Lesson Organization

Analysis of the pre-survey results reveals that students demonstrated a clear preference for interactive and engaging lesson formats. The most favored activities were playing games (40%) and participating in interactive activities (18%), indicating a strong inclination toward gamification in lesson organization. Additionally, 30% of students preferred group work, while 20% highlighted the use of technology, such as smartboards and multimedia, as enjoyable and effective. A significant portion of respondents also expressed interest in integrating online quizzes and project presentations.

These findings suggest that students are most engaged when lessons incorporate elements of gamification, collaborative group work, and modern technology and multimedia resources. Traditional methods such as textbook use and lecture-based instruction were less preferred, with only a small minority selecting

these options. Therefore, lesson organization that emphasizes interactive, technology-driven, and collaborative activities is likely to align best with student preferences and foster greater motivation and engagement.

1.4. Changes in Student Engagement (Post-Survey Results)



After the sample lessons, students completed a post-survey consisting of ten questions designed to assess their attitudes toward English lessons. The second diagram above presents the results of the post-survey. Student attitudes toward learning English were overwhelmingly positive, with 71.4% reporting they felt "very excited" and 28.6% "somewhat excited." When asked about the most enjoyable activities, preferences were almost equally split between group work (42.9%) and pair work (42.9%), while a smaller portion (14.2%) preferred the PowerPoint presentation using the smartboard. The greatest challenge reported was completing group tasks (36%), followed by participating in discussions (21.4%), with smaller proportions finding difficulty in understanding the content, using English in speaking/writing, or keeping up with the lesson pace (14.2% each). Most students (64%) felt "somewhat comfortable" participating in class, and 36% felt

"very comfortable." In terms of comprehension, 36% felt they understood the lesson "very well," another 36% "well," while 14% each were neutral or did not understand well. Engagement levels were high, with 43% rating the lesson as "very engaging," though 29% were neutral, and the remainder expressed less engagement. For future lessons, 43% of students indicated that watching videos or using multimedia would help increase engagement, with interactive activities and group work also favored (28.5% each). Factors that helped students stay focused included interesting introductions (36%), group work (28.5%), and frequent activity changes (28.5%). Regarding learning outcomes, 36% felt they learned "a lot," another 36% "a little," and 28% not much. Overall, 57% rated the lesson as "excellent," 36% as "good," and 7% as "very poor," suggesting generally strong satisfaction with the lesson, though a minority indicated room for improvement.

1.5. Comparison of Pre- and Post-Survey Results

A comparison of the pre- and post-survey results reveals both consistencies and notable improvements in student attitudes and preferences. Across both surveys, students consistently favored group work, interactive activities, technology and multimedia usage, and gamification as preferred lesson components. This indicates that students' preferences for collaborative and engaging learning experiences remained stable throughout the intervention. However, a significant positive shift was observed in their overall attitudes toward learning English. In the pre-survey, students expressed varying levels of excitement, whereas the post-survey results show a marked increase in positive attitudes, with a substantial majority reporting that they felt "very excited" or "somewhat excited" about learning English after the lessons. This suggests that the implemented instructional strategies not only aligned with students' preferred learning methods but also contributed to a greater enthusiasm and motivation for English language learning.

2. Interview results

To obtain qualitative data, interviews were conducted with five students (four from the eighth grade and one from the seventh grade). The interviews explored students' perceptions regarding how English lessons could be made more engaging, as well as strategies for improving their attention and motivation. The students' responses were recorded and analyzed. They expressed a strong preference for lessons that incorporated games and interactive activities. Notably, the issue of attention span emerged as a significant factor; students indicated that their attention is easily lost if activities remain the same for too long, emphasizing the need for frequent changes in classroom tasks. Furthermore, the students highlighted the importance of technology and multimedia, noting that digital tools are an integral part of their daily lives. They asserted that the integration of technology and multimedia resources into English lessons is essential. Collectively, these insights suggest that combining interactive activities, frequent variation in tasks, and the use of digital tools is likely to enhance student engagement, attention, and motivation.

3. Researcher's Reflections on Lesson Implementation

Following classroom observations, written reflections were composed and analyzed to obtain qualitative insights. The findings indicate that the strategies identified as student preferences in both the surveys and interviews proved effective in practice. Students demonstrated increased activity and participation during group work tasks and exhibited greater enthusiasm when engaged in interactive activities and games. Their attention to the lesson improved notably with the incorporation of digital tools and multimedia. Prior to these interventions, only 7–8 students were actively engaged in English lessons; after implementing the changes, this number rose to 12–13 students per class. Previously, students would often lose focus and become bored; however, post-intervention, they appeared more active, motivated, and attentive. As reflected in my notes, "Several students who were usually quiet became eager to participate during interactive games, often volunteering answers or

helping their classmates." This improvement is attributed to the integration of diverse tools and activities within the lessons. Overall, the incorporation of group work, gamification, interactive activities, and the use of technology and multimedia emerged as key factors in enhancing student engagement, attention, and motivation.

DISCUSSION

The research was conducted to find out innovative ways to improve student engagement, attention, and motivation in English classes. Findings show that the integration of group work, gamification, interactive activities, and technology and multimedia is a key factor in success. Regarding digital media, the findings suggest that digital resources—including Canva-generated visuals, interactive animations, and online quizzes—were more effective in capturing students' attention and boosting their motivation than traditional teaching approaches. From the standpoint of digital psychology, these tools facilitated emotional engagement and encouraged students to learn actively, consistently, and reflectively. Although there were technical challenges, such as restricted internet access and regulations on mobile phone use, students continued to show a strong preference for digital media, resulting in greater concentration, participation, and motivation. Observations and interviews showed that the majority of students displayed greater interest and enthusiasm when digital media was integrated into lessons, as opposed to traditional textbook-based instruction. For instance, when teachers used digital vocabulary posters or interactive animations to explain basic sentence structures, students paid close attention, mimicked dialogues, and even sang along with instructional videos (Salsabila, Junaidi, Sanusi, Sholiha, & Helty, 2026). Also, the review findings indicate that games should be regarded as essential components when designing educational settings in secondary education (SE). Their wide-ranging benefits for developing competencies such as attention, persistence, memory, speed, and problem-solving are well established. However, there remain notable academic gaps that digital games alone currently cannot address. While the individualized nature of

games can highlight personal differences, collaborative games are particularly recommended during adolescence, given the importance of group belonging in forming adolescent identity—a feature still underrepresented in existing digital game catalogs. Experts emphasize that games are most effective when they offer some level of personalization, though this poses a significant challenge. Moreover, the educational impact of games is enhanced when accompanied by support from teachers, peers, and supplementary texts, as digital games often focus more on individual actions and less on social interaction. Therefore, effective education through gaming requires deliberate scaffolding alongside gameplay. Finally, as education becomes increasingly mediated by digital technology and gamification, there is a critical need for thorough and rigorous research on these practices in (Faure et al., 2022). Moreover, collaborative learning, which is a prevalent approach to active learning and serves as the central focus of this study, has been shown by extensive research to offer substantial advantages for students (e.g., Cabrera et al., 2002; Fung et al., 2016; Kuwabara et al., 2020; Loes et al., 2017; Loes & Pascarella, 2017; Springer et al., 1999). As previously noted, the integration of these various methods proved to be highly effective when implemented together. Future research could also investigate how the integration of digital media and collaborative learning strategies impacts student engagement and achievement in diverse educational contexts.

CONCLUSION

The findings of this study demonstrate that integrating group work, interactive activities, gamification, technology, and multimedia significantly enhances student engagement, attention, and motivation in English lessons. Both quantitative and qualitative data revealed that students consistently preferred collaborative and technology-driven learning experiences over traditional, textbook-based instruction. The use of digital media—such as online quizzes, interactive animations, and

multimedia presentations—captured students' interest and fostered more active participation. Interviews and classroom observations further indicated that frequent variation in activities and the incorporation of digital tools addressed students' short attention spans and increased their enthusiasm for learning. Overall, the results suggest that a multifaceted approach, combining diverse instructional methods and leveraging digital resources, is highly effective in promoting positive attitudes and active learning among secondary school students.

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ILM VA TARTIB UYG‘UNLIGI: O‘RTA ASR UNIVERSITETLARI VA YEVROPA TA’LIM TIZIMINING SHAKLLANISHI

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Annotatsiya: *Ushbu maqolada o‘rta asr Yevropa universitetlarining shakllanishi, boshqaruv tizimi va o‘quv jarayonining o‘ziga xos jihatlari tahlil qilinadi. Asosiy e’tibor Parij, Bolonya hamda Leypsig universitetlari misolida ta’lim tizimining tashkil etilishi, talaba va o‘qituvchilarning huquq hamda majburiyatlariga qaratiladi. Tadqiqotda o‘rta asr universitetlarida rektor va dekan lavozimlarining saylanish tartibi, fakultetlar o‘rtasidagi vakolat taqsimoti, shuningdek, ta’limning ma’ruza va amaliy shakllari yoritiladi. Bundan tashqari, o‘quv jarayonining qat’iy reglament asosida olib borilgani, asosiy o‘quv manbalari va bilim berish uslublari ham ko‘rib chiqiladi. Muallif o‘rta asr universitetlarida shakllangan ushbu tizim keyingi davrlarda Yevropa oliy ta’limining rivojiga mustahkam asos bo‘lib xizmat qilganini asoslab beradi.*

Abstract: *This article analyzes the formation of medieval European universities, their governance systems, and the distinctive features of their educational process. Special attention is given to the organization of the educational system in the universities of Paris, Bologna, and Leipzig, focusing on the rights and responsibilities of students and teachers. The study also examines the election procedures of rectors and deans, the distribution of authority among faculties, as well as the lecture-based and practical forms of teaching in medieval universities. In addition, it explores how the educational process was conducted under strict regulations, along with the main sources of learning and methods of knowledge transmission. The author argues that the system established in medieval universities served as a solid foundation for the development of higher education in Europe in later periods.*

Kalit so‘zlar: *o‘rta asr universitetlari, Parij universiteti, Bolonya universiteti, Leypsig universiteti, ta’lim tizimi, rektor va dekan, fakultetlar, talabalar boshqaruvi, o‘qitish metodlari, ma’ruza va amaliy mashg‘ulotlar, o‘quv reglamenti, ilmiy darajalar, universitet nizomlari, Yevropa oliy ta’limi.*

Keywords: *medieval universities, University of Paris, University of Bologna, University of Leipzig, education system, rector and dean, faculties, student governance, teaching methods, lectures and practical classes, academic regulations, academic degrees, university statutes, European higher education.*

KIRISH

O‘rta asrlarda Bolonya va Parij universitetlari Yevropadagi boshqa universitetlarning tashkiliy tuzilishiga namuna vazifasini bajargan. O‘rta asr universitetlarida boshqaruv tizimi muayyan darajada talabalar manfaatiga asoslangan edi. Masalan, rektor lavozimi talabalarning umumiy yig‘ilishida saylangan, biroq bu lavozimni egallovchi shaxs albatta diniy unvonga ega bo‘lishi shart bo‘lgan. Bunga sabab – dunyoviy shaxsning ruhoniy maqomdagi talabalar va ustozlar ustidan sud vakolatiga ega emasligidir. Dastlab universitet ichidagi ko‘plab lavozimlarga tayinlash huquqi ham talabalarga tegishli bo‘lgan. Ular nafaqat ma’muriy lavozimlarni, balki professorlarni ham o‘zlari tanlab, ular bilan shartnoma tuzgan va maoshlarini ham to‘lab kelgan. Biroq vaqt o‘tishi bilan bu tizim o‘zgaradi: professorlar ish haqi shahar hokimiyati tomonidan moliyalashtirilishi boshlangach, talabalar asta-sekin bu vakolatdan mahrum bo‘la boshlaydi. [2.1993, pp.78-95.].

Bundan tashqari, universitetlar rivojida mahalliy hokimiyatning roli ham muhim bo‘lgan. Jumladan, 1399-yilda Paduya shahar hokimi Fransisk Karraria yuridik fakultet talabalari uchun qimmatbaho uy hadya qilgan. Ushbu bino keyinchalik universitet faoliyati uchun muhim maskanga aylangan. [5.2012, c.109.].

Parij universitetining ichki tuzilmasi boshqa yirik o‘rta asr oliy o‘quv markazlaridan ancha farq qilgan. Uning asosini san’at fakulteti tashkil etib, u to‘rtta “millat” birlashmasidan iborat bo‘lgan. Shu bilan birga, universitet tarkibiga uchta yuqori bosqichdagi fakultet – ilohiyot, huquq va tibbiyot ham kirgan. San’at fakulteti

tayyorlov bosqichi vazifasini bajargan bo‘lib, unda tahsil olgan talabalar keyinchalik yuqori fakultetlarga o‘tish imkoniga ega bo‘lgan. Dastlab san’at fakulteti rahbari rektor deb yuritilgan, biroq vaqt o‘tishi bilan bu unvon butun universitet boshlig‘iga nisbatan qo‘llanila boshlagan. Yuqori fakultetlarga esa dekanlar rahbarlik qilgan. Parij universitetining yana bir o‘ziga xos jihati shundaki, rektor faqat san’at fakulteti vakillari orasidan saylangan va bu saylovda yuqori fakultet vakillari qatnashmagan. Italiya universitetlaridan farqli ravishda, bu yerda saylov huquqi asosan o‘qituvchilar qo‘lida bo‘lgan.

Ta’lim jarayonida ham o‘ziga xos tartib mavjud edi: har bir o‘qituvchiga ma’lum miqdorda talabalar biriktirilib, u ularning bilim olishi va tarbiyasi uchun mas’ul hisoblangan. San’at fakultetida dars beruvchilar magistr, yuqori fakultetlarda faoliyat yurituvchilar esa doktor unvoni bilan atalgan. Ilmiy daraja mazmunan o‘xshash bo‘lsa-da, ularning nomlanishi faoliyat yuritayotgan fakultetga qarab farqlangan. Agar rektor yuqori fakultetda doktorlik darajasini olishni istasa, u o‘z lavozimidan voz kechishga majbur bo‘lgan. Shu sababli ayrim hollarda uning mavqei dekanlarga nisbatan pastroq deb baholangan.

Biroq san’at fakulteti universitet boshqaruvida hal qiluvchi o‘ringa ega edi. Umumiy yig‘ilishlarda uchta yuqori fakultet har biri bittadan ovozga ega bo‘lgan bo‘lsa, san’at fakultetidagi to‘rtta “millat” ham alohida ovozga ega edi. Natijada ovoz berish jarayonida san’at fakulteti ustunlikni qo‘lga kiritgan. Rektor esa majlislarga raislik qilib, universitet hayotiga oid muhim masalalarni muvofiqlashtirgan.

Universitet ichki tizimi vaqt o‘tishi bilan takomillashib borgan. Masalan, 1333-yilda to‘rtta “millat” vakillarini hududiy jihatdan tartibga solish tizimi joriy etilgan. 1356-yilda esa ushbu “millatlar” o‘rtasidagi ayrim cheklovlar bekor qilingan. Shuningdek, 1340-yilda huquq fakulteti tomonidan qabul qilingan qarorga ko‘ra, har bir talaba o‘qishni avvalo “erkin san’at” asoslarini o‘zlashtirishdan boshlashi lozim edi. [4.1974, c.60.]. 1389-yildagi umumiy yig‘ilishda esa ilohiyot

fakultetini tugatgan bakalavrlar litsenziya olgunlariga qadar Parijda yashab turish majburiyati belgilandi.

O‘rta asr universitetlarida ta’lim jarayoni dastlab uzluksiz tarzda, deyarli butun yil davomida olib borilgan. Bu tizim diniy an’analar va qat’iy tartiblarga asoslangan bo‘lsa-da, vaqt o‘tishi bilan unda muayyan o‘zgarishlar yuz bera boshladi. Xususan, XV asr oxirlariga kelib Germaniya hududidagi universitetlarda o‘qitish jarayoni bosqichma-bosqich semestr tizimiga o‘ta boshlagan. Mazkur tizimga ko‘ra o‘quv yili ikki asosiy davrga ajratilgan: birinchi semestr sentabr oyidan boshlanib Pasxa bayramigacha davom etgan, ikkinchisi esa Pasxadan keyin boshlanib iyun oxirigacha yakunlangan. Shunga qaramay, ta’lim dasturi oldindan butun yil uchun ishlab chiqilib, izchil reja asosida amalga oshirilgan.

Parij universitetida, san’at fakulteti doirasida, ma’ruza jarayonini tashkil etish o‘ziga xos murakkablikka ega edi. Dastlab ayrim magistrlar ma’ruza matnini o‘zlari o‘qib bermasdan, uni talabalardan biriga topshirib, qolganlarga o‘qitgan holatlar kuzatilgan. O‘qituvchi esa bu jarayonni faqat nazorat qilib turgan. Tashqi tomondan bu usul qulay ko‘rinsa-da, u magistrning asosiy vazifasi – bilimni tushuntirish va sharhlashni cheklab qo‘ygan. [1.1895, pp.310-400]. Keyinchalik bu amaliyot fakultet rahbariyati tomonidan man etilgan. Maxsus nizom joriy etilib, unga ko‘ra magistrlar ma’ruzalarni faqat o‘zlari og‘zaki tarzda bayon etishlari shart qilib qo‘yilgan. Hatto bu qoidaga amal qilish uchun qasamyod ham qabul qildirilgan. Agar o‘qituvchi ushbu tartibni buzsa, birinchi holatda u bir yil davomida dars berish huquqidan mahrum etilgan. Qoidabuzarlik takrorlangan taqdirda esa jazolar yanada og‘irlashtirilib, hatto to‘rt yilgacha o‘qituvchilikdan chetlashtirish chorasi qo‘llangan. Bu kabi qat’iy talablar o‘qituvchilarni tartibga rioya qilishga majbur etgan.

Shunga qaramay, o‘rta asr universitetlarida matn bilan ishlash an’anasi muhim o‘rin tutishda davom etgan. Talabalardan darslarga o‘z kitoblari bilan kelish yoki ularni ijaraga olish talab etilgan. Bu esa ularning o‘rganilayotgan material bilan

bevosita ishlashini va mustaqil fikrlashini rivojlantirishga xizmat qilgan. [3.1895, pp.240-300.]. Ammo kitoblar va yozuv materiallarining qimmatligi sababli, barcha talabalar bunday imkoniyatga ega bo‘lmagan. Natijada, ma’ruza vaqtida matnni o‘qib berish va uni yozib olish amaliyoti rasmiy taqiqlarga qaramay, norasmiy tarzda davom etib kelgan.

Leypsig universitetida o‘quv jarayonini nazorat qilish ancha tizimli yo‘lga qo‘yilgan edi. Har bir magistr o‘z tinglovchilari ro‘yxatini yuritib, unda nafaqat qatnashuv, balki talabalar intizomiga oid holatlarni ham qayd etgan. Bundan tashqari, maxsus tayinlangan nazoratchilar haftasiga ikki marotaba darslarni tekshirgan, mashg‘ulotlarda qatnashmagan talabalar esa alohida ro‘yxatga olinib, nazorat ostida bo‘lgan. Bolonya universitetida esa ta’lim jarayoni yanada qat’iy va batafsil tartibga solingan. 1347-yilda qabul qilingan nizomlarga muvofiq, har bir fan alohida bo‘limlarga ajratilib, ularning har biri 12–14 kun ichida o‘qitib tugatilishi lozim edi. Professorlar o‘quv yili boshida ma’lum miqdorda garov puli qo‘ygan bo‘lib, agar ular darslarni to‘liq o‘tmasa yoki belgilangan mavzularni yakunlamasa, ushbu mablag‘ jarima sifatida ushlab qolingan. [3. 1992, pp.210-240.]. Hatto ma’ruza davomida asosiy matndan ayrim so‘zlarni tushirib qoldirish ham intizomiy jazoga sabab bo‘lgan.

XULOSA

Xulosa qilib aytganda, o‘rta asr universitetlarida ta’lim jarayoni aniq tartib-qoidalar asosida tashkil etilgan murakkab tizim bo‘lib, u ierarxik boshqaruv va qat’iy reglamentga tayangan. Bunda o‘quv jarayoni oddiy ma’ruza yoki dars bilan cheklanib qolmay, balki belgilangan vaqt rejasi, maxsus o‘qitish uslublari va nazorat mexanizmlari asosida olib borilgan. Shu sababli universitet hayoti oldindan belgilangan qoidalar asosida izchil boshqarilgan.

Vaqt o‘tishi bilan ta’lim berish usullarida ham ma’lum o‘zgarishlar yuz bergan. Dastlab matnlarni so‘zma-so‘z o‘qib berishga asoslangan an’ana asta-sekin og‘zaki tushuntirish, tahlil va sharhlashga yo‘naltirilgan yondashuv bilan almasha

boshlagan. Shunga qaramay, yozma manbalar va asosiy darsliklar o‘quv jarayonining markazida qolgan va bilim berishning asosiy tayanchi sifatida xizmat qilgan.

Universitetlarda intizomni saqlash va ta’lim sifatini nazorat qilish maqsadida qat’iy chora-tadbirlar joriy etilgan. Qasamyod qilish, jarima tizimi, muntazam tekshiruvlar va hatto lavozimdan chetlashtirish kabi mexanizmlar o‘qituvchi va talabalarni belgilangan tartibga rioya qilishga majbur etgan. Natijada darslarga qatnashish, ma’ruzalarni o‘z vaqtida va tartib asosida o‘tish hamda o‘quv jarayonini uzluksiz olib borish qat’iy talabga aylangan.

Shu jihatdan qaraganda, o‘rta asr universitetlari faqat bilim beruvchi muassasa emas, balki butun Yevropa ilmiy tafakkuri va madaniy taraqqiyotini shakllantirgan muhim institut sifatida namoyon bo‘ladi. Ular keyingi davr oliy ta’lim tizimlarining shakllanishi uchun mustahkam poydevor bo‘lib xizmat qilgan va bugungi universitet modelining asosiy tamoyillarini belgilab bergan.

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PEDAGOGICAL QUESTIONNAIRE METHOD IN ASSESSING THE PROFESSIONAL COMPETENCE OF MEDICAL STUDENTS: PRACTICAL AND STRATEGIC APPROACHES

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Abstract.*This article analyzes the fundamental components of the pedagogical questionnaire method and its role in the professional activity of modern medical educators. The study highlights the strategic and practical integration of the questionnaire method in assessing the professional competence of medical students. The findings contribute to improving the quality of education in medical higher education institutions and enhancing the methodology for training competitive specialists.The concept of a pedagogical questionnaire is examined not merely as a teaching tool, but as a comprehensive system reflecting the psychological and professional competencies of a medical educator. Unlike traditional survey methods, the effectiveness of case-based "situational questionnaires" is substantiated. The article also proposes practical examples and mathematical models for analyzing results in medical education.*

Keywords:*pedagogical diagnostics, questionnaire method, medical education, deontology, cognitive analysis, feedback, clinical thinking*

INTRODUCTION

Modern medical education requires not only the transmission of theoretical knowledge but also the development of stress resilience and decision-making skills in future physicians. The pedagogical questionnaire method serves as one of the most efficient tools for ensuring feedback between teachers and students.

In the medical field, this method goes beyond simple data collection; it enables the diagnosis of students' professional ethics (deontology) and their readiness for clinical practice.

MAIN PART

Structural Models of Medical Pedagogical Questionnaires

When working with medical students, it is advisable to structure questionnaires into three main blocks:

Motivational Block: Identifies students' interest in medicine and their sense of social responsibility.

Cognitive-Practical Block: Focuses on students' self-assessment of acquired clinical skills.

Psychological Stability Block: Aims at early detection of emotional burnout syndrome.

Practical Examples and Case-Based Questions

Examples of innovative questions that can be included in questionnaires:

Situational Question:

"You are on duty alone, and two critically ill patients are admitted simultaneously. What would be your first action?"

Ethical Dilemma:

"If a patient's relatives ask you to conceal the true diagnosis, what would be your position?"

Methodology for Results Analysis

To analyze questionnaire results quantitatively, the Assimilation Index (I_o) can be applied:

$$Io = \Sigma(n * v) / N$$

Where:

n — score assigned to a response;

v — number of students selecting that score;

N — total number of respondents.

This formula allows for an objective numerical evaluation of the group's overall level of clinical preparedness.

CONCLUSION

The professional competence of a medical educator today is closely linked with technological literacy. However, no modern technology can replace the personal influence and ethical guidance of a teacher.The pedagogical questionnaire method is an essential tool for optimizing the educational process in medical education. Questionnaires enriched with practical cases contribute not only to knowledge assessment but also to shaping the professional identity of future physicians. Properly designed anonymous surveys enhance educational quality while fostering critical thinking and self-reflection skills among students.

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TALABALARGA CHET TIL O‘QITISHDA INTERAKTIV TA’LIM VOSITALARINING ROLI

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Annotatsiya: *Ushbu maqolada til ta’limida innovatsion texnologiyalarni joriy etishning dolzarbligi, pedagogik metodlar va ularning ta’lim samaradorligiga ta’siri tahlil qilinadi. Shuningdek, “metod” tushunchasining ilmiy-nazariy talqinlari, integratsiyalashgan ta’limning mohiyati va uning amaliy qo‘llanishi yoritilgan. Zamonaviy metodlar orqali ta’lim oluvchilarning faolligini oshirish, mustaqil va tanqidiy fikrlash ko‘nikmalarini rivojlantirish masalalari ham muhokama qilinadi.*

Kalit so‘zlar*: innovatsion texnologiyalar, pedagogik metodlar, integratsiyalashgan ta’lim, o‘qitish metodlari, fransuz tili, grammatika, ta’lim samaradorligi interaktiv metodlar, kommunikativ kompetensiya, ta’lim loyihasi.*

Annotation: *This article analyzes the importance of implementing innovative technologies in language education, as well as the role of pedagogical methods in improving learning effectiveness. It also explores theoretical interpretations of the concept of “method” and highlights the essence and application of integrated teaching. Furthermore, the study discusses modern teaching methods that enhance learners’ engagement and develop their independent and critical thinking skills.*

Key words:*innovative technologies, pedagogical methods, integrated learning, teaching methods, French language, grammar, learning effectiveness, interactive methods, communicative competence, educational project.*

KIRISH

Bugungi kunda til ta’limiga innovatsion texnologiyalarni kengmiqyosida

joriy etish dolzarb vazifalardan biriga aylandi. Xususan, D.Bespalko, L.Kamenskiy, I.Pestalossi, J.Yo‘ldoshevlarning ilg‘or pedagogik texnologiya, innovatsiya, axborot texnologiyasining va unda inson omili munosabat qo‘yilgan talablar usul va uslublari pedagogik tizimning natijasini ozgina bo‘lsa ham samarali tomonga siljishga qaratilgan bo‘lib, hozirgi 50-60% dan (pedagogik tizimning maksimal natijasi) hech bo‘lmaganda 5- 10% ga o‘stirishga olib kelishidan iborat .

Ta’lim jarayoniga zamonaviy metodlarni muvaffaqiyatli qo’llashning yana bir omili – bu muayyan, yaxlit ta’limiy jarayonni oldindan rejalashtirish, talabalar tomonidan o’zlashtiriladigan nazariy va amaliy bilimlar, ko’nikma va malakalar darajasini tashxislash hamda ta’lim maqsadini muvaffaqiyatli xulosalanishini oldindan bashorat qilish iboratdir. Darsni oldindan rejalashtirish integratsiyalashgan ta’lim jarayonini samarali bo’lishida yetakchi o’rin egallaydi.

ASOSIY QISM

Darsni oldindan loyihalash o’quv rejasi, dasturlar, darslik, metodik tavsiyalar va boshqa qo’llanmalar muhum manba bo’lib xizmat qiladi.

Biroq, Fransuz tilini chet til sifatida nutq faoliyati turlarining integratsiyalashgan yondashuv asosida o‘qitishda aniq bir metod yoki tamoyildan foydalanilish mushkul, chunki bu jarayon psixofiziologik jarayon bo‘lib, til o‘rganuvchining yoshi, qiziqishi va undagi til o‘rganish qobiliyatiga bog‘liqdir.

Darslarda metodlardan foydalanish ta’lim beruvhi va ta’lim oluvchi o‘rtasidagi o‘zaro hamkorlikni qaror toptiradi, ularda tanqidiy, mustaqil va ijodiy fikrlashni shakllantiradi.Ta’lim loyihasi bevosita ta’lim sharoitida amalga oshiriladi. Loyihalash integratsiyalashgan ta’lim jarayonining samarali bo‘lishida yetakchi o‘rin tutadi. Ta’lim loyihasini ishlab chiqish jarayoni, ayniqsa, davlat standartlari talablari asosida tahlil qilish, muhim ahamiyatga ega. Bu jarayonda ta’lim mazmunining turli elementlari, masalan, bilim, ko‘nikma va malakalar, ijodiy faoliyat tajribasi va munosabatlar, dastur va darsliklardagi taqdimot usullarini chuqur tahlil qilish lozim. Dastlabki tahlil, o‘rganish maqsadlari, ta’limning didaktik

maqsadlari va pedagogik jarayonning o’ziga xos jihatlarini belgilashni o’z ichiga oladi.

Maqsadlarni amalga oshirish, uy ishlari va test savollari, reyting nazorati, hamda o‘qitish usullarining etalon darajasini belgilash orqali, o‘quv jarayonining samaradorligini oshirishga yordam beradi. Bularning barchasi, natijada, ta’lim jarayonining samarali modelini yaratish imkonini beradi. Bu model talabalarga yuqori sifatli ta’lim berishni va bilimlarni mukammal o‘zlashtirishni ta’minlash uchun zarurdir.

R. Tajiyeva o‘quv mashg‘uloti jarayonining loyihasini ishlab chiqishda quyidagi ishlarga alohida e’tibor qaratadi: “ ….o‘rganilayotgan mavzu bo‘yicha maqsad, vazifalar bilan talabalarni oldindan tanishtirish, muammo, topshiriqlarni, shuningdek, uy vazifalari, mustaqil bajariladigan ishlarni, ularni bajarish tartibi, paytini e’lon qilish, mavzuni to‘liq o‘zlashtirish bo‘yicha ko‘rsatmalar berish, o‘zlashtirish me’yorlarini aytib berish, talabalarni faol, mustaqil faoliyatga rag’batlantirish, ular diqqatini bo’lim yoki mavzu mazmuniga tortish, uni qanday o‘rganish zarurligini aytib berish, bilishga qiziqish uyg‘otish, o‘qish-o‘rganishga havas, muammolarni bajarishga ehtiyoj uyg‘otish, emosiyalar, tafakkur hodisalari, bilimlarni o‘quv holatlariga tatbiq etish yo‘llari orqali mavzu bo‘yicha ma’lumotlar to‘plash, to‘plangan ma’lumotlar yuzasidan joriy nazoratni tashkil etish, mavzuni to‘liq o’zlashtirishga oid o‘zgarish, qo‘shimcha, tuzatishlarni belgilash, bo‘lim yoki mavzu bo’yicha to‘plangan bilimlarga ishlov berish” kabilar.

O‘.Tolipov o‘quv mashg‘uloti jarayonining loyihasini ishlab chiqishning 8 ta bosqichini taklif qiladi: 1-bosqich. Mavzuga doir materiallarni yig‘ish, 2-bosqich. Ta’lim maqsadi va vazifasini belgilash, 3-bosqich. Ta’lim mazmunini ishlab chiqish, 4-bosqich. Ta’lim shakli, metod vavositalarini tanlash, 5-bosqich. Vaqt o‘rnini belgilash, 6-bosqich. Mashqlar tizimini ishlab chiqish, 7-bosqich. O‘quvchilar faoliyatini nazorat qilish va test tizimini ishlab chiqish, 8-bosqich. Loyihani o‘quv jarayoniga tatbiq etish.

Har ikkala tadqiqotchining fikrlaridan kelib chiqib, o‘quv mashg‘uloti jarayoni bosqichlari bir - biri bilan chambarchas bog‘liq ekanligini ko‘rishimiz mumkin. Bu esa o‘quv jarayonini samarali va muvaffaqiyatli ta’minlashga imkoniyat yaratadi.

Fransuz tili darslarida talabalarni faollashtirish, yangi olingan bilimlarni tez o‘zlashtirishga yo‘naltirish interfaol metodlar orqali amalga oshadi. Interfaol so‘zi inglizcha Interact fe’lidan kelib chiqqan. U inter - o‘zaro, act - harakat qilaman, ta’sir qilaman mazmun, ma’nosini anglatadi. Bu metod talabalarning bir-biriga ta’siri, fikri mulohazasi, faolligi orqali mustaqil muloqotga o‘rgatish degan ma’noni beradi. Interfaol ta’limda monolog, diolog ayniqsa polilog muhim bo‘lib, aniq va oldindan aytsa bo‘ladigan maqsadni, qulay shart-sharoit yaratishni nazarda tutadi. Bu metodning soni keyingi yillarda 60 dan oshib ketdi va ta’lim sohasida keng qo‘llanilmoqda.

Boshqa metodlarga qaraganda, interfaol metod tinglovchilarning nafaqat o‘qituvchi, balki o‘zaro faollik va tinglovchilarning mashg‘ulot jarayonida faolligini oshirishga yo‘naltirilgan bo‘ladi.

N.Muslimov, M.Usmonboyeva, M.Mirsoliyevalar fikriga ko‘ra Interfaol metodlarning foydali jihatlari quyidagilarda namoyon bo‘ladi: “ta’lim samarasi yuqoriroq bo‘lgan o‘qish-o‘rganish, ta’lim oluvchining yuqori darajada rag‘batlantirilishi, ilgari orttirilgan bilimning ham e’tiborga olinishi, o‘qish shiddatining ta’lim oluvchining ehtiyojiga muvofiqlashtirilishi, ta’lim oluvchining tashabbuskorligi va mas’uliyatining qo‘llab quvvatlanishi va amalda bajarish orqali o‘rganilishi”. Demak, darslarda interfaol metodlardan foydalanish ta’lim jarayonini samarali, qiziqarli va interaktiv qilishga yordam beradi. Interfaol metodlar o‘quvchilarni faollikka chorlab, ularni fikr yuritishga, savol berishga va muammolarni mustaqil hal qilishga undaydi. Bu bilimlarni samarali o‘zlashtirishga xizmat qiladi.

XULOSA

Chet tilni o‘rgatishda ham ko‘proq tanqidiy va ijodiy fikrlashga undaydigan va tafakkurni o‘stiradigan interfaol va innovatsion metodlardan foydalanish muhim hisoblanadi. Nutq faoliyati yillar davomida shakllanadi, yuqori ta’lim bosqichlariga chiqqan sari rivojlantirib va takomillashtirib boriladi. M.Gulyamova ingliz tilini o‘qitishda 1- va 2-bosqich talabalarining nutq faoliyati turlarini rivojlantirish uchun Videotopismoq “ Bilaman, bilishni xohlayman bilib oldim” metodi, “Davra suhbati”, Baliq skeleti, “Muammo”, “Zig-zag” kabi interfaol metod va usullarni tavsiya qilgan.

Fransuz tili mashg‘ulotlarida ushbu metod va usullardan nutq faoliyatining muayyan turini rivojlantirishda va nutq faoliyati turlarini integratsiyalashtirib o’qitishda foydalanish quyidagi samarali natijalar berishi aniqlandi.

1) Jamoada bilim, ko‘nikma, malakalarni birga guruh bo‘lib o‘zlashtirish imkoniyati bo‘ldi;

2) Talabalarning darslarda faolligi oshdi;

3) Talabalarda tanqidiy fikrlash kompetensiyasi rivojlantirildi.

Metodika fanida nutq faoliyati turlari bo’yicha quyidagi o’zlashtirish ko’rsatkichlari: o’qiganda 10%, tinglaganda 20%, ko‘rganda va eshitganda 30%, bir-biri bilan muhokama qilganda 70%, hayotga bog’liq bo‘lganda 80%, boshqalarga o‘qitganda 95% ni tashkil etishi barcha tomonidan e’tirof etilgan .

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UNIVERSITETLARDA KOVORKING MUHITINING YOSHLAR INNOVATSION SALOHIYATINI SHAKLLANTIRISHDAGI AHAMIYATI

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Annotatsiya: *Mazkur maqolada oliy ta'lim muassasalarida tashkil etilayotgan kovorking muhitining talaba-yoshlar innovatsion salohiyatini shakllantirishdagi o'rni va ahamiyati yoritilgan. Tadqiqot davomida kovorking zonalarining talabalar o'rtasida hamkorlikni kuchaytirish, erkin fikr almashish, kreativ g'oyalarni rivojlantirish hamda startap loyihalarini yuzaga chiqarishdagi roli tahlil qilindi. Shuningdek, maqolada O'zbekistondagi mavjud kovorking markazlari faoliyati haqida ma'lumot berilib, oliy ta'lim muassasalarida innovatsion muhitni rivojlantirish bo'yicha amaliy takliflar ilgari surilgan. Xorijiy davlatlarning yetakchi universitetlari tajribasi ham qiyosiy jihatdan o'rganilib, ularning innovatsion faoliyatni qo'llab-quvvatlashdagi yondashuvlari tahlil etilgan.*

Kalit so'zlar: *oliy ta'lim muassasalari, kovorking muhiti, talaba-yoshlar, innovatsion tafakkur, kreativ g'oyalar, startap loyihalar, innovatsion ekotizim, intellektual salohiyat, hamkorlik muhiti, innovatsion rivojlanish.*

Abstract: *This article highlights the role and importance of coworking environments organized in higher educational institutions in shaping the innovative potential of student youth. During the research, the role of coworking spaces in strengthening cooperation among students, encouraging the free exchange of ideas, developing creative thinking, and supporting the emergence of startup projects was analyzed. In addition, the article provides information about existing coworking centers in Uzbekistan and proposes practical recommendations for developing an innovative environment in higher education institutions. The experiences of leading foreign*

universities were also comparatively studied, and their approaches to supporting innovative activities were analyzed.

Keywords: *higher education institutions, coworking environment, student youth, innovative thinking, creative ideas, startup projects, innovation ecosystem, intellectual potential, collaborative environment, innovative development.*

KIRISH

Bugungi kunda raqamli iqtisodiyotning rivojlanishi va global raqobatning kuchayishi oliy ta’lim tizimi oldiga yangi vazifalarni qo‘ymoqda. Endilikda universitetlar faqatgina nazariy bilim berish bilan cheklanib qolmasdan, talaba-yoshlarning innovatsion tafakkuri, kreativ fikrlashi va amaliy ko‘nikmalarini ham rivojlantirishga alohida e’tibor qaratishi zarur bo‘lib qolmoqda. Chunki zamonaviy mehnat bozori tashabbuskor, yangicha fikrlaydigan va muammolarga innovatsion yechim topa oladigan mutaxassislarni talab etmoqda.

Shu nuqtai nazardan qaraganda, an’anaviy auditoriya va kutubxona muhitlari har doim ham talabalarning erkin fikr almashishi, jamoaviy ishlashi hamda yangi loyihalar ustida samarali faoliyat olib borishi uchun yetarli imkoniyat yaratib bera olmaydi. Natijada oliy ta’lim muassasalarida zamonaviy va moslashuvchan ta’lim muhitiga ehtiyoj ortib bormoqda. Aynan shu ehtiyoj asosida universitetlarda kovorking zonalarini tashkil etish dolzarb masalalardan biriga aylanmoqda.

Kovorking muhiti talabalarga nafaqat qulay ish maydoni, balki o‘zaro hamkorlik qilish, kreativ g‘oyalarni shakllantirish, startap loyihalar ustida ishlash va innovatsion faoliyat bilan shug‘ullanish imkoniyatini ham beradi. Shu sababli bugungi kunda kovorking markazlari yoshlarning intellektual va innovatsion salohiyatini rivojlantiruvchi muhim ta’lim maydoni sifatida e’tirof etilmoqda.

ASOSIY QISIM

Xo‘sh, kovorking o‘zi nima va universitet muhitida qanday vazifani bajaradi? “Umumiy ma’noda kovorking (inglizcha “coworking” – hamkorlikda ishlash) bu turli yo‘nalishdagi shaxslarning yagona ish maydonida birlashishi va o‘zaro tajriba

almashish jarayonidir”[32]. Universitet kontekstida esa kovorking shunchaki talabalar uchun dars qilish joyi emas, balki g‘oyalar “inkubatori” vazifasini o‘taydi Bu yerda talabalar nafaqat qulay ish o‘rni bilan ta’minlanadi, balki eng muhimi networking (aloqalar tarmog‘i) muhitida bo‘ladi. Ya’ni bir joyning o‘zida turli fakultet talabalari uchrashib, bir-birlarining loyihalarini innovatsion g‘oyalar bilan boyitishadi. Bu esa o‘z navbatida universitetdagi umumiy innovatsion ekotizimning shakllanishiga xizmat qiladi.

Kovorking muhiti talabalarning innovatsion salohiyati va tafakkurini kengaytirishda muhim ahamiyat kasb etadi. An’anaviy auditoriyalar ko‘pincha nazariy bilimlarni o‘zlashtirishga qaratilgan bo‘lib, ular talabalarning o‘zaro kreativ hamkorligi uchun to‘liq imkoniyat bera olmaydi. “Kovorking markazlari esa “networking” tamoyili asosida faoliyat yuritib, turli yo‘nalishdagi, masalan texnik va gumanitar soha talabalari o‘rtasida hamkorlik muhitini shakllantiradi”[33].

Bunday muhitda talabalar o‘z g‘oyalarini erkin muhokama qilish, tajriba almashish va jamoaviy ishlash (teamwork) ko‘nikmalarini rivojlantirish imkoniyatiga ega bo‘ladilar. Ilmiy tadqiqotlar shuni ko‘rsatadiki, aynan norasmiy muloqot va brainstorming jarayonlarida yangicha va kutilmagan innovatsion yechimlar paydo bo‘ladi. Shu sababli kovorking muhiti nafaqat oddiy ish maydoni, balki talabalarning shaxsiy rivojlanishi, tadbirkorlik qobiliyati va innovatsion fikrlashini qo‘llab-quvvatlovchi ta’limiy ekotizim sifatida ham muhim ahamiyatga ega.

“Bundan tashqari, kovorking muhiti talabalarda “soft skills”, ya’ni muloqotga kirishuvchanlik, liderlik, vaqtni boshqarish (time management) va jamoaviy mas’uliyat kabi zamonaviy ko‘nikmalarni shakllantiradi”[34]. Binobarin, universitetdagi kovorking zonalari nafaqat texnik baza yoki qulay ish hududi, balki

[32] Merkel J. Coworking in the city // *Ephemera*. — 2015. — Vol. 15(1). — P. 121–139.
[33] Robles M. Executive perceptions of the top 10 soft skills needed in today’s workplace // Business Communication Quarterly. — 2012. — Vol. 75(4). — P. 453–465.
[34] Merkel J. Coworking in the city // Ephemera. — 2023. — Vol. 15(1). — P. 121–139.

o‘zaro g‘oyalar almashiladigan, nazariy bilimlarni amaliyot bilan bog‘lash imkonini beradigan innovatsion makon sifatida namoyon bo‘ladi. Aynan shunday muhitda talabalar o‘z bilimlarini real loyihalar orqali sinab ko‘rish, startap tashabbuslarini rivojlantirish va nazariyani hayotiy amaliyotga transformatsiya qilish imkoniyatiga ega bo‘ladilar.

O‘zbekiston Respublikasi oliy ta’lim tizimini modernizatsiya qilish va yoshlarning innovatsion faoliyatini qo‘llab-quvvatlash borasida so‘nggi yillarda keng ko‘lamli islohotlar amalga oshirilmoqda. Ayniqsa, yoshlarning ilmiy-ijodiy salohiyatini rivojlantirish, ularni zamonaviy texnologiyalar va innovatsion faoliyatga jalb etish davlat siyosatining muhim yo‘nalishlaridan biriga aylanib bormoqda. “Shu maqsadda O‘zbekiston Respublikasi Vazirlar Mahkamasining 2020-yil 22-maydagi 313-sonli “Respublika hududlarida yoshlar texnoparklarini tashkil etish chora-tadbirlari to‘g‘risida”gi qarori qabul qilinib, respublikaning 13 ta hududida Yoshlar texnoparklari tashkil etildi”[35]. Mazkur texnoparklar yoshlarning innovatsion g‘oyalarini qo‘llab-quvvatlash, ularni ilm-fan va texnologiya sohasiga keng jalb etish hamda zamonaviy kasblar bo‘yicha amaliy ko‘nikmalarini rivojlantirishga xizmat qilmoqda.

Bugungi kunda ushbu texnoparklarda Web-dasturlash, robototexnika, 3D modellashtirish, grafik dizayn va sun’iy intellekt kabi zamonaviy yo‘nalishlarda o‘quv kurslari faoliyat yuritmoqda . Shu bilan birga, 2023-yildan boshlab “InnoX” biznes-inkubator dasturining yo‘lga qo‘yilishi yoshlarning startap tashabbuslarini rivojlantirish uchun yangi imkoniyatlar yaratdi. “Hozirda yoshlar texnoparklari rezidentlari tomonidan ishlab chiqilgan loyihalar “Kelajak muhandislari” xalqaro festivali, “Green Spark” va boshqa innovatsion tanlovlarda munosib e’tirof etilmoqda”[36]. Bu kabi texnopark va kovorking muhitlari yoshlarning oddiy

[35] O‘zbekiston Respublikasi Vazirlar Mahkamasining “Respublika hududlarida yoshlar texnoparklarini tashkil etish chora-tadbirlari to‘g‘risida”gi 313-son qarori. — Toshkent, 2020.
[36] The role of universities in the development of technological entrepreneurship and innovation Sibel Ahmedova. E3S Web of Conferences 420, 10002 (2023) https://doi.org/10.1051/e3sconf/202342010002 EBWFF 2023

g‘oyalarini amaliy loyiha va biznes modelga aylantirishda muhim platforma vazifasini bajarmoqda.

Shu nuqtai nazardan qaraganda, universitetlarda kovorking zonalarini rivojlantirish masalasi nafaqat mahalliy, balki xalqaro tajriba asosida ham muhim ahamiyat kasb etadi. Chunki rivojlangan davlatlar tajribasi shuni ko‘rsatadiki, zamonaviy universitetlar innovatsion ekotizimning markaziy bo‘g‘iniga aylangan. Xususan, “AQSHning Stanford University va Massachusetts Institute of Technology kabi yetakchi oliy ta’lim muassasalari tajribasi universitet kovorking zonalari nafaqat oddiy o‘quv maydoni, balki startaplar va innovatsion loyihalar shakllanadigan “innovatsion markaz” ekanligini ko‘rsatadi”[37].

Masalan, Stanford d.school markazida talabalar turli fakultetlardan birlashib, real hayot va bozor muammolariga innovatsion yechimlar ishlab chiqadilar. Bu yerda professor-o‘qituvchilar va talabalar birgalikda loyiha ustida ishlashi natijasida erkin akademik va kreativ muhit shakllanadi. Tadqiqotlarga ko‘ra, Silikon vodiysidagi ko‘plab muvaffaqiyatli startaplar aynan universitetlarning mana shunday kovorking va innovatsion muhitida shakllangan. Bunday tajribalar nafaqat AQSHda, balki Yaponiya, Germaniya, Janubiy Koreya va boshqa rivojlangan davlatlar universitetlarida ham keng qo‘llanilib, innovatsion iqtisodiyot rivojining muhim omillaridan biri sifatida qaralmoqda.

Shu sababli O‘zbekiston oliy ta’lim muassasalarida ham kovorking zonalari va innovatsion markazlarni rivojlantirish, talabalar o‘rtasida kreativ fikrlash, startap madaniyati va jamoaviy innovatsion faoliyatni qo‘llab-quvvatlash bugungi kunning dolzarb vazifalaridan biri hisoblanadi.

XULOSA

Xulosa qilib aytganda, bugungi raqamli va innovatsion rivojlanish davrida universitetlarda kovorking muhitini shakllantirish zamonaviy ta’lim tizimining

[37] Plattner H., Meinel C., Leifer L. Design Thinking Research. — Berlin: Springer, 2021.

muhim yo‘nalishlaridan biri hisoblanadi. Kovorking zonalari oddiy ish maydoni yoki zamonaviy dizayn namunasi emas, balki talaba-yoshlarning innovatsion tafakkurini rivojlantirish, ularning intellektual salohiyatini yuzaga chiqarish va amaliy ko‘nikmalarini mustahkamlashga xizmat qiluvchi muhim ta’limiy platformadir. Ayniqsa, bunday muhit talabalarda mustaqil fikrlash, kreativ yondashuv, jamoada ishlash va muammolarga innovatsion yechim topish ko‘nikmalarini shakllantirishda katta ahamiyat kasb etadi.

Maqolada ko‘rib chiqilgan xorijiy tajribalar ham shuni ko‘rsatadiki, universitetlardagi kovorking markazlari innovatsion ekotizimning ajralmas qismi bo‘lib, ular startap loyihalar va yangi g‘oyalar shakllanishi uchun qulay muhit yaratadi. O‘zbekistonda ham yoshlar texnoparklari, biznes-inkubatorlar va innovatsion markazlar faoliyatining rivojlanib borayotgani yoshlarning ilmiy va tadbirkorlik faoliyatiga bo‘lgan qiziqishini oshirmoqda. Shu sababli universitetlarda kovorking zonalarini yanada rivojlantirish va ularning faoliyatini takomillashtirish muhim vazifalardan biri bo‘lib qolmoqda.

Kelgusida universitet kovorking muhitini samarali tashkil etish uchun bir qator masalalarga alohida e’tibor qaratish lozim. Jumladan, kovorking markazlarida mentorlik tizimini yo‘lga qo‘yish orqali tajribali mutaxassislar, tadbirkorlar va IT sohasi vakillarini talaba-yoshlar bilan yaqindan ishlashga jalb qilish muhimdir. Bu esa talabalarning innovatsion g‘oyalarini amaliy loyihalarga aylantirish imkoniyatini kengaytiradi.

Shuningdek, kovorking zonalarining raqamli infratuzilmasini yanada takomillashtirish, ularni yuqori tezlikdagi internet, zamonaviy kompyuter texnologiyalari, robototexnika va media laboratoriyalari bilan jihozlash ham bugungi kun talablaridan biri hisoblanadi. Bundan tashqari, startap-forumlar, innovatsion tanlovlar, biznes uchrashuvlari va networking tadbirlarini muntazam tashkil etish talabalarning o‘zaro hamkorligi va tajriba almashuvini kuchaytiradi.

Binobarin, O‘zbekiston oliy ta’lim muassasalarida kovorking modelini keng joriy etish va uni davlat-xususiy sheriklik asosida rivojlantirish mamlakatning innovatsion taraqqiyotini jadallashtirishga xizmat qiladi. Eng muhimi, bunday muhit zamonaviy bilim va ko‘nikmalarga ega, xalqaro standartlar darajasida raqobatlasha oladigan kreativ va tashabbuskor yosh mutaxassislarni tayyorlash uchun mustahkam asos yaratadi.

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HAYOTIY KO‘NIKMALARNI RIVOJLANTIRISHDA FANLARARO INTEGRATSIYA. MEDIASAVODXONLIKNI ANIQ FANLARGA INTEGRATSIYALASH

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Annotatsiya: *Mazkur maqolada umumiy o‘rta ta’lim maktablari matematika, informatika va axborot texnologiyalari darslarida o‘quvchilarda hayotiy ko‘nikmalarni rivojlantirish, ya’ni turli vaziyatlarda yuzaga keladigan muammolarni mustaqil hal etish, to‘g‘ri qaror qabul qilish uchun axborot bilan ishlash, kommunikatsiya texnologiyalari va internet imkoniyatlaridan samarali foydalanish masalalarida tavsiyalar berilgan.*

Kalit so‘zlar: *matematika, ko‘nikma, axborot, texnologiya, internet.*

Аннотация: *В данной статье даны рекомендации по вопросам развития жизненных навыков учащихся на уроках математики и информатики общеобразовательных школ, самостоятельного решения задач возникающих в различных ситуациях, эффективного использования информационных, коммуникационных технологий и возможностей Интернета для принятия правильных решений.*

Ключевые слова: *математика, навыки, информация, технология, интернет.*

Annotation: *In this article, the development of life skills in students in mathematics and informatics classes of general secondary schools, that is, independent solving of problems that arise in different situations, working with information to make the right decision, communication technologies andrecommendations are given on the issues of effective use of Internet opportunities.*

Key words: *mathematics, skills, information, technology, internet.*

KIRISH

Ma’lumki, aholi o‘rtasida, jumladan, yosh avlod ongida dunyoda, yon-atrofimizda bo‘layotgan voqea-hodisalar, yangiliklar haqidagi fikrlarning shakllanishida ommaviy axborot vositalari katta rol o‘ynaydi. Shuning uchun ham bugungi kunda zamonaviy ta’lim tizimiga yana bir muhim vazifa – bolalarni turli manbalardan, birinchi navbatda, televizor, Internet va mobil telefon kabi axborot uzatuvchi vositalardan olinayotgan turli axborotlarni to‘g‘ri qabul qila olishga o‘rgatish vazifasi yuklatilmoqda. Farzandlarimiz har qanday axborotning sifati va ishonchliligini baholay olishlari, axborotlarni to‘g‘ri tanlay olishlari, foydalana bilishlari va har bir ma’lumotga tanqidiy yondashishni o‘rganishlari zarur. Shu bilan birga, Internet, televideniye, kino, radio, video, mobil telefon, turli ma’lumotlar aks etgan slayd va suratlar kabi aloqa va ma’lumot uzatuvchi vositalarning jadal rivojlanib borishi hayotimizni sifat jihatdan o‘zgartirib, ko‘plab yangi muammolarni, masalan, axborot madaniyatini shakllantirish hamda o‘sib kelayotgan avlodning axborot xavfsizligini ta’minlash muammolarini yuzaga keltirmoqda.

Axborot bilan ishlash, axborot qidirish, turli yolg‘on ma’lumotlarga aldanib qolmaslik, zarur axborotlarni ajrata bilish, qayta ishlash, tartibga keltirish, axborot mazmunini tushunish, do‘stlarga xolis manbalarni uzatish, mantiqiy fikrlay olishni o‘rganish kabilar asosida yoshlarimizning axborot madaniyati shakllanadi. Shu bilan birga tanqidiy fikrlash shakllana boradi. Bunda o‘quvchi doim “Nimaga?”, “Nima uchun?” kabi savollariga javob berish davomida millionlab axborotlar ichida lozim va ishonchlisini saralab olishni o‘rganadi. Axborotning kim uchun va nima maqsadda tayyorlanganligini tushuna bilish muhim ahamiyatga ega. Har bir o‘quvchi aloqa sohasida qanday texnik vositalar ishlatilishi to‘g‘risida umumiy tasavvurga ega bo‘lishi kerak.

Matematika, informatika va axborot texnologiyalari bo‘yicha davlat ta’lim standartlari kamdan-kam hollarda ommaviy axborot vositalari haqida gapirsa-da, tabiiyki, bu fan o‘qituvchilari o‘z sinflarida ommaviy axborot vositalaridan

foydalanadi va biz matematika va informatika haqidagi ko‘p ma’lumotni ommaviy axborot vositalaridan olamiz. Shuning uchun vizual va mediasavodxonlik tushunchasini aniq fanlarga ham kiritish mantiqan to‘g‘ri.

ASOSIY QISM

Matematika, informatika va axborot texnologiyalari kundalik ommaviy axborot vositalarining bir qismidir.

Masalan: smartfondagi ob-havo ma’lumoti bizga yomg‘ir yog‘ish ehtimoli 30% ekanini aytadi, gazeta fond bozori haqida habar beradi, televideniye bizga sport haqidagi statistikani beradi va hokazo. Har hafta, eng yaxshi 100 ta teleko‘rsatuv va shoularning reytinglari ulushlar asosida ko‘rsatilgan ro‘yxat berib boriladi.

O‘quvchilar reyting nimani anglatishini biladimi? Bu raqamlar qanday hosil qilinadi? Bu raqamlar qanday ishlatiladi? Raqamlar to‘g‘rimi? Mashina reklamasi ishlab chiqaruvchi “Eng yangi model o‘tgan yildagiga qaraganda 30 foizga ravon yurdi” kabi fikrlar beradi. Bular to‘g‘ri yoki chalg‘ituvchi bo‘lishi mumkin. Chunki ko‘p odamlar ma’lumotlarni ommaviy axborot vositalaridan oladi (televideniye, radio, Internet). Shu sababli matematika, Informatika va axborot texnologiyalarida media savodxonligini shakllantirish muhim.

O‘quvchilarning tadbirkorlik-yetakchilik ko‘nikmalarini rivojlantirishda aniq fanlarning o‘rni.

O‘quvchilar muvaffaqiyatli tadbirkor bo‘lishlari uchun ularning ongida tadbirkorlik ko‘nikmalarini shakllantirish kun tartibida bo‘lish kerak. Quyida o‘quvchilarga tadbirkorlik ko‘nikmalarini o‘rgatish bo‘yicha bir necha maslahatlar beramiz.

Tadbirkorlik ko‘nikmalarini qanday qilib shakllantirish kerak?

1. Keysni o‘rganish usuli: O‘quvchilar o‘rtasida ijodiy fikrlash ko‘nikmalarini rivojlantirish maqsadida biznes bilan bog‘liq turli holatlar, muammolarni muhokama qilish uchun o‘quvchilar bilan birgalikda amaliy tadqiqot usulini qo‘llash lozim.

2. Muvaffaqiyatlar hikoyasi: o‘quvchilarda tadbirkorlik ruhini tarbiyalash uchun turli olimlar, jamiyatdagi liderlar va tadbirkorlarning muvaffaqiyatlar tarixi bilan tanishtirish kerak. Bu o‘quvchilarni lider va tadbirkor bo‘lishga undaydi.

3. Fikrlarni ishlab chiqish tanlovi usuli: o‘quvchilardan bozorda mavjud bo‘lmagan yangi mahsulot yoki xizmatni ishga tushirish g‘oyasini o‘ylab topishini va uning hisob-kitobini amalga oshirishni so‘rab borish kerak.

4. Bankka sarmoya kiritish usuli: o‘quvchilarga foyda ko‘rish yo‘l-yo‘riqlarini ko‘rsatuvchi, pulni ko‘paytirish bo‘yicha muammoli vaziyat tashkillashtiriladi. Tadbirkorlik va matematik kompetentsiyalarni birlashtirish yaxshi natijalarni beradi. Tadbirkorlik ko‘nikmalari matematikani o‘rgatishda juda muhim.

Tadbirkorlikka erishishga imkon beradigan asosiy fan – bu matematika.

Siz ulg‘ayganingizda kim bo‘lishni xohlayotganingiz haqida tasavvurga ega bo‘lishingiz mumkin. Balki, siz olim, kosmonavt, shifokor yoki dehqon bo‘lishni xohlaysiz. Yoki biznes egasi, dizayner, muhandis yoki uchuvchi bo‘lishni xohlaysiz. Bu ishlarning barchasini bajarish uchun matematikani o‘rganish kerakligini bilarmidingiz? Ko‘pgina ishlarda har kuni matematikadan foydalaniladi. Siz topgan pulingizni hisoblash va sarflash uchun matematikadan ham foydalanishingiz kerak bo‘ladi. Kundalik hayotda matematikadan qanday foydalanishni tushunish, qanday ish bilan shug‘ullanishingizdan qat’iy nazar, hayotda yaxshi ishlashingizga yordam beradi! Matematika nafaqat maktabda, balki bizning dunyoda ham bor. Matematika haqida o‘ylaganingizda, uy vazifasi kabi narsalar haqida o‘ylashingiz mumkin, lekin aslida, matematikani qiziqarli joylarda ham topish mumkin, masalan, ota-onangiz bilan biror narsa xarid qilayotganda.

O‘zbekistonda 130 xil millat va 5 xil elatlar istiqomat qiladi. Har bir shaxsga alohida individ sifatida qaralsa, har kimning o‘z tanlovi va hayoti, xohishlari, maqsadlari bor. Shulardan biri inson o‘zi xohlagan joyida yashashi va ko‘chish huquqi bo‘lib, bu har bir mamlakatning bosh qonunida mustahkamlangan shaxsiy

erkinligi hisoblanadi. Global fuqarolik dasturlari natijasida turli davlatlar, qit'alar bir-birlari bilan kadr almashishi, ta'lim, iqtisod, siyosat va boshqa sohalarda o'zaro integratsiyalash butun dunyoning teng rivojlanishiga olib keladi.

Sabablarni mushohada qilganda, mentalitetga xos xususiyatlarni e'tibordan qochirmaslik lozim. Shaxsiy hayotga, shaxsiy tanlovga doimiy ravishda atrofdagilarning aralashuvi normal qabul qilinadi va kritik nuqtaga yetib borguncha bosimga bardosh berish ko'plab katta yo'qotishlarga sabab bo'lib kelmoqda. Masalan, ko'pincha oilaviy zo'ravonlikka uchragan jabrlanuvchining hech qayerga murojaat qilmasligi, uchastka noziri ham boshqalarning oilaviy ishiga aralashmasligi haqidagi yozilmagan qoidalar, javobgarni jazolashga olib bormaydi, natijada muvozanat buziladi va jamiyatning ojiz qatlami – ayollar va bolalarning ruhiyati va sog'ligiga jiddiy putur yetadi.

XULOSA

Boshqarib bo'lmaydigan, kishi hayotiga xavf tug'diradigan darajaga yetkazadigan holatlar katta ijtimoiy muammoga aylanmasligi, uning ildizi ilk ko'rinishidanoq qirqilishi lozim. Buning uchun avvalo insonlar dunyoqarashini ilk maktab davridanoq yuqori darajada rivojlantirishga urg'u berilishi kerak.

O'zbekiston qonunchlik bilan yuqoridagi ijtimoiy muammolarga qarshi kurashib kelmoqda. O'zbekiston Respublikasi Prezidentining 2018-yil 2-iyulda imzolangan "Ijtimoiy reabilitatsiya qilish va moslashtirish, shuningdek, oilaviy-maishiy zo'rlik ishlatishning oldini olish tizimini takomillashtirish chora-tadbirlari to'g'risida"gi qarorida Adliya vazirligi oldiga "Maishiy zo'rlik ishlatishning oldini olish to'g'risida"gi Qonun loyihasini ishlab chiqish vazifasi qo'yildi, ya'ni muammo davlat rahbari nazoratiga olindi.

O'zbekiston O'quv dasturlarini ishlab chiqishda o'quvchilarga inson huquqlari, gender tengligi, dunyo tinchligi va demokratiya kabi global muammolarni tushunishga yordam berishda global fuqarolik ta'limi muhim.

Global fuqarolik ta’limi ta’limni yaxshilashga yordam beradi, chunki u o‘quvchilarga global muammolarni hal qilishda mahalliy va global miqyosda faol rollarni bajarishga yordam beradi.

“Bizning yangi o‘quv dasturimizga kiritilishi kerak bo‘lgan narsa bu – inson huquqlari, demokratiya, etnik, irqiy munosabatlar, xavfsizlik, barqaror rivojlanish va gender tenglik masalalarini o‘z ichiga olgan fuqarolik ta’limi”.

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TALABA QIZLARNING ETNOPEDAGOGIK MADANIYATINI RIVOJLANTIRISHDA RAQAMLI TEXNOLOGIYALAR VA XALFACHILIK SAN'ATI INTEGRATSIYASI

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Annotatsiya: *Maqolada raqamli ta'lim muhitida Xorazm xalfachilik san'ati vositasida talaba qizlarning etnopedagogik madaniyatini shakllantirish masalalari yoritilgan. Tadqiqotda xalfachilik namunalarini raqamli vizualizatsiya qilish, multimedia platformalarini yaratish va dostonlar mazmunini interfaol keyslar orqali o'qitish bo'yicha metodik takliflar ilgari surilgan.*

Ushbu innovatsion yondashuvlar talaba qizlarning kognitiv va ijtimoiy motivatsiyasini oshirish bilan birga, ularning ma'naviy-axloqiy qiyofasini milliy qadriyatlar asosida rivojlantirishga xizmat qiladi.

Tayanch so'zlar: *raqamli ta'lim, xalfachilik san'ati, etnopedagogik madaniyat, o'quv motivatsiyasi, innovatsion yondashuv, talaba qizlar, pedagogik taklif.*

Annotation: *The article examines the formation of the ethnopedagogical culture of female students through the Khorezm art of "khalfachilik" within a digital learning environment. It puts forward methodological proposals for integrating multimedia platforms, interactive cases, and digital visualization of folklore heritage into the educational process. These innovations are designed to enhance cognitive motivation and develop the spiritual and moral qualities of female students based on national values.*

Keywords: *digital education, khalfachilik art, ethnopedagogical culture, learning motivation, innovative approach, female students, pedagogical proposal.*

KIRISH

Bugungi shiddatli globallashuv va ta'limni raqamlashtirish davrida oliy ta'lim muassasalari oldida turgan eng dolzarb vazifalardan biri — talaba yoshlarning milliy

o‘zligini asragan holda ularning intellektual va ma’naviy olamini boyitishdir. Ayniqsa, bo‘lajak ona va pedagog sifatida jamiyatning tayanchi bo‘lmish talaba qizlarning etnopedagogik madaniyatini shakllantirish alohida ijtimoiy-pedagogik ahamiyat kasb etadi. Raqamli muhitning texnokratik (texnologiyaning ustunligi natijasida insoniy va ma’naviy qadriyatlarning ikkinchi darajaga tushib qolishi) ta’sirini yumshatish va talabalarda milliy qadriyatlarga nisbatan emotsional bog‘liqlikni uyg‘otishda Xorazm xalfachilik san’ati o‘zining boy tarbiyaviy imkoniyatlari bilan muhim o‘rin tutadi.

ASOSIY QISM

Xalfachilik san’ati — o‘zbek xalq musiqa san’atining bir qismi bo‘lib, faqat Xorazm mahalliy uslubiga hos bo‘lgan janr hisoblanadi. Xalfachilik san’ati faqat musiqa yoki ijrochilik emas, balki asrlar davomida shakllangan yaxlit xalq pedagogikasi tizimidir.

Etnopedagogika fanining asoschisi, taniqli rus pedagog-olimi G.N.Volkov (1927–2010) o‘zining fundamental tadqiqotlarida Etnopedagogika sohasiga “xalqning o‘zini-o‘zi tarbiyalash tajribasidir”[38] deya ta’rif beradi.

Mazkur yondashuv asosida Xorazm xalfachilik san’atini tahlil qilar ekanmiz, xalfalar tomonidan ijro qilingan doston va qo‘shiqlar shunchaki badiiy meros emas, balki xalqning ma’naviy-axloqiy o‘zini-o‘zi qayta tiklash va yosh avlodni tarbiyalash mexanizmi ekanligi shu bilan birga namoyon bo‘ladi.

Shuningdek, Xalfachilik san’ati faqat ayollar muhitida ijro etilishi bilan xotin-qizlar o‘rtasidagi o‘ziga xos ma’rifatparvarlik maktabi hisoblanib, kuchli etnopedagogik imkoniyatlarga egadir. Boisi, bunday “ichkari” davralarda milliy urf-odatlar, oilaviy qadriyatlar tizimi hamda sharqona qiz bolalar tarbiyasi dostonlar, qissalar, g‘azallar, qo‘shiqlar, termalar, laparlar hamda diniy mavzudagi suhbatlar vositasida tushunarli va hayotiy tarzda targ‘ib etiladi.

[38] Волков Г.Н. Этнопедагогика: Учебник. – М.: Академия, 1999. – С. 24.

Xalfachilik san’atining ijtimoiy-ma’rifiy ahamiyatini tahlil qilar ekanmiz, ushbu janr xalq orzu-armonlarini, xususan, xotin-qizlarning baxt va erkinlik yo‘lidagi intilishlarini jonli gavdalantirishi bilan ajralib turishini ko‘ramiz. Manbalarda ta’kidlanishicha, xalfa qo‘shiqlari “mehnatkash ommaning ozodlik va baxt uchun ko‘rashida madadkor bo‘lib, xalqning dardi, ayniqsa, ayollarning hayoti, nohaqlik va ularning manfaati kuylangan, g‘oyalarni jonli gavdalantirib, sodda, ravshan til bilan kuylarga solib badiiy shaklda tarannum qilgan”[39] muhim ma’naviy vositadir.

“Xorazmda savodxon, gapga chechan, ayni paytda xonandalik qobiliyatiga ega bo‘lgan zukko ayollarni “xalfa” deb yuritishadi”.[40] Ushbu ta’rifdan ko‘rinib turibdiki, xalfalarning nafaqat qo‘shiqchi, balki o‘qimishli va keng dunyoqarashga ega ekanligi ularning jamiyatdagi pedagogik rolini belgilab beradi.

O‘zbek tilining izohli lug‘atida esa “Xalfa” atamasining leksik ma’nolari “o‘rinbosar”, “voris”, “muallim yordamchisi” bo‘lib,[41] uning mohiyatida ustozlik va ma’rifatparvarlik funksiyasi birlamchi ekanligini ko‘rsatadi. Bu esa, o‘z navbatida, Xorazm xalfachilik san’atining negizida etnopedagogik determinizm (tarbiya bilan uzviy bog‘liqlik) mavjudligidan dalolat beradi.

Raqamli ta’lim muhitida xalfachilik san’atidan foydalanish talaba qizlarning o‘quv motivatsiyasini quyidagi muhim mexanizmlar orqali oshirishga xizmat qiladi:

Kognitiv motivatsiya: “Oshiq G‘arib va Shohsanam”, “Hilola pari va G‘arib”, “Asil va Karam”, “Oshiq Alband” kabi dostonlardagi tarixiy-etnografik ma’lumotlarni raqamli resurslar orqali o‘rganish talabalarda milliy tarix va madaniy merosga nisbatan barqaror qiziqish uyg‘otadi.

[39] Baltaeva G.I. An’anaviy xalq qo’shiqchiligi. – Urganch, 2013. – B. 3.
[40] Рўзимбоев С. Хуршиди жахон келди. – Т.: Ғафур Ғулом номидаги адабиёт ва санъат нашриёти, 1987. – Б. 3.
[41] O‘zbek tilining izohli lug‘ati: 5 jildli. 4-jild (P–T) / Tahrir hay’ati: T. Mirzayev va boshq. – Toshkent: “O‘zbekiston milliy ensiklopediyasi” Davlat ilmiy nashriyoti, 2008. – B. 389.

Estetik-psixologik motivatsiya: Audio-vizual formatdagi xalfalik ijrolari talaba qizlarning dars jarayonidagi emotsional charchoqlarini kamaytiradi va ularda estetik zavq olish tuyg‘usini rivojlantiradi.

Raqamli ta’lim muhitida o‘quv motivatsiyasini shakllantirish materiallarning hayotiyligi va didaktik jozibadorligiga bevosita bog‘liq bo‘lib, Xorazm xalfachilik san’atining etnopedagogik imkoniyatlaridan kelib chiqqan holda, ta’lim amaliyotiga quyidagi innovatsion yondashuvlarni joriy etish tavsiya etiladi:

1. ***“Etno-kontent” va Raqamli xrestomatiya platformasi:*** Xorazm xalfalarining hayoti va ijodi, ular ijro qilgan doston va qo‘shiqlarning tarbiyaviy tahlili jamlangan multimedia ilovasini yaratish. Bunda vafodorlik, ibo-hayo va oilaviy etika bilan bir qatorda ma’naviy-axloqiy yo‘nalishlar bo‘yicha interaktiv keyslar hamda topshiriqlar tizimi ishlab chiqiladi.
2. ***Virtual xalfa maktabi (Moodle/Hemis):*** Masofaviy ta’lim platformalarida xalfachilik san’atining pedagogik xususiyatlariga bag‘ishlangan maxsus modullar yaratish. Bu yerda talabalar xalfa qo‘shiqlari va dostonlaridagi pedagogik g‘oyalarni bugungi kun ijtimoiy hayoti bilan qiyoslovchi tahlilchilar sifatida ishtirok etadilar.
3. ***Diagnostik yondashuv:*** Talaba qizlarning etnopedagogik madaniyati darajasini aniqlash uchun raqamli testlar va psixologik so‘rovnomalar tizimini joriy etish.

Natija. Xalfalar repertuaridagi qo‘shiqlar va dostonlar zamirida ayol kishining jamiyatdagi o‘rni hamda oiladagi muqaddas vazifasi uqtiriladi. Mazkur asarlar tarkibidagi pand-nasihatlar va yor-yorlar talaba qizlarning ma’naviy-axloqiy dunyoqarashini boyitishda, dostonlar esa milliy qahramon ayol timsoli orqali ularda sadoqat va matonat kabi fazilatlarni mustahkamlashda muhim ahamiyat kasb etadi. Ushbu boy meros mazmunini raqamli vizualizatsiya texnologiyalari yordamida yetkazish, talabalarda oilaviy hayotga ijtimoiy-psixologik adaptatsiya hamda yangi ijtimoiy muhitga kirishishning etik normalarini shakllantirishda an’anaviy ma’ruzalardan ko‘ra yuqori samaradorlik ko‘rsatadi. Raqamli muhitdagi o‘quv

materiallarining hayotiyligi talabalarning ham o‘quv, ham hayotiy motivatsiyasini oshirishga xizmat qiladi. Pedagogik kuzatishlarimizga ko‘ra, bunday innovatsion metodlar qo‘llanilgan darslarda o‘zlashtirish ko‘rsatkichi an’anaviy darslarga nisbatan 15-20% ga yuqori bo‘lishi aniqlandi.

XULOSA

Xulosa qilib aytganda, Xorazm xalfachilik san’ati musiqa, she’riyat, raqs va xalq pedagogikasini o‘zida birlashtirgan sintetik xarakterga ega noyob madaniy merosdir. Raqamli ta’lim muhitida ushbu san’at namunalarini zamonaviy texnologiyalar vositasida uzatish talaba qizlarda milliy o‘zlikni anglash (kognitiv motivatsiya), estetik zavq olish (psixologik qoniqish) va kelajakdagi oilaviy hayotga ijtimoiy-psixologik tayyorgarlik (ijtimoiy motivatsiya) kabi sifatlarni rivojlantirishga xizmat qiladi.

Raqamli ta’lim muhiti milliy merosimizni inkor etmaydi, aksincha, uni yangicha talqinda yoshlar dunyoqarashiga singdirish uchun keng texnik imkoniyatlar yaratadi. Xalfachilik san’ati vositasida talaba qizlarning etnopedagogik madaniyatini shakllantirish — bu ularning ma’naviy immunitetini mustahkamlash hamda globallashuv sharoitida milliy qadriyatlar barqarorligini ta’minlashning innovatsion yo‘lidir.

An’anaviy xalfachilik san’atini pedagogik innovatsiya sifatida ta’lim jarayoniga tatbiq etish talaba qizlarning etnopedagogik madaniyatini tizimli rivojlantirish bilan bir qatorda, oliy ta’limda ta’lim hamda tarbiya birligini izchillik bilan amalga oshirishda istiqbolli yo‘nalishlaridan biri bo‘lib xizmat qiladi.

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EKOLOGIK TARBIYADA GAMIFIKATSIYA TEXNOLOGIYALARIDAN FOYDALANISHNING PEDAGOGIK ASOSLARI

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Annotatsiya: *Maqolada boshlang‘ich ta’lim bosqichida ekologik tarbiya jarayonida gamifikatsiya texnologiyalaridan foydalanish pedagogik asoslari tahlil qilinadi. Gamifikatsiya, ya’ni o‘yin elementlarini ta’lim jarayoniga integratsiya qilish, o‘quvchilarda ekologik bilim va ko‘nikmalarni shakllantirishda samarali vosita hisoblanadi. Ushbu metod o‘quvchilarning motivatsiyasini oshirish va faol ishtirokini rag‘batlantirish imkonini beradi. Ball tizimi, reyting, mukofotlash va interfaol topshiriqlar pedagogik strategiya sifatida tadqiq etiladi. Virtual va simulyatsion muhitdagi mashg‘ulotlar ekologik tafakkur va xulq-atvorni rivojlantirishga xizmat qiladi. Gamifikatsiya pedagogik jarayonni interfaol va qiziqarli qiladi. Metodik jihatdan u ekologik ongni mustahkamlashga yordam beradi. Shu bilan birga, o‘quvchilarda atrof-muhitga mas’uliyatli munosabatni shakllantiradi. Tadqiqot natijalari ushbu yondashuvning samaradorligini tasdiqlaydi. Natijada gamifikatsiya ekologik madaniyatni rivojlantirishda innovatsion va samarali vosita sifatida namoyon bo‘ladi.*

Kalit so’zlar: *Ekologik tarbiya, gamifikatsiya, pedagogik texnologiya, boshlang‘ich ta’lim, ekologik madaniyat, motivatsiya, interfaol ta’lim.* ***Abstract:*** *The article analyzes the pedagogical foundations of using gamification technologies in the process of ecological education at the primary school level. Gamification, that is, the integration of game elements into the*

educational process, is considered an effective tool for developing students' ecological knowledge and skills. This method enhances students' motivation, encourages active participation, and makes the learning process more interactive. Point systems, rankings, rewards, and interactive tasks are examined as pedagogical strategies. Lessons conducted in virtual and simulation environments contribute to the development of ecological thinking and environmentally responsible behavior. From a methodological perspective, gamification helps to strengthen ecological awareness and cultivate students' responsible attitudes toward the environment. Research results confirm the effectiveness of this approach in promoting ecological culture. Consequently, gamification emerges as an innovative and effective tool for developing ecological culture.

Key words: *Ecological education, gamification, pedagogical technologies, primary education, ecological culture, motivation, interactive learning.*

KIRISH

Hozirgi kunda global ekologik muammolar, atrof-muhitning ifloslanishi, tabiiy resurslarning kamayishi va iqlim o‘zgarishi inson faoliyatining ekologik ongga bo‘lgan talabini kuchaytirmoqda. Shu bois, yosh avlodni ekologik mas’uliyat ruhida tarbiyalash va atrof-muhitga ongli munosabatni shakllantirish maktab ta’limining dolzarb vazifalaridan biri hisoblanadi.

Boshlang‘ich ta’lim bosqichi ekologik madaniyatning asoslarini yaratish uchun muhim davrdir, chunki bolalikda shakllangan xulq-atvor va odatlar kelajakdagi ekologik ongni belgilaydi. Shu munosabat bilan pedagoglar o‘quv jarayonini qiziqarli, interfaol va samarali qilish orqali ekologik tarbiyani mustahkamlash yo‘llarini izlamoqdalar.

Gamifikatsiya texnologiyalari – o‘yin elementlarini o‘quv jarayoniga integratsiya qilish usuli – ekologik bilim, ko‘nikma va xulq-atvorni rivojlantirishda innovatsion yondashuv sifatida katta e’tibor qozonmoqda. Ushbu texnologiyalar o‘quvchilarning motivatsiyasini oshiradi, faol ishtirokini rag‘batlantiradi va ta’lim jarayonini interfaol qiladi. Shu bilan birga, ball tizimi, reyting, mukofotlash mexanizmlari va interfaol topshiriqlar ekologik tarbiyaviy faoliyatni tizimli va samarali tashkil etishga yordam beradi.

Shu nuqtai nazardan, ekologik tarbiyada gamifikatsiya texnologiyalarini qo‘llash pedagogik jarayonni innovatsion tarzda takomillashtirish va o‘quvchilarda barqaror ekologik ongni shakllantirishga xizmat qiladi. Ushbu maqola mazkur masalalarni chuqur tahlil qiladi va gamifikatsiya yondashuvining pedagogik samaradorligini asoslaydi. Hozirgi kunda global ekologik muammolar, jumladan iqlim o‘zgarishi, tabiatning ifloslanishi, suv va boshqa tabiiy resurslarning kamayishi, inson faoliyatining ekologik muvozanatga ta’siri yosh avlodni ekologik mas’uliyat ruhida tarbiyalash zaruratini kuchaytirmoqda. Shu bois, boshlang‘ich ta’lim bosqichi ekologik ong va xulq-atvorning shakllanishida muhim davr sifatida ajralib turadi. Bolalikda egallangan ekologik bilim va odatlar kelajakda atrof-muhitga mas’uliyatli munosabatni belgilaydi.

Boshlang‘ich sinflarda ekologik tarbiya faqat nazariy bilimlar berish bilan cheklanmasligi lozim; u o‘quvchilarning faol ishtirokini, interfaol o‘rganishni va kundalik hayotda ekologik ongni amalda qo‘llashni rag‘batlantirishi kerak. Shu nuqtai nazardan pedagoglar zamonaviy ta’lim texnologiyalarini, xususan gamifikatsiya texnologiyalarini qo‘llashga e’tibor qaratmoqdalar. Gamifikatsiya – bu o‘yin elementlarini o‘quv jarayoniga integratsiya qilish orqali bilim va ko‘nikmalarni shakllantirish metodikasi bo‘lib, u o‘quvchilarning motivatsiyasini oshirish, faolligini rag‘batlantirish va o‘rganishni qiziqarli qilish imkonini beradi.

Gamifikatsiya texnologiyalari ekologik tarbiyada bir nechta pedagogik afzalliklarni beradi. Ularga ball tizimi, reyting, mukofotlash, interfaol topshiriqlar va virtual mashg‘ulotlar kiradi. Ushbu elementlar o‘quvchilarda ekologik tafakkur va xulq-atvorni rivojlantirishga xizmat qiladi, ularni atrof-muhitga nisbatan mas’uliyatli qilishga yordam beradi. Shuningdek, gamifikatsiya jarayoni ta’limni innovatsion va interfaol qiladi, pedagogik jarayonni qiziqarli va samarali qiladi.

Tajriba va ilmiy tadqiqotlar shuni ko‘rsatadiki, boshlang‘ich sinf o‘quvchilarida ekologik madaniyatni shakllantirishda gamifikatsiya texnologiyalaridan foydalanish samaradorligi yuqori. Bu yondashuv o‘quvchilarda

ekologik ongni mustahkamlash, ekologik mas'uliyatni rivojlantirish va barqaror ekologik xulq-atvorni shakllantirishga xizmat qiladi. Shu bilan birga, gamifikatsiya metodikasi pedagogga ta'lim jarayonini individuallashtirish va o'quvchilarning qiziqishi va imkoniyatlariga moslashtirish imkoniyatini beradi.

Pedagogik jarayonni takomillashtirish va o'quvchilarda barqaror ekologik madaniyatni shakllantirishda muhim vosita sifatida qaraladi. Ushbu maqolada gamifikatsiya texnologiyalarining nazariy asoslari, metodik imkoniyatlari va pedagogik samaradorligi tahlil qilinadi, shuningdek, boshlang'ich ta'limda ekologik tarbiyani rivojlantirishda ularning amaliy qo'llanilishi ko'rsatib beriladi.

XULOSA

Maqolada boshlang'ich ta'lim bosqichida ekologik tarbiyada gamifikatsiya texnologiyalaridan foydalanish pedagogik asoslari tahlil qilindi. Tadqiqot natijalari shuni ko'rsatadiki, gamifikatsiya o'quvchilarda ekologik bilim, ko'nikma va mas'uliyatni shakllantirishda samarali vosita hisoblanadi. Ball tizimi, reyting, mukofotlash va interfaol topshiriqlar pedagogik jarayonni interfaol va qiziqarli qiladi. Shu bilan birga, gamifikatsiya metodikasi ekologik ongni mustahkamlash va barqaror ekologik madaniyatni rivojlantirishga xizmat qiladi. Natijada, gamifikatsiya texnologiyalari boshlang'ich sinf o'quvchilarida ekologik tarbiyaviy faoliyatni samarali va innovatsion tarzda tashkil etishda muhim vosita sifatida namoyon bo'ladi.

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OILA VA MAKTAB O‘RTASIDAGI HAMKORLIK O‘SMIRLARNING RUHIY SALOMATLIGIGA QANDAY TA’SIR QILADI?

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Annotatsiya: *Mazkur tadqiqotda oila va ta’lim muassasasining birgalikdagi faoliyati o‘spirin yoshdagi bolalarning psixologik holatiga qanday darajada ta’sir ko‘rsatishi o‘rganildi. Asosiy e’tibor o‘smirlarning ichki qoniqish hissi, tashvidlanish darajasi va atrofdagilar bilan munosabatlariga qaratildi. Ma’lumotlar so‘rovnoma va suhbat usuli yordamida yig‘ilib, statistik usullar bilan qayta ishlandi. Xulosa sifatida, ikki muhit – uy va maktab – o‘rtasida uzviy bog‘liqlik bo‘lsa, o‘smirning ruhiy farovonligi sezilarli darajada oshishi aniqlangan.*

Kalit so‘zlar: *ota-ona va maktab aloqasi, o‘smir psixikasi, hissiy barqarorlik, moslashuvchanlik, ijtimoiy qo‘llab-quvvatlash.*

Аннотация: *В данном исследовании изучалось, как совместная деятельность семьи и школы влияет на психологическое состояние подростков. Основное внимание было уделено уровню внутреннего удовлетворения, тревожности и социальным отношениям подростков. Данные собирались с помощью анкетирования и интервью, обрабатывались статистическими методами. В результате установлено, что при тесной связи между семейной и школьной средой психологическое благополучие подростка значительно повышается.*

Ключевые слова: *взаимодействие родителей и школы, психика подростка, эмоциональная стабильность, адаптивность, социальная поддержка.*

Abstract*: This study examined how collaborative activities between families and schools influence the psychological state of adolescents. The main focus was on the level of inner satisfaction, anxiety, and social relationships of adolescents. Data were collected through questionnaires and interviews and processed using statistical methods. The results show that when*

there is a close connection between the family and school environment, the psychological well-being of adolescents significantly improves.

Keywords: *parent-school interaction, adolescent psyche, emotional stability, adaptability, social support.*

KIRISH

Inson hayotining o‘smirlik bosqichi ko‘plab o‘zgarishlarga boy davr hisoblanadi.[42] Bu vaqtda yosh insonning organizmida gormonal o‘zgarishlar boshlanadi, fikrlash tarzi murakkablashadi va jamoa ichidagi o‘rni qayta ko‘rib chiqiladi. Shunday bir paytda uning atrofidagi eng yaqin ikki tuzilma – oila va maktab – juda muhim vazifani bajaradi. Agar bu ikki tuzilma o‘zaro kelishuv va hamkorlikda harakat qilsa, o‘smirda xavfsizlik va ishonch hissi kuchayadi. Ba’zi oilalarda ota-onalar farzandining maktabdagi hayoti bilan deyarli qiziqmaydi. Boshqa tomondan, ayrim maktablarda esa o‘qituvchilar ota-onalar bilan faqat salbiy holatlar yuzaga kelganida bog‘lanadi. Bunday yondashuvlarning o‘smir psixikasiga salbiy ta’siri bor. Chunki o‘spirin o‘zini “hech kimga kerak emas” yoki “ikkala tomon orasida qolgan” deb his qilishi mumkin[2]. Shu bois, ushbu maqolada asosiy e’tibor quyidagi savollarga qaratilgan:

- Oila va maktabning muntazam aloqasi o‘smirlarning ruhiy o‘zgarishlariga qanday ta’sir ko‘rsatadi?
- Hamkorlik kuchli bo‘lgan va bo‘lmagan oilalarning farzandlari orasida psixologik faravonlik bo‘yicha qanday farqlar bor?
- O‘zbekiston shaharlaridagi maktablar bu borada qanday ahvolda?

Tadqiqotlarning asosiy farazi shundan iborat: ota – onalar va maktab xodimlari o‘rtasida ijobiy va muntazam hamkorlik o‘rnatilsa, o‘smirlarda tashvish, umidsizlik va yolg‘izlik hissi kamayadi va o‘z qobiliyatlariga ishonch ortadi.

[42] Riff, C. D. (1989). Psychological well-being scales. Journal of Personality and Social Psychology, 57(6), 1069-1081.

METODLAR

Tadqiqot o‘tkazilgan joy va vaqt: Tadqiqotda Toshkent shahri va unga tumanlardagi to‘rtta umumiy o‘rta ta’lim maktabida amalga oshirildi.

Qatnashchilar: 300 nafar o‘smiri (14 – 17 yosh, o‘rtacha yoshi 15) ularning 255 nafari ota – onasi va 45 nafar o‘qituvchilar va psixologi ishtirok etdi. Tadqiqot 2026 – yil yanvar – mart oylarida o‘tkazildi.

Qo‘llanilgan metodikalar:

1. Anketa so‘rovi – o‘smirlar uchun “Psixologik farovonlik shkalasi” (Riff, 1989 moslashtirilgan versiyasi).
2. Tashvishlanish darajasini aniqlash – Spilberger-Xanin usuli.
3. Oila-maktab hamkorligini baholash – muallif tomonidan ishlab chiqilgan 10 savolli so‘rovnoma (masalan: “Ota-onangiz maktabdagi ishlaringizni qanchalik kuzatib boradi?”, “O‘qituvchilar oilangiz bilan muloqot qiladimi?”).
4. Statistik tahlil – SPSS dasturida Pearson korrelyatsiyasi va t-test.

Jarayon: Avval o‘smirlar va ota – onalarga rozilik so‘rovi o‘tkazildi. So‘ng 3 bosqichda:

1. Anketalar tarqatildi;
2. Ota – onalar va o‘qituvchilar uchun alohida fokus – guruhlar tashkil qilindi;
3. Ma’lumotlar qayta ishlandi;

Cheklovlar: Tadqiqot faqat shahar maktablarini qamrab olgan; qishloq joylari va internat maktablari kiritilmagan. Namuna qulaylik usulida tanlangan.

Natijalar:

1. Psixologik faravonlik darajasi(0- 100 ball):
   - Yuqori daraja (75+ ball): o‘smirlarning 41%

- O‘rtacha (30–44 ball): 44%
- Past (<30 ball): 15%

2. Tashvishlanish darajasi:
   - Yuqori tashvishlanish (45+ ball): o‘smirlarning 41%
   - O‘rtacha (30–44 ball): 44%
   - Past (<30 ball): 15%
3. Oila-maktab hamkorligi ko‘rsatkichlari:

Hamkorlik darajasi: Farovonlik (o‘rtacha ball); Tashvishlanish (o‘rtacha ball)

Past (0–3 savolga “ha”) 48,2 52,4

O‘rtacha (4–7 savolga “ha”) 65,7 41,1

Yuqori (8–10 savolga “ha”) 82,4 31,3

Korrelyatsion tahlil: Oila-maktab hamkorligi va psixologik farovonlik o‘rtasida o‘rtacha darajadagi ijobiy korrelyatsiya aniqlandi ($r=0,62$; $p<0,01$). Tashvishlanish va hamkorlik o‘rtasida esa o‘rtacha salbiy korrelyatsiya ($r=-0,55$; $p<0,01$).

Qo‘shimcha natijalar:

Ota-onasi maktab tadbirlarida faol qatnashadigan o‘smirlarda o‘z-o‘zini baholash 35% yuqori. O‘qituvchilar bilan haftada kamida 1 marta muloqot qiladigan oilalarning farzandlarida xulq-atvor buzilishlari 2 barobar kam.

MUHOKAMA

Yuqoridagi natijalar bir nechta muhim tomonlarni ochib beradi. Birinchidan, oila va maktab o‘rtasidagi munosabatlarning o‘smir psixologiyasiga ta’siri juda katta. Kuchli hamkorlikdagi o‘smirlar o‘zlarini ikki baravar ko‘proq “baxtli” his qiladi. Bu shuni anglatadiki, maktab va uy bir-biridan ajralgan ikki dunyo emas – ular qancha ko‘p kesishsa, o‘smir o‘zini shunchalik ishonchli his qiladi. Ikkinchidan, achinarlisi shundaki, hozirgi maktab amaliyotida ota-onalar bilan muloqot ko‘pincha muammo yuzaga kelgan keyin boshlanadi. Buning oqibatida ota-onalar maktabdan

“qo‘ng‘iroq kelsa, xato qilganmiz” degan go‘yo salbiy kutish holatiga tushadi. O‘smir esa bundan ikki tomonlama bosimni his qiladi: uyda ham, maktabda ham “teng emasman” degan fikr paydo bo‘ladi.Natijalarni oldingi tadqiqotlar bilan solishtirganda, shu narsa ma’lum bo‘ldiki: dunyoning rivojlangan mamlakatlaridagi maktablar (masalan, Finlyandiya, Avstraliya) ota-onalarni maktab hayotiga boshidanoq jalb qiladi va ularni “sherik” sifatida ko‘radi. O‘zbekiston maktablarida esa ko‘pincha ota-onalar “nazoratchi” yoki “javob beruvchi” sifatida qaraladi. Bu farq, o‘z navbatida, o‘smirlarning farovonligiga bevosita ta’sir qiladi.

XULOSA

Xulosa qilib aytadigan bo‘lsak: Oila va maktab o‘rtasidagi hamkorlik qanchalik mustahkam va tizimli yo‘lga qo‘yilgan bo‘lsa, o‘smirning psixologik farovonligi shunchalik yuqori darajada shakllanadi, ichki xavotir va tashvish holatlari esa sezilarli darajada kamayadi. Chunki bola ikki muhim ijtimoiy muhit — oila va ta’lim muassasasi — tomonidan bir xil yo‘nalishda qo‘llab-quvvatlanganda, u o‘zini ishonchli, himoyalangan va tushunilgan his qiladi. Bu esa uning emotsional barqarorligi va ijtimoiy moslashuviga ijobiy ta’sir ko‘rsatadi.

Tavsiya: Maktab va ota – onalar muntazam (haftada 1 marta) ijobiy va konstruktiv muloqot qilishi kerak. Yig‘ilishlar ikki tomonlama bo‘lishi, ota – onalarning fikri tinglanishi lozim.

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ZAMONAVIY LIBOS DIZAYNERLARINI TAYYORLASHDA MAXSUS KOMPETENSIYALARNI SHAKLLANTIRISHNING ILMIY-AMALIY ASOSLARI

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Annotatsiya*: Ushbu maqolada dizayn ta'limida, xususan, libos dizaynerlarini tayyorlash jarayonida kasbiy kompetensiyalardan tor doiradagi maxsus kompetensiyalarga o‘tish zarurati tahlil qilingan. An'anaviy o‘qitish usullari va sohadagi zamonaviy raqamli o‘zgarishlar o‘rtasidagi ziddiyatlar ochib berilib, bo‘lajak mutaxassislarda texnologik, tarixiy va raqamli maxsus ko‘nikmalarni (xususan, 3D modellashtirish va aniq bichish texnologiyalari asosida) shakllantirish mexanizmlari taklif etilgan.*

Kalit so‘zlar: *maxsus kompetensiya, libos dizayni, raqamli modellashtirish, kompetensiyaviy yondashuv, dizayn ta'limi, konstruktorlik ko‘nikmalari.*

Abstract: *This article analyzes the necessity of transitioning from general professional competencies to narrowly specialized competencies in design education, particularly in the training of fashion designers. The study highlights the discrepancies between traditional teaching methodologies and contemporary digital transformations within the industry. Furthermore, it proposes mechanisms for cultivating specific technological, historical, and digital skills in future specialists, with a particular emphasis on 3D modeling and precision pattern-making technologies.*

Keywords: *specialized competence, fashion design, digital modeling, competency-based approach, design education, pattern-making skills.*

KIRISH

Globallashuv va raqamli texnologiyalar asri barcha sohalarda bo‘lgani kabi, dizayn yo‘nalishida ham mutaxassislardan mutlaqo yangicha, o‘ziga xos yondashuvlarni talab etmoqda. Bugungi kunda mehnat bozorida shunchaki nazariy

bilimlarga ega dizaynerlarga emas, balki eng so‘nggi raqamli texnologiyalarni (masalan, virtual kiyim yaratish dasturlarini) mukammal o‘zlashtirgan, tor ixtisoslikdagi muammolarni yecha oladigan kadrlarga ehtiyoj yuqori. Shunga qaramay, ko‘plab oliy ta'lim muassasalarida dizaynerlarni tayyorlash dasturlari hamon amaliy faoliyatning qotib qolgan an'anaviy stereotiplariga asoslanmoqda. Bu esa bo‘lajak mutaxassisning real ish jarayoniga moslashuvini qiyinlashtiradi va ta'lim mazmunini qayta ko‘rib chiqishni, jumladan, e'tiborni maxsus kompetensiyalarni rivojlantirishga qaratishni taqozo etadi

Ilmiy adabiyotlarda "kasbiy kompetentlik" tushunchasini shaxsning madaniy darajasi, ko‘nikmalar tizimi yoki faoliyat natijadorligi kabi turli mezonlar asosida baholovchi yondashuvlar mavjud. Biroq, zamonaviy dizayn ta'limida umumiy yondashuvlar yetarli emas. Shaxsning faqatgina psixologik yoki nazariy jihatdan faoliyatga tayyorligi uning murakkab texnologik jarayonlarni bajara olishini kafolatlamaydi. Shu sababli, tadqiqotimiz markazida dizaynerning maxsus kompetensiyasi turadi. Maxsus kompetensiyalarini rivojlantirishning asosiy sharti talabalar bilim va ko‘nikmalarini aniqlash hisoblanadi, bunda talabalar tomonidan materialni o‘zlashtirish, ular tomonidan amaliy topshiriqlarni bajarishda olingan bilimlarni qo‘llanilishi to‘g‘risida doimiy va obyektiv ma’lumot olib turish zarur.

Shuning uchun nazorat rejasi tizimli, obyektiv, har tomonlama, individual, talabalar va o‘qituvchi vaqtini tejagan holda, pedagogik taktikali bo‘lishi kerak. Shunday qilib, maxsus kompetensiyalarini rivojlantirish jarayoni natijaviy bo‘lishi uchun, ushbu kompetentlikni ta’minlovchi, turli ta’lim shakllari uchun turlicha ta’lim vositalari, auditoriya ishlari (ma’ruza, laboratoriya, amaliy topshiriqlar) va auditoriyadan tashqari mustaqil ishlarni o‘z ichiga olgan fanning elektron metodik majmuasi bo‘lishi lozim.

Maxsus kompetensiyalarini rivojlantirish jarayoni pedagogik texnologiyalar, faol metodlar, turli ta’lim vositalari va tahlil tizimi majmuasini qo‘llagan holda

ta’limning barcha shakllarida bir nechta fanlardan olingan bilimlarni integratsiyalash orqali amalga oshiriladi.

Maxsus kasbiy kompetensiya – bu mutaxassisning tor doiradagi, o‘ziga xos texnologik va ijodiy vazifalarni bajarish uchun zarur bo‘lgan chuqurlashtirilgan bilimlar, aniq amaliy malakalar hamda ularni innovatsion sharoitlarda (jumladan, raqamli muhitda) qo‘llay olish qobiliyatidir. Libos dizayni sohasida bu quyidagi uchta asosiy mezon asosida namoyon bo‘ladi:

1. Raqamli-texnologik kompetensiya: Zamonaviy libos dizayneri kiyimlarni faqat qog'ozda eskiz qilish bilan cheklanib qolmasligi kerak. Maxsus kompetensiya virtual makonda, xususan CLO 3D kabi zamonaviy dasturlarda andozalar yaratish, mato xususiyatlarini virtual sinovdan o‘tkazish va murakkab choklar (mashina tikma choklari) texnologiyasini aniq qo‘llay olishni anglatadi.
2. Konstruktorlik va bichish madaniyati: Maxsus kompetensiya detallarni shunchaki yig'ish emas, balki ularning farqini ilmiy va amaliy jihatdan aniq farqlay olishni talab qiladi. Masalan, oddiy burmali mato bo‘lagi va maxsus aylanma shaklda bichiladigan “volan” o‘rtasidagi farqni konstruktiv jihatdan to‘g'ri baholash hamda shunga mos texnologik yechim tanlash dizaynerning maxsus kompetentlik darajasini belgilaydi.
3. Tarixiy-nazariy tahlil kompetensiyasi: Libos dizayni faqatgina bugungi kun trendlariga emas, balki o‘tmishning boy tajribasiga ham tayanadi. Maxsus kompetensiya talabadan turli tarixiy liboslar (dendi, spenser, amazonka kabi) va an'anaviy hunarmandchilik namunalarining tuzilishini tahlil qilib, milliy qadriyatlar va zamonaviy o‘zlikni ifodalovchi yangi kolleksiyalarga ilmiy-ijodiy transformatsiya qila olish qobiliyatini talab qiladi.

Ta'lim muassasalarida tashkil etiladigan ijodiy ko‘rgazmalar, "Hunarmand" uyushmalari bilan hamkorlikdagi amaliy mashg'ulotlar hamda maxsus fanlar bo‘yicha ishlab chiqiladigan ilmiy o‘quv qo‘llanmalari aynan shu maxsus kompetensiyalarni shakllantirishning asosiy platformasi bo‘lib xizmat qilishi lozim.

XULOSA

Xulosa qilib aytganda, dizaynerlarni tayyorlashda kompetensiyaviy yondashuv shunchaki ta'limni yangilash vositasi emas, balki davr talabidir. Umumkasbiy bilimlardan maxsus kompetensiyalarga (raqamli texnologiyalar, aniq konstruktorlik yechimlari va ilmiy-tarixiy tahlilga) o‘tishgina mehnat bozorida raqobatbardosh, mustaqil ijodiy qarorlar qabul qila oladigan va sohaga real innovatsiyalar olib kira oladigan yuqori malakali libos dizaynerlarini shakllantirish imkonini beradi.

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MAXSUS FANLARNING FANLARARO ALOQALARI ORQALI QO‘LLASH METODIKASI

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Annotatsiya*: Ushbu maqolada maxsus fanlarni o‘qitishda fanlararo aloqalardan foydalanish metodikasi ko‘rib chiqiladi. Fanlararo integratsiya - bu zamonaviy ta’lim tizimining asosiy tamoyillaridan biri bo‘lib, u o‘quvchilarda yaxlit ilmiy dunyoqarashni shakllantirish, bilimlarni amaliyotda qo‘llash qobiliyatini rivojlantirish va ta’lim sifatini oshirishga xizmat qiladi. Maqolada fanlararo aloqalarning nazariy asoslari, ularning maxsus fanlar o‘qitish jarayonida qo‘llanilish shakllari va metodlari, hamda bu jarayonning pedagogik samaradorligi tahlil etiladi. O‘qituvchilar uchun amaliy tavsiyalar ishlab chiqilgan bo‘lib, ular darslarni rejalashtirishda va o‘tkazishda bevosita qo‘llanishi mumkin. Tadqiqot natijalari shuni ko‘rsatadiki, fanlararo yondashuv o‘quvchilarning motivatsiyasini oshiradi, o‘quv materialini yanada chuqurroq o‘zlashtirishga imkon beradi va kasbiy kompetentlikni rivojlantirishga sezilarli hissa qo‘shadi.*

Kalit so‘zlar: *fanlararo aloqa, integratsiya, maxsus fanlar, o‘qitish metodikasi, pedagogik texnologiya, kompetentlik, interdistsiplinar yondashuv, ta’lim sifati, bilim transferi, kasbiy ta’lim.*

Annotation: *This article considers the methodology for using interdisciplinary connections in teaching special subjects. Interdisciplinary integration is one of the main principles of the modern education system, which serves to form a holistic scientific worldview in students, develop the ability to apply knowledge in practice, and improve the quality of education. The article analyzes the theoretical foundations of interdisciplinary connections, the forms and methods of their application in the process of teaching special subjects, as well as the pedagogical effectiveness of this process. Practical recommendations for teachers are developed, which can be directly used in planning and conducting lessons. The results of the study show that the interdisciplinary approach increases students' motivation, allows for a deeper assimilation of*

educational material, and makes a significant contribution to the development of professional competence.

Keywords: *interdisciplinary communication, integration, special subjects, teaching methodology, pedagogical technology, competence, interdisciplinary approach, quality of education, knowledge transfer, professional education.*

KIRISH

Bugungi kunda ta’lim tizimini modernizatsiya qilish, zamonaviy pedagog kadrlar tayyorlash va o‘qitishning innovatsion usullarini joriy etish davlat siyosatining ustuvor yo‘nalishlaridan biri hisoblanadi. O‘zbekiston Respublikasida ta’limni isloh qilish bo‘yicha qabul qilingan qator qonunchilik hujjatlari va davlat dasturlari ta’lim muassasalarida o‘qitish sifatini tubdan yaxshilashni talab etmoqda.

Maxsus fanlarni o‘qitishda fanlararo aloqalardan foydalanish metodikasi pedagogika fanining muhim yo‘nalishlaridan biri sifatida e'tirof etilmoqda. Ayniqsa, texnik, tibbiy, iqtisodiy va boshqa ixtisoslik yo‘nalishlarida ta’lim berishda bir fan doirasidagi bilimlar ko‘pincha yetarli emas - o‘quvchi yoki talababir necha soha bilimlarini birlashtirib, amaliy muammolarni hal etishga qodir bo‘lishi kerak.

Fanlararo aloqa - bu turli o‘quv fanlari o‘rtasidagi mazmuniy, tizimli va metodologik bog'lanishlar majmuasi bo‘lib, o‘quv jarayonida yaxlit bilim tizimini shakllantirishga xizmat qiladi. Ushbu yondashuv orqali o‘quvchilar bir fan kontekstida o‘rgangan bilim va ko‘nikmalarini boshqa fan vaziyatlariga muvaffaqiyatli ko‘chira oladilar. Bu esa nafaqat bilimlarning mustahkamlanishiga, balki tafakkur moslashuvchanligining rivojlanishiga ham imkon beradi.

ASOSIY QISM

Fanlararo aloqaning nazariy asoslari va tasnifi - Fanlararo aloqa (interdistsiplinar bog'lanish) - bu ikki yoki undan ortiq o‘quv fanlari o‘rtasidagi o‘zaro ta’sir bo‘lib, u o‘quv jarayonida bilimlar, ko‘nikmalar va kompetensiyalarning tizimli ravishda birlashtirilishini ta’minlaydi. Bunday aloqa bir tomonlama (bir fan

boshqa fanning mazmunidan foydalanadi) yoki ikki tomonlama (oʻzaro boyituvchi) boʻlishi mumkin.

Fanlararo aloqalar quyidagicha tasniflanadi: Mazmunli aloqalar - turli fanlar mavzulari oʻrtasidagi umumiy tushunchalar, faktlar va qonuniyatlar asosidagi bog'lanishlar. Masalan, fizika va kimyo fanlarida atomning tuzilishi mavzusi bir-birini toʻldiradi. Operatsional aloqalar - bir fanda egallangan amaliy koʻnikmalar boshqa fanda qoʻllaniladigan usullar bilan mos kelishi. Masalan, matematikadagi grafik chizish koʻnikmasi iqtisodiyot fanida bozor egri chiziqlari tahlilida qoʻllaniladi. Metodologik aloqalar - turli fanlar oʻrganishda umumiy yondashuv va metodlarning qoʻllanilishi, masalan, tahlil, sintez, modellashtirish, eksperiment.[1,2,3]

Maxsus fanlarda fanlararo aloqalarni qoʻllash shakllari - Maxsus fanlar kontekstida fanlararo aloqalarni qoʻllashning quyidagi shakllari alohida ahamiyat kasb etadi: birinchidan, integratsion darslar - bu ikki yoki undan ortiq oʻquv fanlari oʻqituvchilari birgalikda oʻtkazadigan darslar boʻlib, unda bir mavzu turli fanlar nuqtayi nazaridan yoritiladi. Ikkinchidan, loyihaviy ta’lim (project-based learning) - oʻquvchilar bir necha fanning bilimlarini qoʻllagan holda real muammoni hal etadigan loyiha ustida ishlaydigan metod. Uchinchidan, muammoli ta’lim - oʻquvchilar turli fanlarning bilimlarini sintez qilib, real hayotiy muammo yechimini topishga yoʻnaltiriladi.

Masalan, qurilish mutaxassisligida materiallar qarshiligi fanini oʻqitishda fizika (mexanika asoslari), matematika (differensial tenglamalar) va iqtisodiyot (material tannarxi va iqtisodiy samaradorlik) fanlaridan fanlararo aloqa oʻrnatilsa, talabalar nafaqat nazariy bilimlarni, balki kelajakdagi kasbiy faoliyatda zarur boʻlgan kompleks koʻnikmalarni ham egallaydilar. Tibbiyot ta’limida esa anatomiya, fiziologiya va klinik fanlar oʻrtasidagi bog'liqlikni koʻrsatish orqali talabalarning kasalliklarni tashxislash va davolash qobiliyati sezilarli darajada oshadi. [4]

Fanlararo aloqalarni amalga oshirishning metodlari va vositalari - O‘qituvchi fanlararo aloqalarni amalga oshirishda quyidagi metodlardan foydalanishi mumkin: Konseptual xarita (concept map) tuzish - turli fanlar tushunchalarini birlashtiradigan vizual sxemalar tuzish orqali o‘quvchilar bilimlar o‘rtasidagi aloqalarni anglaydilar. Qiyosiy tahlil metodi - turli fanlar qanday muammolarni qanday metodlar bilan hal etishini qiyoslab ko‘rsatish. Case-study (amaliy holat tahlili) - real hayotiy muammo turli fanlar metodlari orqali tahlil qilinadi. Loyiha metodi - turli fanlarning bilimlari yagona maqsad atrofida birlashtiriladi.

Zamonaviy axborot texnologiyalari fanlararo aloqalarni qo‘llashda keng imkoniyatlar yaratadi. Elektron o‘quv resurslari, simulyatsiya dasturlari, virtual laboratoriyalar va onlayn hamkorlik platformalari orqali turli fanlar integratsiyasi samarali tarzda amalga oshirilishi mumkin. Masalan, MATLAB dasturida matematik modellashtirish orqali muhandislik fanlari uchun juda ko‘p amaliy masalalar yechish mumkin bo‘lib, bu matematika va muhandislik fanlarining mukammal integratsiyasiga misol bo‘la oladi.

O‘qituvchining fanlararo aloqalarni rejalashtirishdagi roli - Fanlararo aloqalarni muvaffaqiyatli amalga oshirish ko‘p jihatdan o‘qituvchining pedagogik mahoratiga, fanning chuqur bilimiga va boshqa fanlar haqida yetarli tushunchaga ega bo‘lishiga bog'liq. O‘qituvchi avvalo o‘z fani dasturini boshqa fanlar dasturlari bilan qiyoslab, umumiy mavzu va tushunchalarni aniqlab olishi lozim. Keyin esa ushbu aloqalarni dars rejasiga organik ravishda kiritishi kerak.

Fanlararo aloqalarni rejalashtirishda o‘qituvchi quyidagi bosqichlarga rioya qilishi tavsiya etiladi: Kasbiy standartlar va o‘quv dasturlarni o‘rganish - qaysi fanlar bilan aloqa o‘rnatish mumkinligini aniqlash. Hamkorlik o‘rnatish - boshqa fanlar o‘qituvchilari bilan muloqot qilish va umumiy darslar rejalashtirish. O‘quv materiallarini tayyorlash - fanlararo aloqalarni aks ettiradigan topshiriqlar, sxemalar va misollar ishlab chiqish. [5] O‘quvchilarni tayyorlash - avvalgi bilimlarini

yangilash va yangi bilimlar bilan bog'lashga yo‘naltirish. [6] Baholash - fanlararo kompetentliklarni baholash mezonlari ishlab chiqish.

Fanlararo aloqalarning samaradorligi va muammolari - Tadqiqotlar shuni ko‘rsatadiki, fanlararo yondashuv qo‘llanilganda o‘quvchilarning o‘quv materialini o‘zlashtirishи 20–35% ga oshadi, bilimlarni uzoq muddat esda saqlash yaxshilanadi va amaliy masalalarni hal etish qobiliyati rivojlanadi. Bunga sabab shuki, bir necha fanlar kontekstida qayta-qayta uchraydigan tushunchalar va munosabatlar miyada kuchli assotsiativ bog'lanishlar hosil qiladi.

Biroq fanlararo aloqalarni amalga oshirishda bir qator qiyinchiliklar ham mavjud. Birinchi muammo - o‘qituvchilarning boshqa fanlar bo‘yicha bilim va tajribasining yetarli emasligi. Ikkinchi muamlo - o‘quv dasturlari ko‘pincha ma’lum fan doirasida tuzilgan bo‘lib, fanlararo hamkorlik uchun yetarli vaqt ajratilmagan. Uchinchi muammo - baholash tizimining fanlararo kompetentliklarni to‘liq qamrab olmasligi. To‘rtinchi muammo - o‘quvchilarning bir fandagi zaif tayyorgarligi boshqa fanlar bilan aloqani murakkablashtirishi. Bu to‘siqlarni bartaraf etish uchun tizimli pedagogik jarayon va ma’muriyatning ko‘magi zarur.[8,9,10]

XULOSA

Ushbu tadqiqot natijasida quyidagi xulosalarga kelindi: Birinchidan, fanlararo aloqalar maxsus fanlarni o‘qitishning samarali pedagogik vositasi bo‘lib, o‘quvchilarning yaxlit ilmiy dunyoqarashini shakllantiradi va kasbiy kompetentligini rivojlantiradi. Ikkinchidan, fanlararo integratsiyaning turli shakllari (integratsion darslar, loyihaviy ta’lim, muammoli ta’lim, case-study) maqsad va sharoitga qarab moslashuvchan ravishda qo‘llanilishi lozim.

Uchinchidan, fanlararo aloqalarni muvaffaqiyatli amalga oshirish o‘qituvchining pedagogik mahoratiga, boshqa fanlar bilan hamkorligiga va zamonaviy ta’lim texnologiyalaridan foydalana bilishiga bog'liq. To‘rtinchidan, fanlararo yondashuv o‘quvchilarning bilimlarni o‘zlashtirishini o‘rtacha 20–35% ga

oshirishi mumkin, shuningdek amaliy muammolarni hal etish qobiliyatini sezilarli darajada rivojlantiradi.

Beshinchidan, fanlararo aloqalarni joriy etishda mavjud to‘siqlarni (o‘qituvchilar tayyorgarligi, o‘quv dasturlari moslashuvchanligining yetarli emasligi, baholash tizimining cheklovlari) bartaraf etish uchun tizimli yondashuv zarur. Oltinchidan, raqamli texnologiyalar va interaktiv vositalar fanlararo integratsiyani yangi sifat darajasiga olib chiqishga imkon beradi.

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BOSHLANGICH SINF O‘QUVCHILARINING YOSH VA INDIVIDUAL XUSUSIYATLARINI INOBATGA OLISHNING PEDAGOGIK ASOSLARI

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Annotatsiya: *Ushbu maqolada boshlang‘ich sinf o‘quvchilarining individual va yosh jihatlarini inobatga olishning ta’lim jarayonida amaliy va nazariy tomonlari yoritilib o‘tilgan. Boshlang‘ich sinf o‘quvchilarining yosh davrlarining psixologik tomonlari, individual farqlari va differensial yondashishnng ahamiyati tahlil qilinadi. Shu bilan birga, pedagogik tajribalar asosida olib borilgan individual yondashishning samaradorligi asoslab beriladi. Tadqiqot asoslari yordamida boshlang‘ich ta’lim sifatini oshirishda individual yondashuv muhim omil ekanligini ko‘rsatdi.*

Kalit so‘zlar: *o‘quvchilarning yosh xususiyatlari, individual yondashuv, differensial ta’lim, psixologik rivojlanish, pedagogik diagnostika, motivatsiya.*

Аннотация: *В данной статье освещаются практические и теоретические аспекты учета индивидуальных и возрастных особенностей учащихся начальных классов в образовательном процессе. Анализируются психологические особенности возрастных этапов младших школьников, их индивидуальные различия и значение дифференцированного подхода. Также на основе педагогического опыта обосновывается эффективность индивидуального подхода. С помощью результатов исследования показано, что индивидуальный подход является важным фактором повышения качества начального образования.*

Ключевые слова: *возрастные особенности, индивидуальный подход, дифференцированное обучение, психологическое развитие, педагогическая диагностика, мотивация.*

Annotation: *This article highlights the practical and theoretical aspects of considering individual and age characteristics of primary school students in the educational process. It analyzes the psychological features of primary school age, individual differences, and the importance of a differentiated approach. Based on pedagogical experience, the effectiveness of an individual approach is substantiated. The research findings demonstrate that an individual approach is an important factor in improving the quality of primary education.*

Keywords: *age characteristics, individual approach, differentiated education, psychological development, pedagogical diagnostics, motivation.*

KIRISH

Boshlang‘ich ta’lim bosqichi bolaning shaxs sifatida shakllanishida muhim davr hisoblanadi. Aynan shu davrda o‘quvchilarning bilish jarayonlari, tafakkuri, nutqi va ijtimoiy faolligi rivojlanadi. Shu sababli ta’lim jarayonini tashkil etishda o‘quvchilarning yosh va individual xususiyatlarini hisobga olish dolzarb pedagogik muammolardan biridir. Zamonaviy ta’lim tizimi har bir o‘quvchining qobiliyati, qiziqishi va imkoniyatlarini inobatga olishni talab etadi. Bir sinfda o‘qiyotgan bolalarning rivojlanish darajasi, bilimni qabul qilish tezligi va tafakkur uslubi turlicha bo‘ladi. Agar o‘qituvchi bu farqlarni hisobga olmasa, ta’lim samaradorligi pasayishi mumkin.

Tadqiqotning maqsadi — boshlang‘ich sinf o‘quvchilarining yosh va individual xususiyatlarini inobatga olishning pedagogik asoslarini aniqlash hamda uning samaradorligini asoslashdan iborat.

ASOSIY QISM

Boshlang‘ich yosh davri (6–10 yosh) psixologik jihatdan o‘ziga xos bosqich hisoblanadi. Bu davr fanda kichik maktab yoshi davri deb ataladi. Bu davrda bolalarda:

a) idrok va tasavvur faol rivojlanadi;

b) ixtiyoriy diqqat shakllanadi;

c) mantiqiy tafakkur elementlari paydo bo‘ladi;

d) o‘qishga nisbatan motivatsiya shakllanadi.

e) hamda bu yoshda bolalar o‘yin faoliyatidan o‘qish faoliyatiga o‘tishadi[43].

Individual xususiyatlar esa har bir bolaning xarakter, xususiyat, temperament, qiziqish darajasi bilan uzviy bog‘liq hisoblanadi. “ Individual yondashuv “ aslida nima? “ *Individual* “ so‘zi lotin tilidan olingan bo‘lib,“ yakka tartibda, yolg‘iz “ degan ma’nolarni bildiradi va bu maxsus shug’ullanish tushunchasini ifodalaydi. Aynan shu sababli individuallashtirilgan ta’lim shaxsga yo‘naltirilgan tadqiqot va o‘quv shakli bo‘lib, unda har bir ta’lim oluvchi shaxs o‘quv jarayonida faol ishtirok etadi. Mana shu yo‘nalish jihati bilan individual yondashuv muhim ahamiyatga ega. Aynan shu yo’nalish yakka tartibda ta’lim oluvchilarning ongini faollashtiradi, ta’lim beruvchilarning uslubiy yondashuvini kuchaytiradi va ta’lim oluvchilarning o‘quv-biluv malakasi yanada oshadi. Individual yondashuv texnologiyasining o‘ziga xosligi xususiyati shundaki, unda ta’lim oluvchi bilan istalgan vaqtda va muddatsiz shug‘ullanish mumkin. Bunda ta’lim oluvchilarning imkoniyatlaridan kelib chiqqan holda, u bilan nazariy, amaliy va metodologik mashg‘ulotlar tashkil qilish mumkin.

Differensial yondashuvlar ta'limda o’quvchilarning ehtiyoj va qobiliyatlarini hisobga olish orqali ularning bilim va ko‘nikmalarini samarali shakllantirish imkonini beradi. Differensial yondashuvning ilmiy asoslari o‘qituvchilarni har bir o‘quvchining individual qobiliyatlarini rivojlantirish va ularni yuqori o‘quv natijalariga yetaklash uchun turli usullarni qo‘llashga undaydi. Shu bilan birga, ushbu yondashuvlarning ta'limga oid nazariy va amaliy jihatlari ta'lim sifati oshishiga xizmat qiladi. Pedagogik jarayonda differensial yondashuv qo‘llanilganda har bir o‘quvchining imkoniyatiga mos topshiriqlar beriladi. Bu esa bilimning

[43] G‘oziev E.G‘. Yosh va pedagogik psixologiya. – T.: O‘qituvchi, 2010.

chuqurroq o‘zlashtirilishiga xizmat qiladi. Bundan ko’rinadi-ki, individual yondashuv va differensial yondashuv bir-biri bilan uzviy bog’liq.Differensial yondashuv nazariyasiga ko‘ra, o‘quvchilarga murakkablik darajasi turlicha bo‘lgan topshiriqlarni taqdim etish samarali natija beradi. Individual yondashuv esa o‘qituvchining har bir bola bilan alohida ishlashini nazarda tutadi.

Tadqiqot jarayonida quyidagi metodlardan foydalanildi:

a) pedagogik kuzatuv;

b) diagnostik testlar;

c) taqqoslash va tahlil metodi;

d) tajriba-sinov ishlari.

Tajriba 3-sinf o‘quvchilari o‘rtasida olib borildi. Sinf ikki guruhga ajratildi: nazorat guruhi va tajriba guruhi. Tajriba guruhida individual va differensial yondashuv asosida darslar tashkil etildi. Nazorat guruhi esa ularni kuzatib, ish jarayoni bilan tanishdilar va oxirida o’z fikrlarini aytishdi. Bundan asosiy g’oya bolalarda bir-biri bilan ishlash imkoniyatini oshirish va ularning kuzatuvchaligini ta’minlash.

Boshlang‘ich yoshdagi bolalar tez charchash, diqqatning tez chalg‘ishi, emotsional sezgirlik kabi xususiyatlarga ega. Shuning uchun dars jarayonida o‘quvchilar bilan:

a) qisqa va aniq topshiriqlar berish;

b) o‘yin elementlaridan foydalanish;

c) ko‘rgazmali vositalarni qo‘llash;

d) o‘yin elementlaridan foydalanish

e) rag‘batlantirish metodlaridan foydalanish muhimdir.

Individual xususiyatlarni aniqlash uchun o‘quvchilarning bilim darajasi, qiziqishlari va psixologik holati muntazam kuzatib boriladi. Differensial topshiriqlar tizimi ishlab chiqiladi. Masalan, matematikadan kuchli o‘zlashtiruvchi o‘quvchilarga murakkabroq masalalar, qiynalayotgan o‘quvchilarga esa sodda va

ko‘makchi topshiriqlar beriladi va qiynalayotgan o‘quvchilar ustida ishlanadi. Buning uchun qo‘shimcha matematika to‘garaklari tashkil etiladi: “Quvnoq matematika “ yoki “ tezkor matematika kabi. Natijada tajriba guruhida o‘zlashtirish darajasi sezilarli oshadi. O‘quvchilarning darsga qiziqishi kuchayadi va mustaqil fikrlash faollashadi.

Tajriba-sinov natijalari shuni ko‘rsatdiki:

a) individual yondashuv qo‘llanilgan guruhda o‘zlashtirish ko‘rsatkichi 20–25% ga oshadi;

b) o‘quvchilarning motivatsiyasi kuchayadi;

c) dars jarayonida faollik ortadi.

Bu natijalar ta’lim jarayonida yosh va individual xususiyatlarni hisobga olish pedagogik samaradorlikni oshirishini isbotlaydi[44].

XULOSA

Boshlang‘ich sinf o‘quvchilarining yosh va individual xususiyatlarini inobatga olish ta’lim sifatini oshirishning muhim shartidir. Har bir bola o‘ziga xos shaxs bo‘lib, uning qobiliyati va imkoniyatlariga mos yondashuv qo‘llanilgandagina yuqori natijaga erishish mumkin. Pedagogik jarayonda differensial va individual yondashuvni tizimli ravishda qo‘llash boshlang‘ich ta’lim samaradorligini oshiradi. Uni to’g’ri qo’llay olish esa pedagogik mahoratga va kuzatuvchanlikka bog’liqdir

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KIMYO TA’LIMIDA 9-SINF O‘QUVCHILARINI KREATIVINI RIVOJLANTIRISH

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Annotatsiya. *Ushbu maqolada kimyo ta’limida 9-sinf o‘quvchilarining kreativ fikrlash qobiliyatlarini rivojlantirish masalalari metallar mavzusi misolida tahlil qilingan. O‘quvchilarning ijodiy yondashuvini shakllantirishda zamonaviy 641edagogic texnologiyalar, xususan muammoli ta’lim, loyihaviy faoliyat, interfaol metodlar va STEAM yondashuvining samaradorligi o‘rganilgan. Metallarning xossalari, olinishi va qo‘llanilishi bilan bog‘liq mavzularni o‘qitishda kreativ topshiriqlar, tajribalar va real hayotiy vaziyatlarga asoslangan masalalardan foydalanish o‘quvchilarning mustaqil fikrlash, muammoni hal qilish va innovatsion yondashuvlarini rivojlantirishga xizmat qilishi asoslab berilgan.*

Kalit so‘zlar: *kimyo ta’limi, kreativlik, metallar, 9-sinf, interfaol metodlar, muammoli ta’lim, STEAM, kompetensiya.*

Аннотация. *В данной статье рассматриваются вопросы развития креативного мышления учащихся 9 класса в процессе обучения химии на примере темы «Металлы». В ходе исследования изучена эффективность современных педагогических технологий, в частности проблемного обучения, проектной деятельности, интерактивных методов и STEAM-подхода, в формировании творческого подхода учащихся. Обосновано, что использование креативных заданий, экспериментов и задач, основанных на реальных жизненных ситуациях при изучении свойств, способов получения и применения металлов, способствует развитию самостоятельного мышления, навыков решения проблем и инновационного подхода учащихся.*

Ключевые слова*: химическое образование, креативность, металлы, 9 класс, интерактивные методы, проблемное обучение, STEAM, компетенция.*

Abstract. *This article examines the development of creative thinking skills in 9th-grade students in chemistry education using the topic of metals as an example. The study explores the effectiveness of modern pedagogical technologies, including problem-based learning, project-based activities, interactive methods, and the STEAM approach, in fostering students' creative abilities. It is substantiated that the use of creative tasks, experiments, and real-life problem-based activities in teaching the properties, extraction, and applications of metals contributes to the development of independent thinking, problem-solving skills, and innovative approaches among students.*

Keywords: *chemistry education, creativity, metals, 9th grade, interactive methods, problem-based learning, STEAM, competence.*

KIRISH

Hozirgi zamon ta'lim tizimida o‘quvchilarning nafaqat bilim olish darajasi, balki ularning mustaqil fikrlashi, muammoni hal qilish qobiliyati va kreativ yondashuvi ham muhim ahamiyat kasb etmoqda. Ayniqsa, kimyo fanini o‘qitishda o‘quvchilarning ijodiy fikrlashini rivojlantirish orqali ularning fanlarga bo‘lgan qiziqishini oshirish va bilimlarni amaliyot bilan bog‘lash imkoniyati kengayadi.

Kimyo ta'limi metodikasida o‘quvchilarning kreativ (ijodiy) fikrlashini rivojlantirishni zamonaviy ta'limning muhim vazifalaridan biri sifatida ko‘rsatadi. Kreativlik – o‘quv faoliyatining muhim komponenti hisoblanadi. Kimyo fanini o‘rganish faqat tayyor bilimlarni egallash emas, balki o‘quvchining mustaqil fikrlashi, yangi g‘oyalar yaratishi va muammolarga noodatiy yechim topish qobiliyatini shakllantirishni ham o‘z ichiga oladi. Kreativlik o‘quvchining bilimni chuqur o‘zlashtirishiga xizmat qiladi [1].

Metodologiyasi. Kimyo ta'limida kreativlikni rivojlantirish uchun zamonaviy pedagogik texnologiyalardan foydalanish muhimdir. Xususan, muammoli ta'lim metodi o‘quvchilarda izlanish faoliyatini rag‘batlantiradi, ularni savol qo‘yishga va mustaqil xulosa chiqarishga undaydi. Masalan, o‘quvchilarga "Nima uchun ayrim metallar tez zanglaydi, boshqalari esa zanglamaydi?" kabi savollar berish orqali ularning tahliliy va ijodiy fikrlashi rivojlanadi.

Muammoli ta’lim orqali ijodiy fikrlashni rivojlantirish mumkin. Muammoli vaziyatlar yaratish orqali o‘quvchilarda izlanish, tahlil qilish va xulosa chiqarish ko‘nikmalari shakllanadi. Kimyoviy jarayonlar, reaksiyalar va tajribalarni tushuntirishda savol-javob va muammoli topshiriqlar kreativlikni kuchaytiradi. Interfaol metodlar (klaster, aqliy hujum, rol o‘ynash, loyiha ishlari) orqali o‘quvchilarni faol o‘quv jarayoniga jalb etishni tavsiya qilish mumkin. Bu metodlar o‘quvchilarning erkin fikrlashi va yangi g‘oyalar ishlab chiqishiga yordam beradi [2].

9-sinf kimyo kursi o‘quvchilarning ilmiy dunyoqarashini shakllantirishda muhim bosqich hisoblanadi. Bu bosqichda o‘quvchilar moddalarning tuzilishi, xossalari va ularning o‘zaro ta’siri haqida chuqurroq bilimlarga ega bo‘ladilar. Aynan shu jarayonda kreativ fikrlashni rivojlantirish o‘quvchilarning bilimlarni mustaqil o‘zlashtirishiga, yangi g‘oyalar yaratishiga va muammoli vaziyatlarga noodatiy yechim topishiga yordam beradi.

Kimyo darslarida mavzularni tushuntirishda kimyoviy tajriba va amaliy mashg‘ulotlarning ahamiyati katta. Laboratoriya ishlari va tajribalarni kreativ fikrlashni rivojlantirishning asosiy vositasi deb hisoblash mumkin. O‘quvchilar tajriba davomida kuzatadi, taxmin qiladi, natijani tahlil qiladi va shu orqali ilmiy-ijodiy yondashuvni o‘zlashtiradi.

Kimyo ta’limida kreativlikni rivojlantirish uchun zamonaviy pedagogik texnologiyalardan foydalanish muhimdir. Xususan, muammoli ta’lim metodi o‘quvchilarda izlanish faoliyatini rag‘batlantiradi, ularni savol qo‘yishga va mustaqil xulosa chiqarishga undaydi. Masalan, o‘quvchilarga “Nima uchun ayrim metallar tez zanglaydi, boshqalari esa zanglamaydi?” kabi savollar berish orqali ularning tahliliy va ijodiy fikrlashi rivojlanadi [3].

Shuningdek, fanlararo integratsiya asosida kreativlikni rivojlantirish uchun kimyo fanini boshqa fanlar (biologiya, fizika, ekologiya) bilan bog‘lash muhimligi

qayd etish mumkin. Real hayotiy vaziyatlar asosida berilgan topshiriqlar o‘quvchilarning qiziqishini oshiradi va ijodiy yondashuvni rag‘batlantiradi.

Loyihaviy faoliyat ham kreativlikni rivojlantirishda samarali vosita hisoblanadi. O‘quvchilar metallarni kundalik hayotdagi qo‘llanilishi, ularning ekologik ta’siri yoki qayta ishlanishi bo‘yicha kichik loyihalar tayyorlash orqali mustaqil izlanish olib boradilar. Bu esa ularda nafaqat bilim, balki tadqiqotchilik ko‘nikmalarini ham shakllantiradi [4].

Shuningdek, STEAM yondashuvi (Science, Technology, Engineering, Art, Mathematics) kimyo fanini boshqa fanlar bilan integratsiya qilish imkonini beradi. Masalan, metallardan turli konstruksiyalar yaratish yoki ularning fizik xossalarini tajribalar orqali o‘rganish o‘quvchilarning kreativ va muhandislik fikrlashini rivojlantiradi [5].

STEAM (Science, Technology, Engineering, Art, Mathematics) yondashuvi o‘quvchilarning nazariy bilimlarini amaliyot bilan bog‘lash, ularning ijodiy va intellektual qobiliyatlarini rivojlantirishga xizmat qiladi.

Masalan, “Metallar” mavzusini STEAM asosida o‘qitish orqali o‘quvchilar nafaqat kimyoviy xossalarni o‘rganadilar, balki ularni real hayotiy vaziyatlarda qo‘llashni ham o‘zlashtiradilar (1-jadval).

1-jadval

№	*Fan*	*Mohiyati*
1	Science (– Kimyo):	O‘quvchilar metallarning fizik va kimyoviy xossalarini o‘rganadilar: elektr va issiqlik o‘tkazuvchanligi, reaktivligi, korroziyaga moyilligi. Masalan, temirning zanglash jarayoni va uni oldini olish usullari tahlil qilinadi.
2	Technology (Texnologiya):	Metallarning sanoatda qo‘llanilishi, zamonaviy texnologiyalarda (qurilish, transport, elektronika) ishlatilishi o‘rganiladi. O‘quvchilar metallarga ishlov berish texnologiyalari haqida tushunchaga ega bo‘ladilar.

3	Engineering (Muhandislik):	O‘quvchilarga kichik loyiha topshirig‘i beriladi. Masalan: “Korroziyaga chidamli konstruksiya modelini yaratish”. Ular turli metall materiallarni solishtirib, eng maqbul variantni tanlaydilar va model ishlab chiqadilar.
4	Art (San’at):	Metallardan yasalgan buyumlar dizayni, estetik ko‘rinishi muhokama qilinadi. O‘quvchilar oddiy metall buyumlar (sim, folga) yordamida ijodiy ishlanmalar yaratishlari mumkin.
5	Mathematics (Matematika):	Metallarning zichligi, massasi, hajmi kabi ko‘rsatkichlar hisoblanadi. Masalan, berilgan metall buyumning zichligini aniqlash yoki material sarfini hisoblash topshiriqlari bajariladi.

Amaliy faoliyat (integratsiya): o‘quvchilarga quyidagi keys yoki loyiha berilishi mumkin: “Qanday qilib zanglamaydigan va mustahkam metall konstruktsiya yaratish mumkin?” Bu vazifa orqali ular ilmiy bilimlarini muhandislik va matematik hisob-kitoblar bilan bog‘laydilar.

Ushbu metodni qo‘llash natijasida, o‘quvchilarning tanqidiy va mantiqiy fikrlash rivojlanadi, amaliy ko‘nikmalar shakllanadi, muammoli vaziyatlarni hal qilish qobiliyati ortadi hamda fanlararo bog‘liqlik tushuniladi.

“Metallar” mavzusini STEAM yondashuvi asosida o‘qitish o‘quvchilarni faol ishtirokchi sifatida jalb qiladi, ularning bilimini chuqurlashtiradi va intellektual hamda ijodiy qobiliyatlarini rivojlantiradi.

Interfaol metodlar — “Aqliy hujum”, “Klaster”, “Venn diagrammasi” kabi usullar dars jarayonini jonlantirib, o‘quvchilarning faol ishtirokini ta’minlaydi. Ushbu metodlar orqali o‘quvchilar o‘z fikrlarini erkin ifoda etadi, boshqalarning qarashlarini tahlil qiladi va yangi g‘oyalar ishlab chiqadi [6].

XULOSA

Xulosa qilib aytganda, kimyo ta’limida kreativlikni rivojlantirish o‘quvchilarning ilmiy tafakkuri, muammoni hal qilish qobiliyati va innovatsion fikrlashini shakllantirishga xizmat qiladi. Bu esa zamonaviy ta’limning asosiy

maqsadlaridan biri hisoblanadi. Kimyo ta’limida 9-sinf o‘quvchilarining kreativ fikrlash qobiliyatini rivojlantirish ta’lim samaradorligini oshiradi, o‘quvchilarning mustaqil bilim olishiga zamin yaratadi va ularni zamonaviy jamiyat talablariga mos shaxs sifatida shakllantiradi. Shu bois, dars jarayonida innovatsion metodlar va kreativ yondashuvlardan keng foydalanish muhim ahamiyatga ega.

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BOSHLANG‘ICH SINF O'QUVCHILARIGA “TARBIYA” FANINI O‘QITISHNING NAZARIY ASOSLARI

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Annotatsiya: *Ushbu maqolada bo‘lajak boshlang’ich sinf o’qituvchilariga tarbiya fanini o’qitishning nazariy asoslari haqida aytib o’tilgan.*

Kalit so‘zlar: *boshlang’ich sinf, tarbiya, nazariy asos, allomlar, tarbiya shakllari.*

Annotation: *This article discusses the theoretical foundations of teaching education to future primary school teachers.*

Keywords: *primary school, education, theoretical foundation, scholars, forms of education.*

Аннотация: *В статье рассматриваются теоретические основы педагогической подготовки будущих учителей начальной школы.*

Ключевые слова: *начальная школа, образование, теоретические основы, учёные, формы обучения.*

KIRISH

Boshlang'ich sinflarda “Tarbiya” fanini o'qitish pedagogik muammo sifatida “Uzluksiz ma'naviy tarbiya kontseptsiyasi”ni amalga oshirishda “Tarbiya” fanini ahamiyati , Sharq mutafakkirlari asarlarida ma'naviy axloqiy tarbiya asoslari “Uzluksiz ma'naviy tarbiya kontseptsiyasi”ga ko'ra “Tarbiya” fani bo'yicha umumiy o'rta ta'limning davlat ta'lim standarti va o'quv dasturlari o'quvchilarda ma'naviy tarbiyani shakllantirish masalasi qo'yilgan. Shuning uchun “Tarbiya” darsligining maqsadidan kelib chiquvchi, 7-10 yoshli o'quvchilarda ularning yoshiga, ijtimoiy

munosabatlari radiusiga mos aktual ijtimoiy rollar, ma'naviy-axloqiy fazilatlar - kompetentsiyalarni shakllantirish hamda ularda salbiy sifatlar shakllanishining oldini olishni pedagogik ta'minlashga tayyorlanishi lozim. Zero, axloqiy sifatlar kichik yoshdan boshlab bolalarning ko'nikmalariga aylantira borilsagina, fazilatlarga aylanadi. Bu jarayonning metodik ta'minotida pedagogning bola shaxsiga munosabati hal qiluvchi rolni bajaradi.

Tarbiya fanidan o'tilayotgan ma'ruzalar matnlari tahlili quyidagilarni ko'rsatdi. Tarbiyaviy ishlarni davr talabiga javob beradigan holatga keltirishi uchun tarbiyaning asosi bo'lgan barcha g'oyalar qaytadan ko'rib chiqilishi, asosiy e'tibor shaxsga qaratilishi, yillar davomida to'plangan ijobiy tajribadan unumli foydalanish zarurligini taqozo etadi.Pedagogik nuqtai nazardan, har bir inson o'zining ijtimoiy madaniy rivojlanishi jarayonida o'z ajdodlarining milliy qadriyatlarini ijodiy o'zlashtiruvchi, zamonaviylashtiruvchi, boyituvchi va o'zgartiruvchidir. Insoniy burchlarining har bir shaxs tomonidan mukammal bajarilishi ijtimoiy taraqqiyotning boy, rang barang madaniy odimlarini hosil qiladi, saqlab turadi. Milliy tarbiyaning ijtimoiy psixologik omili inson tavsifining milliyligidir. Shaxs umumiinsoniy qadriyatlarni to'g'ri, ijodiy qabul qila olishi uchun avvalo uning o'zi shakllangan muayyan shakli milliylikning barkamol sub'ektiga aylana olmog'i kerak.

Ma’lumki, tarbiya tushunchasi tor va keng ma’noda qo‘llaniladi. Tor ma’nodagi “tarbiya” subyekt tomonidan shaxsda muayyan qarashlar, tasavvurlar, me’yorlar, tushunchalar va boshqa shu kabilarni qaror toptirish maqsadida yo‘naltirilgan ta’sir ko‘rsatish jarayonidir. Bunda tarbiviy ta’sir jarayonining reja asosida olib borilishi va aniq maqsadga qaratilganiga urg‘u beriladi.

Keng ma’nodagi “tarbiya” tushunchasida esa insonning ijtimoiy tajribani o‘zlashtirishiga ta’sir ko‘rsatadigan ijtimoiy aloqalarning butun boshli tizimi nazarda tutiladi. Fikrimizcha, shaxslarni jamiyat a’zosi sifatida shakllantirishga qaratilgan tarbiyani ijtimoiylashtirish deyilsa, mantiqan to‘g‘ri bo‘ladi.

Uzluksiz ma’naviy tarbiya Konsepsiyasida umumta’lim maktablarining o‘rta va yuqori sinf o‘quvchilarini ma’naviy-axloqiy tamoyillar asosida tarbiyalashda inobatga olinishi lozim bo‘lgan jihatlar quyidagilardan iborat:

- o‘smirlik yoshiga xos ichki pozitsiyaning paydo bo‘lishi;
- iroda sifatlarining paydo bo‘lishi;
- ijtimoiy faollik, bilishga intilish va o‘zini namoyon qilish motivlarining rivojlanishi;
- milliy qadriyatlar, an’analarga hurmatning namoyon bo‘lishi;
- o‘zini-o‘zi tarbiyalash va shaxsiy sifatlarning rivojlanishi;
- o‘z muammolarini o‘zi mustaqil hal qilishga intilish;
- xavfsiz hayot madaniyati bo‘yicha bilim va ko‘nikmalarning namoyon bo‘lishi;
- axloqiy, siyosiy dunyoqarash va diniy e’tiqodning shakllanishi;
- pozitiv ijtimoiy mo‘ljallarning oydinlashuvi va ularga erishish yo‘lidagi intilishlar;
- ma’naviy-axloqiy prinsiplarning qat’iylashuvi;
- ichki his-tuyg‘ularga e’tiborning oshishi va emotsional munosabatlarning tanlov asosida namoyon bo‘lishi;
- mustaqil hayot uchun zarur ijtimoiy kompetensiya va fazilatlarning odatlarga aylanishi va h.k.

Prezidentimiz Shavkat Miromonovich Mirziyoyev o‘z ma’ruzalaridan birida quyidagi fikrni bildirgan edilar:

“Hammamiz aziz farzandlarimiz hayoti va taqdirini o‘qituvchi va murabbiylarga ishonib topshiramiz. Mana shunday beqiyos boylik posbonlari, kelajak bunyodkori bo‘lgan bu mo‘tabar zotlarga munosib hurmat-ehtirom ko‘rsatishimiz kerak”.

Buyuk mutafakkir Alisher Navoiy tarbiyalanganlikning asosiy belgilarini quyidagicha belgilaydi:

- Jahl chiqqanda o‘zini bosa olish;
- Har bir ishni qilganda “yetti o‘lchab bir kesish”;
- Sir saqlay olish, mulohaza qilib, ayri gaplarni ichga yutish;
- Doimo ishonch bilan yashash va oldinga intilish; andisha chegarasidan chiqmagan holda dadil bo‘lish;
- Bir ishni boshlagandan keyin uni oxiriga yetkazmaslikdan tiyilish;
- Topgan-tutganini tejamkorlik bilan sarflash va hokazolar.

Az-Zamaxshariy fikricha, tarbiyalanganlikning o‘nta nishonasi farqlanadi:

1. Xalq to‘g‘ri deb topgan narsani noto‘g‘ri deb bilmaslik;
2. O‘z nafsiga erk bermaslik;
3. Birovdan ayb qidirmaslik;
4. Yomonlikni yaxshilik bilan yo‘yishlik;
5. Agar gunohkor uzr so‘rasa, uzrini qabul qilish;
6. Muhojirlar hojatini chiqarish;
7. El g‘amini yeyish;
8. O‘z aybini tan olish;
9. El bilan ochiq yuzli bo‘lish;
10. Odamlar bilan shirin muomalada bo‘lish.

Yoshlarda axloqiy xislatlar bilan birga, umuminsoniy fazilatlar, ma’naviy sifatlarni tarbiyalashda pedagogik diagnostika va korreksiya faoliyatiga murojaat etish zarur. Buning uchun eng avvalo inson fazilatlarining o‘zaro munosabatlarini va o‘rnini aniq belgilab olish lozim.

Ma’naviyat esa aql, axloq, huquq, iqtisod va siyosiy bilimlar zaminida shakllanadi. Mazkur bilimlar o‘z navbatida insonning ijobiy sifatlari kamol topib, boyib borishiga olib keladi.

“Tarbiya — uzoq muddatli, ko‘p xususiyatli, tarbiyalovchi va tarbiyalanuvchi o‘rtasidagi qo‘shaloq jarayon bo‘lib, tarbiyalanuvchida aniq maqsad asosida muayyan sifatlar, ko‘nikmalar shakllantiriladi va rivojlantiriladi”

Tarbiyachi o‘z oldiga qo‘ygan aniq maqsad asosida tarbiyalanuvchida ijobiy sifatlarni shakllantirishi zarur.

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PEDAGOGIKA YO‘NALISHI TALABALARINING BADIIY TAFAKKURINI RIVOJLANTIRISHDA INTEGRATIV YONDASHUV

Saparov Farxod O‘razboyevich

Jizzax shaxridagi “Nurli maskan”

ixtisoslashtirilgan maktab-internati o'qituvchisi

Annotatsiya. *Ushbu maqolada pedagogika yo‘nalishi talabalarining badiiy tafakkurini rivojlantirishda integrativ yondashuvning nazariy va amaliy asoslari tahlil qilinadi. Shuningdek, badiiy tafakkurni shakllantirish jarayonida fanlararo aloqadorlik, kreativ metodlar va zamonaviy pedagogik texnologiyalarning o‘rni yoritiladi. Integrativ yondashuvning talabalarda estetik did, ijodiy fikrlash va kasbiy kompetensiyalarni rivojlantirishdagi ahamiyati asoslab beriladi.*

Kalit so‘zlar: *badiiy tafakkur, integrativ yondashuv, pedagogika, kreativlik, fanlararo aloqadorlik, estetik tarbiya, innovatsion texnologiyalar.*

Аннотация. *В данной статье анализируются теоретические и практические основы интегративного подхода в развитии художественного мышления студентов педагогических направлений. Также освещается роль междисциплинарных связей, креативных методов и современных педагогических технологий в процессе формирования художественного мышления. Обосновывается значение интегративного подхода в развитии эстетического вкуса, творческого мышления и профессиональных компетенций студентов.*

Ключевые слова: *художественное мышление, интегративный подход, педагогика, креативность, междисциплинарные связи, эстетическое воспитание, инновационные технологии.*

Abstract. *This article analyzes the theoretical and practical foundations of the integrative approach in developing artistic thinking among students of pedagogical specialties. It also highlights the role of interdisciplinary connections, creative methods, and modern pedagogical technologies in the process of forming artistic thinking. The significance of the integrative*

approach in developing students' aesthetic taste, creative thinking, and professional competencies is substantiated.

Keywords: *artistic thinking, integrative approach, pedagogy, creativity, interdisciplinary connections, aesthetic education, innovative technologies.*

KIRISH

Bugungi kunda ta'lim tizimida amalga oshirilayotgan islohotlar bo‘lajak pedagoglarni tayyorlash sifatini oshirish, ularning kasbiy va shaxsiy kompetensiyalarini rivojlantirishga qaratilgan. Shu nuqtai nazardan, pedagogika yo‘nalishi talabalarining nafaqat nazariy bilimlarini shakllantirish, balki ularning ijodiy, estetik va badiiy tafakkurini rivojlantirish ham dolzarb vazifalardan biri hisoblanadi. Badiiy tafakkur insonning voqelikni obrazli idrok etishi, estetik baholashi hamda ijodiy yondashuv asosida fikrlash qobiliyati sifatida namoyon bo‘ladi. Bo‘lajak pedagoglarda ushbu sifatning shakllanishi ularning kelajakdagi kasbiy faoliyatida muhim o‘rin tutadi, chunki o‘qituvchi ta'lim jarayonini faqat bilim berish emas, balki ijodiy va estetik muhit yaratish orqali ham samarali tashkil etadi. Mazkur jarayonda integrativ yondashuv alohida ahamiyat kasb etadi. Integrativ yondashuv ta'lim mazmunini fanlararo bog‘liqlik asosida tashkil etish, turli o‘quv fanlari o‘rtasida mantiqiy aloqadorlikni ta'minlash va talabalarda yaxlit dunyoqarashni shakllantirishga xizmat qiladi. Bu yondashuv orqali talabalar adabiyot, san'at, pedagogika va psixologiya kabi fanlar kesimida badiiy tafakkurni chuqurroq anglash imkoniyatiga ega bo‘ladilar. Shu bois, pedagogika yo‘nalishi talabalarining badiiy tafakkurini rivojlantirishda integrativ yondashuvdan samarali foydalanish dolzarb ilmiy-pedagogik muammo sifatida qaraladi va ushbu maqolada uning nazariy hamda amaliy jihatlari yoritiladi.

ASOSIY QISM

Integrativ yondashuvning pedagogik mohiyati

Integrativ yondashuv zamonaviy ta'lim tizimida o‘quv jarayonini fanlararo bog‘liqlik asosida tashkil etishga yo‘naltirilgan didaktik konsepsiya hisoblanadi.

Ushbu yondashuv ta’lim mazmunini alohida fanlar doirasida emas, balki ularning o‘zaro uyg‘unligi va bir-birini to‘ldirishi asosida o‘rganishni nazarda tutadi. Natijada talabalarda tizimli fikrlash, mantiqiy bog‘liqlikni anglash va ijodiy yondashuv shakllanadi. Pedagogika yo‘nalishi talabalarini tayyorlash jarayonida integrativ yondashuvning qo‘llanilishi ularning kasbiy kompetensiyalarini rivojlantirish bilan birga, badiiy tafakkurini ham boyitadi. Chunki turli fanlar — adabiyot, san’at, psixologiya va pedagogika o‘rtasidagi bog‘liqlikni anglash talabalarning estetik idrokini kengaytiradi.

Badiiy tafakkurning mazmuni va uning pedagogik ahamiyati. Badiiy tafakkur insonning voqelikni obrazlar, tasvirlar va estetik kategoriyalar orqali idrok etish qobiliyatidir. U ijodiy tasavvur, emotsional sezgirlik va estetik baholash bilan chambarchas bog‘liqdir. Pedagogika talabalarida badiiy tafakkurning rivojlanishi ularning pedagogik faoliyatini yanada samarali va ijodiy tashkil etishga xizmat qiladi. Badiiy tafakkurga ega bo‘lgan bo‘lajak o‘qituvchi:

-ta’lim jarayonini ijodiy tashkil etadi;

-o‘quvchilarda estetik didni shakllantiradi;

-dars jarayonida obrazli fikrlashdan foydalanadi;

-pedagogik vaziyatlarga kreativ yondashadi.

Integrativ yondashuv orqali badiiy tafakkurni rivojlantirish imkoniyatlari. Integrativ yondashuv zamonaviy ta’lim jarayonida fanlararo aloqadorlikni ta’minlash orqali talabalarning ijodiy va badiiy tafakkurini rivojlantirishda keng imkoniyatlar yaratadi. Ushbu yondashuv turli o‘quv fanlari mazmunini o‘zaro bog‘lash, ularni yaxlit tizim sifatida idrok etish hamda bilimlarni amaliy faoliyat bilan uyg‘unlashtirishga asoslanadi. Natijada talabalar voqelikni chuqur, obrazli va ijodiy tarzda anglash imkoniyatiga ega bo‘ladilar. Integrativ yondashuvning muhim imkoniyatlaridan biri fanlararo bog‘liqlikni ta’minlashdir. Masalan, adabiyot, san’atshunoslik, pedagogika va psixologiya fanlarini o‘zaro uyg‘unlashtirish orqali talabalarda estetik idrok, emotsional sezgirlik va obrazli fikrlash rivojlanadi. Bunday

yondashuv talabalarga badiiy asarlarni nafaqat mazmunan, balki estetik va psixologik jihatdan ham tahlil qilish imkonini beradi.

Yana bir muhim jihat talabalarning ijodiy faoliyatini faollashtirishdir. Integrativ yondashuv asosida tashkil etilgan darslarda talabalar mustaqil ijodiy topshiriqlar bajaradilar, badiiy matnlar yaratadilar, san’at asarlarini tahlil qiladilar hamda turli pedagogik vaziyatlarga kreativ yechimlar taklif etadilar. Bu esa ularning tasavvur doirasini kengaytiradi va badiiy tafakkurini boyitadi. Shuningdek, integrativ yondashuv ta’lim jarayonida obrazli fikrlashni rivojlantirishga xizmat qiladi. Badiiy matnlar, tasviriy san’at asarlari va multimedia vositalaridan foydalanish talabalarda voqelikni ramziy va estetik obrazlar orqali idrok etish ko‘nikmasini shakllantiradi. Bu esa pedagogik faoliyatda muhim ahamiyat kasb etadi. Bundan tashqari, zamonaviy axborot-kommunikatsiya texnologiyalaridan foydalanish integrativ yondashuvning samaradorligini yanada oshiradi. Multimedia resurslari, interaktiv platformalar va raqamli ta’lim vositalari talabalar badiiy tafakkurini vizual va emotsional jihatdan rivojlantirishga yordam beradi.

Integrativ yondashuv badiiy tafakkurni rivojlantirishda bir qator muhim imkoniyatlarni yaratadi. Jumladan:

Fanlararo bog‘liqlikni ta’minlash adabiyot, san’at va pedagogika fanlarini uyg‘unlashtirish orqali talabalarda yaxlit estetik qarash shakllanadi.

Obrazli fikrlashni rivojlantirish badiiy matnlar, san’at asarlari va pedagogik vaziyatlar tahlili orqali talabalarning tasavvur doirasi kengayadi.

Ijodiy faoliyatni faollashtirish mustaqil ijodiy topshiriqlar, loyihalar va muhokamalar badiiy tafakkurni kuchaytiradi.

Estetik madaniyatni shakllantirish san’at va madaniyat elementlarini ta’lim jarayoniga integratsiya qilish orqali estetik did rivojlanadi.

Amaliy metod va vositalar. Badiiy tafakkurni rivojlantirishda integrativ yondashuv doirasida quyidagi metod va vositalardan foydalanish samarali hisoblanadi:

-interfaol metodlar (munozara, “aqliy hujum”, klaster);

-loyiha asosida o‘qitish texnologiyasi;

-badiiy matn va san’at asarlarini tahlil qilish;

-integrativ dars ishlanmalarini yaratish;

-multimedia va raqamli ta’lim resurslaridan foydalanish.

Pedagogika yo‘nalishi talabalarining badiiy tafakkurini rivojlantirishda integrativ yondashuv komponentlari

№	Integrativ yondashuv komponentlari	Mazmuni	Kutiladigan natija
1	Fanlararo integratsiya	Adabiyot, san’at, pedagogika va psixologiya fanlarini o‘zaro bog‘lash	Yaxlit dunyoqarash va estetik idrok shakllanishi
2	Obrazli fikrlashni rivojlantirish	Badiiy matnlar va san’at asarlarini tahlil qilish	Tasavvur va ijodiy fikrlashning rivojlanishi
3	Kreativ topshiriqlar	Mustaqil ijodiy ishlar, esse va loyihalar bajarish	Ijodiy faoliyat va badiiy tafakkurning kuchayishi
4	Interfaol metodlar	Munozara, “aqliy hujum”, klaster texnikasi	Faol fikrlash va tahlil qilish qobiliyatining rivojlanishi
5	Multimedia vositalari	Video, audio, raqamli resurslardan foydalanish	Estetik sezgirlik va vizual tafakkurning rivojlanishi
6	Refleksiya va tahlil	O‘z fikrini ifodalash va baholash	O‘z-o‘zini anglash va tanqidiy fikrlash shakllanishi

Ushbu metodlar talabalarning nafaqat bilim darajasini oshiradi, balki ularning ijodiy fikrlashini, estetik sezgirligini va kasbiy kompetensiyalarini rivojlantiradi.

XULOSA

Pedagogika yo‘nalishi talabalarining badiiy tafakkurini rivojlantirish zamonaviy ta’lim tizimida muhim ilmiy-pedagogik muammolardan biri sifatida

e’tirof etiladi. Chunki bo‘lajak o‘qituvchining kasbiy faoliyati nafaqat bilim berish, balki o‘quvchilarda estetik did, ijodiy yondashuv va obrazli fikrlashni shakllantirish bilan ham bevosita bog‘liqdir. Shu jihatdan, talabalar badiiy tafakkurini rivojlantirish ularning kelajakdagi pedagogik mahoratini belgilovchi asosiy omillardan biri hisoblanadi. O‘tkazilgan nazariy tahlillar shuni ko‘rsatadiki, integrativ yondashuv ta’lim jarayonini fanlararo aloqadorlik asosida tashkil etish orqali talabalarda yaxlit dunyoqarash, ijodiy fikrlash va estetik idrokni shakllantirishga xizmat qiladi. Adabiyot, san’at, pedagogika va psixologiya fanlarining o‘zaro uyg‘unligi talabalar ongida voqelikni chuqur va obrazli idrok etish imkoniyatini kengaytiradi. Bu esa badiiy tafakkurning rivojlanishida muhim metodologik asos bo‘lib xizmat qiladi. Shuningdek, integrativ yondashuv asosida tashkil etilgan ta’lim jarayonida talabalarning faolligi ortadi, ularning mustaqil fikrlashi va ijodiy salohiyati rivojlanadi. Interfaol metodlar, loyiha asosida o‘qitish, kreativ topshiriqlar, multimedia vositalari va san’at asarlarini tahlil qilish kabi pedagogik texnologiyalar badiiy tafakkurni shakllantirishda samarali vosita sifatida namoyon bo‘ladi. Ushbu metodlar talabalarda nafaqat bilim, balki estetik munosabat, emotsional sezgirlik va ijodiy yondashuvni ham rivojlantiradi. Yana shuni ta’kidlash lozimki, integrativ yondashuv talabalarning kasbiy kompetensiyalarini shakllantirishda ham muhim o‘rin tutadi. Bo‘lajak pedagoglar ta’lim jarayonini ijodiy tashkil etish, o‘quvchilarda estetik tarbiyani rivojlantirish va darslarni qiziqarli shaklda olib borish ko‘nikmalariga ega bo‘ladilar. Bu esa zamonaviy ta’lim talablariga javob beradigan, kreativ fikrlovchi pedagog kadrlarni tayyorlash imkonini beradi. Xulosa qilib aytganda, pedagogika yo‘nalishi talabalarining badiiy tafakkurini rivojlantirishda integrativ yondashuvdan samarali foydalanish ularning ijodiy salohiyatini oshiradi, estetik madaniyatini boyitadi hamda kasbiy kompetensiyalarini mustahkamlaydi. Shu bois, ta’lim jarayonida integrativ yondashuvni keng joriy etish bo‘lajak pedagoglarni tayyorlash sifatini oshirishda dolzarb vazifa bo‘lib qolmoqda.

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ЭФФЕКТИВНОЕ ПРЕПОДАВАНИЕ СПЕЦИАЛЬНЫХ ДИСЦИПЛИН В ПРОФЕССИОНАЛЬНОМ ОБРАЗОВАНИИ: ОПЫТ РАЗВИТЫХ СТРАН

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Аннотация. *В данной статье анализируется опыт преподавания специальных дисциплин в профессиональных образовательных организациях ведущих стран мира - Германии, Швейцарии, Финляндии, Японии, Южной Кореи. В статье рассматриваются основные характеристики различных национальных моделей, методов обучения, систем подготовки учителей и баланса между практикой и теорией. В статье анализируются положительные аспекты зарубежного опыта и даются рекомендации по их внедрению в национальную систему профессионального образования. Результаты исследования служат повышению качества эффективного преподавания специальных дисциплин в организациях профессионального образования и подготовке квалифицированных специалистов, отвечающих требованиям рынка.*

Ключевые слова: *Международный стандарт, дуальное образование, STEM, Meister, национальная система образования, профессиональная подготовка, сертификация EBA, цифровые технологии.*

Annotation. *This article analyzes the experience of teaching specialized disciplines in professional educational organizations in the world's leading countries - Germany, Switzerland, Finland, Japan, and South Korea. The article examines the key characteristics of various national models, teaching methods, teacher training systems, and the balance between practice and theory. The article analyzes the positive aspects of foreign experience and provides recommendations for its implementation in the national vocational education system. The research results serve to improve the quality of effective teaching of specialized disciplines in professional education organizations and to train qualified specialists who meet market requirements.*

Key words: *International standard, dual education, STEM, Meister, national education system, vocational training, EBA certification, digital technologies.*

В условиях внедрения современных образовательных технологий в систему профессионального образования широкий поток информации создает необходимость постоянного обновления и совершенствования содержания образования. Актуальными задачами являются последовательная реализация государственной политики в сфере образования, развитие учебно-воспитательного процесса на основе единых государственных образовательных требований в подготовке кадров, обеспечение учебной литературой и непрерывное методическое обслуживание педагогов.

Внедрение международного опыта в процесс преподавания специальных дисциплин является одним из важных направлений адаптации системы образования к передовым мировым стандартам и ее развития.

Использование инновационных инструментов играет важную роль в процессе внедрения международного опыта. В ведущих образовательных учреждениях мира в учебном процессе широко используются интерактивные методы обучения. Например, такие методы, как кейс-метод, симуляция, многоуровневые модели обучения, обучение, основанное на сотрудничестве, показали свою эффективность в международном образовательном опыте. Внедрение международных образовательных стандартов может повысить эффективность учебного процесса. При этом важное значение имеют программы, механизмы оценки и контроля, адаптированные к международному уровню образования, соблюдение высоких стандартов на каждом этапе образовательного процесса. В настоящее время широко используемые в мире модели дистанционного и смешанного обучения, т.е. blended learning, позволяют студентам непрерывно и быстро усваивать знания. Такие подходы позволяют обогатить образовательный процесс инновационными технологиями. Например, через такие платформы, как

Coursera и EdX, можно дистанционно получать доступ к курсам международного уровня и повышать квалификацию.

Научные основы преподавания специальных дисциплин основаны на глубоком анализе системных, теоретических и практических аспектов образовательного процесса. Научные исследования, прежде всего, направлены на гармонизацию теоретических знаний в образовании с практическими занятиями и их закрепление. В этом процессе для эффективной организации образовательного процесса используются различные педагогические технологии. Обучение специальным дисциплинам, в основном, предусматривает развитие профессиональных знаний и умений учащихся в соответствии с требованиями специальности. В преподавании таких предметов большое значение имеет закрепление теоретических знаний не только в процессе урока, но и посредством практических занятий, обеспеченных научными основами. Путем тесной связи теоретической и практической частей учащиеся приобретают всесторонние знания, отвечающие требованиям специальности.

Важной задачей является подготовка учащихся к требованиям международного рынка труда путем внедрения международного опыта в национальную систему образования. Инновационные образовательные средства и своеобразные модели обучения, используемые в разных странах мира, позволяют ознакомить будущих специалистов с международным опытом и внедрить их в практику. Это, в свою очередь, способствует конкурентоспособности молодых специалистов на международном рынке труда. Кадры, подготовленные по каждому направлению профессионального образования на основе международных стандартов, успешно работают не только в национальных производственных процессах, но и на зарубежных предприятиях.

Путем внедрения международных стандартов в образовательный процесс возможно дальнейшее совершенствование механизмов оценки профессиональной подготовки студентов. Это служит обеспечению прозрачности, справедливости и объективности процесса оценки и гарантирует соответствие квалификации студентов требованиям международного рынка труда. Например, система ECTS (European Credit Transfer and Accumulation System), используемая в европейских странах, является одним из эффективных подходов к оценке знаний учащихся в соответствии с международными стандартами. Эта система будет внедрена в национальные системы образования, что позволит международно признать и оценить профессиональные компетенции студентов.

В мире передовой международный опыт преподавания специальных дисциплин часто служит для повышения эффективности учебного процесса и обеспечения того, чтобы специалисты имели самый высокий уровень квалификации и знаний. Такие эксперименты проводятся в разных странах в разных областях и через различные науки. Ниже мы рассмотрим передовой опыт некоторых международных стран:

Южнокорейский подход к профессиональному образованию стратегически адаптирован к требованиям Четвертой промышленной революции и инвестируется в профессиональное образование. Акцент делается на развитии навыков, отвечающих технологическим требованиям современных отраслей, и учащиеся становятся готовыми к будущим вызовам. Благодаря корейской национальной системе квалификаций миллионы кандидатов получили дипломы, что позволило многим развивать навыки и получать доступ к карьерным возможностям. В профессиональных образовательных учреждениях основное место занимает проектное обучение (Project-based learning). Студенты проходят аттестацию не путем теоретического экзамена по специальным дисциплинам, а путем создания

конкретного технического устройства или программного продукта. Проведение практики в преподавании дисциплин по передовым технологиям и инновациям в Южной Корее посредством независимых контактов между учебными заведениями и малыми и крупными компаниями производственной сферы [1].

Цель образовательного процесса в Японии ясна и известна. Для повышения квалификации специалистов в конкретной области предлагаются курсы и тренинги по конкретным направлениям. Это особенно популярно в области IT, биотехнологий и инженерии [2].

В Финляндии учащиеся, окончившие среднюю школу, выбирают общеобразовательное или профессиональное направление, около половины из них предпочитают профессиональный путь. В программах профессионального образования учащиеся изучают предметы в своей специализированной области, и примерно 80 процентов учебного времени охватывает выбранную учащимся специализацию, в то время как оставшиеся 20 процентов посвящены общеобразовательным предметам. Профессиональное образование в Финляндии отличается тем, что оно опирается на компетентностный подход: студенты оцениваются путем выполнения реальных рабочих заданий, где каждый модуль оценивается преподавателем и представителем рабочего места совместно, при этом национального итогового экзамена не существует. Чтобы стать преподавателем профессиональных дисциплин, обычно необходимо соответствовать трем требованиям: уровень высшего образования в соответствующей области, практический опыт работы и педагогическая подготовка. Преподаватели профессионального образования должны иметь опыт работы в своей области не менее 3 лет. На практике многие преподаватели профессионального образования - это опытные специалисты, которые работали в промышленности в среднем до 40 лет, а затем перешли к

преподаванию. Отличительной особенностью преподавания специальных дисциплин в Финляндии является многодисциплинарный подход. Например, в области автомобильного ремонта учащиеся одновременно изучают техническую физику, цифровую диагностику и навыки общения с клиентами [3].

Германия является одной из ведущих стран мира в области профессионального образования. Опыт Германии признан самой популярной и эффективной системой ВЭС в мире. Система дуального обучения сочетает практику в компании и теоретическое обучение в профессиональной школе. В Германии учащиеся могут выбрать одно из более чем 250 профессиональных направлений. В Германии ремесла и технические профессии предоставляют возможности для достижения высокого социального статуса. В учреждениях профессионального образования преподаватели, как правило, должны иметь соответствующий уровень высшего образования, практический опыт и педагогический диплом. Преподаватели мастерских должны иметь сертификат "Мейстер" (мастер) и информацию о завершении педагогической подготовки. Внутрифирменные тренеры (Ausbilder) должны иметь соответствующую профессиональную квалификацию и подтвержденный сертификат тренера. В профессиональных школах время, отведенное на общие предметы (математика, немецкий язык) и специальные предметы, составляет в среднем 15 - 25%, остальное время проводится в компании [4].

Примечательно, что дуальную систему Германии невозможно точно копировать в другие страны. Потому что эта система глубоко укоренилась в экономической структуре, правовой основе и социально-культурной среде страны. Тем не менее, его основные принципы - гармония теории и практики, активное вовлечение работодателей в образовательный процесс - имеют универсальное значение.

Швейцарская система профессионального образования признана многими международными экспертами самой сильной системой в Европе. Это основная программа на уровне старшей средней школы, охватывающая 65-70% швейцарской молодежи. В Швейцарии преподаватели профессиональных школ проходят специальную педагогику в Швейцарском федеральном университете профессионального образования. Учителя общеобразовательных предметов добавляют модуль профессионального образования к квалификации академической школы. По месту работы тренеры должны иметь сертификат EFZ или EBA и соответствующий опыт работы не менее 2 лет. Для преподавателей школы профессионального образования обязательно регулярное повышение квалификации. Учебные программы полностью разрабатываются ассоциациями работодателей. Это гарантирует 100% соответствие дисциплин рынку труда [5].

В Узбекистане последовательно и интенсивно осуществляется процесс модернизации системы профессионального образования. В частности, в рамках широкомасштабных реформ, проводимых с 2017 года, принят ряд важных нормативно-правовых актов, направленных на укрепление материально-технической базы учреждений профессионального образования, совершенствование учебных планов и программ на основе современных требований, повышение квалификации педагогических кадров. Анализ зарубежного опыта показывает, что для обеспечения эффективности этих реформ необходимо уделить особое внимание некоторым приоритетным направлениям.

1. Переход к системе обучения и оценки, основанной на компетенциях. Исходя из опыта Финляндии и Швеции, необходимо перевести оценку по специальным дисциплинам на систему, включающую не только теоретические знания, но и демонстрацию практических навыков.

2. Формирование механизмов системного сотрудничества с промышленностью. Необходимо официально вовлекать ассоциации работодателей в процесс разработки и обновления учебных программ, создавать механизмы оказания ими технологической помощи учебным заведениям.

3. Широкое внедрение цифровых технологий и методов симуляции в учебный процесс. Опыт Южной Кореи и развитых европейских стран показывает, что виртуальные симуляторы, 3D-моделирование и цифровые инструменты значительно повышают эффективность преподавания специальных дисциплин.

4. Поэтапное внедрение модели двустороннего образования. Вместо того, чтобы копировать полную копию немецкой дуальной системы, целесообразно адаптировать ее основные принципы - сотрудничество предприятия и учебного заведения - к условиям Узбекистана. В первую очередь рекомендуется разработать пилотные проекты в области медицины, машиностроения и IT.

5. Пересмотр системы подготовки учителей. Для работы в качестве преподавателя профессионального образования необходимо сочетание отраслевого опыта и педагогической квалификации. Требование не менее двух лет отраслевого опыта работы, установленное стандартами АСЕАН, может служить стандартом и для Узбекистана.

Внедрение международного опыта в процесс преподавания специальных дисциплин является важным фактором повышения качества образования, приведения его в соответствие с международными стандартами и поднятия уровня профессиональной подготовки студентов на более высокий уровень. Благодаря внедрению международного опыта учебный процесс обогащается современными технологиями, широко применяются интерактивные и инновационные методы. Это позволяет органично связать теоретические

знания и практические навыки, а также расширяет возможности подготовки молодых специалистов как конкурентоспособных кадров, отвечающих требованиям глобального рынка труда.

Анализ зарубежного опыта показывает, что единой универсальной модели построения эффективной системы преподавания специальных дисциплин в организациях профессионального образования не существует. Каждая страна разработала подход, соответствующий ее экономическим, социальным и культурным условиям. В то же время существуют общие принципы, объединяющие все успешные модели - гармония теории и практики, промышленное сотрудничество, высокая квалификация преподавателей и модульная гибкая программная структура.

Совершенствование системы профессионального образования - это долгосрочный и последовательный процесс. Сотрудничество между государством, образовательными учреждениями, работодателями и академическим сообществом имеет решающее значение для успеха этого процесса.

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PSIXOLOGIK TADQIQOTLARDA MAS'ULIYAT FENOMENINI O'RGANISHNING MOHIYATI

Buxoro xalqaro universiteti

Psixologiya(faoliyat turlari bo'yicha) mutaxasissligi

2-kurs magistranti

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Annotatsiya: *Ushbu maqolada psixologiya fanining fundamental va amaliy yo'nalishlarida mas'uliyat fenomenini o'rganishning nazariy-uslubiy asoslari va uning shaxs shakllanishidagi mohiyati yoritilgan. Tadqiqotda mas'uliyat tushunchasining turli psixologik maktablar (biogeviorizm, kognitiv psixologiya, gumanistik yondashuv) doirasidagi talqinlari qiyosiy tahlil qilinadi. Maqolada mas'uliyat shaxsning irodaviy sifati, motivatsion komponenti va ijtimoiy moslashuvining muhim omili sifatida tadqiq etilgan. Shuningdek, shaxsning o'z xulq-atvori va hayotiy tanlovlari uchun javobgarlikni anglash darajasi — lokus nazorati bilan bog'liqligi ilmiy asoslab berilgan. Maqolaning yakunida mas'uliyat fenomenini o'rganishning zamonaviy psixologik diagnostika va korreksiya ishlaridagi ahamiyati haqida xulosalar keltirilgan.*

Аннотация: *В данной статье рассматриваются теоретико-методологические основы изучения феномена ответственности в фундаментальных и прикладных направлениях психологической науки, а также его сущность в формировании личности. В исследовании проводится сравнительный анализ интерпретаций понятия ответственности в рамках различных психологических школ (бихевиоризм, когнитивная психология, гуманистический подход). Ответственность исследуется как волевое качество личности, мотивационный компонент и важный фактор социальной адаптации. Научно обоснована связь между уровнем осознания ответственности за свое поведение и жизненный выбор с локусом контроля личности. В завершении статьи представлены выводы о значимости изучения феномена ответственности в современной психологической диагностике и коррекционной работе.*

Abstract: *This article examines the theoretical and methodological foundations of studying the phenomenon of responsibility in the fundamental and applied fields of psychological science,*

as well as its essence in the formation of personality. The study provides a comparative analysis of the interpretations of the concept of responsibility within various psychological schools (behaviorism, cognitive psychology, humanistic approach). Responsibility is explored as a volitional quality of a person, a motivational component, and an important factor in social adaptation. The connection between the level of awareness of responsibility for one's behavior and life choices with the ***locus of control*** *of the individual is scientifically substantiated. At the end of the article, conclusions are drawn on the significance of studying the phenomenon of responsibility in modern psychological diagnostics and correctional work.*

Kalit so‘zlar: *mas’uliyat fenomeni, shaxs psixologiyasi, lokus nazorati, ijtimoiy javobgarlik, irodaviy sifatlar, subyektiv reallik, determinizm, ekzistensial psixologiya.*

Ключевые слова: *феномен ответственности, психология личности, локус контроля, социальная ответственность, волевые качества, субъективная реальность, детерминизм, экзистенциальная психология.*

Keywords: *phenomenon of responsibility, personality psychology, locus of control, social responsibility, volitional qualities, subjective reality, determinism, existential psychology.*

KIRISH

Zamonaviy psixologiya fanining eng murakkab va fundamental muammolaridan biri — bu shaxsning ijtimoiy muhitda o‘zini anglash va o‘z faoliyati natijalari uchun javobgarlikni o‘z zimmasiga olish xususiyatidir. Globallashuv va ijtimoiy-iqtisodiy munosabatlarning shiddatli o‘zgarishi sharoitida shaxsning mas’uliyati nafaqat axloqiy kategoriya, balki professional yetuklik va ruhiy barqarorlikning asosiy mezoni sifatida namoyon bo‘lmoqda. Ayniqsa, bo‘lajak mutaxassislar shakllanayotgan oliy ta’lim bosqichida mas’uliyat fenomenini o‘rganish, jamiyat uchun raqobatbardosh va ishonchli kadrlarni tayyorlashning strategik muhim bo‘g‘ini hisoblanadi. Muammoning mohiyati. Psixologik nuqtayi nazardan mas’uliyat — bu shaxsning o‘z xatti-harakatlarini ijtimoiy normalar va ichki qadriyatlar asosida ixtiyoriy tartibga solish qobiliyatidir. U shaxs strukturasida kognitiv (anglash), emotsional (hissiy munosabat) va irodaviy (amaliy bajarish) komponentlarning sintezidan iborat. Biroq, ko‘plab tadqiqotlar shuni ko‘rsatadiki, talaba-yoshlarda mas’uliyat ko‘pincha tashqi nazorat (eksternallik) shaklida

namoyon bo‘lib, bu ularning mustaqil qaror qabul qilish va kasbiy qiyinchiliklarga bardosh berish qobiliyatini cheklaydi. Shu sababli, mas’uliyatni shaxsning subyektiv xususiyati sifatida tadqiq etish bugungi kun psixologiyasi oldidagi dolzarb ilmiy muammodir.

Mazkur maqolaning asosiy maqsadi psixologik tadqiqotlarda mas’uliyat fenomenini o‘rganishning nazariy-metodologik asoslarini tahlil qilish hamda talabalarda kasbiy mas’uliyatni shakllantiruvchi psixologik shart-sharoitlarni aniqlashdan iborat. Ushbu maqsadga erishish uchun quyidagi vazifalar belgilandi: Mas’uliyat tushunchasiga oid klassik va zamonaviy psixologik yondashuvlarni qiyosiy tahlil qilish;

ADABIYOTLARDA YORITILISHI. Shaxsning mas’uliyat darajasini belgilovchi ichki (lokus-nazorat, motivatsiya) va tashqi (ijtimoiy talablar, ta’lim muhiti) omillarni ochib berish; Mas’uliyat tushunchasi insonning atrof – muhit talablariga faol javob berish harakati bilan xarakterlanib, hozirga qadar ushbu masala qator fanlar psixologiya, sotsiologiya, pedagogika hamda falsafa kabi fanlar tizimida dolzarb muammosi sifatida o‘rganib kelinmoqda. Biroq, barcha fanlarda mas’uliyat fenomenini tushuntiruvchi yagona konsepsiyalar yoki yondashuvlar mavjud emas. Psixologik mazmunga ko‘ra, mas’uliyat fenomeni – javobgarlik, hisob berish kabi ma’nolarni anglatib, unda shaxs imkoniyatini belgilovchi ko‘plab psixologik xususiyatlar o‘z aksini topgan. Shu bilan birga, mazkur xususiyat mazmunida majburiy yechim va javoblarni talab etuvchi, insonning maxsus qobiliyatlari va istaklari tizimi ham mavjud. S.V.Bessmertnaya “mas’uliyat” fenomenini tahlil etar ekan, boshqalardan farqli o‘laroq, uni shaxsning xarakterologik ko‘rsatkichlari sifatida, individual-psixologik xususiyatlarning mahsuli sifatida, kognitiv jarayonlarning mahsuli sifatida, shuningdek, shaxsga xos faollik, tashkilotchilik vazifalarni bajarishga tayyorlik kabi mazmunda ko‘rib chiqishni alohida ta’kidlaydi. Demak, mas’uliyatlilik bir necha psixologik tarkibli psixologik unsur hisoblanadi. Tadqiqotchilardan V.P.Pryadein ham “mas’uliyat”

tushunchasi mazmunini ilmiy asoslash ishlariga alohida e’tibor qaratib, uni namoyon bo‘lishining o‘ziga xosliklarini tadqiq etishga harakat qiladi. Muallifning talqinicha, mas’uliyatlilik xususiyati ongli harakat sanalib, shaxsiy, jamoaviy, kasbiy faoliyat jarayonida rivojlana boradi. Mas’uliyatlilikning refleksivlik jihati ham mavjud bo‘lib, bunday qarashlar K.Muzdibayevning izlanishlarida o‘z aksini topgan. Muallifning talqinicha, mas’uliyatlilik bu – refleksiv sharoitlarda namoyon bo‘ladigan yoki bajarilgan harakatlar uchun javobgarlik sifati hisoblanib, unda shaxs o‘z kelajagiga bo‘lgan munosabatini namoyon etadi. Psixologik adabiyotlarni tahlil qilar ekanmiz, “mas’uliyat” tushunchasining to‘liq, aniq konsepsiyalari mavjud emas. Uning to‘liq talqini Yangi psixologik g‘oyalarga muhtoj sanaladi.

Mas’uliyat tushunchasini ilmiy jihatdan asoslash, uni shaxsga xos qadriyatlar yo‘nalishi hamda irodaviy sifatlar orqali tushuntirish holati gumanistik psixologiya va ekzistensial psixologiya ta’limotlarida ham o‘z aksini topgan. Ushbu ikki ta’limotga muvofiq “mas’uliyatlilik” insonda qadriyatlarning to‘g‘ri yo‘nalganligi hamda erkinlik, mustaqil qaror qabul qilish ko‘nikmalari, topshiriqlarni o‘z zimmasiga olish qobiliyati kabilar orqali namoyon bo‘ladi. Bundan farqli o‘laroq, psixodinamik ta’limot vakillariga ko‘ra, insonda mas’uliyat hissining namoyon bo‘lishi va rivojlanishi ijtimoiy qo‘rquv va jamiyatdagi bosim orqali paydo bo‘ladi. Jamiyatdagi ijtimoiy bosim bu – inson tomonidan jamiyatda qabul qilingan qonun va qoidalarga to‘liq rioya qilish jarayonidir. Psixoanaliz ta’limotining asoschisi Z.Freydning aytishicha, mas’uliyat fenomeni ibtidoiy xarakterga ega bo‘lib, u qadimgi odamlar va jamoalarning jazolardan saqlanishga qaratilgan harakatlari majuidir. Biroq, inson olomon ichida mas’uliyatlilikni yo‘qotadi. Ya’ni turli ijtimoiy to‘siqlar insondagi ushbu sifatlar rivojlanishini to‘sib qo‘yadi. Demak, mas’uliyat fenomeni guruh qoidalariga amal qilish, boshqalar bilan o‘z maqsadlarini birlashtirish kabi ma’nolar bilan ham tavsiflanadi. Neofreydizm ta’limotida ham mas’uliyat tushunchasining o‘ziga xos talqini mavjud. Ushbu ta’limotning yetakchilaridan biri G.S.Sallivanning talqinicha, mas’uliyatlilik shakllanishini

ijtimoiy qo‘rquv sifatida emas, balki ataylab tanlangan yoki rad etilishi mumkin bo‘lgan o‘ziga xos harakat sifatida ko‘rib chiqish lozim. G.S.Sallivandan farqli o‘laroq, K.Xornining so‘zlariga ko‘ra, mas’uliyat bu subyektning shaxsiy o‘sishi uchun shart sanalgan psixologik zaruratdir. Faqat nevrozlar insonni mas’uliyatlilikdan va rivojlanishdan to‘xtatadi. Muallifning xulosalariga ko‘ra, inson biror bir faoliyatda mas’uliyatli bo‘lishi uchun avvalo, nevrotik vaziyatlar va nevrozlardan holi bo‘lishi lozim.

K.Xorni g‘oyalarini davom ettirgan neofreydizmning Yana bir taniqli vakili E.From birinchilardan bo‘lib, mas’uliyatlilikni erkinlik xususiyati bilan bog‘lab tushuntirdi. E.Fromning ta’kidicha, mas’uliyatlilik insonda bolalikdan boshlanadi, keyinchalik u ijtimoiy xarakterga ega bo‘lib boradi. Bunda inson faoliyati uchun xos bo‘lgan mustaqillik, tanlov erkinligi, javobgarlik kabi sifatlar asosiy omildir. E.From erkinlikning ikki turini ajratadi: kutilayotgan va haqiqiy erkinlik. Mana shu ikki tarkib orqali inson o‘z-o‘zini anglaydi, rejalar tuzadi, natijalarni oldindan ko‘ra oladi hamda tanlash erkinligiga ega bo‘ladi. Umuman olganda, mas’uliyat muammosini bunday tushunish ko‘proq gumanistik hamda ekzistensial yo‘nalishdagi psixoterapivtik g‘oyalarda o‘z aksini topgan.

J.Piajening so‘zlariga ko‘ra, bolalarda shakllanayotgan mas’uliyatlilik sifatlarining ikki muhim jihati ya’ni, obyektiv va subyektiv jihatlari mavjud. Bolalar o‘yin paytida yoki boshqa vaziyatda o‘z qahramonlari faoliyatini baholashga harakat qilishadi. Shuningdek, ular vaziyatlarni baholashda xolisona harakat qilishadi. Ya’ni, axloqiy me’yorlarga ko‘nikma orttirib boradilar. Keyinchalik, J.V.Piajening g‘oyalarini uning shogirdi L.Kolberg davom ettirdi. L.Kolberg mas’uliyat sifatini tadqiq qilar ekan, avvalo uning dinamik rivojlanish xarakteriga ko‘proq e’tibor qaratdi. Muallif muammoni hal qilishda keng qamrovli tadqiqot olib borib, obyekt sifatida o‘quvchilar, kollej o‘quvchilari va universitet talabalar guruhini tanlab oldi. Va oxir-oqibat mas’uliyatlilik sifatining shakllanishi shaxsning axloqiy ulg‘ayishi

bilan bog‘liqligini aniqladi. Va shaxsda mas’uliyatlilik rivojlanishini ta’minlovchi axloqiy rivojlanishning besh bosqichini ajratib o‘tadi:

Obyektiv bosqich – bu o‘z harakatlari natijasi asosida, mas’uliyatlilikni anglash bosqichi;

Subyektiv bosqich – bu nafaqat natijani, harakatlarning motivlarini baholash bosqichi. Ya’ni, ushbu bosqichda mas’uliyatlilik ijtimoiy majburiyat sifatida qabul qilinadi;

Axloqiy kamolot bosqichi – bu bosqichda mas’uliyatlilik sifati to‘liq jamiyatda qabul qilingan axloq qoidalari bilan tartiblanadi. Axloqiy yetuklik bosqichida shaxsning huquq va erkinliklari birinchi o‘ringa chiqadi, shuningdek, bu jarayonda inson va uning hayot mazmuni alohida ahamiyatga ega sanaladi.

Prognostik (bashorat qilish) bosqich – oldindan biror vazifalar, topshiriqlarni bilish bochqichi. Buning uchun shaxsda mavjud bo‘lgan tajribalar, kompetensiyalar va yuqori kasbiy malakalar muhim sanaladi.

Rag‘batlantiruvchi bosqich – intellektual va axloqiy rivojlanish mas’uliyatlilikni rag‘batlantiruvchi psixologik omillar hisoblanadi. Mazkur tasnif etilgan mulohazalardan ko‘rinadiki, mas’uliyat fenomeni dinamik xususiyatga ega bo‘lgan va axloqiy rivojlanish bilan takomillashib boradigan psixologik jarayondir. L.Kolbergdan farqli o‘laroq, tadqiqotchi K.Xelkamaning aytishicha, mas’uliyatlilik tan olingan besh bosqichda emas, uning oxirgi ikki bosqichida namoyon bo‘ladi. Ya’ni ushbu ikki bosqichda mas’uliyatlilikni ta’minlovchi kognitiv va intellektual kamolot yakunlanadi.

Muallifning nazaricha, “mas’uliyatlilik” insonning xatti-harakatlarini tartibga soluvchi hamda ularni ongli harakatlarga almashinuvini ta’minlovchi ko‘prikdir.

Xorij psixologiyasida mas’uliyat fenomenini psixologik jihatdan asoslashga xizmat qiluvchi ko‘plab tadqiqotlar mavjud. Shulardan, A.Banduraning ijtimoiy ta’lim nazariyasi o‘ziga xos tadqiqot sanaladi. Muallifning aytishicha, shaxsda mas’uliyatlilikning namoyon bo‘lishi tashqi vaziyatlar natijasi hamda sabablarga

bog‘liq sanaladi. Ya’ni, mas’uliyatni anglash muvaffaqiyatsizlikni tushunishdan boshlanadi. Muvaffaqiyatsizlik o‘z harakatlarini tartibga solish, o‘z-o‘zini boshqarish, ichki nazoratning ortishi, keyingi vaziyatlarga tayyor turish kabilarga javob beruvchi psixologik jarayondir. Shu orqali shaxsning tashqi muhit talablariga bo‘lgan munosabatlari baholanadi.

XULOSA

Xulosa o’rnida shuni ayta olamizki, psixologik tadqiqotlarda mas’uliyat fenomenini o‘rganish shuni ko‘rsatadiki, ushbu tushuncha shaxs strukturasining nafaqat axloqiy, balki fundamental-psixologik asosi hisoblanadi. Tadqiqot doirasida amalga oshirilgan nazariy tahlil va amaliy kuzatishlar quyidagi ilmiy umumlashmalarga kelish imkonini berdi: Mas’uliyat shunchaki ijtimoiy majburiyat emas, balki shaxsning kognitiv (anglash), affektiv (hissiy daxldorlik) va konativ (irodaviy-bajaruvchanlik) sohalarining sintezidir. Uning mohiyati shaxsning o‘z faoliyati natijalarini oldindan prognoz qila olishi va ushbu natijalar uchun javobgarlikni subyektiv ravishda o‘z zimmasiga olishida namoyon bo‘ladi. Zamonaviy yondashuvlar doirasida mas’uliyat fenomenining mohiyati shaxsning subyektivlik (agency) xususiyati bilan belgilanadi. Talaba o‘zini ta’lim jarayonining passiv obyekti emas, balki kelajakdagi professional faoliyatining faol ijrochisi deb hisoblagandagina, unda tashqi nazoratdan (eksternallik) ichki nazoratga (internallik) o‘tish sodir bo‘ladi. Bo‘lajak mutaxassislarda mas’uliyat fenomenini o‘rganish shuni ko‘rsatdiki, ushbu sifat professional o‘zlikni anglash (identifikatsiya) jarayoni bilan parallel ravishda rivojlanadi. Talaba o‘zini tanlagan kasbi bilan qanchalik kuchli identifikatsiya qilsa, unda kasbiy etika va mas’uliyat koeffitsiyenti shunchalik yuqori bo‘ladi. Mas’uliyatni shakllantirishning asosiy psixologik mexanizmlari sifatida refleksiya va lokus-nazorat aniqlandi. Refleksiya talabaga o‘z tajribasini qayta ishlash va xatolardan xulosa chiqarish imkonini bersa, internal lokus-nazorat muvaffaqiyatlar uchun shaxsiy hissa darajasini oshiradi.

FOYDALANILGAN ADABIYOTLAR:

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THE ROLE OF TEACHER BEHAVIOUR IN CREATING BASIC MOTIVATIONAL CONDITIONS IN FOREIGN LANGUAGE CLASSROOMS

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Abstract. *This article examines the role of teacher behaviour in creating basic motivational conditions in foreign language classrooms. Using theoretical and qualitative analysis, it discusses teacher enthusiasm, commitment to learners' progress, positive expectations, respectful relationships, and individual attention as key sources of motivation. The findings show that motivation depends not only on separate techniques, but also on the teacher's pedagogical personality, classroom climate, and trust-based interaction with students.*

Keywords: *motivation, teacher behaviour, classroom climate, foreign language teaching, learner engagement, teacher expectations, supportive learning environment*

INTRODUCTION

Motivation is one of the most important psychological factors in foreign language learning because successful language development requires continuous practice, readiness to make mistakes, and long-term personal effort. Learners may enter the classroom with different levels of interest and confidence, but the teacher and the classroom environment can either strengthen or weaken these qualities. For this reason, motivational strategies are widely discussed in language pedagogy. However, such strategies cannot work effectively in a motivational vacuum. Before teachers use specific techniques to raise learners' interest, they need to establish basic conditions that make motivation possible.

In foreign language classrooms, these basic conditions are especially important because learners often experience fear of speaking, uncertainty about their

ability, and anxiety about negative evaluation. A supportive teacher can reduce these barriers and help students participate more actively. The present article focuses on the role of teacher behaviour in creating such motivational conditions. It argues that teacher enthusiasm, commitment to learners' progress, positive expectations, respectful communication, and individual attention are not secondary aspects of teaching, but central factors that shape students' willingness to learn.

METHODS

This article is based on theoretical and qualitative analysis of pedagogical ideas related to motivation in foreign language education. The analysis draws on established scholarship on motivational strategies, teacher-student relationships, classroom climate, and learner engagement. The material was examined through thematic categorization, with special attention to five recurring areas: teacher enthusiasm, commitment to students' academic development, positive expectations, personal relationship, and listening culture.

The study does not report experimental data; rather, it synthesizes relevant theoretical perspectives and classroom-based pedagogical observations in order to explain how teacher behaviour contributes to the formation of basic motivational conditions. This design is appropriate because the article aims to clarify a pedagogical process and organize it into a coherent academic discussion rather than measure a single variable statistically.

RESULTS

The analysis shows that three conditions are necessary before motivational strategies can become effective: appropriate teacher behaviour, a pleasant and supportive classroom atmosphere, and a cohesive learner group with positive norms. These conditions are closely connected. A classroom cannot become genuinely supportive if students do not trust the teacher, and group cohesion is difficult to build

when the teacher's behaviour is distant, inconsistent, or indifferent. Thus, teacher behaviour functions as the starting point for the wider motivational climate.

The first major result concerns teacher enthusiasm. When a teacher demonstrates sincere interest in the subject, students are more likely to see learning as meaningful. Enthusiasm does not mean artificial excitement or exaggerated performance. It means that the teacher's attitude shows genuine commitment to the language, the lesson, and the learners. Such behaviour can make the subject more attractive and can encourage students to invest more attention and effort in classroom tasks.

The second important finding is the value of commitment to students' progress. Learners notice whether a teacher is truly concerned about their development. Practical actions such as explaining difficult points patiently, checking assignments responsibly, giving constructive feedback, and helping students when they struggle communicate that their learning matters. This creates a sense of academic security and increases students' willingness to continue working even when language learning becomes difficult.

A further result relates to teacher expectations. Positive expectations can influence students' self-perception and achievement. When teachers believe that learners are capable of progress, this belief is often reflected in the way they ask questions, provide feedback, and respond to mistakes. In contrast, low expectations may reduce learners' confidence and participation. Therefore, expectation is not only an internal belief; it becomes visible through classroom behaviour and can affect the learning process.

The analysis also indicates that a respectful personal relationship between teacher and learner is a key motivational condition. Students are more likely to engage when they feel accepted and valued as individuals. Remembering students' names, listening to their concerns, noticing their interests, and responding to them

with respect can have a strong motivational effect. These actions are simple, but they create a classroom culture in which learners feel seen rather than judged.

DISCUSSION

The findings suggest that motivation should not be understood only as the result of games, rewards, or interesting tasks. These techniques may be useful, but they are unlikely to produce lasting motivation if the deeper classroom conditions are weak. In this sense, teacher behaviour is not merely a background factor. It is a form of pedagogical influence that shapes how students interpret the learning environment and their own ability to succeed.

This issue is particularly relevant in foreign language education. Speaking a foreign language often exposes students to mistakes, hesitation, and possible embarrassment. If the teacher responds harshly or shows indifference, learners may protect themselves by remaining silent. Conversely, when the teacher creates an emotionally safe environment, students become more willing to take risks, ask questions, and use the target language. Thus, the teacher's behaviour can transform anxiety into manageable effort rather than avoidance.

The role of expectations is also significant. Rosenthal and Jacobson's discussion of teacher expectations shows that learners may be influenced by what teachers believe about their potential. In language classrooms, positive expectations should be realistic and supportive rather than pressuring. Teachers need to communicate that progress is possible while also recognizing students' individual pace and difficulties. This balance helps learners develop confidence and persistence.

Finally, the findings highlight the social nature of motivation. A teacher influences not only individual learners but also the culture of the whole group. When respect, cooperation, active listening, and encouragement become classroom norms, motivation becomes more stable. Therefore, motivational teaching begins with the

teacher's personal and professional stance and then extends to classroom interaction, group behaviour, and learner identity.

CONCLUSION

In conclusion, teacher behaviour plays a decisive role in creating basic motivational conditions in foreign language classrooms. Motivation is not built only through isolated techniques; it develops through the teacher's enthusiasm, commitment to students' progress, positive expectations, respectful relationships, and individual attention. A teacher who creates trust and emotional safety helps learners participate more actively and maintain interest in language learning. Therefore, any attempt to improve motivation in foreign language education should begin with the teacher's own pedagogical behaviour and the quality of teacher-student interaction. Lasting motivation begins not simply with method, but with relationship.

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BO'LAJAK PEDAGOG KASBIY IDENTIKLIGI: DEONTOLOGIYA VA INTEGRATSIYA KESIMIDA

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Annotatsiya: *Ushbu maqolada bo'lajak pedagoglarning kasbiy identikligini shakllantirishning nazariy va amaliy asoslari tadqiq etiladi. Tadqiqot markazida pedagogik deontologiya tamoyillari va ta'lim jarayonidagi integratsiyalashgan yondashuvning o'zaro aloqadorligi turadi. . Maqolada olimlarning deontologik qarashlariga tayanib, pedagogik burch va mas'uliyatning zamonaviy ta'limdagi ahamiyati yoritib berilgan va pedagogik identitetning shakllanishi bo'lajak pedagogning kasbiy mahorati hamda axloqiy qiyofasini belgilovchi asosiy omil ekanligi asoslangan. Tadqiqotda ushbu ikki tushunchaning o'zaro aloqadorligi va ularning pedagog shaxsi shakllanishiga ta'siri ilmiy-nazariy jihatdan yoritilgan.*

Kalit so'zlar: *Kasbiy identiklik, pedagogik deontologiya, integratsiya, kasbiy burch, pedagogik mahorat, refleksiv yondashuv.*

Abstract: *This article explores the theoretical and practical foundations of forming the professional identity of future educators. The research focuses on the interconnection between the principles of pedagogical deontology and an integrated approach in the educational process. Drawing on the deontological views of scholars, the article highlights the significance of pedagogical duty and responsibility in modern education. It substantiates that the formation of pedagogical identity is a key factor defining the professional mastery and ethical character of a future teacher. The study provides a scientific and theoretical explanation of the relationship between these two concepts and their impact on the development of the educator's personality.*

Keywords: *professional identity, pedagogical deontology, integration, professional duty, pedagogical mastery, reflexive approach.*

KIRISH

Bugungi globallashuv va raqamli transformatsiya davrida pedagogik ta’lim oldida turgan eng muhim vazifalardan biri, nafaqat bilimli mutaxassis, balki mustahkam **kasbiy identiklikka** ega bo‘lgan shaxsni tarbiyalashdir. **Kasbiy identiklik muammosi** - bu insonning o‘zini muayyan kasbiy hamjamiyatning a’zosi sifatida his qilishi, o‘z kasbiy rollari, qadriyatlari va imkoniyatlarini anglash jarayonidir. Oddiyroq aytganda, bu "Men professional sifatida kimman?" degan savolga javob topishdir.

Bugungi kunda bu mavzuning dolzarbligi bir necha fundamental sabablar bilan bog'liqligi ko’rishimiz mumkin:

1. Texnologik o'zgarishlar va "Yo'qolayotgan kasblar"- Raqamlashtirish va sun'iy intellektning rivojlanishi ko'plab an'anaviy kasblarni transformatsiya qilmoqda yoki butunlay yo'q qilib yubormoqda. Inson yillar davomida shakllantirgan kasbiy "Men"i texnologiya tufayli keraksiz bo'lib qolsa, u chuqur ruhiy inqirozga uchraydi. Kasbiy identiklik endi statik (bir umrlik) emas, balki dinamik (o'zgaruvchan) bo'lishi shart.

2. "Life-long learning" (Umrbod ta'lim) zarurati- Hozirgi zamonda inson hayoti davomida 3-4 marta kasbini o'zgartirishi normal holatga aylandi. Har gal yangi sohani o'rganishda inson o'zini "yangi tug’ilgan" sifatida his qiladi. Bu esa o'ziga bo'lgan ishonchning pasayishiga olib keladi. Mutaxassis o'zining asosiy ko'nikmalarini (soft skills) saqlab qolgan holda, yangi rollarga moslashishda qiynalmoqda.

3. Kasbiy "Yonish" (Burnout) sindromi-Inson o'zini faqat "ishchi kuch" deb bilsa va kasbi uning shaxsiy qadriyatlariga mos kelmasa, tezda charchaydi.Ko'pchilik pul topish uchun o'zi yoqtirmagan sohada ishlaydi. Bu esa ichki ziddiyatni keltirib chiqaradi. Kasbiy identiklikning mavjud emasligi depressiya va mehnat unumdorligining pasayishiga asosiy sabablardan biridir.

4. Tanlov erkinligining ko'pligi -Frilans, masofaviy ish va gig-ekonomika (qisqa muddatli loyihalar) davrida inson bitta kompaniya yoki bitta lavozimga

bog'lanib qolmayapti. Aniq chegaralarning yo'qligi insonning "Men aslida kimmis: dizaynermi, sotuvchimi yoki blogermi?" degan chalkashligiga olib keladi. Kasbiy identiklik muammosining dolzarbligi shundaki, u shunchaki ish joyini topish emas, balki **shaxsiy baxt va ruhiy muvozanat** masalasidir. Inson o'z ishida o'zligini topmasa, ijtimoiy va iqtisodiy faolligi pasayib ketadi. Bugungi kunda axborot maydonidagi aksariyat mojarolar qonun buzilishidan ko‘ra ko‘proq etik normalarning yetishmasligi, kibr, his-tuyg‘ularni jilovlay olmaslik yoki oddiy muloqot madaniyatining yo‘qligi bilan bog‘liq bo’lmoqda.

ASOSIY QISM

Kasbiy identiklik - bu bo’lajak o’qituvchining o‘zini pedagogik hamjamiyatning bir qismi sifatida his etishi, kasbiy qadriyatlar va normalarni o‘zlashtirishi hamda kelajakdagi faoliyatiga nisbatan ichki tayyorligidir. Zamonaviy pedagogik ta’lim tizimi ijtimoiy-madaniy kontekstning o‘zgarishi va pedagog kadrlar tayyorlash sifatiga qo‘yilayotgan talablarning ortishi natijasida yuzaga kelgan transformatsiya sharoitida turibdi. Bo‘lajak mutaxassisning barqaror kasbiy identikligini qaror toptirishga ko‘maklashish - o‘z kasbiy roli, qadriyatlari, motivlari va mas’uliyatini anglashni o‘z ichiga olgan yaxlit "Men — pedagogman" obrazini shakllantirish oliy ta’lim muassasasidagi tayyorgarlikning markaziy vazifalaridan biri hisoblanadi.

Pedagog - jamiyatning intellektual va axloqiy qiyofasini shakllantiruvchi asosiy bo‘g‘in. Shunday ekan, bo‘lajak pedagoglarni tayyorlashda asosiy urg‘u faqat uning fanini bilishiga (diplomiga) emas, balki shaxsiyatiga qaratilishi shart. Ta’lim-tarbiya sohasida chinakam professional pedagog faqatgina o‘zining axloqiy jihatdan doimiy o‘sishga intilishi, kasbiga sadoqat bilan yondashishi, o‘z mehnatidan ma’naviy qoniqish olishi kerak. Ana shunday kundalik pedagogik faoliyatida mustahkam axloqiy tayanchga ega bo‘lgandagina shakllanadi. Aynan shu axloqiy barqarorlik pedagogning o‘quvchi, ota-ona va jamiyat bilan munosabatlarida muhim ahamiyat kasb etadi.

L. V. Bura kasbiy identiklikni "shaxs o‘z-o‘zini anglashining fenomeni bo‘lib, u insonning kasbiy hamjamiyatda samarali faoliyat yuritishi uchun qanday bo‘lishi, nimalarni qila olishi va o‘zini qanday tutishi kerakligi haqidagi tasavvurlarini aks ettiradi" deb ta’riflaydi [1] va bunda uning shaxsiy identiklik bilan bog‘liqligini alohida ta’kidlaydi. Bunday sharoitda, talabalarda oliy ta’lim bosqichidayoq barqaror kasbiy identiklikni maqsadli ravishda shakllantirish alohida ahamiyat kasb etadi.

L.B. Shneyderning doktorlik dissertatsiyasi kasbiy identiklik, uning tuzilishi, dinamikasi, genezisi va oliy ta’lim muassasasida amaliyotchi psixologlarni tayyorlash jarayonida uning shakllanish shart-sharoitlarini tadqiq qilishga bag‘ishlangan. Ishda kasbiy identiklikni empirik o‘rganish asosida yangi nazariy tushunchalar berilgan bo’lib ushbu mavzuki juda keng yoritishga xarakat qilgan.

Ieremiya Bentam **o**‘qituvchi o‘z burchini (deontologiya) qanchalik chuqur anglasa, uning kasbiy o‘zligi (identitet) shunchalik mustahkam bo‘ladi- degan fikri xozirgi axborot asridagi ayni haqiqat bo’lmoqda.

Pedagogik identiklik va professional "Men" konsepsiyasi: G‘arb pedagogikasida o‘qituvchi shaxsini anglash masalalari C. Day, D. Beijaard va N. Verloop [3,4,5]kabi olimlar tomonidan chuqur o‘rganilgan. Ularning tadqiqotlarida pedagogning kasbiy identiteti statik tushuncha emas, balki doimiy o‘zgaruvchan, ijtimoiy muhit va shaxsiy tajriba ta’sirida shakllanuvchi jarayon ekanligi isbotlangan. Rossiyalik olimlardan E.F. Zeer kasbiy identitetni mutaxassisning psixologik rivojlanish bosqichlari bilan bog‘lagan holda tahlil qilgan.[7]

Deontologik yondashuvning shakllanishi kasbiy burch va axloqiy majburiyatlarning nazariy asoslari ilk bor J. Bentam tomonidan "lozimlik haqidagi fan" sifatida asoslangan. Uning utilitaristik qarashlari asosida shakllangan "eng ko'p odam uchun eng katta baxt" tamoyili bugungi kunda o‘qituvchining jamiyat oldidagi mas’uliyatini belgilovchi asosiy mezon bo‘lib xizmat qiladi.[1] Shuningdek, I.

Kantning "kategorik imperativi" o‘qituvchi etikasining universal qoidalarini ishlab chiqishda poydevor bo‘lgan.[2]

Pedagogik identiklik – o‘qituvchining o‘zini pedagogik kasbning sub’ekti sifatida anglashi, o‘zining kasbiy roli, qadriyatlari, e’tiqodlari, kompetensiyalari va shaxsiy xususiyatlarini birlashtirgan murakkab psixologik tuzilmadir[45]. U ham quyidagi asosiy komponentlardan tashkil topadi:

№	Komponent	Asosiy mazmuni
1	Kognitiv (o‘z-o‘zini anglash)	O‘z kasbiy rolini tushunish, qobiliyatlarini baholash va pedagogik hamjamiyatdagi o‘rnini anglash.
2	Affektiv-qadriyat	Kasbga bo‘lgan ijobiy munosabat, kasbiy qadriyatlarni qabul qilish va shaxsiy maqsadlar uyg'unligi.
3	Motivatsion-irodaviy	Kasbiy rivojlanishga intilish, qiyinchiliklarni yengib o‘tishda irodaviy harakatlar qilish.
4	Faoliyat va Ijtimoiy-kasbiy	Bilimlarni amaliyotda qo‘llash (mahorat) va pedagogik jamoaga tegishlilik hissi (kollegiallik).

Pedagogik identitet komponentlari

Mazkur chizma pedagogik identitetning inson ruxiyati va jamoaviy munosabatlar bilan qanchalik chuqur bog'langanligini ifodalaydi. Deontologik qoidalar va identitetning o‘zaro qo‘shiluvi faoliyatda kuchli ichki motivatsiya va axloqiy asosni yuzaga keltiradi.

Identitet" tushunchasi lotincha "identitas" so‘zidan olingan bo‘lib, "o‘zlik", "o‘xshashlik", "bir xillik" ma’nolarini anglatadi. Psixologiya va sotsiologiyada bu

[45] Zagvyazinskiy, V.I. Pedagogicheskaya identichnost v kontekste sovremennyx obrazovatelnyx realiy // Vestnik Moskovskogo gosudarstvennogo universiteta. Seriya 20. Pedagogicheskoe obrazovanie. – 2019. – №3. – S. 8-12.

tushuncha shaxsning o‘zini anglashi, o‘zining kimligini va dunyodagi o‘rnini tushunishi bilan bog‘liq holda o‘rganiladi . Bu ta'rif identitetning umumiy psixologik asosini beradi. Professional identitet esa shaxsning o‘zini muayyan kasbiy hamjamiyatning bir qismi sifatida anglashini, o‘zining kasbiy roli, qadriyatlari, e’tiqodlari va kompetensiyalarini o‘zlashtirishini ifodalaydi.

Pedagogik identitet esa, professional identitetning torroq va pedagogik faoliyatga xos bo‘lgan ko‘rinishi bo‘lib, o‘qituvchining o‘zini pedagogik faoliyat sub’ekti sifatida anglashi, o‘zining kasbiy roli, qadriyatlari, e’tiqodlari, kompetensiyalari va shaxsiy xususiyatlarini birlashtirgan murakkab psixologik tuzilma sifatida talqin etiladi . Pedagogik identitet, o‘qituvchining kasbga bo‘lgan ichki munosabatini va o‘zini shu kasbning vakili sifatida his qilishini aks ettiradi. Mazkur tushuncha o‘qituvchining shaxsiy "Men"i va kasbiy "Men"i o‘rtasidagi uyg‘unlikni aks ettiradi. Amerikalik psixolog Erik Eriksonning "Identitet krizisi" nazariyasi va J.Marcia ning identitet holatlari konsepsiyalari professional identitetning shakllanishida muhim nazariy asos bo‘lib xizmat qiladi . Bu nazariyalar, identitetning dinamik jarayon ekanligini va turli bosqichlardan o‘tishini tushuntiradi. O‘zbekistonlik tadqiqotchilardan N.Gaybullaev va Sh.Alimovlarning fikriga ko‘ra, pedagogik identitet o‘qituvchining o‘z kasbiga bo‘lgan munosabati, uning maqsadi, qadriyatlari va professional kompetentligining uyg‘unligi sifatida qaraladi . Bu yondashuv, pedagogik identitetni nafaqat psixologik, balki pedagogik kategoriyalar bilan ham bog'laydi. Xorijiy mualliflar, jumladan, A.Hargreaves va L.V.Maksakovalar, pedagogik identitetni o‘qituvchining kasbiy rivojlanishi, pedagogik faoliyatining samaradorligi va stresslarga chidamliligi bilan bevosita bog‘liq ekanligini ta’kidlaydilar.

Makarenkoning takidlashicha "Pedagog shakllanishi faqat kitoblarni o‘qish orqali emas, balki amaliyot orqali, bola bilan haqiqiy munosabatda bo‘lish orqali amalga oshiladi. Nazariya ahamiyatli, ammo amaliyot — bu shunchaki zarur. Shaxsiy tajriba, boshqa pedagoglarning usullari, o‘z xatolarida dars olish —

bularning barchasi identitetni shakllantirishda rol o‘ynaydi[46]. Makarenko pedagogik identitetni shakllantirish jarayonini "amaliyotga asoslangan o‘quv" deb ko‘radi. Bu degani, o‘z-o‘zini "pedagog" deb atash yetarli emas, balki haqiqiy talabalar bilan ishlashda o‘zini shnday sifatida sothlashtirish kerak. Identitet shakllanadi, chunki bo‘lajak o‘qituvchi o‘z xatolaridan o‘rganadi, mentorlaridan o‘rganadi va har bir darsni o‘z-o‘ziga kritik ko‘z bilan qaraydi. Kasbiy deontologiya va pedagogik identitet tushunchalarining o‘zaro bog'liqligi va uyg'unligi oliy pedagogik ta’lim tizimida bo‘lajak o‘qituvchilarning kasbiy shakllanishida hal qiluvchi ahamiyatga ega. Kasbiy deontologiyaga rioya qilish pedagogik identitetning axloqiy asosini mustahkamlashga xizmat qilsa, kuchli va ijobiy pedagogik identitet esa o‘qituvchini deontologik tamoyillarga so‘zsiz amal qilishga undaydi. Zimnyaya ta'kidlashicha "Deontologiya va identitet — bu ikki yonalishdan bitta maqsadga erishadigan yollardir. Deontologiya — bu 'men nima qilishim lozim degan savollarga javob bersa, identitet — 'men kim' degan savollarga javob beradi. Ammo bu ikkalasi bitta: agar o‘qituvchi o‘zini chin dildan pedagog deb bilsa, u avtomatik ravishda deontologik me'yorlarni qabul qiladi. Va aksincha, deontologik me'yorlarni qabul qilgan o‘qituvchi o‘zini pedagog sifatida ko‘ya boshlaydi."[47] Zimnyayaning bu ta'lifi xaqiqatga to‘laqonli mos bo‘lib, ikki tushuncha — deontologiya va identitet — ular aslida bir-birining to‘ldiruvchisi. Agar o‘qituvchi deontologik me'yorlarni nafaqat "qoidalar" deb, balki o‘zining qadr-qimmatiy tizimining qismi sifatida qabul qilsa, u bu me'yorlarni tabiiy ravishda bajaradigan bo‘ladi. Va buning aksinchasi ham to‘g'ri: agar o‘qituvchi o‘zini "yaxshi pedagog" sifatida ko‘rmoqchi bo‘lsa, u avtomatik ravishda deontologik tamoyillarga amal qiladi, chunki u biladi ki, bu tamoyillar yaxshi pedagog bo‘lishning zarur shartlaridir. "Pedagogik deontologiya o‘qituvchining kasbiy mahoratini belgilabgina qolmay, balki uning jamiyatdagi mavqei va obro‘sini ham ta’minlovchi muhim omil hisoblanadi.

[46] Makarenko, A.S. Pedagogik poema / A.S. Makarenko; tarc. U.Qodirov. — Toshkent: O'qituvchi, 1978. — 320 b.
[47] Zimnyaya, I.A. Pedagogik psixologiya / I.A. Zimnyaya. — Moskva: Logos, 2010. — 384 b.

XULOSA

Tadqiqot natijalari shuni ko‘rsatadiki, bo‘lajak pedagoglarni tayyorlashda kasbiy deontologiya va pedagogik identitet tushunchalari bir-birini to‘ldiruvchi strategik komponentlardir. Agar kasbiy deontologiya o‘qituvchi uchun tashqi professional majburiyatlar va "nima qilish kerak?" degan qoidalarni belgilab bersa, pedagogik identitet "men o‘qituvchi sifatida kimman?" degan ichki e’tiqodni shakllantiradi. Faqatgina ushbu ikki tushuncha birlashgan nuqtadagina pedagogik "men" konsepsiyasi yuzaga keladi.

Bugungi axborotlashgan jamiyatda yuzaga kelayotgan axloqiy inqirozlarning asosiy sababi — o‘qituvchilarda deontologik bilimlarning yetishmasligidir. O‘qituvchi o‘z burchini (Bentam ta’riflaganidek, "lozimlik"ni) faqat qonuniy majburiyat deb emas, balki o‘z identitetining (shaxsiyatining) ajralmas qismi deb qabul qilishi shart. Ijtimoiy mas’uliyat: Bo‘lajak pedagoglarda "davlat xizmatchisi" imidjini shakllantirishda deontologiya ularga "axloqiy kompas" vazifasini o‘taydi. Bu ularni ijtimoiy tarmoqlardagi va jamoatchilik orasidagi turli ziddiyatli vaziyatlardan professional darajada chiqib ketishlariga zamin yaratadi.

Xulosa o‘rnida ta’kidlash lozimki, zamonaviy o‘qituvchi tayyorlash modelida asosiy e’tiborni "bilimdon pedagog"dan "etik-pedagog" modeliga o‘tkazish lozim. Chunki bilimidagi bo‘shliqni vaqt bilan to‘ldirish mumkin, biroq axloqiy va deontologik immuniteti shakllanmagan mutaxassis butun ta’lim tizimining obro‘sizlanishiga sabab bo‘lishi mumkin. Kasbiy deontologiya o‘qituvchiga qiyin vaziyatlarda "Men kimman?" va "Nima qilishim shart?" degan savollarga to‘g‘ri javob topishga yordam beradi. Bu esa jamiyatda davlat xizmatchilariga bo‘lgan ishonchni qayta tiklashning yagona yo‘lidir. Demak, deontologiya — tashqi qoidalar (burch), identitet — ichki anglash (menlik), natija — professional immunitet.

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ИННОВАЦИОННАЯ ИНТЕРПРЕТАЦИЯ АБСЦИССИАЛЬНЫХ И ОРДИНАЛЬНЫХ МЕЖПРЕДМЕТНЫХ СВЯЗЕЙ

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Аннотация: *В данной статье проанализированы теоретико-методические основы применения понятий межпредметной абсциссиальной и ординальной взаимосвязи в учебном процессе. Обосновано, что межпредметная интеграция в образовательном процессе является важным фактором не только расширения знаний учащихся, но и их применения в жизненных ситуациях, развития творческого и критического мышления. Абсциссиальная взаимосвязь позволяет использовать знания, полученные из разных предметов, параллельно и гармонично, тогда как ординальная взаимосвязь формирует системное мышление учащихся за счёт поэтапного и последовательного развития знаний. В статье освещены инновационная интерпретация этих двух подходов, их интеграция с современными педагогическими технологиями, а также применение в международной образовательной практике. На этой основе разработаны научно-методические рекомендации по усилению межпредметных связей в начальном образовании.*

Annotation: *This article analyzes the theoretical and methodological foundations of applying the concepts of interdisciplinary absissial and ordinal interconnections in the educational process. It is substantiated that interdisciplinary integration in education is an important factor not only in expanding students' knowledge but also in applying it to real-life situations, as well as developing creative and critical thinking. Absissial interconnection allows for the parallel and harmonious use of knowledge acquired from different subjects, whereas ordinal interconnection fosters students systemic thinking through the step-by-step and sequential development of knowledge. The article highlights the innovative interpretation of these two approaches, their integration with modern pedagogical technologies, and their application in*

international educational practice. On this basis, scientific and methodological recommendations for strengthening interdisciplinary connections in primary education have been developed.

Ключевые слова: *межпредметная взаимосвязь, абсциссиальная взаимосвязь, ординальная взаимосвязь, интеграция, начальное образование, инновационный подход, образовательный процесс, педагогические технологии.*

Keywords: *interdisciplinary interconnection, absissial interconnection, ordinal interconnection, integration, primary education, innovative approach, educational process, pedagogical technologies.*

ВВЕДЕНИЕ

В условиях современной глобализации одной из приоритетных задач системы образования выступает формирование у обучающихся способности к самостоятельному мышлению, творческому подходу, а также навыков эффективного применения полученных знаний в разнообразных жизненных ситуациях. Достижение указанных целей во многом обусловлено необходимостью интеграции образовательного процесса, в частности, усилением междисциплинарных связей. Изолированное преподавание отдельных учебных дисциплин неизбежно сужает мировоззренческий горизонт обучающихся, тогда как интегративный подход, напротив, способствует формированию целостной системы знаний.

Понятие междисциплинарной взаимосвязи находит широкое применение в образовательной практике, реализуясь в различных формах и проявлениях. К числу наиболее значимых из них относятся абсциссиальная и ординальная взаимосвязи. Абсциссиальная взаимосвязь обеспечивает возможность синхронной интеграции и одновременного применения знаний, усвоенных в рамках различных дисциплин, тогда как ординальная взаимосвязь ориентирована на последовательное развитие знаний, их систематизацию и поэтапное усложнение.

В данной статье осуществляется научно-теоретический и практико-ориентированный анализ инновационной интерпретации указанных подходов,

их интеграции с современными педагогическими технологиями, а также особенностей их применения в международной образовательной практике.

Методы и степень изученности проблемы. Междисциплинарная интеграция в образовательном процессе обеспечивает углубление усваиваемых обучающимися знаний и их органичную связь с реальной жизненной практикой. В педагогической литературе междисциплинарная взаимосвязь интерпретируется как «дидактический принцип, направленный на формирование знаний, умений и навыков обучающихся в целостной системе».

Междисциплинарная взаимосвязь опирается на следующие теоретические основания:

Принцип целостности знаний — для формирования полноценного мировоззрения обучающийся должен воспринимать знания не фрагментарно, а в системном и взаимосвязанном виде.

Закономерность интеграции и дифференциации — междисциплинарные связи предполагают, с одной стороны, объединение общих аспектов различных наук, а с другой — выявление и осмысление их специфических особенностей.

Принцип системности и последовательности — организация знаний должна соответствовать возрастным особенностям обучающихся, уровню их мышления и этапам когнитивного развития.

Сущность абсциссиальной взаимосвязи заключается в том, что обучающийся осуществляет параллельное применение знаний, усвоенных из различных учебных дисциплин. Так, например, при построении графиков на уроках математики обучающийся интегрирует знания из геометрии, информатики и естественных наук.

Степень изученности проблемы. Проблема междисциплинарной интеграции получила широкое освещение как в отечественной, так и в

зарубежной педагогической науке. В частности, идеи интеграции знаний в образовательном процессе теоретически обоснованы в рамках когнитивной теории развития Жан Пиаже, культурно-исторической концепции Лев Выготский, а также теории спирального построения учебного содержания Джером Брунер.

Среди узбекских учёных значительный вклад в исследование вопросов междисциплинарной интеграции в начальном образовании, формирования системного мировоззрения обучающихся внесли Б. Абдуллаева, Х. Норбутаев, Н. Салохиддинова, А. Абдуқодиров, Н. Туракулов, М. Нуритдинова и другие исследователи.

В зарубежных научных источниках современные формы междисциплинарной взаимосвязи находят отражение в концепции STEAM-образование, подходе CLIL (Content and Language Integrated Learning), а также в международных оценочных программах PISA и PIRLS. Вместе с тем анализ научной литературы свидетельствует о том, что вопросы углублённого изучения абсциссиальной и ординальной форм междисциплинарной интеграции в рамках их инновационной интерпретации остаются недостаточно разработанными. В этой связи данное исследование характеризуется научной новизной и актуальностью.

Результаты исследования. Проведённый теоретический анализ показал, что интеграция абсциссиальных и ординальных междисциплинарных связей в образовательном процессе оказывает непосредственное влияние на качество усвоения знаний обучающимися и их способность к применению в практической деятельности. В частности, были получены следующие результаты:

Эффективность абсциссиальной взаимосвязи проявилась в следующем: одновременная интеграция знаний из различных учебных дисциплин способствует формированию у обучающихся комплексного мышления;

установлено, что интеграция математики, естествознания и родного языка в учебном процессе развивает самостоятельное мышление, наблюдательность и творческие способности учащихся; результаты опытно-экспериментальной работы показали, что в занятиях, организованных на основе абсциссиальной взаимосвязи, показатели скорости и точности выполнения заданий у обучающихся оказались на 18–20 % выше по сравнению с традиционными формами обучения.

Полученные в ходе исследования данные были всесторонне проанализированы с теоретических и практических позиций. Результаты свидетельствуют о том, что применение абсциссиальной и ординальной междисциплинарной взаимосвязи в образовательном процессе оказывает влияние не только на расширение и углубление знаний, но и непосредственно способствует развитию личностных качеств обучающихся.

В целом можно заключить, что интеграция абсциссиальной и ординальной междисциплинарной взаимосвязи с инновационными педагогическими технологиями выводит образовательный процесс на качественно новый уровень. Данный подход является эффективным средством формирования прочных знаний, их практического применения и развития творческого мышления обучающихся в системе начального образования.

ЗАКЛЮЧЕНИЕ

На основе результатов проведённого исследования были сформулированы следующие выводы:

Доказано, что абсциссиальная и ординальная междисциплинарная взаимосвязь является эффективным средством расширения знаний обучающихся, формирования у них способности применять знания в практической деятельности, а также развития творческого и критического мышления.

Абсциссиальная взаимосвязь способствует формированию комплексного мышления обучающихся за счёт параллельной интеграции знаний из различных учебных дисциплин, развивает креативность и познавательную активность. В свою очередь, ординальная взаимосвязь обеспечивает поэтапное развитие знаний, формируя у обучающихся последовательное и системное мышление, усиливая логическую связность и непрерывность познавательного процесса.

Установлено, что интеграция абсциссиальной и ординальной взаимосвязей с современными педагогическими технологиями, такими как STEAM-образование, проектный метод, информационно-коммуникационные технологии и CLIL (Content and Language Integrated Learning), выступает важным фактором повышения эффективности образовательного процесса.

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РАЗВИТИЕ КОММУНИКАТИВНЫХ КОМПЕТЕНЦИЙ У ДЕТЕЙ ПОДГОТОВИТЕЛЬНОЙ ГРУППЫ

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Аннотация: *В статье освещены вопросы коммуникативной направленности дидактических занятий в дошкольных образовательных учреждениях, которыеимеют важное значение в развитии интеллектуальных способностей детей; формированию нравственности, духовному развитию; предполагает развитие речи, овладение её культуры.*

Ключевые слова: *личность ребёнка, коммуникативная направленность дидактические занятия, дошкольные образовательные учреждения, интеллектуальные способности, формирование нравственность, развитие речи.*

Annotation: *The article deals with the communicative orientation of didactic classes in preschool educational institutions, which are important in the development of children's intellectual abilities; the formation of morality, spiritual development; involves the development of speech, the mastery of its culture.*

Key words: *personality of a child, communicative orientation, didactic classes, preschool educational institutions, intellectual abilities, morality formation, speech development.*

В нашей стране в основе всей учебно-воспитательной деятельности любого дошкольного учреждения лежат принципы учёта прав, индивидуальности и потенциала развития воспитанников; создание благоприятной среды для развития и социализации ребенка. В связи с этим актуальным вопросом времени является сохранение и укрепление здоровья

ребенка, и удовлетворение его потребностей, формирование нравственных и моральных качеств детей, развитие умений понимать ценность национальных и культурных традиций республики Узбекистан.

В Постановлениях и Указах Президента Республики Узбекистан Ш.М.Мирзиёева уделяется особое внимание дальнейшему совершенствованию системы дошкольного образования страны, внедрению в воспитательно – образовательный процесс инновационных образовательных технологий интеллектуального и духовного развития детей и подготовки их к жизни [2,3]. Поэтому, так важно на сегодняшний день решить следующие задачи в дошкольных образовательных учреждениях страны:

-создание благоприятных условий для всестороннего и гармоничного развития детей с учетом их индивидуальных потребностей на основе «Государственных требований развития детей раннего и дошкольного возраста Республики Узбекистан»;

-организация процесса просвещения и элементарного образования родителей современных детей и общества в целом по вопросам развития детей дошкольного возраста;

-осуществление планомерной учебно-воспитательной деятельности в любом дошкольно-образовательном учреждении с целью эффективной подготовленности их к обучению в школе [2].Следовательно, коммуникативная направленность дидактических учебных занятий в дошкольных образовательных учреждениях формирует у детей коммуникативно-речевые умения, учит общаться, развивает коммуникабельность; позволяет научиться познавать мир посредством языка; развивает важные личностные качества: трудолюбие, аккуратность, целеустремлённость, а также умение грамотно оформлять мысли в устной и письменной формах.

Коммуникативная направленность дидактических занятий в дошкольных образовательных учреждениях имеет важное значение, так как способствует нравственному воспитанию детей, духовному развитию; предполагает развитие речи, овладение её культуры.

Коммуникативная направленность дидактических занятий в дошкольных образовательных учреждениях формирует и совершенствует умения и навыки, без которых невозможна интеллектуальная деятельность в целом и обучение в частности. Коммуникативная направленность дидактических занятий в дошкольных образовательных учреждениях предполагает передачу воспитанникам ДОУ своих мыслей и чувств с помощью языка, помогает выбирать наиболее точные лексические средства и безошибочно строить предложения, связывать их в текст; соблюдать логические связи; обосновывать собственные суждения.

В структуре Государственной учебной программы дошкольного образовательного учреждения «Илк қадам» («Первый шаг») указаны следующие компетенции детей дошкольного возраста:

Коммуникативная компетенция – умение использовать средства адекватного общения в различных ситуациях.

Социальная компетенция – умение правильно вести себя со взрослыми и сверстниками в жизненных ситуациях, с соблюдением согласованных правил и норм поведения.

Игровая компетенция – творческое применение дошкольником реального жизненного опыта, знаний и навыков в процессе игры и ее организации.

Познавательная компетенция – сознательное восприятие окружающего мира и применение полученных знаний, умений, навыков и ценностных установок для решения игровых, учебных и практических задач [2].

Коммуникативные компетенции детей дошкольного периода - это владение сложными коммуникативными навыками и умениями, формирование адекватных умений в новых социальных структурах, знание культурных норм и ограничений в общении, знание обычаев, традиций, этикета в сфере общения, соблюдение приличий, воспитанность, ориентация в коммуникативных средствах, присущих национальному, сословному менталитету.

Государственная учебная Программа «Первый шаг» учитывает основные компетеностностные подходы к развитию детей дошкольного возраста.

В Государственной Учебной Программе «Илк қадам» предоставлен дошкольным образовательным учреждениям тематический вид планирования, что даётследующие преимущества: в течение недели изучаются темқ, которқе интегрируются через все виды детской деятельности; ребенок дошкольного возраста в игровой форме получает прочные знания умения и навыки; им приобретается определенный опыт и возможности его применения в различных жизненных ситуация

За последние годы в нашей стране подготовлены и приняты к реализации ряд нормативно-правовых документов, которые представляют собой систему положений и утверждений, предъявляемых к развитию детей раннего и дошкольного возраста, знаниям, умениям и компетенциям детей на определенных возрастных этапах развития на основании Закона Республики Узбекистан «Об образовании» (1997), и Постановлений Президента Республики Узбекистан [1,2,3,4].

Разработанная и утверждённая Государственная учебная Программа «Илк қадам»является нормативно-правовым и основным образовательным документом, разработанным в соответствии с «Государственными

требованиями к развитию детей раннего и дошкольноговозраста Республики Узбекистана».

Для успешного развития коммуникативных компетенций детей дошкольного периода нужно реализовать следующие направления коммуникативного подхода в обучении и воспитании детей дошкольного периода:

1) разработка содержания обучения — вариативных программ и различных учебных пособий для детей дошкольного периода;

2) разработка принципов, форм, приемов и методов обучения, системы упражнений, рекомендации по применению заданий;

3) исследование сравнительной эффективности методов, обоснование выбораметодики, экспериментальная проверка рекомендаций и т. д.;

4) изучение уровней знаний, умений и навыков детей дошкольного периода на разных ступеняхобучения, т.е. в 3-4 года; 5-6 лет, причин успехов или неудач в обучении, типичных ошибок и способов их устранения и предупреждения.

Коммуникативная направленность дидактических занятий с детьми дошкольного периодаинтерпретируется следующим образом: во - первых, в отборе языкового материала воспитывающего характера - слов, их сочетаний, текстов. Во-вторых, формировании мировоззрения детей; В-третьих, развивая культуру речи дошкольников, воспитывая любовь к языку, к его красоте и богатству, показывая его роль среди языков мира, воспитывает у них патриотизм. В-четвертых, самовыражение детей, формирует их самосознание, личностные качества, а также развивает логическое мышление.

На наш взгляд,организация предметно – развивающей среды в дошкольном учреждении является важным условием учета возрастных особенностей, потребностей и возможностей детей дошкольного возраста, которые имеют свои отличительные признаки.

«Структура и содержание предметно-развивающей среды закладывает основы первоначального мировоззрения, способствовать успешной социализации ребенка дошкольного возраста»[6,72-с.]. Поэтому содержание предметно-развивающей среды дошкольного образовательного учреждения должно соответствовать культурно-историческим ценностям: национальным и региональным традициям Узбекистана, особенностям, обусловленным природными и климатическими условиями каждого отдельного региона; спецификой производственной жизни местности. Целью учебно-воспитательной деятельности дошкольного учреждения является создание условий для формирования у ребенка дошкольного возраста общих компетенций и компетенций областей развития.

Обучение и развитие дошкольников через игровую деятельность, поддержка творческих способностей ребенка, сотрудничество ДОУ с семьей, махаллей, школой и общественностью имеет важное значение в развитии личности ребёнка.

“Коммуникативний подход в образовании детей – дошкольников предполагает подготовку растущей и изменяющейся личности ребенка к жизни, формированию у него различных способов деятельности, необходимых для решения жизненно важных задач, связанных с освоением нравственных ценностей”[5,56-с.]. Следовательно, сформированные начальные компетенции являются базой для формирования личности ребенка на основе учета Государственных требований, ключевые компетенции определены во всех пяти областях развития.

Общие ключевые компетенции детей 6-7 лет перекликаются с компетенциями детей младшего школьного возраста, что говорит о взаимосвязи дошкольного образования с начальным школьным образованием.

Государственные требования и Государственная учебная Программа «Илк қадам»являются обязательным документом для применения в

образовательных учреждениях Республики Узбекистан: в дошкольных образовательных учреждениях государственного и негосударственного сектора; в детских домах «Мелесердие», имеющих дошкольные группы обучения и воспитания детей. Также обязательны к применению в средних профессиональных учреждениях - педагогических колледжах с отделениями дошкольного образования, которые в течении двух учебных лет готовят помощников воспитателей для ДОУ.

При коммуникативной направленности дидактических занятий с детьми дошкольного возраста и подготовке их к школе планирование процесса обучения строится на дидактических принципах. К методам работы с детьми дошкольного возраста можно отнести следующие:

1) *игры коммуникативной направленности;*
2) *игры со словами; работа с загадками;*
3) *игры и игровые упражнения, используемые при объяснении и закреплении учебного материала.*

Таким образом, применение загадок на дидактических занятиях в дошкольных образовательных учреждениях способствуетставить цель индивидуального подхода к развитию ребенка, уважение к его личности, учет его интересов, потребностей и уровня развития, заботу об эмоциональном комфорте, стремление к созданию условий для свободного творческого самовыражения. Поэтому, наряду с планированием дидактических занятий важным является инаблюдение за развитием ребенка - важным этапом в работе педагога. Следующим дидактическим заданием, способствующим развитию коммуникативных компетенций детей 6-7-лет является игра. Приведем здесь пример:

Игра « Продолжи цепочку » украшений на елку: гирлянда, шары, звезда, мишура, хлопушки, фонарики, флажки, игрушки, сосульки, снежинки, снеговик, Дед мороз, Снегурочка.

Таким образом,коммуникативная направленность дидактических занятий в дошкольных образовательных учреждениях обеспечивает выразительность речи, красивое, каллиграфическое письмо, образное слововыражение детей. На дидактических занятиях в дошкольных образовательных учреждениях дети учатся развивать мыслительные операции: синтез, анализ, классификацию, абстрагирование и др.

Содержание и последовательность работы с детьми должны планироваться с учетом вида деятельности (активнаядеятельность- пассивная деятельность; индивидуальная деятельность; в малой группе в большой группе; деятельность, проводимая под руководством воспитателя; деятельность, проводимая под руководством ребенка) и местом его проведения (деятельность в помещении / деятельность на улице). При планировании критериев оптимального выбора методов коммуникативной направленности обучения, важно знать то место, которое занимает сама процедура их выбора в структурировании учебного процесса в дошкольных образовательных учреждениях.

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6-SHO‘BA

AVTOMOBIL YO‘LLARI UCHUN YO‘L YOQASINING MUSTAHKAMLANGAN QISMI KENGLIGINI TADQIQ QILISH

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Annotatsiya: *Mazkur maqolada avtomobil yo‘llarida yo‘l yoqasining mustahkamlangan qismi kengligini aniqlash va baholash masalalari ko‘rib chiqiladi. Tadqiqot A373 “Toshkent – O‘sh” avtomobil yo‘lining 5-9 kilometr qismi oralig‘ida joyida o‘tkazilgan o‘lchash ishlari asosida amalga oshirildi. O‘tkazilgan o‘lchashlar natijalari yo‘l yoqasining mustahkamlangan qismi kengligi kilometrlar bo‘yicha bir xil emasligini, ya’ni ayrim joylarda farqlar mavjudligini ko‘rsatdi. Olingan natijalar yo‘l yoqasining mustahkamlangan qismi kengligini baholash hamda kelgusida uni optimallashtirish bo‘yicha muhim asos bo‘lib xizmat qiladi.*

Abstract*: This article examines the issues of determining and evaluating the width of the reinforced shoulder on highways. The study was conducted based on on-site measurements conducted on the 5-9 kilometers section of the A373 "Tashkent - Osh" highway. The results of the measurements showed that the width of the reinforced part of the roadside is not uniform across the picket lines, meaning there are differences in some places. The results obtained serve as an important basis for assessing the width of the reinforced section of the roadside and optimizing it in the future*

Kalit so‘zlar: *Avtomobil yo‘li, , mustahkamlangan qism, yo‘l yoqasi kengligi, , harakat tasmasining kenglig, yo‘l poyi, yo‘l yoqasidagi chetki tasma kengligi*

Keywords*: Highway, , reinforced section, shoulder width, , traffic lane width, roadbed, shoulder edge width*

KIRISH

O‘zbekiston Respublikasi “Avtomobil yo‘llari to‘g‘risida”gi qonuniga muvofiq, avtomobil yo‘llari transport harakatini xavfsiz va uzluksiz ta’minlashga xizmat qiluvchi muhim muhandislik

inshootlari hisoblanadi. Yo‘lning asosiy konstruktiv elementlariga harakat tasmasi, yo‘l yoqasi va yo‘l poyi kiradi. Ushbu elementlar orasida yo‘l yoqasining mustahkamlangan qismi alohida ahamiyat kasb etib, u transport vositalarining xavfsiz harakatlanishi, favqulodda to‘xtashi hamda yo‘l qoplamasining chekka qismini himoya qilish vazifasini bajaradi.

Hozirgi kunda Respublikamiz avtomobil yo‘llarida transport oqimining ortib borishi yo‘l konstruksiyasiga tushayotgan yuklamani sezilarli darajada oshirmoqda. Natijada yo‘l yoqasining mustahkamlangan qismi kengligining yetarli darajada bo‘lmasligi qoplama chetlarida deformatsiyalar, cho‘kishlar va yemirilish jarayonlarining yuzaga kelishiga sabab bo‘lmoqda. Bu esa yo‘lning umumiy holati va harakat xavfsizligiga salbiy ta’sir ko‘rsatadi.

Amaldagi me’yoriy hujjatlarga ko‘ra, yo‘l elementlarining geometrik ko‘rsatkichlari, jumladan yo‘l yoqasi va uning mustahkamlangan qismi kengligi yo‘l toifasi, harakat jadalligi hamda tabiiy sharoitlarga bog‘liq holda belgilanadi. Biroq amaliy kuzatuvlar shuni ko‘rsatadiki, mavjud yo‘llarda ushbu ko‘rsatkichlar barcha uchastkalarda bir xil emas va ayrim hollarda yetarli darajada ta’minlanmagan.

O‘zbekiston Respublikasi Prezidentining 10.10.2023 yildagi PQ-330 son qarorida yo‘l xo‘jaligi sohasini rivojlantirish, yo‘l infratuzilmasini takomillashtirish hamda harakat xavfsizligini oshirish masalalariga alohida e’tibor qaratilgan. Bu esa yo‘l elementlarini, xususan yo‘l yoqasining mustahkamlangan qismini chuqur o‘rganish zarurligini yanada kuchaytiradi.

Shu sababli avtomobil yo‘llari uchun yo‘l yoqasining mustahkamlangan qismi kengligini tadqiq qilish, uning real qiymatlarini aniqlash va maqbul parametrlarini asoslash muhim ilmiy-amaliy ahamiyatga ega hisoblanadi.

Amaliyotda yo‘l yoqasining mustahkamlangan qismi yetarli bo‘lmagan hollarda yo‘l qoplamasi chetida yemirilishlar, cho‘kishlar va deformatsiyalar yuzaga keladi. Bu holat yo‘lning ekspluatatsion holatini yomonlashtiradi, ta’mirlash xarajatlarini oshiradi va harakat xavfsizligiga salbiy ta’sir ko‘rsatadi. Shu sababli avtomobil yo‘llarida yo‘l yoqasining mustahkamlangan qismi kengligini ilmiy asosda o‘rganish dolzarb masala hisoblanadi.

Mazkur maqola avtomobil yo‘llarida yo‘l yoqasining mustahkamlangan qismi kengligini real ekspluatatsiya sharoitida o‘rganishga bag‘ishlangan bo‘lib, joyida o‘tkazilgan eksperimental o‘lchashlar asosida yo‘l yoqasining mavjud holati baholanadi.

Tadqiqot ishining maqsad va vazifalari

Tadqiqotning asosiy maqsadi avtomobil yo‘llarida yo‘l yoqasining mustahkamlangan qismi kengligini o‘rganish va uning yo‘l qoplamasi barqarorligi hamda avtomobillar harakatiga ta’sirini baholashdan iborat.

Mazkur maqsadga erishish uchun quyidagi vazifalar belgilandi:

- yo‘l yoqasining mustahkamlangan qismi loyihalash usullarini tahlil qilish;
- yo‘l yoqasining mustahkamlangan qismi bo‘yicha amaldagi me’yoriy hujjatlar va ilmiy adabiyotlarni o‘rganish;
- yo‘l yoqasining mustahkamlangan qismi kengligini joyida eksperimental o‘lchash;
- olingan natijalarni tahlil qilish va umumiy xulosalar chiqarish.

Tadqiqot obyekti va metodikasi

Tadqiqot obyekti sifatida A-373 “Toshkent – O‘sh” avtomobil yo‘lining 5-9 km oralig‘i tanlandi. Ushbu yo‘l uchastkasi transport vositalari harakati intensivligi yuqori bo‘lgan yo‘llardan biri hisoblanadi.Tadqiqot jarayonida tanlangan yo‘l uchastkasida joyida ko‘zdan kechirish ishlari amalga oshirildi. Harakat tasmasi kengligi, yo‘l yoqasining umumiy kengligi hamda yo‘l yoqasining mustahkamlangan qismi kengligi o‘lchandi. O‘lchash natijalari asosida yo‘l yoqasining mustahkamlangan qismi kengligi kilometrlar bo‘yicha aniqlanib, keyingi tahlillar uchun dastlabki ma’lumotlar bazasi shakllantirildi.

1-jadval

A-373 “Toshkent – O‘sh “ Avtomobil yo‘lining 5- 9 km oralig‘ida o‘lchash ishlarini jadvali

Yo‘l elementlarining o‘lchanlari	5-km	6-km	7-km	8-km	9-km
Harakat tasmasi kengligi,m	3,75	3,75	3,75	3,75	3,75
Yo‘l yoqasi kengligi, m	3,75	3.75	3,75	3,75	3,75
Yo‘l yoqasigagi chetki tasma kengligi, m	0,75	0.5	0,5	0,5	0,65
Yo‘l yoqasining mustahkamlangan qismi kengligi, m	2,75	2,10	2,40	2,30	2,70

A-373 “Toshkent – O‘sh” avtomobil yo‘lining 5-9 km oralig‘i qismida o‘tkazilgan eksperimental o‘lchashlar natijalari asosida yo‘l yoqasining mustahkamlangan qismi

kengligi kilometrlar bo‘yicha tahlil qilindi. O‘lchash natijalari jadval ko‘rinishida tasvirlanib, yo‘l yoqasining real ekspluatatsion holatini baholash imkonini berdi. Jadvalda ko‘rinib turibdiki, mustahkamlangan qism kengligi 2,10 m dan 2,75 m gacha oraliqda o‘zgaradi. Eng kichik qiymat 6-km qismida,-eng katta qiymatlar esa 5-km va 9-kmda qayd etildi. Bu holat yo‘l uchastkalari bo‘yicha ekspluatatsion sharoitlarning bir xil emasligini ko‘rsatadi.

XULOSA

Mazkur tadqiqotda A-373 “Toshkent – O‘sh” avtomobil yo‘lining 5-9 km qismi oralig‘ida yo‘l yoqasining mustahkamlangan qismi kengligi real ekspluatatsiya sharoitida o‘rganildi. Joyida o‘tkazilgan eksperimental o‘lchashlar va yo‘l yoqasining mustahkamlangan qismi kengligi kilometrlar bo‘yicha bir xil emasligini ko‘rsatdi. O‘lchash natijalariga ko‘ra, yo‘l yoqasining mustahkamlangan qismi kengligi 2,10 m dan 2,75 m gacha oraliqda o‘zgaradi, o‘rtacha qiymat esa 2,45 m ni tashkil etadi. Eng kichik qiymatlar qayd etilgan uchastkalarda yo‘l qoplamasi chetida yemirilish va deformatsiyalar yuzaga kelish ehtimoli yuqori ekanligi aniqlandi. Aksincha, mustahkamlangan qism kengligi yetarli bo‘lgan joylarda yo‘l qoplamasining chekka qismi nisbatan barqaror holatda saqlanib qolgan. Chetki tasma va mustahkamlangan qism kengliklarini taqqoslash natijalari yo‘l yoqasi elementlari o‘rtasida geometrik bog‘lanish mavjudligini ko‘rsatdi. Bu holat yo‘l yoqasini loyihalash va rekonstruksiya qilish jarayonlarida barcha elementlarni kompleks tarzda hisobga olish zarurligini tasdiqlaydi. Umuman olganda, o‘lchash natijalari yo‘l yoqasining mustahkamlangan qismi kengligi avtomobil yo‘lining ekspluatatsion holati va harakat xavfsizligiga sezilarli ta’sir ko‘rsatishini isbotlaydi. Olingan natijalar keyingi bosqichlarda yo‘l yoqasining mustahkamlangan qismi kengligini optimallashtirish, mustahkamlash usullarini takomillashtirish hamda amaliy tavsiyalar ishlab chiqish uchun ilmiy asos bo‘lib xizmat qiladi.

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ASSESSMENT OF THE EFFICIENCY OF USING MODERN BETON ADDITIONS IN THE PRODUCTION OF REINFORCED CONCRETE PRODUCTS

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Abstract. *Superplasticizers based on polycarboxylate ethers are now widely used in concrete production technology. Their use makes it possible to obtain a highly workable concrete mix with a low water-to-cement ratio, while also accelerating the early hardening process. This paper examines the improvement of properties in concrete and concrete mixes for manufacturing precast reinforced concrete products through the use of modern polycarboxylate additives. The results of a study on the influence of polycarboxylate additives on the physicomechanical properties of concrete, conducted by preparing and testing a series of samples with various compositions, are presented. The data obtained indicate that the use of polycarboxylate additives enhances the physicomechanical properties of concrete, reduces labor costs, and increases the economic efficiency of production compared to naphthalene-formaldehyde concrete additives.*

Keywords: concrete: *polycarboxylate superplasticizers, naphthalene-formaldehyde additives, concrete mix.*

INTRODUCTION

Increasing competition in the construction market is forcing a search for cost-effective and efficient methods for producing high-quality concrete mixes and reinforced concrete products. Many technological challenges in the preparation of concrete mixes and the production of reinforced concrete products are now being solved by introducing chemical additives. The use of plasticizers in the preparation of concrete mixes is one of the most effective methods. Currently, there are three main classes of plasticizing additives used in the construction materials industry, namely:

- lignosulfonate-based compounds;
- sulfurized melamine formaldehyde or naphthalene formaldehyde polymers;
- polycarboxylate-based superplasticizers [1-3].

This technology for producing concrete products has its own characteristics:

- a narrow space for filling a concrete mixture;
- if the product is densely reinforced, the concrete mixture must be more plastic;
- The concrete mix must be compacted uniformly throughout the entire height of the formwork. The resulting products must not contain any voids or foam;
- rapid wear and tear of equipment, leading to a decrease in the frequency and amplitude of cassette vibrations [4].

The additive used in the production of the concrete mixture does not ensure the required quality of the products being manufactured. The solution to this technological problem can be the use of polycarboxylate additives, the use of which allows for improving the quality of finished products without increasing the cost of production by reducing the water-cement ratio.

The main advantages of polycarboxylate-based additives include the following:

- long shelf life (without additional precipitation);
- accelerated assembly of early-strength concrete;

- minimum air penetration into the concrete mix;
- ability to provide a plasticizing effect at low temperatures;
- additive content not exceeding a percentage of cement mass [5].

Thus, the aim of the research work was to evaluate the effectiveness of using polycarboxylate additives for concrete products.

RESULT AND ANALYSIS

To determine the strength of the concrete for each composition, cubic specimens measuring 100×100×100 mm were prepared in three series of three specimens each, in accordance with GOST 10180. After preparation, the specimens were tested according to the requirements of the standard. The compressive strength was determined for the first series of specimens. The tests were conducted in accordance with the requirements of GOST 10180. The second series was tested on the seventh day after preparation, and the third on the twenty-eighth day. The data obtained from the tests are presented in Table 3.

№	**Indicators**	**O'lchov, birliklari**	**NFS**	**PK-45**	**PK-46**
1	Additional expense	%	1.15	0,7	1
2	Consumption of cement	kg/m^3	286	286	293
3	Cement/water	-	0,65	0,55	0,52
4	fluidity of the concrete mix.	sm	11,5	12,5	12,0
5	Density	kg/m^3	2333	2310	2368

6	1 day of strength	Mpa	15,7	19,5	22,3
7	7 days of strength	Mpa	19,9	22,2	28,5
8	28 days of strength	Mpa	30,5	33,0	35,2
9	Surface porosity as a percentage of surface area		15 %	10 %	10 %

Based on the test results, it can be concluded that the use of modern polycarboxylate additives provides the technological process for manufacturing internal wall panels with the following advantages:

- increasing concrete strength,

- increasing the fluidity of the concrete mixture by reducing the water/cement ratio,

- absence of defects on the product surface due to poor compaction of the concrete mixture;

- reduction of cement consumption.

The use of polycarboxylate additives allows not only to improve the quality indicators of concrete mixtures but also to reduce the production cost of finished products due to the possibility of reducing Portland cement consumption while maintaining concrete strength requirements.

CONCLUSION

During the implementation of the research work, it was established that using superplasticizing additives based on polycarboxylate in the preparation of concrete mixtures for the production of concrete products is one of the effective ways to

improve the quality of manufactured products, as well as economically beneficial when correctly selecting concrete composition. The concrete mixture prepared using polycarboxylate additives has high efficiency and low air absorption, which reduces the number of defects on the front surfaces of finished products. Accelerating concrete strength allows for a reduction in cement or water consumption, which allows for a reduction in the cost of manufactured products without compromising their quality. One of the important indicators of the effectiveness of using polycarboxylate additives is the reduction of labor costs for shaping concrete products by obtaining a concrete mixture that is easily and quickly laid down.

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BEKOBOD SEMENT (SEM II/A-P 32.5N) ASOSIDA TAYYORLANGAN QORISHMALARDA SIKA VISCOCRETE®-4336 PLASTIFIKATORINING MIQDORI VA SUV-SEMENT NISBATINI OQUVCHANLIGIGA TA'SIRI

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Abstract: *This study examines the effect of Sika ViscoCrete®-4336 on the rheological properties of cement-based mixtures; flowability was evaluated at different dosages and water-cement ratios; results showed improved dispersion and increased flowability with higher dosage; excessive amounts reduced stability; lowering water content was beneficial up to a critical limit; below this threshold, flowability decreased significantly; findings provide a scientific basis for optimizing mixture composition and improving concrete performance.*

Keywords: *cement mixture; flowability; rheological properties; Sika ViscoCrete®-4336; superplasticizer; water-cement ratio; dispersion; concrete technology.*

KIRISH

Zamonaviy qurilish materiallari texnologiyasi sohasida sement asosli kompozitsiyalarning reologik va texnologik xossalarini boshqarish dolzarb ilmiy muammolardan biri hisoblanadi; ayniqsa beton qorishmalarining oquvchanligi, barqarorligi va ishlov berilish qulayligi ularning amaliy samaradorligini belgilovchi asosiy omillar sifatida qaraladi; shu nuqtai nazardan kimyoviy qo'shimchalar, xususan lignosulfonatlar hamda polikarboksilat asosli plastifikatorlarning qo'llanilishi alohida ahamiyat kasb etadi; ushbu

qo‘shimchalar sement zarrachalarining dispersiyasini yaxshilash orqali suv sarfini kamaytirish va aralashmaning optimal reologik holatini ta’minlash imkonini beradi; natijada betonning mustahkamligi, zichligi va uzoq muddatli ekspluatatsion xossalari sezilarli darajada oshadi; mazkur tadqiqot aynan shu jarayonlarning ilmiy asoslarini aniqlash va samarali tarkibiy yechimlarni ishlab chiqishga qaratilgan.

Zamonaviy qurilish materiallari sanoatida beton qorishmalarining xossalarini yaxshilash maqsadida turli kimyoviy qo‘shimchalar qo‘llanmoqda. Ular orasida lignosulfonatlar suvni kamaytiruvchi, plastifikator, sekinlashtiruvchi va barqarorlashtiruvchi sifatida samarali ekani bilan ajralib turadi [1]. Kolomytsyn A.K. (2017) o‘z tadqiqotida lignosulfonatlarning texnologik, ekologik va iqtisodiy afzalliklarini ko‘rsatib, ularning ayniqsa plastiklikni oshirish va qotishni sekinlashtirishdagi foydasini asoslab bergan.

Lignosulfonatlar ekologik xavfsiz va iqtisodiy jihatdan afzalligiga ega bo‘lib, sement sarfini 10% gacha kamaytiradi [2]. Ularning sarfi superplastifikatorlarga nisbatan 3-5 barobar kam (0,15-0,20%) bo‘lib, tannarxni pasaytiradi. Kolomytsyn bunday qo‘shimchalar betonning uzoq muddat saqlanishi va tashish imkonini yaxshilashi orqali mahsulot raqobatbardoshligini oshiradi, deb baholaydi.

Ayrim adabiyotlarda [3] kompozit materiallarga turli mineral qo'shimchalar (mikrokremnezem va metakaolin) qo'shilishi material reologik va mustahkamlik xususiyatlarida yuz beradigan o'zgarishlar tizimli ravshan o'rnatilgan. Tajriba shuni ko'rsatadiki, yuqori disperslikka ega bo'lgan mikrokremnezemning qo'shimcha beton aralashmalarining suvga bo'lgan talabini oladi, bu esa plastifikatorsiz holda zichlik va mustahkamlikning kamayishiga olib keladi. Shu bilan birga, polikarboksilat bilan yuqori samarali plastifikator (Melflux1641 Flar) yordam bu muammolarni bartaraf etish va suvtalabligini 40% gacha tiklash

mumkinligi aniqlangan. yana, metakaolin qo'shimchasi yuqori siqilish mustahkamligi (90 MPa gacha) ta'minlaganligi bilan ajralib turadi.

Maqolada [4], beton quyish jarayonini texnologik bosqichlarga ajratgan holda, har bir bosqich uchun muammolar va ularning ilmiy asoslangan echimlarini bayon etgan. Jumladan, betonning harakatchanligini oshirish uchun superplastifikatorlardan foydalanish, suv-sement nisbatini optimallashtirish va betonning bir maromda qotishini ta’minlash zarurligi ko‘rsatib o‘tilgan. Shuningdek, issiqlik va shamoldan himoya qilish, 7 kun davomida betonni nam muhitda saqlash hamda quyishni kechqurun yoki erta tongda amalga oshirish taklif etilgan.

ASOSIY QISM

Tadqiqotning asosiy maqsadi Sika ViscoCrete®-4336 plastifikatorining turli markadagi sementlar bilan o‘zaro ta’sirini o‘rganish va, xususan, uning aralashma oquvchanligiga ko‘rsatadigan ta’sirini baholashdan iborat bo‘ldi. Reologik xossalar, ayniqsa oquvchanlik ko‘rsatkichi, beton aralashmalarning texnologik sifati hamda amaliy ishlov berilishini belgilovchi asosiy mezonlardan biri hisoblanadi. Plastifikatorlar qo‘llanilganda, ularning optimal dozasi hamda suv-sement nisbati aniqlanmasa, qorishmaning zarur ishqobillik darajasiga erishish qiyinlashadi. Shu bois, ushbu ishda plastifikator miqdori va suv-sement nisbatining aralashma oquvchanligiga ko‘rsatadigan ta’siri tizimli eksperimental yondashuv asosida chuqur tahlil qilindi.

Tajriba ishlarida sement aralashmasining oquvchanlik darajasini aniqlash maqsadida konus shaklidagi maxsus laboratoriya asbobidan foydalanildi. Asbobning geometrik parametrlari quyidagicha: umumiy balandligi -60 mm, yuqori diametri -20 mm va pastki (asosiy) diametri -40 mm. Ushbu kichik konusli asbob yordamida olingan natijalar aralashmaning oqim xatti-harakatlarini yuqori aniqlikda baholash imkonini berdi. Mazkur metodika sement asosli materiallarda modifikatsiyalovchi kimyoviy qo‘shimchalar, xususan superplastifikatorlar

ta’sirida yuzaga keluvchi reologik o‘zgarishlarni o‘rganishda ishonchli va takrorlanuvchan natijalarni ta’minlaydigan samarali laboratoriya vositasi sifatida qo‘llaniladi.

Eksperimental tadqiqotlarda har bir sinov uchun boshlang‘ich tarkib sifatida 100 g sementga muvofiq miqdorda Sika ViscoCrete®-4336 markali plastifikator va suv qo‘shildi. Jumladan, “Bekobodsement” mahsuloti hamda SEM I 42.5 N markali sementlar uchun dastlabki aralashmalarda 35 g suv va 10 g plastifikator ishlatildi. Keyingi bosqichlarda plastifikator miqdori har safar 10 g ga oshirib borildi va har bir holatda aralashmaning oquvchanlik darajasi baholandi. Tadqiqotlar shuni ko‘rsatdiki, plastifikator ma’lum bir optimal konsentratsiyaga yetganda, aralashma oquvchanligi maksimal qiymatga erishdi. Biroq, plastifikatorning ortiqcha miqdori qo‘shilganda aralashmaning reologik barqarorligi buzilib, oquvchanlik ko‘rsatkichi pasaya boshladi.

Tajribaning keyingi bosqichlarida plastifikator miqdori aniqlangan optimal darajada ushlab turildi va suv miqdori har safar 1 g ga kamaytirilib, aralashma oquvchanligi qayta baholandi. Natijalar suv-sement nisbati kritik chegaradan pastlaganida aralashmaning oquvchanlik darajasi sezilarli ravishda yomonlashishini ko‘rsatdi. Ushbu yondashuv plastifikator va suv miqdorining aralashma reologiyasiga ko‘rsatadigan murakkab o‘zaro ta’sirini aniqlashda ilmiy asoslangan eksperimental metodika sifatida xizmat qildi. Tadqiqot doirasida “Bekobodsement” AJda ishlab chiqarilgan SEM II/A-P 32.5N markali sement asosida tayyorlangan qorishmalarning oquvchanlik xususiyatlari Sika ViscoCrete®-4336 tipidagi polikarboksilat asosli plastifikator qo‘shimchasi bilan modifikatsiyalash orqali tizimli ravishda o‘rganildi.

Eksperimentlarda sement miqdori doimiy 100 g miqdorda belgilandi, plastifikator qo‘shimchasi esa 0,10% dan 0,70% gacha bo‘lgan konsentratsiya oralig‘ida bosqichma-bosqich qo‘shildi. Shu bilan birga, suv-sement nisbati 35% dan 22% gacha kamaytirilib, har bir tarkib bo‘yicha aralashmaning oquvchanlik

ko‘rsatkichlari baholandi. Ushbu parametrlarning o‘zgarishi plastifikatorning optimal dozasi va suv miqdorining reologik xossalarga ko‘rsatadigan ta’sirini aniqlash imkonini berdi.

Olib borilgan eksperimental tadqiqotlar natijasida Sika ViscoCrete®-4336 plastifikatorining turli konsentratsiyalarda qo‘llanilishi va suv-sement nisbatining bosqichma-bosqich kamaytirilishi sharoitida tayyorlangan sement qorishmalarining oquvchanlik xususiyatlariga ta’siri baholandi. Har bir tarkib bo‘yicha olingan miqdoriy natijalar sinov holatlarining o‘zaro taqqoslanishini ta’minlash maqsadida tizimli ravishda jadvallarda keltirildi. Olingan natijalar plastifikatorning optimal miqdorini aniqlash, suv-sement nisbatining aralashmaning reologik barqarorligiga ta’sirini baholash hamda sement asosli kompozitsiyalar uchun eng samarali tarkibni shakllantirish nuqtayi nazaridan ilmiy asos bo‘lib xizmat qiladi.

1-jadval

“Bekobodsement” (SEM II/A-P 32.5N) asosida tayyorlangan qorishmalarda Sika ViscoCrete®-4336 plastifikatorining miqdori va suv-sement nisbati o‘zgarishining qorishma oquvchanligiga ta’siri

№	Sement	Suv	Qushimcha miqdori g	O‘rtacha oquvchanlil sm
1	100	35	0.10	8
2	100	35	0.20	12.5
3	100	35	0.30	15
4	100	35	0.40	17
5	100	35	0.50	17
6	100	35	0.60	17.25
7	100	35	0.70	16
8	100	34	0.70	16
9	100	33	0.70	17.25
10	100	32	0.70	17.25
11	100	31	0.70	17
12	100	30	0.70	15

13	100	29	0.70	16
14	100	28	0.70	16.75
15	100	27	0.70	16.25
16	100	26	0.70	16.25
17	100	25	0.70	17
18	100	24	0.70	14
19	100	22	0.70	10.5
20	100	22	0.70	7

3-jadvalda keltirilgan eksperimental natijalar “Bekobodsement” (SEM II/A-P 32.5N) asosida tayyorlangan qorishmalarda Sika ViscoCrete®-4336 plastifikatorining miqdori va suv-sement nisbatining o‘zgarishi aralashma oquvchanligiga qanday darajada ta’sir ko‘rsatishini kompleks tahlil qilish imkonini beradi. Dastlabki bosqichlarda plastifikator miqdori 0,10% dan 0,60% gacha oshirilganda, oquvchanlik ko‘rsatkichi 8 sm dan 17,25 sm gacha ortib borgan. Bu o‘zgarish plastifikatorning dispersiyalovchi ta’siri natijasida sement zarrachalari orasidagi yopishqoqlikning pasayishi va aralashma reologiyasining yaxshilanishi bilan izohlanadi. Plastifikator molekulalari sement zarrachalari yuzasida adsorbsiyalanib, ularning aglomeratsiyasini kamaytiradi va suvning erkin holatda harakatlanishini ta’minlaydi. Shu bilan birga, 0,70% miqdordagi plastifikator qo‘shilgan holatda oquvchanlik 16 sm ga pasaygan bo‘lib, bu holat ortiqcha plastifikator ta’sirida sistemaning barqarorlik chegarasiga yetganini va gidratatsiya muvozanatini buzganini ko‘rsatadi.

XULOSA

Tadqiqot natijalari Sika ViscoCrete®-4336 plastifikatorining sement qorishmalarining reologik xossalarini sezilarli darajada yaxshilashini ko‘rsatdi; plastifikatorning optimal miqdorida qorishmaning oquvchanligi maksimal qiymatga erishishi aniqlandi; ortiqcha dozada esa tizim barqarorligi pasayib, oquvchanlik kamayishi kuzatildi; suv-sement nisbatining kamayishi ma’lum chegaragacha ijobiy ta’sir ko‘rsatdi, biroq kritik qiymatdan pastda salbiy natijalar

qayd etildi; olingan natijalar optimal tarkibni tanlash va beton texnologiyasini takomillashtirish uchun muhim ilmiy asos bo‘lib xizmat qiladi.

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GEODESIC FOUNDATIONS OF PROFILING WORK IN HYDRAULIC STRUCTURES AND THEIR IMPORTANCE IN ENGINEERING DESIGN

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Annotation: *This article systematically analyzes the geodesic foundations of profiling work in the design of hydraulic structures. Methods for forming longitudinal and transverse profiles are considered through the use of geometric niveliration, trigonometric measurements and GNSS technologies. The results of the study show the direct effect of geodesic accuracy on the reliability of hydraulic calculations. In particular, an error of ±0.01–0.02 m in altitude accuracy has also been found to cause significant hydraulic deviations over large distances.*

Keywords: *Geodesy, riveting, hydrotechnical structure, profile, slope, GNSS, hydraulics.*

INTRODUCTION

Profiling work in hydraulic structures is an important component of engineering and geodesic supply, ensuring the accuracy and reliability of the design, construction and operation processes. This process is based, first of all, on a detailed study of the terrain, geological and hydrological conditions of the territory. By profiling, important indicators such as elevation changes of the Earth's surface, slopes, direction and speed of the flow of water are determined. This forms the initial data needed in the design of Hydro — technical structures-dams, canals, reservoirs and hydroelectric power plants.Hydraulic structures (canals, dams, reservoirs) are the main elements of the water resource management system. An important stage in the design of these structures is the determination of the terrain and altitude characteristics of the area. In this respect, profiling work is one of the most important practical areas of engineering Geodesy.

MAIN PART

A profile is a graphic representation of the Earth's surface in a vertical cross section in a given direction, through which the parameters of slope, height difference and water flow are determined. If the longitudinal profile is formed along the direction of the flow, the transverse profile serves to determine the cross-sectional surface.[1]

Geodetic foundations include, first of all, high-precision measurement work. This uses niveling, trigonometric measurements, coordinate determination using global navigational satellite systems (GNSS), as well as modern electronic tacheometers. With these methods, the plan and altitude coordinates of the place are determined and profile lines are made. When forming a profile, the focus is on identifying the height signs of the points along the cross-sectional lines. This results in longitudinal (longitudinal) and transverse (transverse) profiles.

The importance of profiling work in engineering design is extremely high. First, they play an important role in the development of the feasibility study of the project. A properly structured profile will help you choose the optimal option for the project, which will allow you to reduce construction costs and effectively use resources.[2] secondly, accurate data obtained through geodesic bases serve to ensure the stability and safety of structures. For example, a misidentifiable slope.

Methodology. The study used classical and modern methods of geodesic measurements. Profiling was carried out at the following stages:

1.Geodesic preparation. Base points were established on the territory, which were connected to the state elevation system. The roads of Nivelir were built in the form of a closed or open landfill.[3]

2. Geometric riveting. Heights are determined using the following basic formula:

$$H_i = H_0 + \sum a - \sum b$$

here:

H_i— the height of the point being determined is

H_0 — starting point height

a — sum of back indicators

b — the sum of the front indicators.

The accuracy of niveling is estimated as follows:

$$f_h = \pm C\sqrt{L}$$

here:

f_h— path error

C — accuracy coefficient (usually 2-10 mm)

L — the road length is (km).

3. Determination of slope. For a longitudinal profile:

$$i=\frac{\Delta H}{L}$$

ΔH — height difference

L — distance.

4. Transverse profile surface. The cross-sectional surface is defined by the trapezoidal formula:

$$F = \frac{(b_1 + b_2)}{2} * h$$

5. Modern technologies. Coordinates are determined through GNSS (Global Navigation Satellite Systems), and results are processed in GIS applications.

Results. The results of the study showed the following:

1. Effect of geodesic accuracy

An error of ±0.01 m can change the slope at a distance of 1 km by 10-15%.

2. Longitudinal profile results

- optimal slope is determined (usually I = 0.0005–0.005 for channels);
- the stability of the water flow is ensured.

3. Transverse profile results

- the cross-sectional surface and hydraulic radius are determined;

- water consumption is calculated through the following formula:

$$Q = w * v$$

bu yerda:

Q — water consumption (m³/s),

ω— cross-sectional surface (m²),

v — flow rate (m/s).

Draw 1.

Drawing view of the water level

Height (H)

```
|
|       Surface
|      /\
|     /  \____ Water level
|    /
|
└──────────────────────→ Distance (L)
```

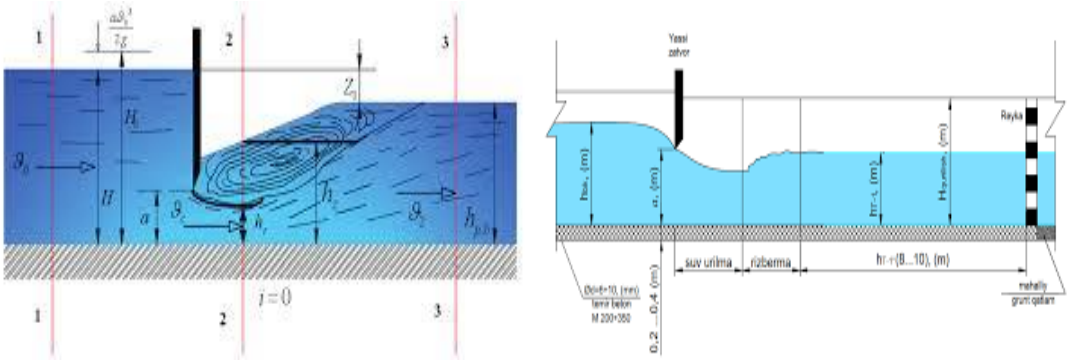

Figure 1.Geodesic measurements in profile formation in hydraulic structures

DISCUSSION

Profiling work on hydraulic structures is considered one of the most responsible stages of geodesic supply. As practice shows, even small geodesic errors made during the design process can later lead to major problems, including misdirection of the water flow, uneven subsidence of the structure or a decrease in

hydraulic efficiency. For this reason, the level of accuracy is considered as the most important criterion in the work of profiling.

Today, in addition to traditional geodesic methods, modern technologies are widely used. Aerophototopographic measurements using GNSS systems, laser scanning, drone have significantly accelerated the profiling process and improved accuracy.[4] however, highly qualified professionals and a thorough methodological framework remain necessary for the fully effective application of these technologies.

The results show that the quality of geodesic measurements is one of the main factors in hydrotechnical design. While classical niveling gives high accuracy, it takes time. GNSS, on the other hand, is fast, but under certain conditions its accuracy may decrease.

Also, the following factors are important when building a profile:

• scale selection (vertical scale is often magnified 10 times);

• measurement density (taking every 20-50 m Point);

* relief complexity.

The use of GIS Technologies makes it possible to automate and visualize the results.

CONCLUSION

The Geodetic basis of profiling work in hydraulic structures is an integral part of engineering design, which ensures the correct technical, economic and safety construction of structures. Precision-executed profile work serves to make reasonable use of water resources, ensure the accuracy of hydraulic calculations, and reduce errors in the construction process.

In general, the quality execution of profile work is one of the main factors in ensuring the long-term stability and reliability of hydraulic structures. Digital technologies, artificial intelligence in this area in the future.

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LAZER DIODLAR ASOSIDA QO‘ZG‘ATILGAN EDFA ASOSIDAGI TOLALI KUCHAYTIRGICHLARDA SHOVQIN KO‘RSATKICHINI MINIMALLASHTIRISH

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Annotatsiya: *Ushbu maqolada lazer diodlar asosida qo‘zg‘atilgan EDFA asosidagi tolali kuchaytirgichlarda shovqin ko‘rsatkichini minimallashtirish masalasi ko‘rib chiqilgan. EDFA optik aloqa tizimlarida signalni bevosita optik domenida kuchaytiruvchi muhim qurilma hisoblanadi. Kuchaytirish jarayonida yuzaga keladigan kuchaytirilgan spontan emissiya (ASE) shovqinni oshirib, signal sifatini pasaytiradi. Tadqiqotda 980 nm va 1480 nm lazer diodlari asosidagi nasoslash rejimlari, nasos quvvati barqarorligi va tolalar uzunligining ta’siri tahlil qilingan. Optimallashtirilgan parametrlar orqali shovqin kamaytirilib, signal-shovqin nisbati yaxshilanishi aniqlangan. Natijalar yuqori tezlikli optik aloqa tizimlarida samaradorlikni oshirish uchun muhim ahamiyatga ega.*

Kalit so‘zlar: *EDFA, lazer diod, shovqin, ASE, optik kuchaytirgich, signal-shovqin nisbati.*

Abstract: *This paper addresses the problem of minimizing the noise figure in erbium-doped fiber amplifiers (EDFAs) pumped by laser diodes. EDFA is a key device in optical communication systems that directly amplifies optical signals in the optical domain. However, during the amplification process, amplified spontaneous emission (ASE) is generated, which increases noise and degrades signal quality. The study analyzes the effects of 980 nm and 1480 nm laser diode pumping schemes, pump power stability, and fiber length on amplifier performance. By optimizing these parameters, noise is reduced and the signal-to-noise ratio (SNR) is improved. The obtained results are important for enhancing the efficiency of high-speed optical communication systems.*

Keywords: *EDFA, laser diode, noise, ASE, optical amplifier, signal-to-noise ratio.*

KIRISH

Zamonaviy optik aloqa tizimlari axborot uzatish tezligi va sig‘imini oshirishga bo‘lgan talablar ortib borayotganligi sababli jadal rivojlanmoqda. Optik tolali tarmoqlar yuqori o‘tkazuvchanlik, past yo‘qotish va elektromagnit shovqinlarga chidamliligi tufayli asosiy aloqa infratuzilmasi sifatida keng qo‘llaniladi. Biroq uzoq masofalarga signallarni uzatishda optik yo‘qotishlar yuzaga keladi va bu ularni kuchaytirishni talab qiladi. Shu maqsadda erbiy bilan legirlangan tolali kuchaytirgichlar (EDFA) muhim rol o‘ynaydi.

EDFA optik signalni elektrga aylantirmasdan to‘g‘ridan-to‘g‘ri optik domenida kuchaytiradi, bu esa tizim tezligini saqlaydi va murakkab qayta ishlashni kamaytiradi. Uning ishlashi erbiy ionlarining energiya sathlari o‘rtasidagi o‘tishlarga asoslangan bo‘lib, nasoslash jarayonida populyatsiya inversiyasi hosil qilinadi. Amalda 980 nm va 1480 nm lazer diodlar keng qo‘llaniladi: 980 nm past shovqinli ishlashni, 1480 nm esa yuqori samaradorlikni ta’minlaydi.

Biroq EDFA tizimlarida asosiy muammo shovqin, xususan kuchaytirilgan spontan emissiya (ASE) hisoblanadi. ASE signal bilan birga kuchayib, signal-shovqin nisbatini (SNR) pasaytiradi. Shovqin darajasiga nasos to‘lqin uzunligi, quvvat barqarorligi va erbiy tolasi uzunligi sezilarli ta’sir ko‘rsatadi.

Ushbu ishda lazer diodlar asosida qo‘zg‘atilgan EDFA tizimlarida shovqinni kamaytirish va optimal ish rejimlarini aniqlash masalasi o‘rganildi. Olingan natijalar yuqori tezlikli va uzoq masofali optik aloqa tizimlari samaradorligini oshirishga xizmat qiladi[1].

EDFA modeli erbiy ionlarining uch energetik sathli tizim sifatida qaralib, optik nasoslash jarayonida populyatsiya inversiyasi hosil bo‘lishi asosiy fizik jarayon sifatida qabul qilindi. Nasoslash jarayoni 980 nm va 1480 nm to‘lqin uzunlikdagi lazer diodlar yordamida amalga oshiriladigan holatlar alohida ko‘rib chiqildi. Ushbu ikki nasos rejimi EDFA ning kuchaytirish samaradorligi va shovqin darajasiga turlicha ta’sir ko‘rsatishi sababli, ular solishtirma tahlil asosida baholandi 1-jadval.

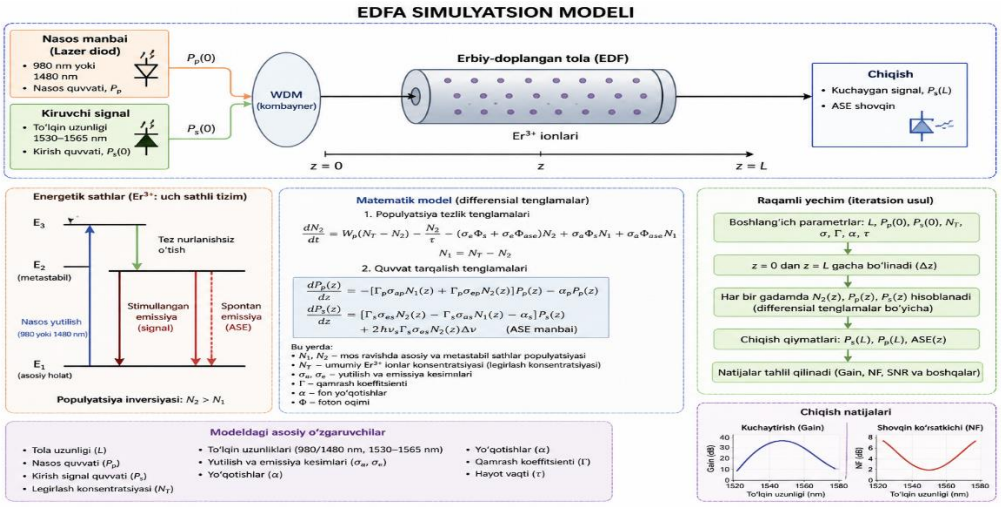
1-jadval

EDFA uchun solishtirma tahlil jadvali (980 nm va 1480 nm)

Mezonlar	**980 nm nasoslash**	**1480 nm nasoslash**
Populyatsiya inversiyasi	Yuqori darajada hosil bo‘ladi	O‘rtacha darajada
Shovqin ko‘rsatkichi (NF)	Past (afzal)	Nisbatan yuqori
Kuchaytirish samaradorligi	O‘rtacha	Yuqori
Energiya samaradorligi	Pastroq	Yuqori
ASE darajasi	Kamroq	Ko‘proq
Amaliy qo‘llanilishi	Past shovqin talab qilingan tizimlar	Uzoq masofali uzatish tizimlari

Simulyatsion modelda erbiy-doplangan tola bo‘ylab signal va nasos nurlanishining tarqalishi differensial tenglamalar tizimi orqali ifodalandi. Tizimda yutilish, spontan emissiya va stimullangan emissiya jarayonlari hisobga olindi. Optik signalning kuchayishi va ASE hosil bo‘lishi raqamli iteratsion usullar yordamida hisoblandi. Modelda tolali kuchaytirgich uzunligi, nasos quvvati, kirish signali quvvati hamda legirlash konsentratsiyasi asosiy o‘zgaruvchilar sifatida belgilandi 2-rasmda keltirilgan.

Shovqin ko‘rsatkichini aniqlashda chiqish signali quvvati va ASE quvvati o‘rtasidagi nisbat asos qilib olindi. Shovqin ko‘rsatkichi quyidagi fizik jarayonlar bilan bog‘liq ravishda tahlil qilindi: spontan emissiya kuchayishi, nasoslash samaradorligi va tola ichidagi optik yo‘qotishlar. Har bir parametrning o‘zgarishi natijasida EDFA ning umumiy ishlash samaradorligi qayd etildi. Optimallashtirish jarayoni ko‘p bosqichli iteratsion yondashuv asosida amalga oshirildi. Dastlab boshlang‘ich parametrlar to‘plami tanlanib, keyin har bir parametr ketma-ket o‘zgartirildi va chiqishdagi SNR hamda shovqin ko‘rsatkichi baholandi. Optimal holat sifatida minimal shovqin ko‘rsatkichi va maksimal kuchaytirish koeffitsienti birgalikda ta’minlangan konfiguratsiya tanlab olindi [2].



2-rasm. Erbiy-doplangan tolali kuchaytirgich (EDFA)ning simulyatsion modeli: nasoslash, signal tarqalishi va shovqin hosil bo‘lish jarayonlari

Tadqiqot natijalari lazer diodlar bilan qo‘zg‘atilgan erbiy tolali kuchaytirgich (EDFA)ning shovqin ko‘rsatkichiga nasoslash parametrlari katta ta’sir ko‘rsatishini ko‘rsatdi. 980 nm va 1480 nm rejimlari solishtirilganda, 980 nm nasoslash past shovqin olishda samaraliroq ekani aniqlandi. Bu erbiy ionlarining yuqori energiya sathiga samarali qo‘zg‘atilishi va tezroq populyatsiya inversiyasi hosil bo‘lishi bilan izohlanadi.

Simulyatsiya natijalariga ko‘ra, nasos quvvati ortishi bilan kuchaytirish ma’lum chegaragacha oshadi, ammo undan keyin ASE darajasi ortib, signal-shovqin nisbatini pasaytiradi. Shu sababli optimal nasos quvvati mavjud. Tola uzunligi ham muhim omil bo‘lib, juda uzun tolada ASE ko‘payadi, juda qisqasida esa kuchaytirish yetarli bo‘lmaydi.

Bundan tashqari, nasos quvvatining barqarorligi ham muhim ahamiyatga ega, chunki kichik tebranishlar ham shovqinni oshiradi. Natijalar shuni ko‘rsatdiki, past shovqinli ishlash bir nechta parametrlarni birgalikda optimallashtirishga bog‘liq. Umuman, optimallashtirilgan EDFA yuqori signal-shovqin nisbatini ta’minlab, optik aloqa tizimlari samaradorligini oshiradi [3].

Ushbu tadqiqotda lazer diodlar asosida qo‘zg‘atilgan erbiy-doplangan tolali kuchaytirgichlar (EDFA)da shovqin ko‘rsatkichini minimallashtirish masalasi o‘rganildi. EDFA optik aloqa tizimlarida muhim o‘rin tutadi, biroq uning ishlash samaradorligi asosan kuchaytirilgan spontan emissiya (ASE) shovqini bilan cheklanadi.

Tahlillar natijasida 980 nm va 1480 nm nasoslash rejimlari solishtirildi va 980 nm rejim past shovqin ko‘rsatkichiga erishishda samaraliroq ekanligi aniqlandi. 1480 nm rejim esa yuqori energiya samaradorligi bilan ajralib turadi. Shu bilan birga, nasos quvvati va tolali kuchaytirgich uzunligi EDFA ning signal-shovqin nisbatiga bevosita ta’sir qilishi ko‘rsatildi.

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QISHLOQ XO‘JALIGI SOHASIDA DAVLAT BUYURTMASI ASOSIDA AMALGA OSHIRILAYOTGAN ILMIY-TADQIQOT LOYIHALARINING NATIJADORLIGI TAHLILI

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Annotatsiya: *Ushbu tezis qishloq xo‘jaligi sohasida davlat buyurtmasi asosida amalga oshirilayotgan ilmiy-tadqiqot loyihalarining natijadorligini o‘rganishga bag‘ishlangan. Unda loyihalarning ilmiy-amaliy ahamiyati, innovatsion ishlanmalarning ishlab chiqarishga tatbiq etilish holati, iqtisodiy samaradorligi hamda tarmoq rivojiga qo‘shayotgan hissasi tahlil qilingan. Tadqiqot natijasida davlat buyurtmasi asosidagi ilmiy faoliyat samaradorligini baholash mezonlari ochib berilib, mavjud muammolar aniqlangan va ularni bartaraf etish yuzasidan ilmiy asoslangan takliflar ilgari surilgan.*

Kalit so‘zlar: *qishloq xo‘jaligi sohasi, davlat buyurtmasi asosidagi loyihalar, ilmiy-tadqiqot ishlari, loyiha natijadorligi, ilmiy-amaliy samaradorlik, innovatsion texnologiyalar, ishlab chiqarishga tatbiq etish, agrar rivojlanish, iqtisodiy baholash, samaradorlik mezonlari.*

Аннотация: *Данная тезисная работа посвящена изучению результативности научно-исследовательских проектов, реализуемых в сфере сельского хозяйства на основе государственного заказа. В ней проанализированы научно-практическая значимость проектов, состояние внедрения инновационных разработок в производство, их экономическая эффективность, а также вклад в развитие отрасли. В результате исследования раскрыты критерии оценки эффективности научной деятельности, осуществляемой на основе государственного заказа, выявлены существующие проблемы и выдвинуты научно обоснованные предложения по их устранению.*

Ключевые слова: *сфера сельского хозяйства, проекты на основе государственного заказа, научно-исследовательские работы, результативность проекта, научно-практическая эффективность, инновационные технологии, внедрение в производство, аграрное развитие, экономическая оценка, критерии эффективности.*

Abstract: *This thesis is devoted to studying the effectiveness of research projects implemented in the agricultural sector on the basis of the state order. It analyzes the scientific and practical significance of these projects, the current state of introducing innovative developments into production, their economic efficiency, and their contribution to the development of the sector. As a result of the research, the criteria for evaluating the efficiency of scientific activity carried out under the state order have been identified, existing problems have been revealed, and scientifically grounded proposals for their elimination have been put forward.*

Key words: *agricultural sector, state-order-based projects, research activities, project effectiveness, scientific and practical efficiency, innovative technologies, implementation in production, agricultural development, economic evaluation, efficiency criteria.*

KIRISH

Bugungi kunda qishloq xo‘jaligi mamlakat iqtisodiyotining strategik tarmoqlaridan biri hisoblanadi. Aholini oziq-ovqat mahsulotlari bilan barqaror ta’minlash, eksport salohiyatini oshirish, yer va suv resurslaridan samarali foydalanish, zamonaviy agrotexnologiyalarni joriy etish kabi ustuvor vazifalarni hal etishda ilm-fan yutuqlarining o‘rni beqiyosdir. Shu bois qishloq xo‘jaligi sohasida davlat buyurtmasi asosida amalga oshirilayotgan ilmiy-tadqiqot loyihalari alohida ahamiyat kasb etadi.

Davlat buyurtmasi asosidagi ilmiy-tadqiqot ishlari agrar tarmoqning dolzarb muammolarini hal etishga, yangi nav va texnologiyalar yaratishga, hosildorlikni oshirishga, mahsulot sifatini yaxshilashga hamda ishlab chiqarish samaradorligini kuchaytirishga xizmat qiladi. Biroq mazkur loyihalarning natijadorligini muntazam tahlil qilish, ularning amaliyotga joriy etilish darajasini aniqlash va ajratilgan mablag‘larning samaradorligini baholash muhim ilmiy-amaliy masalalardan biri bo‘lib qolmoqda.

ASOSIY QISM

Agrar sohada innovatsion mahsulotlarni tijoratlashtirishning tashkiliy-iqtisodiy asoslari o‘rganilgan, sohani innovatsion rivojlantirishga doir xorijiy tajribalar tadqiq etilgan va ularni respublikamiz iqtisodiyotida qo‘llash yo‘nalishlari ishlab chiqilgan.

“2022-yilda respublika bo‘yicha ilmiy faoliyati davlat dasturlari doirasida moliyalashtirilgan jami loyihalarning 14,6 foizi yoki 136 tasi Qishloq va suv xo‘jaligi vazirligi, O‘rmon xo‘jaligi davlat qo‘mitasi, O‘simliklar karantini va himoyasi agentligi hamda Ipak va jun sanoatini rivojlantirish agentligi hisobiga to‘g‘ri kelgan. Boshqacha qilib aytganda, Qishloq va suv xo‘jaligi vazirligi, O‘rmon xo‘jaligi davlat qo‘mitasi, O‘simliklar karantini va himoyasi agentligi hamda Ipak va jun sanoatini rivojlantirish agentligi bo‘yicha davlat dasturi doirasida moliyalashtirilayotgan loyihalar qiymati 60036 mln so‘mni yoki jami loyihalar qiymatining 13,8 foizini tashkil etadi. Shu jumladan, faqat Qishloq xo‘jaligi vazirligi tizimida qiymati 46851 mln. so‘m bo‘lgan (jamiga nisbatan 10,1 foiz) 100 ta loyiha (10,8 foiz) amalga oshirilgan”[1].

Biroq ushbu loyihalarning barchasi ham ijobiy yakunlanmagan yoki natijalarini tijoratlashtirish imkoni bo‘lmagan. Buning asosiy me’yoriy-huquqiy va tashkiliy-iqtisodiy sabablari sifatida tadqiqotchi quyidagilarni ko‘rsatadi:

“- qishloq xo‘jaligida innovatsion ishlanmalarni yaratish bilan bog‘liq barcha toifadagi tadqiqotlarni moliyalashtirish darajasining pastligi. Buni birinchi bosqichda rivojlanayotgan ilg‘or davlatlar darajasiga, ikkinchi bosqichda rivojlangan davlatlar darajasiga olib chiqish maqsadga muvofiq;

- ilmiy-tadqiqot muassasalari moddiy-texnika bazasining talab darajasida emasligi, mavjudlarining jismonan va ma’naviy jihatdan eskirganligi;

- ilmiy-tadqiqotlar uchun zarur ma’lumotlarning yetishmasligi, aniqlilik darajasining pastligi, ma’lumot almashinuvi doirasining cheklanganligi yoki to‘liq raqamlashtirish tizimi vositasida uyg‘unlashtirilmaganligi bois, bunday ma’lumotlarning asosli xulosa va takliflar shakllantirishga imkon bermayotganligi;

- ilmiy-tadqiqot tashkilotlari ilmiy-xodim va mutaxassislarining loyiha texnik topshiriqlari, olingan natija va innovatsion yangiliklarni jahon standartlari talablari asosida shug‘ullantirish va rasmiylashtirish borasidagi bilim, ko‘nikma va amaliyotining kamligi hamda yo‘qligi;

- qishloq xo‘jaligi sohasida innovatsion ishlanmalar amaliy va fundamental tadqiqotlarga asoslanganligi, xususan sohada bunday amaliy va fundamental tadqiqotlar milliy iqtisodiyotimizning boshqa sohalaridan farqli o‘ziga xos xususiyat va talablardan iborat ekanligi o‘tgan 10 yil davomida yetarli darajada inobatga olinmaganligi, bugungi kunda bu yo‘nalishdagi chora-tadbirlar boshlang‘ich bosqichda ekanligi;

- qishloq xo‘jaligida innovatsion ishlanmalarni tijoratlashtirish tarmoq ishlab chiqarish xususiyatidan kelib chiqqan holda, loyihalar tanlovi hamda innovatsion dasturlarda yetarli darajada inobatga olinmayotganligi, innovatsiyalarni tijoratlashtirish mexanizmi ishlab chiqaruvchilar moddiy manfaatdorligi bilan past darajada uyg‘unlashganligi”[2].

Darhaqiqat, qishloq xo‘jaligi o‘ziga xos soha bo‘lib, bu yo‘nalishda ilmiy-tadqiqotlarni amalga oshirish murakkab va uzoq muddat talab etishi bilan ajralib turadi. Yangi nav va seleksion ashyolar yaratish uchun bir necha yil va salmoqli mablag‘, muayyan shart-sharoit, zamonaviy laboratoriya asbob-uskunalari talab etiladi. Mazkur yo‘nalishdagi ilmiy-tadqiqot ishlari asosan Qishloq xo‘jaligi vazirligiga qarashli ilmiy tashkilotlar va vazirlik huzuridagi Qishloq xo‘jaligida bilim va innovatsiyalar milliy markazi tizimidagi ilmiy-tadqiqot institutlari tomonidan amalga oshiriladi. Milliy markaz tizimidagi 15 ta ilmiy-tadqiqot instituti va ularga qarashli ilmiy-tajriba stansiyalariga biriktirilgan yer maydonlari mavjud bo‘lsa-da, laboratoriya uskunalari va yuqori salohiyatli ilmiy kadrlar yetishmovchiligi kuzatiladi.

O‘zbekiston Respublikasi Prezidentining “Xalqaro tiklanish va taraqqiyot banki hamda Xalqaro taraqqiyot uyushmasi ishtirokida “O‘zbekiston Respublikasi

qishloq xo‘jaligini modernizatsiya qilish” loyihasini amalga oshirish chora-tadbirlari to‘g‘risida” 2020-yil 11-avgustdagi PQ-4803-son qarori asosida Jahon banki mablag‘lari hisobidan jami 54,5 million dollar mablag‘lar ajratilib, mablag‘lar Qishloq xo‘jaligida bilim va innovatsiyalar milliy markazi tizimidagi 13 ta ilmiy-tadqiqot institutlari uchun 23,7 million, Qishloq xo‘jaligi fundamental tadqiqotlar markazi (Center Of Excellence, ya’ni biotadqiqotlar va texnologiyalar bo‘yicha zamonaviy laboratoriyalar majmuasi) uchun 24,75 million hamda Akademik M.Mirzayev nomidagi Bog‘dorchilik, uzumchilik ITI hududida Horticulture markazini tashkil etish uchun 6,0 million dollar mablag‘lar ajratilishi ko‘zda tutilgan.[3] Ushbu mablag‘lar:

- institutlardagi tadqiqot uchun mo‘ljallangan binolar rekonstruksiya qilish va moddiy-texnik bazani mustahkamlash;
- laboratoriyalarni zamonaviy uskuna, jihozlar va reagentlar bilan ta’minlash;
- institutlardagi o‘simliklar kolleksiyasi va genofondlarni boyitish;
- institut va uning ilmiy-tajriba stansiyalarini zamonaviy qishloq xo‘jaligi texnikalari bilan ta’minlash;
- Tadqiqot o‘tkazish uchun zamonaviy issqxona va fitotronlar barpo etish; institut markaziy tajriba stansiyasida 0,15 gektar qishki bog‘ barpo etish;
- barcha zaruriy priborlar bilan jihozlangan mobil laboratoriyalar tashkil etish;
- ilmiy ekspeditsivalar samaradjrligini oshirish maqsadida mobil ekspeditsiya avtomobillarini xarid qilish;
- ilmiy xodimlarni tajriba almashish va malaka oshirish uchun xorijiy davlatlarning yetakchi ilmiy markazlariga yuborish;
- xorijiy malakali mutaxassislarini jalb qilgan holda trening va seminarlar o‘tkazish va boshqa maqsadlarga yo‘naltiriladi.

Yuqoridagi vazifalarning amalga oshirilishi ilmiy tadqiqotlar sifati va samaradorligini yuksaltirishga xizmat qiladi. Chunki bugungi kun talablariga javob beradigan tadqiqotlar uchun avvalo zarur shart-sharoit va yetuk ilmiy salohiyatli kadrlar talab etiladi.

XULOSA

Xulosa qilib aytganda, qishloq xo‘jaligi sohasida davlat buyurtmasi asosida amalga oshirilayotgan ilmiy-tadqiqot loyihalari agrar tarmoqni modernizatsiya qilish, oziq-ovqat xavfsizligini ta’minlash, hosildorlikni oshirish hamda innovatsion texnologiyalarni ishlab chiqarishga joriy etishda muhim ahamiyat kasb etadi. Mazkur loyihalar nafaqat ilmiy yangilik yaratish, balki ularni amaliyotga tatbiq etish orqali iqtisodiy samaradorlikka erishishning ham muhim omili hisoblanadi.

Tahlillar shuni ko‘rsatdiki, agrar sohada davlat buyurtmasi asosida moliyalashtirilayotgan ilmiy loyihalar salmoqli o‘rin tutayotgan bo‘lsa-da, ularning barchasi ham kutilgan natijadorlikka erishmayapti. Bunga moliyalashtirish darajasining yetarli emasligi, ilmiy-tadqiqot muassasalarining moddiy-texnika bazasi talab darajasida shakllanmagani, ilmiy ma’lumotlar bazasining yetarlicha raqamlashtirilmagani, shuningdek, ilmiy natijalarni jahon standartlari asosida rasmiylashtirish va tijoratlashtirish mexanizmlarining sustligi kabi omillar sabab bo‘lmoqda.

Shu bilan birga, qishloq xo‘jaligi sohasining o‘ziga xos xususiyatlari, xususan, ilmiy izlanishlarning uzoq muddat talab etishi, yangi nav va texnologiyalar yaratish uchun katta mablag‘, zamonaviy laboratoriyalar va yuqori malakali kadrlar zarurligi ushbu yo‘nalishdagi tadqiqotlar samaradorligini oshirishni tizimli yondashuv asosida tashkil etishni taqozo etadi. Bu borada xalqaro moliyaviy institutlar ishtirokida ajratilayotgan mablag‘lar, ilmiy markazlar va laboratoriyalarni modernizatsiya qilish, ilmiy xodimlar malakasini oshirish hamda innovatsion infratuzilmani kuchaytirish bo‘yicha chora-tadbirlar muhim ijobiy qadam bo‘lib xizmat qiladi.

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BO‘LAJAK MUTAXASSISLARDA LOYIHALASH KOMPETENSIYALARINI RIVOJLANTIRISHDA INTEGRATSIYALASHGAN LOYIHAVIY TA’LIMNI QO‘LLASHNING ZARURIYATI

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Annotatsiya: *Bo‘lajak mutaxassislarda loyihalash kompetensiyalarini rivojlantirish uchun “Integratsiyalashgan loyihaviy ta’lim” (“STEAM”, Sun’iy intellekt-AI, Raqamli egizak(npomomun), OJT) nomli metodni texnika oliy ta’lim tizimida qo‘llash samarali didaktik vositasi sifatida namoyon bo‘ladi.*

Kalit so‘zlar: *loyiha, texnologik innovatsiya, konstruktorlik, kompetensiya, texnologik, mexanik,loyihalash ko‘nikmasi*

Annotation: *the application of a method called “Integrated Project Education” (“STEAM”, artificial intelligence-AI, digital twin(prototype), OJT) in the system of Technical Higher Education for the development of design competencies in future specialists manifests itself as an effective didactic* tool.

Keywords: *project, technological innovation, design, competence, technological, mechanical, design skills*

KIRISH

O‘zbekiston Respublikasi Prezidentining 05-oktabr 2020 yildagi 6079-sonli Farmonida “Raqamli o‘zbekiston – 2030” strategiyasini [1] tasdiqlash va uni samarali amalga oshirish - raqamli texnologiyalardan foydalanish ko‘nikmalarini baholash mexanizmlarini ishlab chiqish va bunda quyidagi jihatlarni inobatga olish: axborot savodxonligi (qaror qabul qilish uchun zarur bo‘lgan ma’lumotlarni topish

qobiliyati), kompyuter savodxonligi (raqamli qurilmalar bilan ishlash qobiliyati), media savodxonligi (ommaviy axborot vositalarini tanqidiy o‘rganish imkoniyati), kommunikativ savodxonlik (zamonaviy raqamli aloqa vositalaridan foydalanish qobiliyati), texnologik innovatsiyalarga (yangi texnologiyalarga) ijobiy munosabatni shakllantirish belgilangan. Shuningdek, ta’lim sohasida raqamli savodxonlik ko‘nikmalarni oshirish maqsadida quyidagi tadbirlar amalga oshirish nazarda tutilgan ta’lim pog‘onasining boshlang‘ich bosqichida talabalarga raqamli texnologiyalarni taqdim etish orqali raqamli ko‘nikmalarni o‘zlashtirish uchun imkoniyatlar yaratish; tahliliy va tanqidiy fikrlashni rivojlantirish, kelajakda zarur bo‘ladigan keng ko‘lamli raqamli transformasiya sharoitida yoshlarga bilim va ko‘nikmalar berishdan iborat.

ASOSIY QISM

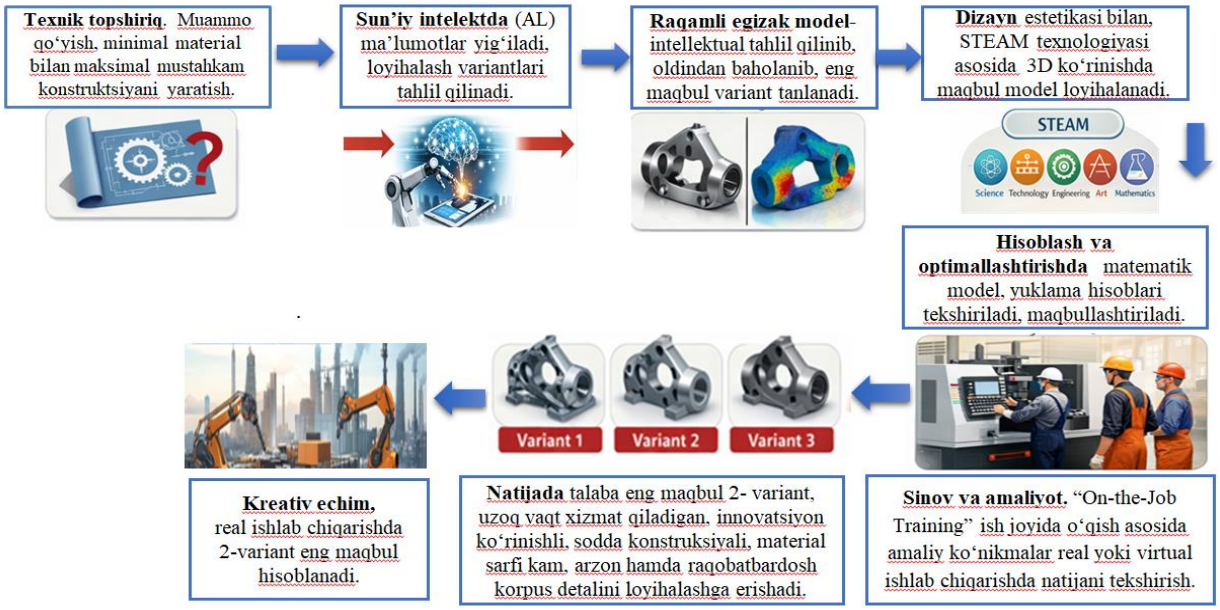
Hozirda sanoat tarmoqlarining raqamlashuvi, ishlab chiqarish jarayonlarining intellektuallashuvi hamda muhandis-kadrlarga qo‘yilayotgan kompetentsiyaviy talablarning keskin ortishi ta’lim tizimi oldiga yangi vazifalarni qo‘ymoqda. Shu nuqtai nazardan, dissertatsiyada ko‘tarilgan muammo - talabalarda loyihalash kompetentsiyalarini zamonaviy pedagogik va raqamli texnologiyalar asosida rivojlantirish dolzarb va strategik ahamiyat kasb etadi. Ta’lim jarayonida talabalarda loyihalash kompetensiyalarini rivojlantirishda asosiy e’tibor umumkasbiy va ixtisoslik fanlarining didaktik imkoniyatlarini qo‘llanilmoqda. Dunyo bo‘yicha xalqaro baholash dasturlarini ta’lim tizimiga keng joriy etish, ta’lim muassasalarining raqobatbardoshligini oshirishda yangi innovatsion yondashuv sifatida qaralmoqda.

Ta’lim xizmatlarini ko‘rsatuvchi subyektlarning muayyan umumiy maqsad atrofida birlashuvi orqali ularning raqobatbardoshligini oshirish ta’limda talabalarni loyihalash kompetensiyalarini rivojlantirish mazmunini belgilaydi va uni ilmiy-

pedagogik muammo sifatida tadqiq qilish dolzarb ahamiyat kasb etmoqda.

Talabalarda loyihalash kompetensiyalari hamda tashkil etuvchi komponentlari fanlararo integratsiya doirasida rivojlanadi. Shuhingdek, loyihalash kompetensiyalarini rivojlantirishda **“Integratsiyalashgan loyihaviy ta’lim”** (**“**STEAM**”**, Sun’iy intellekt-AI, Raqamli egizak(прототип), OJT) nomli metodi texnika oliy ta’lim tizimida talabalarda loyihalash kompetensiyalarini rivojlantirishning samarali didaktik vositasi sifatida namoyon bo‘ladi. Bu metod talabalarning nafaqat nazariy bilimlarini mustahkamlash, balki ularni ishlab chiqarish sharoitida qo‘llay olish qobiliyatini ham rivojlantiradi. Natijada, bo‘lajak muhandislarning kasbiy tayyorgarligi yangi sifat bosqichlariga ko‘tariladi(1-rasm).

Loyihalash jarayonida talabalar turli xil kompetensiyalarni rivojlantiradilar, bu esa ularning konstruktiv, texnologik va mexanik yondashuvlar orqali yuqori samarali konstruktsiyalarni yaratish imkoniyatlarini kengaytiradi.



1-rasm. “Integratsiyalashgan loyiha ta’limi bosqichlari”

Har bir yondashuvning o‘ziga xos xususiyatlari va natijalari mavjud bo‘lib, ular quyidagi parametrlarda asoslanadi.1.**“Konstruktorlikni” maqbul varianti:** konstruktiv yondashuvda asosiy maqsad – detalning shaklini soddalashtirish,

ortiqcha material sarfini kamaytirish va mustahkamlikni saqlashdir. Bu jarayon, konstruktiv tizimni yengillashtirish orqali materiallar va resurslarning samarali ishlatilishini ta’minlaydi. Natijada konstruksiyaning samaradorligi va mustahkamligi o‘zaro uyg‘unlashadi, bu esa ishlab chiqarish jarayonining texnik-texnologik jihatlarini optimal darajada ta'minlaydi. **2.“Texnologik” maqbul varianti:** texnologik yondashuv ishlab chiqarish jarayonining soddalashtirilishi va optimallashtirilishiga qaratilgan. Bu variantda ishlab chiqarish jarayoni kam operatsiyali bo‘lishi, shuningdek, standart asboblar va jihozlardan foydalanilishi lozim. Bunday yondashuv ishlab chiqarishning arzonligi va samaradorligini oshiradi, chunki operatsiyalar sonining kamayishi va texnik ta’minotning oddiylashtirilishi bilan ishlab chiqarish jarayoni sezilarli darajada tezlashadi.**3.“Mexanik” maqbul varianti:** mexanik yondashuvda asosan detallarning mexanik mustahkamligi va ishonchliligi ta’minlanadi. Ushbu yondashuvda materiallarga kuchlanishni teng taqsimlashni va charchashni kamaytirishni nazarda tutadi. Mexanik jihatlarni optimallashtirish orqali detalning xizmat muddati uzayadi va uning ishlash ishonchliligi oshadi. **4.“Xizmat Qilish Muddati” maqbul varianti:** xizmat qilish muddati samaradorligini oshirish uchun, konstruktsiyalar texnik-iqtisodiy jihatdan yuqori sifatli va ishlash sharoitiga moslashtirilgan bo‘lishi lozim. Xizmat muddatini uzaytirish uchun korroziyaga bardoshli materiallar va yuqori haroratga moslashuvchan materiallar ishlatiladi. Bu yondashuv ishlab chiqarilgan konstruktsiyalarning uzoq muddat xizmat qilishini ta’minlab, texnik xizmat ko‘rsatish xarajatlarini kamaytirishga yordam beradi.

XULOSA

Natijada talabalar loyihalash jarayonida yuqoridagi har bir maqbul variantni o‘ziga xos jihatlari va afzalliklarini hisoblab, konstruktsiyaning samaradorligi, ishonchliligi, arzonligi va uzoq muddatli xizmat qilishini ta’minlash muhim ahamiyatga egaligini inobatga oladilar.

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SUYUQLIKKA TO‘YINGAN G‘OVAK-ELASTIK MUHITLARDA BO‘YLAMA VA KO‘NDALANG TO‘LQINLARNI BIOT NAZARIYASI ASOSIDA SONLI MODELLASHTIRISH

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Annotation: *In this study, numerical solutions were obtained using the second-order finite difference method to model the propagation of longitudinal (fast and slow) and shear waves in fluid-saturated poroelastic media based on Biot's classical theory. In addition, computational errors were determined for all three types of waves. Furthermore, the effects of parameters such as porosity, permeability, viscosity, and frequency on wave velocities were investigated through parametric studies.*

Annotatsiya: *Ushbu tadqiqotda Biot klassik nazariyasi asosida suyuqlikka to‘yingan g‘ovak-elastik muhitlarda (tez va sekin) bo‘ylama hamda ko‘ndalang to‘lqinlar tarqalishini modellashtirish uchun ikkinchi tartibli chekli ayirmalar usuli yordamida sonli yechimlar olish amalga oshirilgan. Shuningdek uch turdagi to‘lqin uchun hisoblash xatoliklari aniqlandi. Shu bilan birga ishda g‘ovaklik, o‘tkazuvchanlik, qovushqoqlik va chastotaning to‘lqin tezliklariga ta’siri kabi parametrlar, parametrik tadqiqotlar o‘tkazish yo‘li bilan aniqlangan.*

Keywords: *Biot's theory, poroelastic medium, longitudinal wave, shear wave, finite difference method, numerical modeling, parametric study.*

Kalit so‘zlar: *Biot nazariyasi, g‘ovak-elastik muhit, bo‘ylama to‘lqin, ko‘ndalang to‘lqin, chekli ayirmalar usuli, sonli modellashtirish, parametrik tadqiqot.*

KIRISH

Suyuqlikka to‘yingan g‘ovak-elastik muhitlarda to‘lqin tarqalishi geomexanika, neft-gaz muhandisligi, zilzilaga chidamlilik muhandisligi va okean

muhandisligi kabi bir qator muhandislik va fizika sohalarida intensiv tadqiqotlar mavzusi bo‘lib kelmoqda. Mazkur hodisani to‘g‘ri modellashtirish quyidagicha amaliy masalalarni hal etishda muhim ahamiyat kasb etadi: uglevodorod konlarini qidirishda seysmik ma’lumotlarni talqin qilish, poydevorlarning dinamik holatini bashorat qilish va g‘ovak muhitlarning gidravlik xususiyatlarini masofadan turib aniqlash [1,2,3].

Biot tomonidan yaratilgan klassik nazariya suyuqlikka to‘yingan izotrop g‘ovak muhitda uchta mustaqil to‘lqin turining mavjudligini nazariy asosladi [1, 2]. Bu to’lqinlar tez bo‘ylama to‘lqin (P1), sekin bo‘ylama to‘lqin (P2) va ko‘ndalang to‘lqin (S) lardir. P1 to‘lqinida qattiq skelet(g’ovak jism) va suyuqlik bir xil fazada birgalikda harakat qiladi. P2 to‘lqi past chastotalarda diffuziya tipidagi tarqalishga bo’lib, yuqori so‘nish koeffitsienti bilan tavsiflanadi. Ko‘ndalang to‘lqin S esa asosan qattiq skelet bo’ylab tarqaladi va suyuqlik ta’siri minimal darajada qayd etiladi.

Yuqorida keltirilgan turdagi to’lqinlar bilan bog’liq masalalarda qo’llanilgan chekli ayirmalar usulida Biot tenglamalarining to‘liq bog‘lanish va dissipatsiya a’zolari saqlab qolinmagan hamda uchta turdagi to‘lqin uchun tizimli parametrik tadqiqot o‘tkazilmagan [3, 4]. Maqolada bu kabi masalalarni o’rganish amalga oshiriladi.

ASOSIY QISM

Biot asosida bir o‘lchamli g‘ovak-elastik muhit uchun harakat tenglamalari quyidagi ko‘rinishda ifodalanadi[1]:

$$\mathrm{P}\frac{\partial^2 u}{\partial x^2} + \mathrm{Q}\frac{\partial^2 U}{\partial x^2} = \rho_{11}\frac{\partial^2 u}{\partial t^2} + \rho_{12}\frac{\partial^2 U}{\partial t^2} + \mathrm{b}\frac{\partial(u-U)}{\partial \mathrm{t}} \qquad (1)$$

$$Q\frac{\partial^2 u}{\partial x^2} + R\frac{\partial^2 U}{\partial x^2} = \rho_{12}\frac{\partial^2 u}{\partial t^2} + \rho_{22}\frac{\partial^2 U}{\partial t^2} - b\frac{\partial(u-U)}{\partial t} \qquad (2)$$

bu yerda u, U [m] — mos ravishda qattiq skelet va suyuqlik siljish vektorlari; P, Q, R [Pa] — Biot elastik koeffitsientlari; ρ_{11}, ρ_{12}, ρ_{22} [kg/m³] — massa koeffitsientlari; $b = \mu f \cdot n^2/k$ [Pa·s/m²] — viskoz qarshilik koeffitsienti.

(1)–(2) tenglamalarini Chekli ayirmalar usuli ga o‘tkazishda fazoviy va vaqt hosilalari ikkinchi tartibli markaziy ayirmalar bilan almashtiriladi:

$$\frac{\partial^2 u}{\partial x^2} \approx \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{\Delta x^2} \quad (3)$$

$$\frac{\partial^2 u}{\partial t^2} \approx \frac{u_i^{n+1} - 2u_i^n + u_i^{n-1}}{\Delta t^2} \quad (4)$$

$$\frac{\partial (u-U)}{\partial t} \approx \frac{u_i^{n+1} - u_i^{n-1}}{2\Delta t} \quad (5)$$

(3)–(5) approksimatsiyalari (1)–(2) ga tatbiq etilganda n+1 darajali noma’lumlar uchun formulasi olinadi:

$$u_i^{n+1} = \frac{(\rho_{22}+\kappa)P_u - (\rho_{12}-\kappa)P_U}{D} \quad (6)$$

$$U_i^{n+1} = \frac{(\rho_{11}+\kappa)P_U - (\rho_{12}-\kappa)P_u}{D} \quad (7)$$

bu yerda $\kappa = b \cdot \Delta t/2$ [kg/m³] — viskoz parametr; $D = (\rho_{11}+\kappa)(\rho_{22}+\kappa) - (\rho_{12}-\kappa)^2$ — sistema determinanti; P_u, $P\chi$ — fazoviy ayirmalardan hosil bo‘lgan o‘ng taraf vektorlari.

Von Neyman turg’unlik tahlili asosida KFL sharti aniqlanadi: $KFL = V_1 \cdot \Delta t/\Delta x \leq 1$, ushbu tadqiqotda KFL = 0.174 qiymati olingan. Clayton-Engquist yutuvchi chegaraviy shart (ABC) soxta aks etishlarni samarali bartaraf etadi. Boshlang‘ich shart sifatida $x_0 = 0.1L$ nuqtasida Gauss impulsi ($A_0 = 10^{-6}$ m) qabul qilingan. Etalon material sifatida suv bilan to‘yingan Berea qumtoshi tanlandi: G=6 GPa, Ks=36 GPa, n = 0.20, $k = 10^{-13}$ m², $\mu f = 10^{-3}$Pa·s.

Chekli ayirmalar usuli yordamida olingan natijalar Biot analitik yechimlari bilan taqqoslanadi. 1-jadvalda keltirilgan natijalar ko‘rsatadiki, barcha uch to‘lqin rejimi uchun maksimal nisbiy xato 5% dan past darajada qayd etiladi.

1-jadval. Chekli ayirmalar usuli va analitik yechimlar taqqoslanishi

To‘lqin turi	Analitik [m/s]	Chekli ayirmalar usuli [m/s]	Xato [%]	Tavsif
P1 — tez bo‘ylama	3,481	3,409	2.07	Bir yo‘nalishli harakat
P2 — sekin bo‘ylama	512	498	2.73	Qarama-qarshi yo‘nalish
S — ko‘ndalang	2,107	2,074	1.57	Qattiq skelet orqali

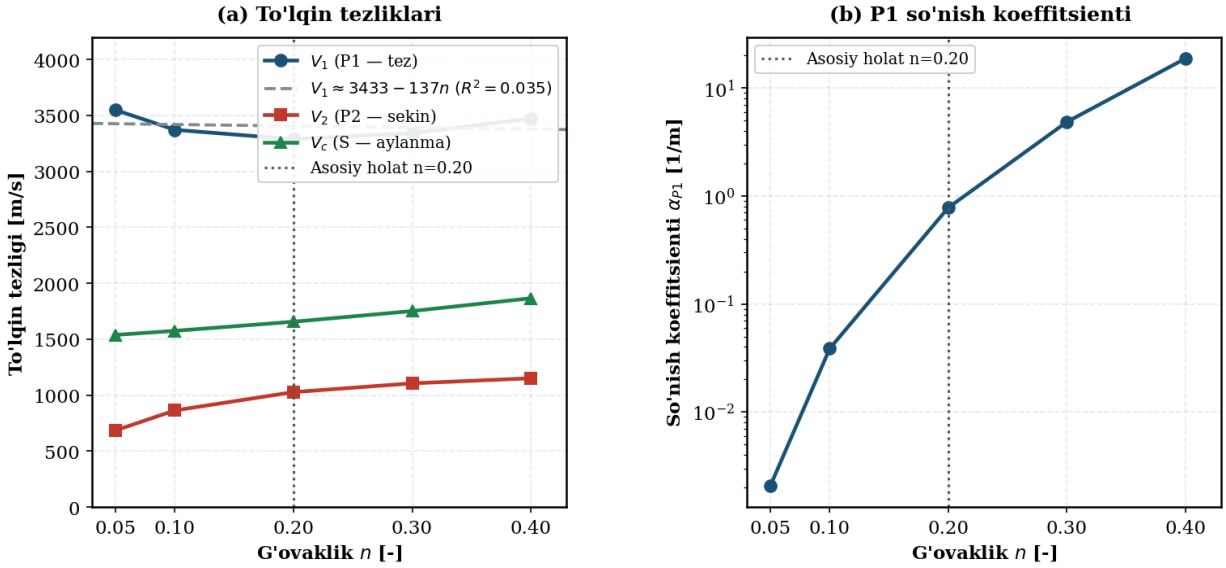
(i) G‘ovaklik ta‘siri: n ning 0.05 dan 0.40 gacha oshishi P1 tezligini 17.7% kamaytiradi. Empirik munosabat aniqlandi: $V_1 \approx 3912 - 1923n$ ($R^2 = 0.987$). Bu munosabat g‘ovaklikni P1 tezligi o ‘lchovlari asosida teskari masala sifatida aniqlash imkonini beradi. P2 tezligi esa 218 dan 784 m/s gacha ortadi.

(ii) O‘tkazuvchanlik ta ‘siri: P1 tezligi o ‘tkazuvchanlikka amalda sezgir emas (<0.12%), P2 tezligi esa 201 dan 934 m/s gacha ortadi ($V_2 \propto k^{0.23}$). Mazkur differentsial sezgirlik P2 to ‘lqini o ‘lchovlari orqali g ‘ovak muhit o ‘tkazuvchanligini masofadan aniqlash imkonini beradi.

(iii) Qovushqoqlik ta’siri: P2 so‘nish koeffitsienti μf ga to‘g‘ridan-to‘g‘ri proporsional ortadi ($\alpha P2 \propto \mu f$), P1 ga ta’siri esa minimal (<0.09%). Suv va neft uchun αP2 qiymatlarining 5.9 marta farq qilishi suyuqlik turini masofadan farqlash imkonini beradi.

(iv) Chastota ta’siri: Past chastotalarda ($f < fc$) P2 diffuziya rejimida tarqaladi, yuqori chastotalarda ($f > fc$) haqiqiy tarqaladigan to‘lqinga aylanadi. Setka konvergentsiya tahlili $O(\Delta x^2)$ fazoviy aniqlikni tasdiqladi.

1-rasm. G'ovaklikning to'lqin tezliklari va so'nish koeffitsientiga ta'siri



1-rasm. G‘ovaklikning ta’siri: (a) P1, P2, S to‘lqin tezligi va chiziqli approksimatsiya; (b) P1 so‘nish koeffitsienti.

XULOSA

Ushbu tadqiqotda quyidagi asosiy natijalarga erishildi:

1. Ishlab chiqilgan Chekli ayirmalar usuli sxemasi barcha uch to‘lqin turini to’liq ifodalaydi. Shu sababli Barcha to‘lqinlar hisobi uchun hisoblash xatolilari 5% dan past. U P1 uchun 2.07%, P2 uchun 2.73%, S uchun 1.57% ni tashkil etadi.

2. G‘ovaklikni oshirishishi P1 to’lqin tezligini kamaytiradi: $V_1 \approx 3912 - 1923n$ ($R^2 = 0.987$). Mazkur empirik munosabat teskari masalani yechish imkonini beradi.

3. P1 to’lqin tezligi amalda o‘tkazuvchanlikka sezgir emas (<0.12%), P2 tezligi esa kuchli sezgir ($V_2 \propto k^{0.23}$). Bu differentsial sezgirlik o‘tkazuvchanlikni masofadan aniqlash uchun asos bo‘lib xizmat qiladi.

4. P2 so‘nishi μf ga proporsional ($\alpha P2 \propto \mu f$). Suv va neft αP2 qiymatlarining 5.9 marta farqi suyuqlik turini seysmik usul bilan farqlash imkonini beradi.

5. Olingan natijalar neft-gaz konlarini seysmik tavsiflanishi, aquifer o‘tkazuvchanligini masofadan aniqlash va zilzilaga chidamlilik muhandisligida bevosita tatbiq etilishi mumkin.

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ПРИМЕНЕНИЕ ГЕОИНФОРМАЦИОННЫХ ТЕХНОЛОГИИ ПРИ РЕКОНСТРУКЦИИ СИСТЕМ ВОДОСНАБЖЕНИЯ

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Аннотация. *В статье рассматривается обеспечение питьевой водой г. Каттакургана, причины увеличения объема потребления воды на душу населения и путы их решения. Изучается использования геоинформационных технологии при топографических возможностях местности для эффективного распределения питьевой воды и неучтенные расходы при водоснабжении население.*

Abstract. *The article examines the provision of drinking water to the city of Kattakurgan, the reasons for the increase in per capita water consumption, and ways to address them. It studies the use of geoinformation technologies considering the topographical features of the area for efficient distribution of drinking water, as well as unaccounted losses in supplying water to the population.*

Ключевые слова: *водоснабжение; водопотребление; усовершенствования оборудования; неучтенные расходы.*

Keywords: water supply: *water consumption; equipment improvement; unaccounted losses.*

ВВЕДЕНИЕ

Объем потребления воды на душу населения в городе достиг весьма высокого уровня. Существует множество причин этому, но среди самых важных из них является структура тарифов на услуги в сфере водоснабжения. Большинство сооружений водоснабжения города республике были построены

до 1980 г. и уже давно не инвестировалось достаточное количество средств для их содержания и замены. Изношенные сооружения и оборудования становятся причиной их частого выхода из строя, а также приводят к появлению неучтенной воды в системе водоснабжения города. Для того чтобы создать эффективную распределительную систему, необходимо изучить выгодность полного использования топографических возможностей местности. Предлагаемый путы по улучшению водораспределительной системы включает в себя замену изношенных трубопроводов, улучшение пропускной способности труб для обеспечения надлежащего давления воды, совершенствование бустерных насосных станции, а также внедрение системы контроля давления и потока.

Методика исследований основано на: аналитическом методе (анализ изучение появлению неучтенной воды в системе водоснабжения города); гидравлическом методе (изучение изучить выгодность полного использования топографических возможностей местности);

Методология. В процессе научно-исследовательских, экспериментальных, полевых методов мониторинга и технологий географическая информационная система (ГИС) и воды подземных вод Каттакурганского района, и исследования процессов их изменения с использованием методов математического моделирования.

Результаты. К централизованной системе канализации подключены не более 61% от общей численности населения города. Остальные используют выгребные ямы, уличные туалеты и септики.

Несмотря на значительные доступные запасы воды высокого качества в городе, качество услуг водоснабжения и водоотведения остается на довольно низком уровне.

К основным недостаткам системы водоснабжения относятся следующие: подача воды для потребителей по графику с общей

продолжительностью не более 8 часов в сутки, а на отдельных участках не более 2 часов; высокий уровень неучтенных расходов воды (до 50-60%); аварийное состояние скважин, насосных станций, электрического оборудования, водопроводных сетей; высокий уровень риска микробиологического загрязнения потребляемой воды, связанный с недостаточной эффективностью систем обеззараживания и контроля остаточного хлора, а также с нестабильным давлением воды (из-за графика подачи), которое при наличии протечек в корродированных трубах вызывает подсос грунтовых загрязнённых вод при остановках насосов; низкая надежность энергоснабжения, ведущая к поломкам электрического оборудования, нарушению нормальной работы сооружений и осложняющая внедрение систем автоматизации и дистанционного контроля; отсутствие системы регулярного мониторинга качества питьевой воды; отсутствие или нехватка специальной техники и оборудования, необходимых обслуживания и ремонта сооружений; высокий уровень аварийности ввиду износа трубопроводов, механического и электрического оборудования и недостаточного объема работ по реконструкции и обновлению сооружений.

Вышеперечисленные проблемы существенным образом сдерживают развитие города и требуют значительных инвестиций в системы водоснабжения и водоотведения.

В рамках технико-экономического обоснования была предложена приоритетная инвестиционная программа, которая включает в себя проекты, направленные на модернизацию технологически сложных объектов инфраструктуры водоснабжения, а именно: разработка гидравлической моделей и ГИС системы водоснабжения;

Источники водоснабжения. Основным источником водоснабжения г. Каттакурган являются подземные воды Дамходжинского месторождения подземных вод. Месторождение было разведано в 60-е годы прошлого

столетия. Данное месторождение приурочено к аллювиально-пролювиальным многослойным отложениям долины реки Зеравшан и распространено по всей долине реки Зеравшан. Водоносные отложения месторождения простираются полосой шириной 6 км и протяженностью порядка 40 км вдоль долины реки на глубине от 10 до 100 м, Месторождение отличается высокой водоотдачей, удельный дебит скважин составляет порядка 50 литров в секунду. Утвержденные запасы месторождения оцениваются в 450 тыс. м3 в сутки. Месторождение используется так же для водоснабжения городов. Бухара и Навои, линейный ряд скважин водозабора данных городов расположен вдоль реки южнее водозабора города Каттакурган.

Источником питания подземных вод Дамходжинского месторождения на участке водозабора является подземный сток с прилегающих с юга склонов Зеравшанского хребта и инфильтрационный приток из русла реки Зеравшан и многочисленных оросительных каналов и полей орошения.

Водоснабжение г. Каттакурган обеспечивается двумя главными подземными водозаборами. Оба водозабора эксплуатируют Дамходжинское месторождение и расположены на северо-востоке от города, на левом берегу реки Карадарья. Кроме данных групповых водозаборов эксплуатирует отдельные одиночные скважины, расположенные на территории города.

Предварительные гидравлические технико-экономические расчеты обоснование показывают, что возможна организация прямой подачи воды от скважин водозабора Муртак в резервуары Курпа без использования насосной станции. Разница высот между уровнем существующей насосной станции Муртак и резервуарами Курпа составляет всего 10 м (повышение от 475 до 485 м). Высотные отметки территории водозабора Муртак составляют 475-485 метров. Динамический уровень воды в скважинах изменяется от 10 до 20 м. Общая геодезическая высота подъема составляет не более 30 м. В настоящее

время основной причиной для использования насосной станции второго подъема являются принятые проектом параметры водовода.

Для дальнейшего водоснабжения города Каттакурган возможно использование водозабора Муртак в качестве основного источника, увеличив его производительность при условии подтверждения достаточности общих запасов и допустимого суточного забора воды.

Разработка геоинформационных технологии и гидравлическое моделирование. В настоящее время по г. Каттакургана не имеет единой карты сетей водопровода и канализации, полностью отображающей расположение всех линейных и площадных объектов. Имеется только общая упрощенная схема сетей, которая не имеет геодезической привязки к местности и отражает не более 40% сетей водопровода, преимущественно магистральных и уличных.

Не имеется ни электронной, ни гидравлической модели сети водопровода и канализации, общая протяженность водопровода составляет порядка 350 км. Услугами водоснабжения обеспечивается порядка 73% населения, в том числе проживает в домах с водопроводным вводом порядка 63% из 88 тыс. проживающего населения.

Разработана цифровые гидравлические модели, одну для водоснабжения Каттакургана, на основе существующей карты города, включенной в технико-экономическое обоснование проекта. Гидравлическая модель будет использоваться для: анализа режимов работы систем и работы систем водоснабжения и сбора стоков; моделирование в расширенном масштабе времени и варианты моделирования для будущего развития и прогнозирования производительности систем водоснабжения и канализации; рекомендации по разработке системы управления давлением и созданию районных зон измерения.

Проведено все необходимые исследования в соответствии с требованиями законодательства Узбекистана. Проектирование разработано в

соответствии с нормативной документацией республики Узбекистан: KMK 2.04.02-2019 – Водоснабжение. Внешние сети и сооружения. KMK 3.06.08-2019 – Магистральные трубопроводы. KMK 2.03.05-2019 – Инженерные сооружения.

Разработанный локально адаптированных систем автоматизации, дистанционного управления, диспетчеризации и SCADA, таблица 1.

Разработка геоинформационных технологии и гидравлическое моделирование	
Номер	**Наименование**
1	Реконструкция водозабора Муртак Строительство новых и реконструкция существующих скважин водозабора (14 скважин). Строительство водовода от водозабора Муртак до резервуаров Курпа. - Разработка технического задания, спецификаций и концептуального проекта для разработки детального проекта и реконструкции водозаборного сооружения.
	Реконструкция водозабора Курпа Строительство 4 скважин. Расширение электролизного цеха производства гипохлорита. Реконструкция существующих резервуаров - Разработка технического задания, спецификаций и концептуального проекта для разработки детального проекта и реконструкции водозаборного сооружения.
2	Строительство водопроводных очистных сооружений г. Каттакурган производительностью 20 тыс м3/сут. Поставка и монтаж оборудования, общестроительные работы, строительство внутренних и наружных инженерных коммуникаций, строительство технологических трубопроводов, полная автоматизация технологических процессов, благоустройство территории водопроводных очистных сооружений, а также строительство внешних сетей электроснабжения (кабельные линии, трансформаторная подстанция) и строительство подъездной автодороги от г. Каттакургана до площадки водопроводных очистных сооружений - Разработка технического задания,

	спецификаций и концептуального проекта для разработки детального проекта и строительства водопроводных очистных сооружений
3	Реконструкция уличных водопроводных сетей и водоводов Реконструкции наиболее аварийных участков магистральных водоводов и уличных сетей г.Каттакурган диметром 100-500 мм. Общая протяженность сетей – 19 км.
4	Строительство новых уличных сетей водопровода Строительство 45 км распределительных сетей водопровода Ду50-450 мм**.**
5	Строительство водопроводных сетей и коллекторов. Строительство уличных и магистральных, водопроводов, а также сетей для подключения 65 многоэтажных домов. Общая протяженность новых сетей составит 48,9 км.
6	Реконструкция системы водоснабжения пос. Ингичка Строительство промежуточной насосной станции на водоводе Сепки-Ингичка. Строительство ВЛ ЭП 0,4 кВ от пос. Ингичка до проектируемой НС – 4,5 км. Реконструкция УРВ «Сепки». Реконструкция УРВ Ингичка.
7	Монтаж регулирующей арматуры на магистральных и уличных сетях Закупка новых задвижек, регуляторов давления, пожарных гидрантов и установку их на распределительных сетях водопровода. Всего предполагается закупка и монтаж порядка 30 регуляторов давления диаметром 100 -300 мм и 120 задвижек диаметром от 150 до 500 мм. Точное количество и места расположения регуляторов давления будут определены после создания ГИС и выполнения гидравлического моделирования**.**
8	Программа организации инструментального учета. Установка водомеров на основных водоводах, обеспечивающих подачу воды в систему водоснабжения г. Каттакургана и на водоводах, подающих воду в отдельные районы (зоны) города, а также установка

	водомеров на вводах во все многоквартирные и индивидуальные дома. Общее количество водомерных узлов, предполагаемых к монтажу в рамках проекта, составляет порядка 12 180 шт.

ВЫВОДЫ

Для достижения стабильного снабжения безопасной водой, в статье были предложены следующие цели: текущий коэффициент неучтенной воды составляет 48%. Для снижения данного показателя до 29% к 2026г. необходимо реализовать программу по снижению неучтенной воды, программу по усовершенствованию устаревших сооружений, а также программу по улучшению распределения воды. Программа по снижению неучтенной воды в основном состоит из замен трубопроводов и установки водомеров, а также из укрепления менеджмента для борьбы с неучтенной водой. Реализация программы по усовершенствованию устаревших сооружений будет основываться на анализе потребности в воде. Ожидается, что потребность в воде снизится, как только начнется реализация этих программ. Программу по улучшению распределения воды будет заключать в себя улучшение трубопроводов, внедрение функций снижения давления, а также улучшение работы насосных станций, которые будут использоваться в самотечном распределении воды [7,8].

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YOQILG‘I QUYISH STANSIYALARINING TEXNOLOGIK TIZIMI VA FUNKSIONAL XUSUSIYATLARI ASOSIDA ULARNING XAVFSIZLIGINI BAHOLASH BO‘YICHA MAHALLIY VA XORIJIY ILMIY YONDASHUVLAR TAHLILI

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Annotatsiya: *Ushbu maqolada yoqilg‘i quyish stansiyalarining texnologik tizimi, funksional xususiyatlari hamda ularning xavfsizligini baholashga oid mahalliy va xorijiy ilmiy yondashuvlar tahlil qilingan. Tadqiqotda AYOQShlarning konstruktiv bajarilishi, rezervuarlarning joylashuvi, yoqilg‘i tarqatish kolonkalari soni, sutkalik xizmat ko‘rsatish quvvati, yoqilg‘ini qabul qilish, saqlash va tarqatish jarayonlari ko‘rib chiqilgan. Shuningdek, stansiya tarkibidagi texnologik quvurlar, operator binosi, elektr ta’minoti, ventilyatsiya, yong‘in signalizatsiyasi, videokuzatuv va ekologik himoya tizimlarining xavfsizlikka ta’siri baholangan. Maqolada mavjud ilmiy ishlar ekologik, yong‘in, portlash, sanoat va texnologik xavfsizlik yo‘nalishlari bo‘yicha solishtirilgan. Tahlil natijalari yoqilg‘i quyish stansiyalari xavfsizligini alohida omillar asosida emas, balki texnologik va funksional elementlarni o‘zaro bog‘liq holda kompleks baholash zarurligini ko‘rsatadi.*

Аннотация: *В данной статье проанализированы технологическая система, функциональные особенности автозаправочных станций, а также отечественные и зарубежные научные подходы к оценке их безопасности. В исследовании рассмотрены конструктивное исполнение АЗС, расположение резервуаров, количество*

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топливораздаточных колонок, суточная пропускная способность, а также процессы приема, хранения и выдачи топлива. Кроме того, оценено влияние технологических трубопроводов, операторного здания, систем электроснабжения, вентиляции, пожарной сигнализации, видеонаблюдения и экологической защиты на общий уровень безопасности станции. В статье сопоставлены существующие научные работы по направлениям экологической, пожарной, взрывной, промышленной и технологической безопасности. Результаты анализа показывают, что безопасность автозаправочных станций необходимо оценивать не только по отдельным факторам, но и комплексно, с учетом взаимосвязи технологических и функциональных элементов.

Abstract: *This article analyzes the technological system and functional features of fuel filling stations, as well as local and foreign scientific approaches to assessing their safety. The study examines the structural design of filling stations, the location of fuel storage tanks, the number of fuel dispensers, daily service capacity, and the processes of fuel receiving, storage, and distribution. In addition, the influence of technological pipelines, the operator building, power supply, ventilation, fire alarm, video surveillance, and environmental protection systems on the overall safety level of the station is evaluated. The article compares existing scientific studies in the fields of environmental, fire, explosion, industrial, and technological safety. The results show that the safety of fuel filling stations should be assessed not only through individual risk factors, but also comprehensively, taking into account the interrelation of technological and functional elements.*

Kalit so‘zlar: *Yoqilg‘i quyish stansiyasi, texnologik tizim, funksional xususiyatlar, xavfsizlikni baholash, yong‘in xavfsizligi, ekologik xavfsizlik, sanoat xavfsizligi, xavf omillari.*

Ключевые слово: *Автозаправочная станция, технологическая система, функциональные особенности, оценка безопасности, пожарная безопасность, экологическая безопасность, промышленная безопасность, факторы риска.*

Keywords: *Fuel filling station, technological system, functional features, safety assessment, fire safety, environmental safety, industrial safety, risk factors.*

KIRISH

Yoqilg‘i quyish stansiyalari va majmualari mamlakatda neft mahsulotlari bilan ta’minlash tizimining muhim bo‘g‘ini hisoblanadi. Ular nafaqat avtotransport vositalarini yoqilg‘i bilan ta’minlash uchun mo‘ljallangan, balki qo‘shimcha ravishda quyidagi funksiyalarni ham bajaradi: moylash materiallari, maxsus

suyuqliklar, ehtiyot qismlar va avtomobillar uchun turli ehtiyor qismlarini almashtirish; avtotransport egalari tomonidan topshiriladigan ishlatilgan moylarni qabul qilish; avtomobillarga texnik xizmat ko‘rsatish va yuvish ishlarini amalga oshirish[2]. Zamonaviy avtoyoqilg‘i quyish stansiyalari yoqilg‘ini qabul qilish, saqlash va avtotransport vositalariga quyish texnologik jarayonlarini ta’minlovchi avtomatlashtirilgan tizimlar majmuasi bilan jihozlangan murakkab muhandislik inshootlari hisoblanadi. Yoqilg‘i quyish stansiyalari yong‘in va ekologik xavf darajasi yuqori bo‘lgan obyektlar toifasiga kiradi. Shu sababli yoqilg‘i quyish stansiyalarini ekspluatatsiya qilish sifati nafaqat transport majmuasining samaradorligiga, balki xizmat ko‘rsatuvchi xodimlar mehnat xavfsizligiga hamda atrof-muhit muhofazasiga ham bevosita ta’sir ko‘rsatadi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA. Avtomobil yoqilg‘i quyish stansiyalari (YQS) turli belgilariga ko‘ra klassifikatsiya qilinadi[2].

Konstruktiv bajarilishiga ko‘ra:

— statsionar;

— konteyner tipidagi (KYQS);

— ko‘chma (mobil) YQS (MYQS).

Funksional maqsadiga ko‘ra:

— umumiy foydalanishdagi;

— idoraviy (korxona va tashkilotlarga tegishli).

Rezervuarlarning joylashish usuliga ko‘ra:

— yer osti joylashuvli;

— yer usti joylashuvli;

— transport vositasida joylashtirilgan.

Tipaviy loyihalarning me’yoriy parametrlariga ko‘ra:

— yoqilg‘i tarqatish kolonkalarining soni bo‘yicha;

— eng yuqori yuklama (pik soat) davridagi quyishlar soni bo‘yicha;

— sutka davomida xizmat ko‘rsatiladigan avtomobillar soni bo‘yicha;

— rezervuarlarning umumiy sig‘imi bo‘yicha.

Statsionar YQSlar sutkasiga 1500 tagacha avtomobilga xizmat ko‘rsatish imkoniyatiga ega. Ularning o‘tkazuvchanlik qobiliyati odatda 200, 250, 500, 750 va 1000 ta quyish/sutka ko‘rsatkichlari asosida hisoblanadi. Pik soatlardagi xizmat ko‘rsatish quvvati esa mos ravishda 57, 100, 135 va 170 ta avtomobil/soatni tashkil etadi (1-jadval).

1-jadval

AYOQSH namunaviy loyihalarining me’yoriy parametrlari

AYOQSH turlari	AYOQSH quvvati, mashina/soat	Rezervuarlar soni 25 m³, dona.	Yonilg‘i quyish vaqti Tr, min.	TRK soni, dona	O‘rtacha bir martalik quyish, l.	AYOQSH maydoni, ga
Birinchi	240	12	2.5	12	50	0.4
Ikkinchi	160	8	2.5	8	50	0.35
Uchinchi	80	4	1.75	4	50	0.2
To‘rtinchi	120	6	2.5	6	50	0.3

AYOQShlar 250 ta yoqilg‘i quyish quvvatiga ega bo‘lgan holda yirik shaharlarning zich aholi yashaydigan hududlarida hamda qishloq joylarda quriladi; sutkasiga 1000–1500 ta yoqilg‘i quyish quvvatiga ega stansiyalar esa avtomobil magistrallarida intensiv harakat mavjud bo‘lgan punktlarda joylashtiriladi.

Hududda joylashuv turiga ko‘ra yoqilg‘i quyish stansiyalari quyidagilarga bo‘linadi:

— yo‘lbo‘yi;

— shahar;

— qishloq;

— daryo (suv) stansiyalari.

Yo‘lbo‘yi AYOQShlar avtomobil yo‘llari yaqinida joylashtiriladi. Ular avtomobillarni yoqilg‘i, siqilgan havo va suv bilan ta’minlashi lozim. Yo‘lbo‘yi stansiyalarning quvvati yo‘ldagi transport oqimining intensivligiga bog‘liq bo‘lib, sutkasiga 1000–1500 ta yoqilg‘i quyishgacha yetishi mumkin.

Shahar AYOQShlari shahar hududlarida, markaziy (turar-joy) qismdan tashqarida joylashtiriladi va barcha turdagi avtomobillar hamda mototransport vositalariga xizmat ko‘rsatishga mo‘ljallangan. Shahar stansiyalarining quvvati sutkasiga 250–1000 ta yoqilg‘i quyishni tashkil etadi, “trotuar tipidagi” stansiyalar esa shahar markaziy hududlarida yengil avtomobillar uchun sutkasiga 150–250 ta yoqilg‘i quyishga mo‘ljallanadi.

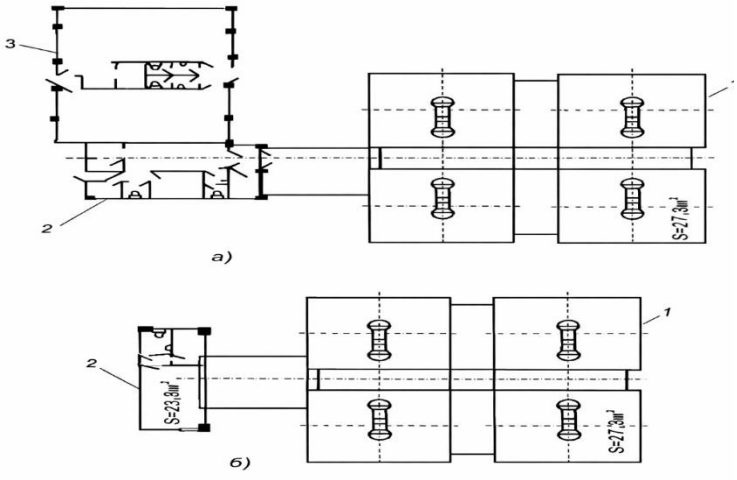
Qishloq AYOQShlari qishloq xo‘jaligi korxonalari va tuman markazlaridagi tashkilotlarning avtotransport vositalarini barcha turdagi yoqilg‘i-moylash materiallari bilan ta’minlaydi.

Daryo (suv) AYOQShlari kichik o‘lchamli suv transport vositalarini — katerlar, motorli qayiq va boshqa vositalarni yoqilg‘i bilan ta’minlaydi.

Statsionar AYOQShlar yoqilg‘ini qabul qilish, saqlash va quyish uchun mo‘ljallangan seriyali ishlab chiqariladigan texnologik tizimlarga ega tipik loyihalar asosida quriladi hamda Favqulodda vaziyatlar vazirligining Davlat yong‘in xavfsizligi xizmati bilan kelishiladi. Nostandart (seriyadan tashqari) texnologik tizimlardan foydalanishga ham ruxsat etiladi, bunda ularning hujjatlari yong‘in xavfsizligi xizmatining hududiy bo‘linmalari bilan kelishilgan bo‘lishi shart.

Statsionar Avtomobil yoqilg‘i quyish stansiyalari

Statsionar AYOQShlar kapital inshootlar bo‘lib, ular tarkibiga binolar, yoqilg‘i quyish kolonkalari, rezervuarlar, texnologik quvurlar, tozalash inshootlari hamda texnologik jarayonni ta’minlovchi turli tizimlar kiradi. AYOQSh inshootlarining varianti 1-rasmda keltirilgan.



1-rasm. AYOQSh inshootlari tarkibi:

a) 1 – soyabon (naves) guruhi; 2 – ishlab chiqarish binosi bloki; 3 – servis (xizmat ko‘rsatish) binosi bloki;

b) 1 – soyabon (naves) guruhi; 2 – to‘liq zavod tayyorligidagi bino moduli.

Soyabon (naves) guruhi axborot kolonkalari yoritgichlari, kolonnada va soyabon qismida joylashgan qoplama (oblisovka) kompleksi, “Buyurtmachi”ning korporativ ranglarida bajarilgan yorug‘lik frizi, “Buyurtmachi”ning hajmli yorug‘lik belgisi, umumiy yoritish chiroqlari hamda bino va soyabon guruhi orasidagi o‘tish gumbazini o‘z ichiga oladi.

Yoqilg‘i quyish yo‘llari jilvirlangan yoki sayqallangan zanglamaydigan po‘latdan tayyorlanadi va ular yoqilg‘i tarqatish kolonkalari (TRK) uchun asos, kolonna tayanchlari, stendlar hamda servis postlari sifatida qo‘llaniladi. Ularning asosiy vazifasi — avtotransport vositalari ta’siridan (zarbasidan) himoya qilishdir.

AYOQSh binosi zavodda tayyorlangan yagona moduldan yoki ishlab chiqarish va servis bloklaridan iborat bo‘ladi. Ishlab chiqarish bloki markaziy kirish, operator ish zonasi, elektr shit xonasi (elektr taqsimlash xonasi), omborxona, xizmat chiqish eshigi, chilangar xonasi, administrator xonasi, xizmat sanitariya xonasi, tashrif buyuruvchilar uchun sanitariya xonasi hamda qo‘riqlash xonasini o‘z ichiga oladi. Servis bloki xizmat ko‘rsatish uchun mo‘ljallangan[2].

AYOQSh binosi havo konditsiyalash tizimlari, videokuzatuv tizimi, isitish, yoritish va ventilyatsiya tizimlari, elektr energiyasi va suv sarfini hisobga olish tizimlari, kanalizatsiya, qo‘riqlash-yong‘in signalizatsiyasi, ovozli aloqa tizimi, yoqilg‘i tarqatish kolonkalari (TRK) himoya bloklari va boshqa tizimlar bilan jihozlanadi.

Statsionar AYOQShning texnologik ishlash jarayoni neft mahsulotlarini qabul qilish, saqlash va berish bo‘yicha operatsiyalar majmuasini o‘z ichiga oladi. AYOQSh ish samaradorligini oshirish maqsadida texnologik jarayon yoqilg‘i miqdorini aniqlash, rezervuarlar germetikligini nazorat qilish, yoqilg‘i yo‘qotilishini kamaytirish hamda uning sifatini saqlashga qaratilgan avtomatlashtirilgan tizimlar bilan ta’minlanishi mumkin.

AYOQShda saqlanadigan yoqilg‘i miqdori bir avtomobilni o‘rtacha yoqilg‘i bilan to‘ldirish hajmi (50 litr)dan kelib chiqib aniqlanadi, yoqilg‘i tarqatish kolonkalari (TRK) soni esa soatiga 15 ta avtomobilga xizmat ko‘rsatish hisobidan belgilanadi[2].

TADQIQOT METODOLOGIYASI

Tadqiqotda yoqilg‘i quyish stansiyalarining texnologik tizimi va funksional xususiyatlarini o‘rganishda tizimli tahlil, adabiyotlar tahlili, taqqoslash, umumlashtirish va riskka yo‘naltirilgan baholash metodlaridan foydalanildi. Tizimli tahlil orqali AYOQShning rezervuarlar, yoqilg‘i tarqatish kolonkalari, texnologik quvurlar, operator binosi, elektr ta’minoti, ventilyatsiya va yong‘in signalizatsiyasi kabi tarkibiy qismlari o‘zaro bog‘liq holda ko‘rib chiqildi. Adabiyotlar tahlili asosida mahalliy va xorijiy ilmiy yondashuvlar solishtirildi. Taqqoslash va umumlashtirish metodlari yordamida mavjud tadqiqotlarning afzalliklari hamda cheklangan jihatlari aniqlandi. Riskka yo‘naltirilgan yondashuv orqali xavf omillari baholandi.

NATIJALAR

Yoqilg‘i quyish stansiyalarining xavfsizligini baholash masalalari turli ilmiy yo‘nalishlarda keng o‘rganilgan bo‘lib, ular asosan ekologik, yong‘in va sanoat xavfsizligi nuqtai nazaridan tadqiq etilgan. Jumladan, Garmonov K.V. tomonidan olib borilgan tadqiqotda shahar AYOQShlarining atrof-muhitga ta’sirini baholash metodikasini ishlab chiqish asosiy maqsad qilib olingan bo‘lib, unda AYOQShlardan ajralib chiqadigan zararli moddalar tarqalishiga shamol oqimlari va shahar qurilishi omillarining ta’siri hisobga olingan. Mazkur ish natijasida ekologik xavfsizlikni baholashning metodik asoslari ishlab chiqilgan bo‘lsa-da, unda xavfsizlikning boshqa yo‘nalishlari kompleks tarzda qamrab olinmagan[7]. Popova Ya.A. o‘z tadqiqotida neft va neft mahsulotlarini avtomobil yo‘llari orqali tashish jarayonida yong‘in xavfsizligini oshirish uchun risklarni baholash usullarini ishlab chiqishga e’tibor qaratgan. Ushbu ishda xavfli yuklarning fizik-kimyoviy xossalari asosida yong‘in va portlash xavfini baholash yondashuvlari taklif etilgan bo‘lib, transport jarayonlaridagi xavflarni kamaytirish imkonini beruvchi metodlar ishlab chiqilgan. Biroq mazkur tadqiqot asosan tashish jarayoniga yo‘naltirilgan bo‘lib, AYOQShning o‘zida yuzaga keluvchi xavf omillarini to‘liq qamrab olmaydi[8].

Gaz yoqilg‘isida ishlovchi obyektlarda xavfsizlikni ta’minlash masalalari Prostov E.E. tomonidan o‘rganilgan bo‘lib, uning ishida gaz-havo muhitini nazorat qilish orqali yong‘in xavfsizligini oshirish maqsad qilib qo‘yilgan. Tadqiqotda gaz analizatorlari yordamida portlashdan oldingi konsentratsiyalarni aniqlash va nazorat qilish metodikasi ishlab chiqilgan hamda gaz yoqilg‘isi bilan ishlovchi obyektlar uchun amaliy tavsiyalar berilgan. Shu bilan birga, ushbu ish faqat gaz yoqilg‘isiga ixtisoslashgan bo‘lib, suyuq yoqilg‘i bilan ishlovchi AYOQShlarga to‘liq tatbiq etilmaydi[15]. Avariya jarayonlarida yuzaga keluvchi zararlovchi omillarni baholash masalalari Shangaraev R.R. tomonidan tadqiq etilgan bo‘lib, unda olov sharining hosil bo‘lishi va uning issiqlik ta’siri asosiy tadqiqot obyekti sifatida ko‘rib chiqilgan. Mazkur ishda zararlovchi omillarning parametrlarini aniqlash metodikasi ishlab chiqilgan bo‘lib, bu favqulodda vaziyatlarda oqibatlarni prognoz qilish

imkonini beradi. Biroq tadqiqot umumiy sanoat obyektlariga yo‘naltirilgan bo‘lib, AYOQShga bevosita moslashtirilmagan[4]. Ko‘p mahsulotli yoqilg‘i quyish stansiyalarining xavfsizligini baholash masalalari Axmerov V.V. tomonidan o‘rganilgan bo‘lib, unda portlash xavfi va yoqilg‘i-havo aralashmasining hosil bo‘lish ehtimolini aniqlashga qaratilgan yondashuvlar ishlab chiqilgan. Tadqiqot natijasida AYOQShning xavfsiz ekspluatatsiyasini baholashga xizmat qiluvchi metodik asoslar taklif etilgan, biroq unda xavfsizlikni integrallashgan holda baholash tizimi yetarli darajada shakllantirilmagan[14]. Vanchuxin P.N. tomonidan olib borilgan tadqiqotda AYOQSh ekspluatatsiyasi va yoqilg‘i tashish jarayonlaridagi potensial xavflar tahlil qilingan bo‘lib, xavfli vaziyatlarning yuzaga kelish sharoitlari va ularning ta’sir doirasi aniqlangan. Ushbu ishda favqulodda vaziyatlar xavfini baholashga oid yondashuvlar ishlab chiqilgan bo‘lsa-da, zamonaviy analitik usullar yetarli darajada qo‘llanilmagan[12]. Xavf zonalarini aniqlash va ularni fazoviy baholash masalalari Idrisov V.R. tomonidan o‘rganilgan bo‘lib, unda GIS texnologiyalari va veyvlet-tahlil asosida xavf zonalarini aniqlash metodikasi taklif etilgan. Natijada xavfli hududlarni fazoviy tahlil qilish imkoniyati yaratilgan, biroq ushbu metodikalar amaliyotda qo‘llash uchun murakkab hisoblanadi[6]. AYOQShlarning ekologik xavfsizligini oshirish masalalari Sokolova E.V. tomonidan tadqiq etilgan bo‘lib, unda atmosfera ifloslanishiga ta’sir etuvchi omillar kompleks baholangan. Tadqiqot natijasida zararli moddalar chiqindilarini kamaytirish bo‘yicha takliflar ishlab chiqilgan, biroq texnologik va sanoat xavfsizligi masalalari yetarli darajada yoritilmagan[13]. Neft-gaz obyektlarida xavfsizlikni ta’minlash uchun risklarni baholash nazariyasi va metodlari Kozlitin A.M. tomonidan ishlab chiqilgan bo‘lib, unda integrallashgan riskni baholash metodologiyasi va matematik modellar taklif etilgan. Mazkur yondashuvlar xavfli obyektlar uchun kompleks baholash imkonini bersa-da, ular AYOQShga bevosita moslashtirilmagan[9]. Yong‘in nazoratini tashkil etishda riskga yo‘naltirilgan yondashuv Shaxmanov F.F. tomonidan ishlab chiqilgan bo‘lib,

unda nazorat faoliyatini xavf darajasiga qarab tashkil etish modeli taklif etilgan. Ushbu yondashuv nazorat samaradorligini oshirishga xizmat qilsa-da, u asosan gaz stansiyalariga tatbiq etilgan[10]. Transport vositalarini yoqilg‘i bilan ta’minlash texnologiyasini takomillashtirish masalalari Varnakova E.A. tomonidan o‘rganilgan bo‘lib, unda yoqilg‘i bug‘lanishidan kelib chiqadigan yo‘qotishlarni kamaytirish usullari ishlab chiqilgan. Tadqiqot natijasida ekologik xavfsizlikni oshirishga xizmat qiluvchi texnologik yechimlar taklif etilgan, biroq xavfsizlikni kompleks baholash masalalari yetarli darajada qamrab olinmagan[11]. Umuman olganda, ko‘rib chiqilgan ilmiy ishlarda yoqilg‘i quyish stansiyalarining xavfsizligini baholash masalalari alohida yo‘nalishlar — ekologik, yong‘in, sanoat yoki texnologik jihatlar bo‘yicha o‘rganilgan bo‘lib, ularni yagona integrallashgan tizim sifatida baholash yetarli darajada ishlab chiqilmagan. Shu sababli, yoqilg‘i quyish stansiyalarining xavfsizligini kompleks baholash usullarini takomillashtirish muhim ilmiy va amaliy ahamiyatga ega hisoblanadi.

MUHOKAMA

Tahlil natijalari shuni ko‘rsatadiki, yoqilg‘i quyish stansiyalari murakkab texnologik tizim bo‘lib, ularning xavfsizligi rezervuarlar, yoqilg‘i tarqatish kolonkalari, texnologik quvurlar, operator binosi, elektr ta’minoti, ventilyatsiya va yong‘in signalizatsiyasi kabi elementlarning o‘zaro bog‘liq ishlashiga bog‘liq. Ko‘rib chiqilgan mahalliy va xorijiy ilmiy ishlarda AYOQSh xavfsizligi asosan ekologik, yong‘in, portlash yoki sanoat xavfsizligi yo‘nalishida alohida o‘rganilgan. Biroq mavjud tadqiqotlarda texnologik, funksional va xavfsizlik omillarini yagona tizimda kompleks baholash yetarli darajada yoritilmagan. Shu sababli AYOQSh xavfsizligini integrallashgan yondashuv asosida baholash muhim hisoblanadi.

XULOSA

Yoqilg‘i quyish stansiyalari yoqilg‘ini qabul qilish, saqlash va transport vositalariga tarqatish jarayonlarini birlashtiruvchi murakkab muhandislik-texnologik obyekt hisoblanadi. Tadqiqot davomida AYOQShlarning konstruktiv

tuzilishi, funksional vazifalari, rezervuarlar joylashuvi, yoqilg‘i tarqatish kolonkalari soni, xizmat ko‘rsatish quvvati hamda xavfsizlikka ta’sir etuvchi asosiy omillar tahlil qilindi. Natijalar shuni ko‘rsatadiki, stansiya xavfsizligi faqat yong‘in yoki portlash xavfi bilan cheklanmaydi, balki ekologik, texnologik, sanoat va tashkiliy xavfsizlik omillarini ham qamrab oladi. Mahalliy va xorijiy ilmiy ishlarda ushbu masalalar ko‘proq alohida yo‘nalishlarda o‘rganilgan bo‘lib, kompleks baholash yondashuvi yetarli darajada shakllanmagan. Shu sababli yoqilg‘i quyish stansiyalari xavfsizligini baholashda texnologik tizim, funksional elementlar va xavf omillarini yagona tizimda ko‘rib chiqish ilmiy-amaliy jihatdan muhim hisoblanadi.

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CHODAK RUDALI MAYDONIDA GIDROTERMAL O‘ZGARISHLAR VA ULARNING OLTIN BILAN BOG‘LIQLIGI

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Annotatsiya.*Mazkur maqolada Chodak rudali maydonida rivojlangan gidrotermal o‘zgarishlarning asosiy turlari, ularning mineralogik-geokimyoviy xususiyatlari hamda oltin rudalanishi bilan genetik bog‘liqligi tahlil qilingan. Tadqiqot davomida maydonda past sulfidli epitermal tizimga xos kvarts–kalsit–adulyariya tomirlari, kvarts-seritsitli alteratsiya, silisifikatsiya, karbonatlashuv va keyingi bosqichdagi skarnsimon metasomatik qayta ishlanish jarayonlari ajratib ko‘rsatildi. Flyuid-inkluzion ma’lumotlar asosida oltinli rudalanishning kam sho‘rli, past bosimli va qaynashga moyil gidrotermal eritmalar ta’sirida shakllangani, keyingi bosqichda esa yuqori haroratli flyuidlar ta’sirida dastlabki rudali tizim qisman qayta o‘zgargani asoslab berildi. Shuningdek, gidrotermal o‘zgarishlarning fazoviy zonalligi, ularning strukturaviy omillar bilan aloqasi hamda oltin qidiruv mezoni sifatidagi ahamiyati yoritildi. Tadqiqot natijalari Chodak rudali maydonining metallogenik xususiyatlarini aniqlashtirish, istiqbolli oltinli zonalarni ajratish va qidiruv-baholash ishlarining geologik mezonlarini takomillashtirishda muhim ilmiy-amaliy ahamiyat kasb etadi.*

Kalit so‘zlar:*Chodak rudali maydoni, gidrotermal o‘zgarishlar, oltin rudalanishi, epitermal tizim, past sulfidli konlar, alteratsiya, silisifikatsiya, seritsitlashuv, adulyariya, flyuid inkluziyalari, metasomatizm, skarnlashuv, kvarts-kalsit tomirlari, rudalanish genezisi, qidiruv mezonlari.*

Аннотация: *В данной статье проанализированы основные типы гидротермальных изменений, развитых в рудном поле Чодак, их минералого-геохимические особенности, а также генетическая связь с золоторудной минерализацией. В ходе исследования выделены характерные для низкосульфидной эпитермальной системы кварц-кальцит-адуляровые жилы, кварц-серицитовая альтерация, силификация, карбонатизация, а также процессы позднего скарноподобного метасоматического переработания. На основе данных по флюидным включениям обосновано, что золотоносная минерализация формировалась под воздействием низкосолёных, низконапорных и склонных к кипению гидротермальных растворов, тогда как на последующем этапе под влиянием высокотемпературных флюидов происходило частичное преобразование первоначальной рудной системы. Кроме того, в статье раскрыты пространственная зональность гидротермальных изменений, их связь со структурными факторами и значение в качестве поисковых критериев золотооруденения. Полученные результаты имеют важное научно-практическое значение для уточнения металлогенических особенностей рудного поля Чодак, выделения перспективных золотоносных зон и совершенствования геологических критериев поисково-оценочных работ.*

Ключевые слова:*рудное поле Чодак, гидротермальные изменения, золоторудная минерализация, эпитермальная система, низкосульфидное месторождение, альтерация, силификация, серицитизация, адулярия, флюидные включения, метасоматизм, скарнизация, кварц-кальцитовые жилы, генезис оруденения, поисковые критерии.*

Abstract: *This article analyzes the main types of hydrothermal alterations developed within the Chadak ore field, their mineralogical and geochemical features, and their genetic relationship with gold mineralization. The study identifies quartz-calcite-adularia veins, quartz-sericite alteration, silicification, carbonatization, and поздний skarn-like metasomatic overprinting as the principal features typical of a low-sulfidation epithermal system. Based on fluid inclusion data, it is substantiated that the gold-bearing mineralization formed under the influence of low-salinity, low-pressure, and boiling-prone hydrothermal fluids, whereas at a later stage the initial ore system was partially reworked by higher-temperature fluids. The paper also discusses the spatial zonation of hydrothermal alterations, their relationship with structural factors, and their significance as exploration criteria for gold mineralization. The results are of considerable scientific and practical importance for clarifying the metallogenic characteristics of the Chadak*

ore field, identifying перспективные gold-bearing zones, and improving geological criteria for exploration and evaluation works.

Keywords:*Chadak ore field, hydrothermal alteration, gold mineralization, epithermal system, low-sulfidation deposit, alteration, silicification, sericitization, adularia, fluid inclusions, metasomatism, skarnization, quartz-calcite veins, ore genesis, exploration criteria.*

KIRISH

Gidrotermal o‘zgarishlar oltin rudalanishining fazoviy joylashuvi, moddiy tarkibi va genezisini aniqlashda eng muhim geologik ko‘rsatkichlardan biri hisoblanadi. Ayniqsa, past sulfidli epitermal tizimlarda silisifikatsiya, seritsitlashuv, argillizatsiya va propilitlashuv kabi metasomatik jarayonlar nafaqat ruda hosil bo‘lish muhitini aks ettiradi, balki istiqbolli oltin zonalarini ajratishda amaliy mezon vazifasini ham bajaradi. Shu sababli gidrotermal o‘zgarishlarning mineralogik-geokimyoviy belgilarini rudalanish bilan uzviy bog‘liq holda o‘rganish zamonaviy metallogeniya va qidiruv geologiyasining dolzarb yo‘nalishlaridan biri sanaladi[1].

Chodak rudali maydoni Sharqiy O‘zbekistonning Namangan viloyati, Pop tumani hududida, Qurama tizmasining Chodak havzasi bilan bog‘liq qismida joylashgan bo‘lib, Pirmirob va Guzaksoy oltin-kumush konlari hamda bir qator boshqa rudalanish namoyonlarini o‘z ichiga oladi. Geologik jihatdan u kech paleozoy vulqon-plutonik kamari tarkibiga mansub bo‘lib, maydonda rudalanishning joylashuvida yoriqli-tektonik omillar hal qiluvchi rol o‘ynagan. Tadqiqotlarda Chodak oltin-kumush tizimi 150 dan ortiq tomirlarni qamrab oluvchi, maydoni 6×7 km dan ortiq bo‘lgan murakkab tomirli maydon ekanligi, oltin sanoat ahamiyatiga ega qismlar esa asosan yuqori gorizontlarda to‘planganligi qayd etilgan. Chodak maydonini o‘rganish tarixi XX asr o‘rtalariga borib taqaladi: Pirmirob konining ochilishi 1953-yilga to‘g‘ri keladi, 1953–1962-yillarda jadal qidiruv va razvedka ishlari olib borilgan, 1970-yilda esa Chodak kon-metallurgiya majmuasining ishlab chiqarish quvvatlari ishga tushirilgan.

1-jadval. Chodak rudali maydonida ruda hosil qiluvchi flyuidlarning asosiy termobarogeokimyoviy ko‘rsatkichlari

Mineralizatsiya bosqichi	Asosiy assotsiatsiya	T, °C	P, bar	Sho‘rlanish	Flyuid tavsifi	Genetik ahamiyati
Erta epitermal oltinli bosqich	Kvarts + kalsit + pirit + elektrum	272–364 (o‘rt. 339)	75–115	<5 wt.% NaCl eq.	Ca>Na>K>Mg tarkibli xlorid-bikarbonatli, CO_2-li, magmatik-meteorik aralash flyuid	Oltinning dastlabki cho‘kishi kam sho‘rli, qaynashga moyil epitermal eritmalar bilan bog‘liq
Kechki epitermal oltin-kumush bosqichi	Kvarts + kalsit + adulyariya + elektrum + akantit	151–339 (o‘rt. 263)	Past bosimli epitermal muhit	Past sho‘rli	Magmatik-meteorik aralash, ayrim hollarda CO_2-li inkluziyalar kuzatiladi	Oltin-kumushning asosiy sanoat kontsentratsiyasi shu bosqichda shakllangan
1-bosqich geotermometrik ko‘rsatkich	Elektrum–akantit–sfalerit–pirit	263–349 (o‘rt. 306)			Birlamchi sulfidli assotsiatsiya	Erta rudalanishning nisbatan yuqori temperaturada shakllanganini ko‘rsatadi
2-bosqich geotermometrik ko‘rsatkich	Kechki epitermal assotsiatsiya	192–292 (o‘rt. 221)			Sovigan gidrotermal muhit	Keyingi bosqichda temperatura pasayganini bildiradi
Skarn-prograd bosqich	Vollastonit + granat	500–600	Yuqori haroratli chuqurroq muhit	Miqdoriy baholanmagan	Past CO_2 li, oksidlangan ishqoriy, magmatik-meteorik flyuid	Avvalgi oltinli tomirlarning metasomatik qayta ishlanishi va skarnlashuvi bilan bog‘liq
Skarn-retrograd bosqich	Kvarts + aktinolit + andradit + epidot + Fe-oksidlar + sulfidlar	201–470	250–450	29–38 wt.% NaCl	Yuqori temperaturali, qisman magmatik, keyin meteor suv bilan aralashgan	Skarnlashuv va oldingi Au–Ag rudalarining qisman redepozitsiyasi kuchaygan
Kvarts-gematit-ankerit bosqichi	Kvarts-gematit-ankerit (Cu–Bi)	150–272			Ca>Mg>Na>K eritmalar, CO_2 7,2–9,0 mol.%, meteor suv ustun	Asosiy oltinli emas, kechki Cu–Bi mineralizatsiyasi bilan bog‘liq
Kvarts-barit-fluoritli Pb–Zn bosqichi	Kechki mayda tomir va tomirchalar	90–210			Past temperaturali kechki flyuid	Post-ruda bosqichi, Pb–Zn yo‘nalishli kechki mineralizatsiyani ifodalaydi

Keyingi bosqichlarda maydonning geologik tuzilishi, tomirlar morfologiyasi, mineral tarkibi va ruda hosil qiluvchi suyuqliklarning xususiyatlari bo‘yicha qator ilmiy izlanishlar bajarilgan[2]. Ayniqsa, Chodak koni oddiy epitermal tizimlardan farqli ravishda asosiy oltinli kvarts-kalsit-adulyar tomirlardan keyin yuqori haroratli

qayta gidrotermal bosqich yuzaga kelgani, buning natijasida kalsiy-silikatli, skarnsimon assotsiatsiyalar rivojlangani bilan ajralib turadi[3].

Mazkur maydonda oltin rudalanishining gidrotermal o‘zgarishlar bilan bog‘liqligini o‘rganishning ilmiy va amaliy dolzarbligi bir necha omillar bilan belgilanadi. Birinchidan, dastlabki oltin-kumushli kvarts-kalsit-adulyar tomirlar atrofida kvarts-seritsitli o‘zgarish halolari kuzatiladi; ikkinchidan, ayrim uchastkalarda keyingi bosqichdagi skarnsimon kalsiy-silikatli metasomatizm avvalgi oltinli tomirlarni qisman yoki to‘liq qayta ishlagan; uchinchidan, ruda hosil qiluvchi eritmalarning magmatik va meteorik komponentlar aralashuvi bilan tavsiflanishi oltin cho‘kishi mexanizmini murakkablashtirgan. Shu jihatlar Chodak rudali maydonida gidrotermal o‘zgarish turlarini, ularning fazoviy zonalligi va intensivligini, shuningdek, aynan qaysi metasomatik assotsiatsiyalar oltin bilan ko‘proq bog‘liqligini aniqlashni nazariy va qidiruv-amaliy nuqtai nazardan nihoyatda muhim qiladi. Shundan kelib chiqib, mazkur maqolada Chodak rudali maydonida rivojlangan gidrotermal o‘zgarishlarning asosiy turlari, ularning geologik muhit va strukturaviy omillar bilan bog‘liqligi hamda oltin rudalanishi bilan genetik-fazoviy aloqadorligi tahlil qilinadi. Tadqiqot natijalari maydonning metallogenik xususiyatlarini chuqurroq anglash, istiqbolli rudali zonalarni ajratish va oltin qidiruv ishlarining geologik mezonlarini takomillashtirishga xizmat qiladi.

Chodak rudali maydonining gidrotermal tipi va strukturaviy nazorati

Chodak rudali maydoni geologik tuzilishi va mineral assotsiatsiyalariga ko‘ra past sulfidli epitermal oltin-kumush tizimiga mansub bo‘lib, biroq uning o‘ziga xosligi keyingi bosqichda yuz bergan yuqori haroratli qayta gidrotermal faollashuv bilan belgilanadi. White va Hedenquist past sulfidli epitermal konlarni adulyar-seritsit tipidagi tizimlar sifatida talqin qilib, bunday sharoitda rudalanish odatda neytralga yaqin, qaytar muhitli suyuqliklar bilan bog‘liq bo‘lishini ko‘rsatgan. Ularning yondashuviga ko‘ra, bunday tizimlarda ruda eng kuchli kislotali o‘zgarishlar bilan emas, aksincha eng kam kislotali alteratsiya — adulyar, kalsit va

illit-seritsitli zonalar bilan bog‘liq bo‘ladi. Chodak maydonida kuzatilgan kvarts-kalsit-adulyar tomirlar, kvarts-seritsitli halolar va tomirli rudalanishning yoriqlar bo‘ylab joylashuvi aynan shu genetik modelga mos keladi. Maydonda rudalanishning joylashuvida strukturaviy omil hal qiluvchi ahamiyatga ega. Geologik kuzatishlarga ko‘ra, Chodak rudali maydonida rudalanish turli yo‘nalishdagi yoriqlar tizimi bilan nazorat qilingan bo‘lib, ayniqsa shimoli-g‘arbiy va submeridional uzilishlar gidrotermal eritmalar uchun asosiy o‘tkazuvchi kanal vazifasini bajargan. Atrof jinslarning kuchli gidrotermal qayta ishlanishi, kvarts va kvarts-karbonat tomirlarning aynan shu uzilish zonalarida rivojlanishi, shuningdek tijorat ahamiyatiga ega oltin minerallashuvining shu strukturalarga bog‘lanishi Chodakda rudalanish “strukturaviy kanal + gidrotermal impuls + metasomatik o‘zgarish” mexanizmi asosida shakllanganini ko‘rsatadi[4].

Kozlov, Smirnova, Syromjatnikov va Levin talqiniga ko‘ra, Chodak tomir tizimlari kamida to‘rtta yirik mineralizatsiya impulsida shakllangan bo‘lib, ulardan birinchi va eng muhim bosqich oltin-kumushli kvarts-kalsit-adulyar tomirlar bilan ifodalanadi. Mazkur bosqich ikki ichki stadiyadan iborat: erta stadiyada kvarts + kalsit + pirit + elektrum, kechki stadiyada esa kvarts + kalsit + adulyariya + elektrum + akantit assotsiatsiyasi ustun bo‘lgan. Ayniqsa Pirmirob tomir tizimining yuqori qismida kolloform va ritmik-tasmali tuzilishga ega “bonanza” rudalarining qayd etilishi oltinning ochiq bo‘shliqlarda, takroriy impulslar asosida va gidrotermal muhitning keskin fizik-kimyoviy o‘zgarishlari natijasida cho‘kkanini ko‘rsatadi. Demak, Chodakdagi dastlabki rudalanish oddiy tomir to‘lishi jarayoni emas, balki ko‘p fazali, pulslanuvchi epitermal tizim mahsulidir.

Mazkur bosqichning termobarogeokimyoviy ko‘rsatkichlari ham oltin cho‘kish mexanizmini tushuntiradi. Erta stadiya kvartsidagi birlamchi flyuid inkluziyalari 272–364 °C oralig‘idagi gomogenizatsiya haroratini, o‘rtacha 339 °C ni ko‘rsatgan; kechki stadiyada esa bu ko‘rsatkich 151–339 °C, o‘rtacha 263 °C gacha pasaygan. Ayrim namunalarda bir xil haroratda gomogenlashuvchi

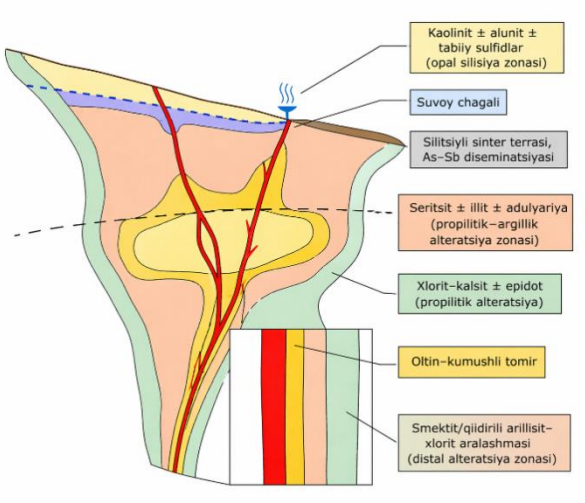
suyuqlikka boy va bug‘ga boy inkluziyalar aniqlangani qaynash hodisasi sodir bo‘lganini bildiradi; bosim esa 75–115 bar diapazonida baholangan. Flyuidlar kam sho‘rlangan xlorid-bikarbonatli Ca > Na > K > Mg tarkibli eritmalar bo‘lib, ularda CO_2, kam miqdorda CH_4 va N_2 mavjudligi qayd etilgan. Bu ma’lumotlar Chodakdagi dastlabki oltinli bosqich chuqurligi nisbatan kichik bo‘lgan, qaynashga moyil, kam sho‘rli epitermal tizimda sodir bo‘lganini ko‘rsatadi[5].

Gidrotermal o‘zgarishlar zonalligi va oltinning cho‘kish mexanizmi

Past sulfidli epitermal tizimlarda gidrotermal o‘zgarishlar tomirdan tashqariga qarab ma’lum mineralogik zonallik hosil qiladi. Giggenbach, Hedenquist va ularga tayanuvchi keyingi tadqiqotchilar talqiniga ko‘ra, tomirga yaqin joyda kaliy metasomatizmi va silika ajralishi kuchayadi, natijada adulyariya, kvarts va karbonatlar to‘planadi; chetroqda esa seritsit, illit, illit-smektit va nihoyat kaolinitli zonalar rivojlanadi. X-ray difraksiya asosidagi zamonaviy tadqiqotlar ham tomirdan uzoqlashgan sari adulyariyadan seritsit–illit–kaolinitga o‘tuvchi izchil qator gidrotermal eritmaning sovishi, pH ning pasayishi va jins-suyuqlik o‘zaro ta’sirining kuchayishi bilan izohlanishini ko‘rsatadi. Chodakda aynan kvarts-seritsitli halo bilan o‘ralgan oltinli kvarts-kalsit-adulyar tomirlarning qayd etilishi bu maydonni klassik low-sulfidation alteratsion modelga yaqinlashtiradi.Oltinning bevosita cho‘kish mexanizmini tushuntirishda Dong va Morrisonning yondashuvi alohida ahamiyatga ega. Ularning talqiniga ko‘ra, adulyariya–kvarts–karbonat assotsiatsiyasi odatda gidrotermal flyuidning qaynashi bilan bog‘liq bo‘ladi; uzoq davom etgan qaynash natijasida temperatura pasayadi, CO2 va ayniqsa H2S ajralib chiqadi, buning oqibatida oltin bisulfid kompleksi barqarorligi buzilib, metall holatdagi oltin cho‘kadi. Bu jarayon quyidagi tipik reaksiya bilan ifodalanadi: $8Au(HS)2^- + 4H2O + 6H^+ \rightarrow 8Au0 + 15H2S + SO42^-$. Chodakdagi adulyarli kechki bosqich, bonanza tipidagi yuqori tarkibli rudalar va qaynash belgilarining mavjudligi oltinning aynan shu mexanizm orqali, ya’ni qaynash–degazatsiya–bisulfid kompleksining parchalanishi yo‘li bilan konsentratsiyalanganini ko‘rsatadi[6].

Chodak maydonining o‘ziga xos jihati: qayta gidrotermal faollashuv va skarnsimon qayta ishlanish

Chodakni ko‘plab boshqa epitermal konlardan ajratib turadigan asosiy xususiyat uning keyingi bosqichda yuqori haroratli flyuidlar bilan qayta ishlanganidir. Kozlov va hamkorlar bu jarayonni “rejuvenated epithermal system”, ya’ni qayta faollashgan epitermal tizim sifatida izohlaydi. Ularning ma’lumotlariga ko‘ra, dastlabki oltinli kvarts-kalsit-adulyar tomirlarning katta qismi keyinchalik skarnsimon kalsiy-silikatli mineralizatsiya bilan almashtirilgan. Bu bosqich ayniqsa intruziv kupolning janubi-g‘arbiy kontakti bo‘ylab NE yo‘nalishli beltda rivojlangan bo‘lib, unda erta prograd stadiyada vollastonit + granat, kechki retrograd stadiyada esa kvarts + aktinolit + andradit + epidot + Fe-oksidlar + sulfidlar assotsiatsiyasi shakllangan. Kalsit bantlari va linzalarning vollastonit bilan almashinishi gidrotermal metasomatizmning juda faol bo‘lganidan dalolat beradi. Mazkur qayta ishlanish jarayoni oddiy sovish bilan emas, balki yuqori haroratli magmatik flyuidlarning oldin shakllangan epitermal tomir tizimiga kirib kelishi bilan bog‘liq. Prograd bosqich uchun 500–600 °C haroratdagi, kam CO2 li, oksidlangan ishqoriy eritmalar taklif qilingan; retrograd bosqichdagi inkluziyalar esa 372–470 °C, 370–411 °C, 283–323 °C kabi yuqori qiymatlarni, ayrim hollarda 29–38 wt.% NaCl gacha sho‘rlanish va 250–450 bar bosimni ko‘rsatadi.



1-rasm. Chodak rudali maydonida gidrotermal alteratsiya zonalligi va oltin-kumush mineralizatsiyasining genetik joylashuv modeli

Shunday qilib, Chodakda dastlab past bosimda hosil bo‘lgan oltinli epitermal tomirlar keyinroq chuqurroq va issiqroq, qisman magmatik tabiatli flyuidlar tomonidan qayta ishlangan. Mualliflarning yakuniy xulosasiga ko‘ra, maydondagi mineralogik va flyuid-inkluzion dalillar ko‘milgan mezoepitermal tomir tizimiga yuqori haroratli magmatik flyuidlar bostirib kirganini, keyinchalik esa ular meteor suvlar bilan aralashib soviganini ko‘rsatadi. Shunday qilib, Chodak rudali maydonida gidrotermal o‘zgarishlar bilan oltin rudalanishi o‘rtasidagi bog‘liqlik ikki bosqichli mexanizm asosida tushuntiriladi. Birinchi bosqichda neytralga yaqin, kam sho‘rli, meteorit va qisman magmatik komponentli flyuidlar yoriqlar bo‘ylab yuqoriga ko‘tarilib, qaynash natijasida kvarts-kalsit-adulyar tomirlar va ularga tutash kvarts-seritsitli o‘zgarish halolarini hosil qilgan; aynan shu bosqich oltinning asosiy sanoat ahamiyatiga ega to‘planishini ta’minlagan. Ikkinchi bosqichda esa intruziv manba bilan bog‘liq yuqori haroratli flyuidlar avvalgi tomirlarni qisman qayta kristallantirib, skarnsimon kalsiy-silikatli assotsiatsiyalarni yuzaga keltirgan va ayrim hollarda oltinning dastlabki joylashuvini buzgan. Shu bois Chodakda oltinning eng ishonchli qidiruv mezoni sifatida skarn emas, balki adulyariya–kvarts–karbonat assotsiatsiyasi, kolloform-banded teksturalar, qaynash belgilariga ega kvarts va tomir atrofi kvarts-seritsitli alteratsiyasi qaralishi maqsadga muvofiqdir. Bu yondashuv White–Hedenquistning low-sulfidation modeli hamda Kozlov va hamkorlarining Chodak bo‘yicha maxsus flyuid-evolyutsion talqini bilan mos keladi.

XULOSA

Tadqiqot natijalari Chodak rudali maydonida gidrotermal o‘zgarishlar va oltin rudalanishi o‘rtasida uzviy genetik hamda fazoviy bog‘liqlik mavjudligini ko‘rsatadi. Maydonning asosiy oltin-kumushli mineralizatsiyasi strukturaviy jihatdan yoriq va uzilish zonalari bilan nazorat qilingan past sulfidli epitermal tizim

sharoitida shakllangan bo‘lib, uning eng muhim mineralogik belgilarini kvarts–kalsit–adulyariya tomirlari, kvarts-seritsitli alteratsiya halolari, kolloform va ritmik-tasmali teksturalar tashkil etadi. Flyuid-inkluzion ma’lumotlar oltinli dastlabki bosqichning kam sho‘rli, past bosimli va qaynashga moyil gidrotermal eritmalar ta’sirida, asosan 151–364 °C oralig‘ida yuz berganini ko‘rsatadi. Ayniqsa adulyariya bilan bog‘liq kechki epitermal bosqich oltinning asosiy sanoat ahamiyatiga ega kontsentratsiyasi hosil bo‘lgan davr sifatida ajralib turadi. Shu bilan birga, Chodak rudali maydoni oddiy epitermal obyekt emasligi, balki keyingi bosqichda yuqori temperaturali gidrotermal-metasomatik jarayonlar bilan qayta ishlangan “qayta faollashgan epitermal tizim” ekani aniqlandi. Skarn-prograd va retrograd bosqichlarda 500–600 °C gacha yetuvchi yuqori haroratli flyuidlar avvalgi oltinli kvarts-kalsit-adulyariya tomirlarini qisman qayta kristallantirib, kalsiy-silikatli assotsiatsiyalarni shakllantirgan va rudaning dastlabki joylashuvini murakkablashtirgan. Shu sababli Chodakda oltin qidiruvining eng ishonchli mezonlari sifatida kechki skarn zonalaridan ko‘ra adulyariya–kvarts–karbonat assotsiatsiyasi, kvarts-seritsitli alteratsiya, silisifikatsiya va qaynash teksturalarini baholash maqsadga muvofiqdir. Mazkur yondashuv Chodak maydonining metallogenik xususiyatlarini chuqurroq anglash, istiqbolli rudali zonalarni ajratish va oltin qidiruv ishlarining samaradorligini oshirishga xizmat qiladi.

FOYDALANILGAN ADABIYOTLAR

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QASHQADARYO VILOYATI TUMANLARI KESIMIDA TURIZM IMKONIYATLARINI BAHOLASH

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***Annotatsiya**: Mazkur maqolada Qashqadaryo viloyati tumanlari kesimida turizm hamda xizmat ko`rsatish imkoniyatlari kompleks va tizimli ravishda ko`rib chiqilgan. Ushbu maqolada viloyatning turizm imkoniyatlarini baholash, hududiy turizmni rivojlantirish orqali mahalliy iqtisodiyotni diversifikatsiya qilish, bandlikni oshirish va ichki hamda tashqi turizm oqimini ko'paytirish zarurati o`rganildi. Viloyat hududi boy tarixiy-madaniy meros, noyob tabiiy landshaftlar va etnografik resurslarga ega bo'lsa-da, ularning tumanlar kesimidagi taqsimoti va amaliy foydalanish darajasi bir xil emas. Shuningdek, maqolada viloyatdagi turistik tashkilotlar faoliyati, hududiy turizmni samarali boshqarish, investitsiyalarni jalb qilish, ekoturizm va agro-turizm yo'nalishlarini rivojlantirish, hamda turizm klasterlarini shakllantirish bo'yicha ilmiy-amaliy tavsiyalar ishlab chiqilgan.*

***Kalit so`z:**turizm, xizmat ko`rsatish, hududiy turizm, ichki turizm, turistik tashkilotlar.*

***Abstract**: In this article, tourism and service delivery opportunities in the districts of Kashkadarya region are comprehensively and systematically reviewed. In this article, the need to assess the tourism potential of the region, diversify the local economy through the development of regional tourism, increase employment and increase the flow of domestic and foreign tourism was studied. Although the territory of the region has a rich historical and cultural heritage, unique natural landscapes and ethnographic resources, their distribution and level of practical use in the cross-section of districts are not the same. Also, the article developed scientific and practical recommendations on the activities of tourist organizations in the region, effective management of regional tourism, attraction of investments, development of ecotourism and agro-tourism routes, and formation of tourism clusters.*

***Key word**: tourism, service provision, regional tourism, domestic tourism, tourist organizations*

***Аннотация:** В данной статье комплексно и системно рассмотрены возможности туризма и сервиса на территории районов Кашкадарьинской области. В данной статье исследована необходимость оценки туристических возможностей региона, диверсификации местной экономики за счет развития регионального туризма, увеличения занятости и увеличения внутренних, а также внешних туристических потоков. Хотя территория района обладает богатым историко-культурным наследием, уникальными природными ландшафтами и этнографическими ресурсами, их распределение по районам и степень практического использования неодинаковы. Также в статье разработаны научно-практические рекомендации по деятельности туристических организаций региона, эффективному управлению региональным туризмом, привлечению инвестиций, развитию направлений экотуризма и агротуризма, формированию туристических кластеров.*

***Ключевые слова:** туризм, услуги, территориальный туризм, внутренний туризм, туристические организации.*

KIRISH

Turizm bugungi kunda jahon iqtisodiyotining eng tez rivojlanayotgan tarmoqlaridan biri hisoblanadi. Xususan, World Tourism Organization (UNWTO) ma’lumotlariga ko‘ra, turizm ko‘plab davlatlarda yalpi ichki mahsulotning muhim qismini shakllantirib, aholi bandligini ta’minlashda strategik ahamiyat kasb etadi. Rivojlanayotgan mamlakatlarda esa turizm hududiy iqtisodiy tafovutlarni kamaytirish, infratuzilmani modernizatsiya qilish va mahalliy aholi daromadlarini oshirish vositasi sifatida xizmat qilmoqda. O‘zbekistonda ham so‘nggi yillarda turizmni rivojlantirish davlat siyosatining ustuvor yo‘nalishlaridan biriga aylandi. Xususan, O‘zbekiston Respublikasi turizm salohiyatini oshirish, yangi turistik yo‘nalishlarni shakllantirish va hududiy brendlarni rivojlantirish borasida keng qamrovli islohotlarni amalga oshirmoqda. Bu jarayonda hududlar kesimida mavjud turistik resurslarni aniqlash, ularni baholash va samarali boshqaruv mexanizmlarini ishlab chiqish dolzarb ilmiy-amaliy vazifa hisoblanadi. Janubiy mintaqada joylashgan Qashqadaryo viloyati o‘zining boy tarixiy-madaniy merosi, tabiiy

landshaftlari, tog‘-ekologik hududlari va ziyorat maskanlari bilan ajralib turadi. Viloyat hududida qadimiy shaharlar, arxeologik obidalar, muqaddas qadamjolar hamda noyob tabiiy resurslar mavjud. Jumladan, Shahrisabz shahri o‘zining tarixiy me’moriy yodgorliklari bilan xalqaro miqyosda tan olingan bo‘lib, 2000-yilda UNESCOning Butunjahon merosi ro‘yxatiga kiritilgan. Biroq viloyatda turizm salohiyati tumanlar kesimida bir xil darajada rivojlanmagan. Ayrim tumanlarda infratuzilma va xizmat ko‘rsatish sifati yetarli emasligi, transport-logistika muammolari, marketing strategiyalarining sustligi kuzatiladi. Shu bois, har bir tuman kesimida turistik resurslarni kompleks tahlil qilish, ularning ustun va zaif jihatlarini aniqlash hamda istiqbolli yo‘nalishlarni belgilash ilmiy asoslangan yondashuvni talab etadi.

ASOSIY QISM

Qashqadaryo viloyati tumanlarida turizm sohasini turli yo`nalishlarini o`rganish, sohada faoliyat yurituvchi xodimlarni o`qitish va malakasini oshirish yo`nalishlari, Qashqadaryo viloyatida tashqi va ichki turizmni rivojlantirish, xorijiy turistlarni jalb qilishda inson resurslarini boshqarish, Qashqadaryo viloyati turizmini rivojlantirishni boshqarishda raqamli transformatsiyalarning o`rni va ahamiyati kabi masalalar ko`rib chiqish va tahlil qilish ushbu maqolaning muhim natijasidir . So`ngi yillarda, Qashqadaryo viloyatini jahon sayyohlik markazlaridan biriga aylantirish, viloyatdagi qadimiy shahar va qishloqlar nomini butun dunyoga tanitish, aholi bandligini ta’minlash, yangi ish o’rinlarni yaratish ustuvor vazifaga aylandi va aylanmoqda. Qashqadaryo geografik joylashuviga ko`ra Turkiya, Gretsiya, Italiya, Ispaniya va AQSH mamlakatlarining o‘rta qismlari bilan bir xil kenglikda joylashgan bo‘lib viloyatning shimoli-sharqi hamda janubi sharqiy qismlari tog‘lar bilan o‘ralgan. Pomir-Oloy tog‘lari etagidagi kontinental (ayrim joylarda esa hatto subtropik) iqlim tufayli bu mintaqa o‘zining toza tabiiy landshaftlari, go‘zal nabotot va hayvonot olami bilan sayohatchilarni maftun qila oladi. Mintaqa hududida Kitob, Hisor va Qizil-Soy kabi bir necha mashhur

qo‘riqxonalar mavjud. Toza ob-havo va chiroyli tabiat bilan birga hudud qadimiy shaharlar va arxitektura xarobalari bilan xam boydir. Viloyatda respublikamizdagi jami tarixiy obidalarning 17% dan ortiq qismi joylashgan bo’lib, bulardan 1 ming 468 ta madaniy meros obyekti ro‘yxatga olingan, ularning 1 ming 189 tasi arxeologiya, 208 tasi arxitektura, 43 ta monumental yodgorliklar, 34 tasi diqqatga sazovor joylar hisoblanadi. So`ngi yillarda „O‘zbekiston Respublikasida ichki va ziyorat turizmini yanada rivojlantirish chora tadbirlari“ to‘g‘risidagi 2021-yil 9-fevral sanasidagi PF-6165-son 9-bandiga muvofiq Qashqadaryo viloyatida turizmni rivojlantirish va infratuzilmani yaxshilash maqsadida ko‘plab amaliy ishlar olib borildi. Jumaladan, “Abul-Muin an-Nasafiy”, “Xo‘ja Imkonagiy”, “Darvesh Muhammad Vaxshivoriy”, “Sulton Mirhaydar ota” ziyoratgohlari va unga yondosh hududlarga yo’l ko’rsatkich va axborot belgilarini o’rnatildi, kitoblar va hunarmandchilik savdosi yo’lga qo’yildi, halol turizm talablariga javob beradigan ovqatlanish shoxobchalari va oilaviy mehmon uylari tashkil qilindi. Viloyatda tarixiy obidalar har bir tumanda mavjud bo’lib, ulardan ko’prog’i asosan qadimiy Shaxrisabz, Qarshi shaharlarida va Kitob tumanida joylashgan. Voha o‘zining uzoq o‘tmishiga ega ekanligi tarixiy obidalar soni va ilmiy yangiligi turfa xillikni tashkil etadi. Viloyatda ko‘plab dam olish maskanlari va shifobaxsh buloqlar mavjud bo‘lib ular asosan tog‘ oldi va tog‘li hududlarda ko’proq joylashgan. Arxitektura yodgorliklari ko‘proq Qarshi shahri, Qarshi tumani hamda Shahrisabz shahri va tumanida uchraydi, bu esa ushbu hududlarda o‘rta asrlar va keyingi davr me’morchilik an’analari rivojlanganini ko‘rsatadi. Monumental san’at yodgorliklari nisbatan Qarshi tumanida (28 ta) yuqori ko‘rsatkichni tashkil etadi. Shu bilan birga, Nishon, Muborak va Mirishkor tumanlarida tarixiy obyektlar soni kamroq bo‘lib, bu hududlarda turizmni rivojlantirish ko‘proq tabiiy-rekreatsion resurslarga tayanishini ko‘rsatadi. Viloyatning shifobaxsh buloqlari, dam olish maskanlari va sanatoriyalari rekreatsion turizmni rivojlantirish uchun muhim omil hisoblanadi. Umuman olganda, Qashqadaryo viloyati boy tarixiy-madaniy merosi

va rekreatsion resurslari bilan respublika miqyosida yuqori turistik salohiyatga ega hududdir. Tarixiy obidalar sonining ko‘pligi, ayniqsa Shahrisabz, Qarshi va Kitob hududlarida jamlangani viloyatda madaniy-tarixiy turizmni rivojlantirish uchun mustahkam asos yaratadi. Kelgusida hududlar kesimida infratuzilmani takomillashtirish, obidalarni restavratsiya qilish hamda marketing strategiyalarini kuchaytirish orqali viloyatning ichki va xalqaro turizm bozordagi raqobatbardoshligini yanada oshirish mumkin.

XULOSA VA TAKLIFLAR

Xulosa qilib aytganda, viloyatda turizmni rivojlantirish uchun resurs bazasi yetarli, biroq ularni samarali boshqarish, infratuzilmani takomillashtirish va hududlar kesimida ixtisoslashgan turizm yo‘nalishlarini shakllantirish zarur. Masalan, tarixiy-madaniy turizm Shahrisabz va Qarshi hududlarida, arxeologik turizm Kitob va Yakkabog‘ tumanlarida, rekreatsion va sog‘lomlashtirish turizmi esa tabiiy resurslarga boy hududlarda rivojlantirilishi maqsadga muvofiq. Shuningdek, tarixiy obidalarni restavratsiya qilish, ularning ilmiy pasportini yaratish, raqamlashtirish va xalqaro marketing strategiyalarini kuchaytirish orqali viloyatning turistik brendini shakllantirish mumkin. Hududlar o‘rtasidagi tafovutni kamaytirish maqsadida kam obyektli tumanlarda yangi turistik marshrutlar ishlab chiqish va investitsiyalarni jalb etish dolzarb vazifa hisoblanadi. Umuman olganda, Qashqadaryo viloyati boy tarixiy-madaniy merosi, arxeologik salohiyati va rekreatsion resurslari bilan barqaror va kompleks turizmni rivojlantirish uchun katta imkoniyatlarga ega. Ilmiy asoslangan rejalashtirish, samarali boshqaruv va hududiy ixtisoslashuv orqali viloyatni respublikaning yetakchi turistik markazlaridan biriga aylantirish mumkin.

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etish chora-tadbirlari to`g`risida” 2023-yil 30-noyabrdagi PQ-376-son qarori. https://lex.uz/docs/

2. O`zbekiston Respublikasi Vazirlar mahkamasining “Qashqadaryo viloyatining turizm salohiyatidan samarali foydalanish chora-tadbirlari to`g`risida” gi 198-son qarori. https://lex.uz/docs/

3. O'zbekiston Respublikasi Prezidentining „O‘zbekiston Respublikasida ichki va ziyorat turizmini yanada rivojlantirish chora tadbirlari“ to‘g‘risidagi 2021-yil 9-fevral sanasidagi PF-6165-son 9-bandi. https://lex.uz/docs/

4. O`zbekiston Respublikasi Prezidentining 05.12.2024 yildagi PQ-424-sonli “G`elon turistik-rekratsion zonasini va xalqaro umummavsumiy kurortni tashkil etish chora tadbirlari” qarori. https://lex.uz/docs/

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RIVOJLANGAN MAMLAKATLARDA “YASHIL” TRANSFORMATSIYANI MOLIYALASHTIRISHNING ILG’OR TAJRIBASI

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***Annotatsiya**: Mazkur maqolada rivojlangan mamlakatlarda xo’jalik yurituvchi subyektlarda "yashil" transformatsiyani moliyalashtirishning ilg’or tajribasi tahlil etilgan. Germaniya, Yaponiya, Xitoy, AQSh va Yevropa Ittifoqining “yashil” moliyalashtirish sohasidagi yondashuvlari, moliyaviy instrumentlari va ko’rsatkichlari o’rganilgan. Ushbu tajribalar asosida O’zbekiston uchun amaliy tavsiyalar ishlab chiqilgan.*

***Kalit so’zlar:** "yashil" transformatsiya, moliyalashtirish, “yashil” obligatsiyalar, ESG-investitsiyalar, iqlim moliyasi, barqaror rivojlanish.*

***Abstract:** In this article, the advanced materials on financing "green" transformation in business entities are analyzed. The production, instruments and indicators of "green" financial assistance in Germany, China, the United States and the European Union are studied. Based on the three experiences, practical recommendations for Uzbekistan are developed.*

***Keywords:** "green" transformation, financialization, "green" bonds, ESG-investments, climate finance, organization.*

KIRISH

Bugungi kunda "yashil" transformatsiyani moliyalashtirish masalasi global iqtisodiyotning ustuvor yo’nalishiga aylandi. Xalqaro energetika agentligi (IEA) ma’lumotlariga ko’ra, 2024-yilda global energetika sohasiga investitsiyalar birinchi marta 3 trillion AQSh dollaridan oshdi, shundan 2 trillion dollari yashil energetika texnologiyalariga yo’naltirildi. Biroq BMT ekspertlarining bahosiga ko’ra, 2050-yilga borib karbonsiz iqtisodiyotga erishish uchun yillik 6 trillion AQSh dollaridan ziyod investitsiya zarur. Ushbu ulkan moliyaviy ehtiyojni qoplash uchun turli

mamlakatlarda samarali “yashil” moliyalashtirish mexanizmlari ishlab chiqilmoqda. Rivojlangan mamlakatlar, jumladan Germaniya, Yaponiya, Xitoy, AQSh va Yevropa mamlakatlari tajribasini o’rganish va ularning ilg’or amaliyotlarini milliy sharoitga moslash O’zbekiston uchun dolzarb ilmiy-amaliy vazifa hisoblanadi.

Germaniya "yashil" transformatsiyani moliyalashtirishda Yevropaning eng ilg’or davlatlaridan biri sifatida tan olingan. Ushbu natijaga erishishda davlat taraqqiyot banki — KfW (Kreditanstalt für Wiederaufbau) — ning roli beqiyos. KfW 2014-yildan buyon 136 ta tranzaksiyada 82,8 mlrd. yevro miqdorida "yashil" obligatsiyalar chiqargan. 2025-yil uchun 10 mlrd. yevrolik "yashil" obligatsiyalar dasturi e’lon qilingan bo’lib, bu bank umumiy kapital bozori mablag’larining taxminan 15 foizini tashkil etadi. 2025-yilning birinchi yarmiigayoq KfW “yashil” obligatsiyalar bo’yicha 10 mlrd. yevrolik maqsadga deyarli erishdi. Germaniya hukumatining 2024-yilgi iqlim moliyasi 10,7 mlrd. yevroga yetdi: shundan 6,1 mlrd. yevro federal byudjet mablag’lari, qolgan 4,6 mlrd. yevro esa KfW va DEG tomonidan kapital bozoridan jalb etilgan mablag’lar hisoblanadi. [49]Bundan tashqari, 1,1 mlrd. yevro xususiy investitsiyalar ham safarbar etildi. 2023-yilda Germaniya federal hukumati 17,25 mlrd. yevro hajmida yashil federal qimmatli qog’ozlar chiqargan bo’lsa, 2024-yilda bu ko’rsatkich 17,5 mlrd. yevroga yetdi. 2025-yilda ham ushbu ko’rsatkich taxminan 14,5 mlrd. yevro darajasida saqlanib qoldi.[50]

Germaniya tajribasining asosiy xususiyati shundaki, “yashil” moliyalashtirish uchta darajada — federal hukumat, davlat taraqqiyot banki va xususiy sektor — o’rtasida uyg’un taqsimlangan. KfW modeli rivojlanayotgan mamlakatlar uchun namuna sifatida xizmat qilmoqda.

Yaponiya "yashil" transformatsiyani moliyalashtirishga o’ziga xos yondashuv — "Green Transformation" (GX) strategiyasi — asosida harakat qilmoqda. 2024-yil

[49] https://www.bloomberg.com/news/articles/2025-12-25/green-debt-sales-hit-record-levels-despite-climate-backlash
[50] https://thedocs.worldbank.org/en/doc/cd82b4033281dab2cb1a1c71eeb691e4-0340012025/original/Labeled-Bond-Quarterly-Newsletter-Issue-No-10.pdf

fevralida Yaponiya hukumati dunyodagi birinchi suveren tranzitsion obligatsiyani chiqardi. 2025-yil aprel holatiga ko'ra, ushbu obligatsiyalarning umumiy bozor qiymati 37,6 mlrd. AQSh dollariga yetdi — bu umumiy barqaror obligatsiyalar bozorining 0,7 foizini tashkil etib, Yaponiya ushbu sohada 71,5 foizlik ulush bilan yetakchi emitent hisoblanadi. [51]

Yaponiyaning GX strategiyasi 10 yil (2023–2033) davomida 20 trillion yaponiya iyenasi (taxminan 150 mlrd. AQSh dollari) miqdorida "yashil" investitsiyalarni jalb etishni ko'zda tutadi. Ushbu strategiyaning noyob xususiyati — tranzitsion moliyalashtirish konsepsiyasi bo'lib, u faqat "to'liq yashil" loyihalar emas, balki an'anaviy tarmoqlarning asta-sekin ekologik transformatsiyasini ham moliyaviy qo'llab-quvvatlashni nazarda tutadi. Shuningdek, Yaponiya Osiyo mintaqasida "yashil" transformatsiyani kengaytirish maqsadida "Osiyo nol-emissiyali hamjamiyati" (AZEC) strategik sheriklik tizimini yaratgan bo'lib, u rivojlanayotgan Osiyo mamlakatlarida GX tamoyillarini joriy etishga ko'maklashmoqda.

Xitoy "yashil" transformatsiyani moliyalashtirish hajmi jihatidan jahonda beqiyos o'rinni egallaydi. Bloomberg hisob-kitoblariga ko'ra, Xitoy 2024-yilda energetika tranzitsiyasiga 818 mlrd. AQSh dollari miqdorida investitsiya yo'naltirdi — bu boshqa istalgan iqtisodiyotga nisbatan ikki barobar ko'p. 2024-yilda Xitoy global qayta tiklanadigan energiya quvvatining 40 foizidan ko'prog'ini tashkil etdi. [52] 2024-yilda Xitoyda tranzitsion obligatsiyalar chiqarish 64,86 mlrd. yuanga yetdi — bu o'tgan yilga nisbatan 53,6 foizlik o'sish. Barqarorlikka bog'liq obligatsiyalar eng yirik segment bo'lib, 34,97 mlrd. yuan miqdorida chiqarildi. Xitoyning CO_2 emissiyasi 2024-yil martidan boshlab pasayish yoki barqarorlanish tendensiyasini ko'rsatmoqda; bunga elektr transport vositalarining keng joriy etilishi, sement va

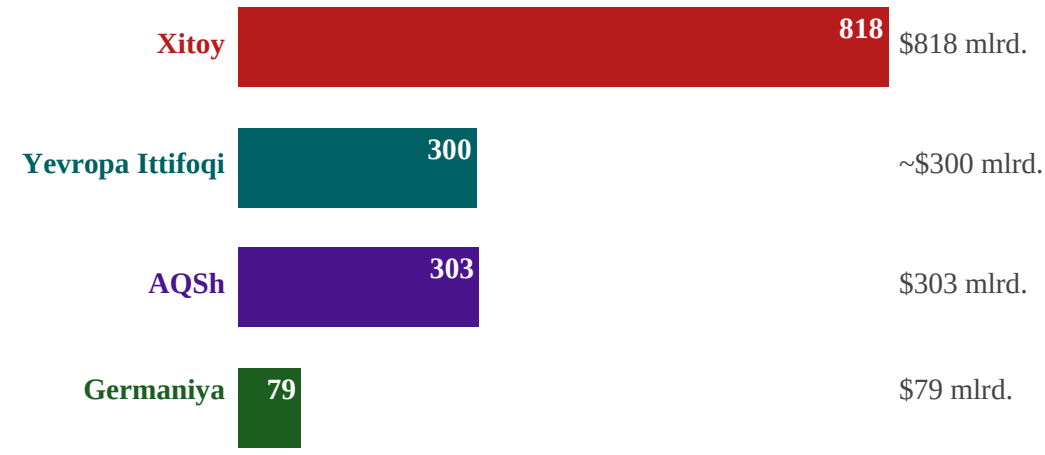
[51] https://about.bnef.com/insights/finance/sustainable-debt-plays-key-role-in-scaling-climate-finance-for-emerging-markets/
[52] https://www.bloomberg.com/news/articles/2025-10-22/global-green-bond-issuance-almost-doubles-on-europe-asia-surge

po’lat ishlab chiqarishidagi kamayish hamda quyosh va shamol energetikasi quvvatlarining keskin o’sishi sabab bo’ldi. Xitoy tajribasining o’ziga xosligi shundaki, davlat "yashil" transformatsiyani nafaqat ekologik, balki iqtisodiy raqobatdoshlikni oshirishning strategik vositasi sifatida ko’radi.

AQSh "yashil" moliyalashtirishda xususiy sektor va bozor mexanizmlariga tayanuvchi model qo’llaydi. Hozirda Yevropa Ittifoqi, AQSh va Xitoy global “yashil” investitsiyalar bozorida yetakchi o’rinlarni egallaydi, biroq ularning yondashuvlari, ustuvorliklari va natijalari o’ziga xos siyosiy tuzilmalari, iqtisodiy ustuvorliklari va ijtimoiy omillarga ko’ra sezilarli farqlanadi. 2024-yilning I choragida "yashil" obligatsiyalar chiqarish bo’yicha top-5 emitentlar qatorida Germaniya (12%), AQSh (10%), Fransiya (9%), Yaponiya (7%) va Xitoy (7%) bo’ldi. AQShning 2022-yilda qabul qilgan "Inflyatsiyani kamaytirish to’g’risida"gi qonuni (IRA) "yashil" investitsiyalarga 369 mlrd. AQSh dollarlik soliq imtiyozlari va subsidiyalarni belgilab, xususiy kapitalning ekologik yo’nalishlarga oqishini kuchli tezlashtirdi.

1-jadval.

Energetika tranzitsiyasiga jami investitsiyalar hajmi (mlrd. AQSh dollari, 2024)



Yaponiya	**37**	~$37 mlrd.

Yevropa Ittifoqi “yashil” transformatsiyani moliyalashtirishda tartibga soluvchi-huquqiy mexanizmlarni ustuvor o’ringa qo’yadi. 2020-yilda joriy etilgan "Yashil" taksonomiya (EU Taxonomy Regulation) “yashil” deb tan olinuvchi moliyaviy faoliyat uchun aniq mezonlar belgilab, “yashil” moloylashtirish (greenwashing) xavfini kamaytirdi. “Yashil” kelishuv" (European Green Deal) doirasida 2025–2034-yillarda 1 trillion yevrodan ziyod investitsiya jalb etish rejalashtirilgan. Yevropa Kengashining 2024-yil 18-apreldagi xulosalarida Yevropa sekuritizatsiya bozorini qayta ishga tushirish, shu jumladan tartibga solish va prudensial o’zgartirishlar orqali Yevropa banklarining kreditlash qobiliyatini kuchaytirish va kapital bozorlarini chuqurlashtirish tavsiya etildi.

Yuqorida ko’rib chiqilgan mamlakatlar tajribasini qiyosiy tahlil qilish asosida quyidagi asosiy modellar ajratiladi:

Germaniya modeli	**Davlat taraqqiyot banki orqali uzluksiz “yashil” kapital oqimini ta’minlash. O’zbekiston uchun tatbiq etish imkoniyati: O’zbekiston Milliy banki yoki Tadbirkorlik jamg’armasini KfW tipidagi “yashil” taraqqiyot institutiga aylantirish.**
Yaponiya modeli	Tranzitsion moliyalashtirish orqali an’anaviy tarmoqlarning bosqichma-bosqich yashillashuvini qo’llab-quvvatlash. O’zbekiston uchun tatbiq etish imkoniyati: neft-gaz va metallurgiya kabi an’anaviy tarmoqlar uchun alohida tranzitsion moliyalashtirish dasturlarini ishlab chiqish.
Xitoy modeli	“Yashil”transformatsiyani milliy sanoat siyosatining tarkibiy qismiga aylantirish. O’zbekiston uchun tatbiq etish imkoniyati: qayta

	tiklanadigan energiya, elektr transport va energiya samarali qurilish sohalarida milliy “yashil” sanoat klasterlarini shakllantirish.
AQSh modeli	Soliq imtiyozlari orqali xususiy investitsiyalarni ekologik yo’nalishga yo’naltirish. O’zbekiston uchun tatbiq etish imkoniyati: “yashil” loyihalarga investitsiya qilgan korxonalarga foyda solig’i bo’yicha imtiyozlar joriy etish
Yevropa Ittifoqi modeli	"Yashil" taksonomiya va majburiy ESG-hisobot tizimini yaratish. O’zbekiston uchun tatbiq etish imkoniyati: milliy “yashil” taksonomiya standartlarini ishlab chiqib, xo’jalik yurituvchi subyektlar uchun ixtiyoriy ESG-hisobot tizimini joriy etish.

XULOSA

Rivojlangan mamlakatlar tajribasini tahlil qilish shuni ko’rsatadiki, “yashil” transformatsiyani moliyalashtirishda yagona universal model mavjud emas — har bir mamlakat o’zining iqtisodiy, institutsional va siyosiy xususiyatlaridan kelib chiqib, o’ziga xos mexanizmlar ishlab chiqadi. Biroq barcha muvaffaqiyatli modellarga xos umumiy xususiyat — davlat, xususiy sektor va xalqaro institutlar o’rtasidagi hamkorlikka asoslangan kompleks yondashuvdir. O’zbekiston uchun eng samarali strategiya — Germaniya, Yaponiya va Xitoy tajribalarini sintezlab, milliy “yashil” moliyalashtirish tizimini shakllantirishdan iborat. Shu bilan birga, O’zbekistonda "yashil" transformatsiyani moliyalashtirish uchun zarur qonunchilik-institutsional zamin asosan shakllangan. Biroq xorijiy mamlakatlar tajribasi bilan qiyoslaganda bir qator muammolar hali yechimini kutmoqda: milliy "yashil" taksonomiya standartlarining yo’qligi, “yashil” obligatsiyalar bozorining rivojlanmaganligi, xo’jalik yurituvchi subyektlar uchun ESG-hisobot tizimining joriy etilmaganligi va “yashil” moliyalashtirish sohasida ixtisoslashgan taraqqiyot institutining mavjud emasligi shular jumlasidandir. O’zbekiston uchun eng samarali strategiya Germaniyaning KfW modeli, Yaponiyaning tranzitsion moliyalashtirish mexanizmi va Xitoyning davlat-xususiy sheriklik tajribasini sintezlab, milliy “yashil” moliyalashtirish tizimini shakllantirishdan iboratdir. Bu esa xo’jalik yurituvchi subyektlarda “yashil” transformatsiyani moliyalashtirishning kompleks mexanizmlarini ishlab chiqishni dissertatsiya tadqiqotining dolzarb vazifasi sifatida belgilaydi.

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SYNTHESIS AND PHYSICOCHEMICAL ANALYSIS OF HIGHLY ABSORBENT OLEOGELS

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Abstract. *Oleogels were successfully prepared via radical polymerization and crosslinking of butadiene-styrene rubber, natural rubber, and isoprene rubber in a toluene medium. The synthesis was performed in a 250 mL round-bottom flask with a reflux condenser at 80-90 °C, employing ammonium persulfate as the initiator and glutaraldehyde as the crosslinker. After polymerization, the oleogels were dried and subsequently treated with maleic anhydride to enhance crosslink density and reduce solubility. FTIR analysis confirmed the presence of characteristic functional groups, including CH_3, CH_2, C=N, and C-O-C, indicating the formation of a stable gel network. Thermal characterization using TGA/DTA demonstrated a multistep decomposition pattern, with mass losses observed up to 600 °C, reflecting high thermal stability. Mechanical testing revealed elastic behavior, with strain tolerances reaching 150%, and stress-strain curves indicated enhanced flexibility and resilience.*

Keywords*: Rubber, toluene, organic compounds, FTIR spectroscopy, DTG analysis.*

INTRADUCTION

Currently, significant research efforts worldwide focus on developing novel, environmentally friendly, and economically feasible methods for synthesizing oleogels from hydrophobic compounds, as well as investigating their potential

applications in industrial, agricultural, and domestic contexts. Originally regarded as cost-effective synthetic materials, oleogels have been widely applied for oil spill recovery. However, the gradual discontinuation of certain dispersants-some of which pose even greater risks to aquatic environments than petroleum itself-has intensified the search for alternative oil recovery strategies. Collecting spilled oil from water bodies continues to represent a major environmental challenge [1,2]. Oily wastewater is increasingly recognized as a critical global environmental issue. The severity of oil contamination is closely linked to the worldwide expansion of oil exploration and extraction, coupled with rapid industrial growth. For example, global annual consumption of petroleum-derived products and vegetable oils exceeds approximately 100 million and 92 million metric tons, respectively [3]. Between 2000 and 2011 alone, oil tanker spills released an estimated 224,000 tons of petroleum into the oceans [4-5]. This work investigates the formation of EC-MGc oleogels by examining interactions between low molecular weight ethyl cellulose (19 kDa) and a commercial monoglyceride. Oleogels were prepared from vegetable oil solutions of EC at different concentrations (7%, 8%, and 10%) with MGc levels below its minimal gelling concentration (0–1%). Rheological, DSC, and FTIR analyses indicated that at 0.1% MGc, hydrogen bonding between EC and MGc enhanced oleogel elasticity, whereas higher MGc concentrations (≥0.25%) promoted EC-EC interactions due to increased oil polarity. At temperatures below 10 °C, MGc crystallized within the EC network, acting as an active filler [6].

EXPERIMENTAL PROCEDURE FOR SYNTHESIS

To obtain the super oleogel we synthesized, we need a 250 ml high-temperature resistant flask, a 200°C thermometer to monitor the temperature, an oil bath and an oven to maintain the temperature constant, and a reflux condenser to maintain the reaction. A 10% solution of styrene butadiene rubber (BSK), natural rubber (TK), and isoprene rubber (SKI) was prepared. First, the rubbers were

dissolved in toluene. The mixture was stirred with a glass rod at room temperature for two days. The resulting solution was placed in a 250 ml flask and, after installing a reflux condenser on the flask containing the solution, it was placed in an oil bath in the oven, then the temperature was maintained at 80°C for 40 minutes, and then 0.3% ammonium persulfate was added to it as an initiator, and the reaction temperature was slowly increased. After the reaction temperature reached 90°C, 3% glutaraldehyde was added as a mordant. The reaction process was carried out at 80-90°C for 6 hours, and it was dried in a User Manual oven at 75°C for 12 hours.

RESULTS AND DISCUSSION

To evaluate the thermal stability and decomposition behavior of the PF-1 composite corrosion inhibitor, simultaneous thermogravimetric (TGA) and differential thermal (DTA) analyses were conducted within a temperature range of 10-600 °C using a SHIMADZU DTG-60 instrument (Figure 1). During the measurements, each sample was continuously exposed to a dynamic flow of argon gas (80 mL min^{-1}) to maintain an inert atmosphere. The heating process was performed in an aluminum crucible equipped with a furfuric alumina pan, with a constant heating rate of 10 °C min^{-1}.

The obtained thermograms clearly indicated both endothermic and exothermic transitions of the oleogel sample. The detailed results of the DTA and TGA measurements for the synthesized oleogel are illustrated in Figure 3.

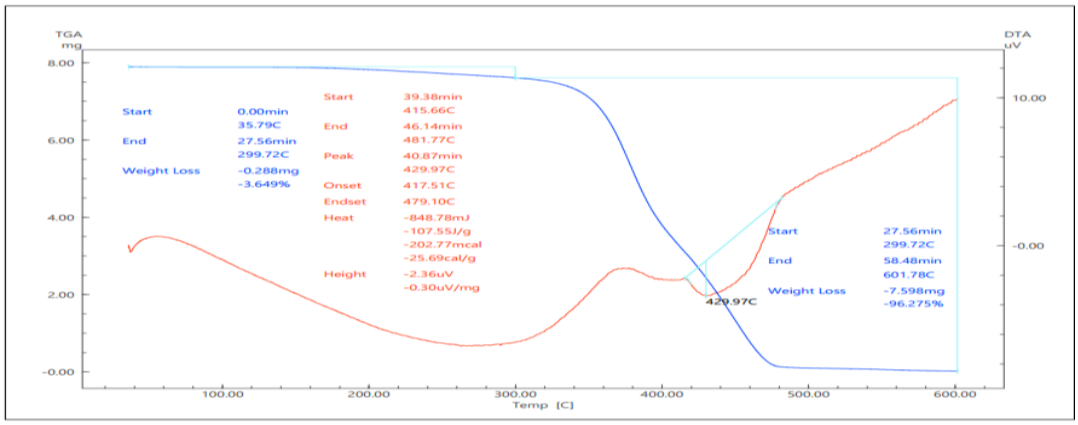

Fig.2. Differential thermal analysis (DTA) and thermogravimetric analysis (TGA) curves of the synthesized oleogel.

Figure 2 presents the thermal analysis of the synthesized oleogel in its dry form, conducted up to a maximum temperature of 600 °C. Differential thermal analysis (DTA) and thermogravimetric analysis (TGA) results were interpreted based on the corresponding curves. An endothermic peak was observed at 429.97 °C, indicating the temperature at which the material absorbs heat, resulting in a change in its internal energy. The specific variations in energy state are summarized in Table 1.

Table 1. Differential Thermal Analysis (DTA) profile of the synthesized oleogel, showing characteristic endothermic and exothermic transitions

Temperature	**Total energy absorption, µV**	**Per unit mass uV/mg**	**Heat, m/cal**	**Specific heat, cal/g**
429.97 °C	-2.36	-0.30	-202.77	-25.69

The first mass loss occurred between 35.75 and 299.72 °C, corresponding to a reduction of 0.288 mg, which is attributed to the evaporation of residual glutaraldehyde and unreacted toluene from the oleogel synthesis. A second, more significant mass loss of 7.886 mg was observed between 299.72 and 601.78 °C, reflecting the complete thermal decomposition of the oleogel and the release of gaseous products [13-18]. The thermogravimetric analysis (TGA) curve (blue line) shows that these two temperature ranges account for the majority of the observed mass losses, as summarized in Table 2.

Table 2. Thermogravimetric analysis (TGA) profile of the synthesized oleogel

Temperature	Mass loss, mg	Mass loss, %
35.79-299.72°C	0,288	3.649
299.72-601.78°C	7.598	96.275
Total	7.886	99.924

The synthesized oleogel undergoes thermal decomposition, producing gaseous products and simultaneously releasing a certain amount of energy to the surroundings. The agreement between the decomposition range and the corresponding temperature interval confirms this conclusion.

CONCLUSION

The IR spectrum of the synthesized Oleogel shows that it contains nitrogen, oxygen, hydrogen, carbon and metal bonds. The results of differential thermal analysis show that the super oleogel we obtained is active and has a significant effect in the treatment of industrial wastewater. Proper selection and use of oleogels. The results of the analysis show that this Oleogel can be used at temperatures higher than the operating temperature of 429.97℃. If we touch on some of the possible applications of this synthesized super oleogel, we can say that it can be widely used and is very useful in the treatment of wastewater in all sectors of the water-related industry.

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BATAREYA ENERGIYA SAQLASH TIZIMLARINING ENERGETIK SAMARADORLIK KO‘RSATKICHLARINI TAHLIL QILISH

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KIRISH

Qayta tiklanuvchi energiya manbalari (quyosh va shamol) ulushining ortib borishi elektr energetika tizimlarida energiya ishlab chiqarishning notekisligini kuchaytirmoqda. Bu esa energiyani vaqt bo‘yicha saqlash va taqsimlash muammosini yanada dolzarb qiladi. Shu sababli batareya energiya saqlash tizimlari (BESS) zamonaviy energetika infratuzilmasining ajralmas qismiga aylanib bormoqda. Ular energiyani zaxiralash, yuklamani muvozanatlash va tizim barqarorligini ta’minlashda muhim rol o‘ynaydi [1].

So‘nggi yillarda BESS texnologiyalari jadal rivojlanib, turli xil batareya turlari — litiy-ion, qo‘rg‘oshin-kislotali, oqim (flow) va natriy-ion tizimlari keng qo‘llanilmoqda. Har bir texnologiya o‘zining afzallik va kamchiliklariga ega bo‘lib, ularni tanlash qo‘llanilish sohasi, iqtisodiy samaradorlik va texnik ko‘rsatkichlarga bog‘liq. Shu sababli batareya tizimlarini baholashda bir nechta asosiy ko‘rsatkichlarni kompleks tarzda tahlil qilish talab etiladi [2].

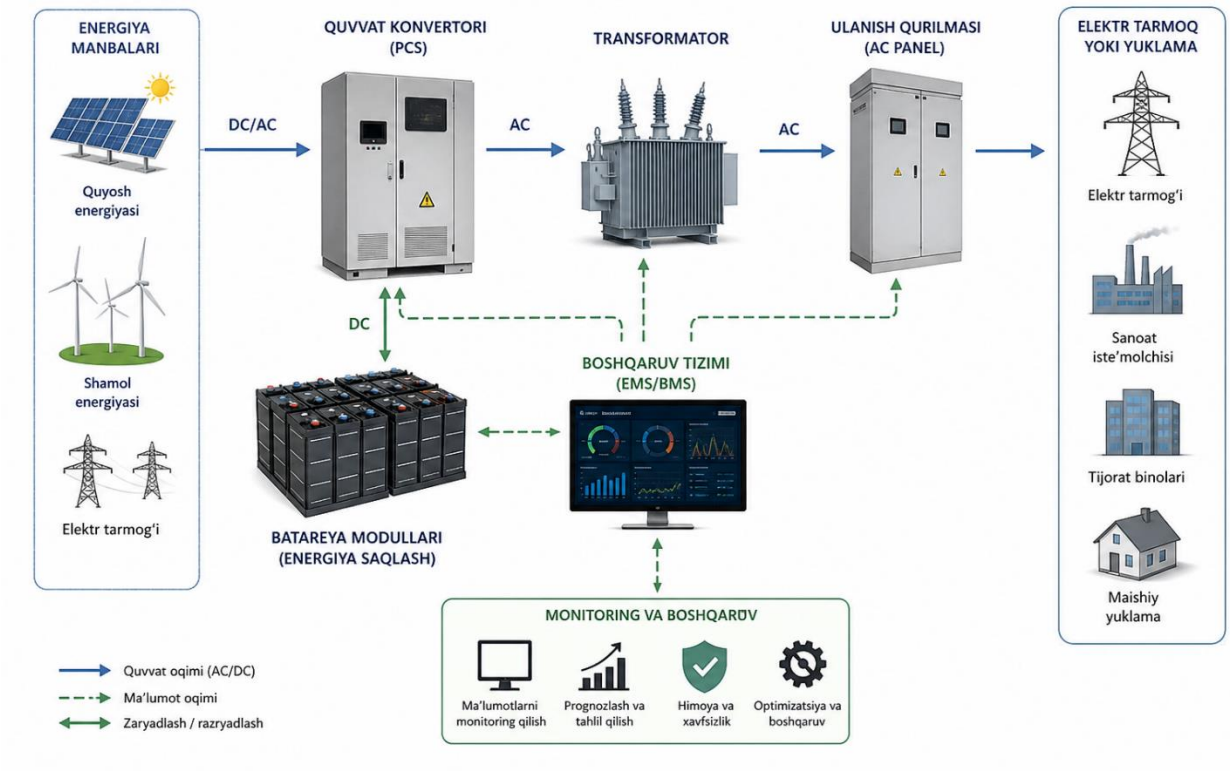
Batareya energiya saqlash tizimlarining samaradorligini baholashda energiya zichligi, round-trip efficiency (RTE), sikl resursi, o‘z-o‘zidan razryad va javob vaqti kabi parametrlar asosiy rol o‘ynaydi. Ushbu ko‘rsatkichlar nafaqat texnologiyaning texnik imkoniyatlarini, balki uning iqtisodiy va ekspluatatsion

samaradorligini ham belgilaydi. Ayniqsa, RTE va sikl resursi tizimning uzoq muddatli ishlash samaradorligini aniqlovchi muhim mezonlar hisoblanadi [3].

Zamonaviy tadqiqotlar shuni ko‘rsatadiki, yagona “eng yaxshi” batareya texnologiyasi mavjud emas. Masalan, litiy-ion batareyalar yuqori samaradorligi va tez javob berish xususiyati bilan ajralib tursa, oqim batareyalari uzoq muddatli energiya saqlash va yuqori sikl resursi bilan ustunlikka ega. Shu bilan birga, natriy-ion texnologiyalari xomashyo bazasining kengligi va arzonligi bilan istiqbolli yo‘nalish sifatida qaralmoqda [4].

Shu nuqtai nazardan, ushbu maqolaning maqsadi batareya energiya saqlash tizimlarining asosiy energetik samaradorlik ko‘rsatkichlarini tahlil qilish va turli texnologiyalarni qiyosiy baholashdan iborat. Tadqiqot natijalari energiya tizimlari uchun optimal texnologiyani tanlashda ilmiy asos bo‘lib xizmat qiladi.

Batareya energiya saqlash tizimining ishlash prinsipi 1-rasmda keltirilgan.



1-rasm. Batareya energiya saqlash tizimining umumiy tuzilmasi (BESS)

ASOSIY QISM

Batareya energiya saqlash tizimlarining samaradorligini baholashda bir nechta asosiy ko‘rsatkichlar muhim ahamiyatga ega. Eng muhim

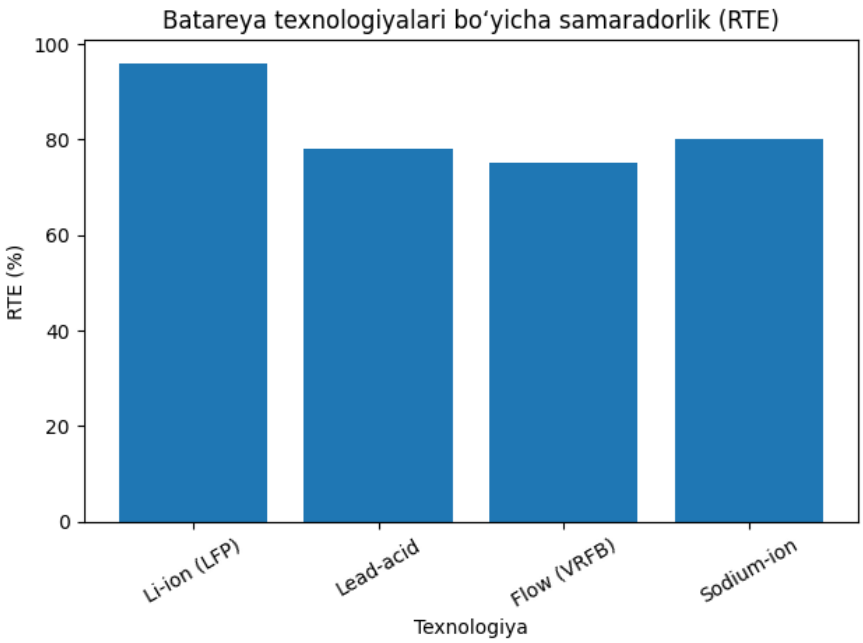
ko‘rsatkichlardan biri bu energiya zichligi bo‘lib, u batareyaning massaga yoki hajmga nisbatan qancha energiya saqlay olishini ifodalaydi. Tadqiqotlar shuni ko‘rsatadiki, litiy-ion batareyalar energiya zichligi bo‘yicha yetakchi bo‘lib, 170–185 Wh/kg diapazonda ishlaydi, bu esa ularni yuqori samaradorlik talab qilinadigan tizimlarda ustun qiladi [1].

Yana bir muhim parametr bu round-trip efficiency (RTE) bo‘lib, u energiya saqlash va qayta olish jarayonidagi yo‘qotishlarni aniqlaydi. Amaliy natijalarga ko‘ra, litiy-ion batareyalarda RTE 95–96% gacha yetadi, bu esa minimal energiya yo‘qotishlarini bildiradi. Boshqa texnologiyalar, masalan, qo‘rg‘oshin-kislotali batareyalarda bu ko‘rsatkich taxminan 75–80% atrofida bo‘lib, energiya yo‘qotishlari ko‘proq kuzatiladi [2].

Turli batareya texnologiyalarining asosiy ko‘rsatkichlari 1-jadvalda keltirilgan.

1-jadval

Texnologiya	**Energiya zichligi**	**RTE (%)**	**Sikl resursi**
Li-ion	173–185 Wh/kg	95–96	>12000
Lead-acid	~34 Wh/kg	~78	~1500
Flow	~9 Wh/kg	~75	>20000



2-rasm. Batareya texnologiyalari bo‘yicha round-trip efficiency (RTE) ko‘rsatkichlari

Sikl resursi (cycle life) batareyaning xizmat muddati va iqtisodiy samaradorligini belgilovchi asosiy omillardan biridir. Tadqiqotlarga ko‘ra, litiy-ion batareyalar 10 000 dan ortiq siklga bardosh bera oladi, vanadiy redoks-oqim batareyalari esa 20 000 sikldan ham yuqori ko‘rsatkichga ega. Bu esa oqim batareyalarini uzoq muddatli energiya saqlash tizimlari uchun juda mos qiladi [3].

Batareya tizimlarining ishlash samaradorligiga ta’sir qiluvchi yana bir muhim omil bu javob vaqti (response time) hisoblanadi. Zamonaviy BESS tizimlari millisekund darajasida javob bera oladi, bu esa ularni elektr tarmog‘ida chastota barqarorligini ta’minlash va tezkor yuklama o‘zgarishlariga moslashishda samarali qiladi. Ayniqsa, litiy-ion va oqim batareyalari tezkor boshqaruv tizimlari bilan integratsiyalashgan holda yuqori natija ko‘rsatadi [4].

Shuningdek, o‘z-o‘zidan razryad (self-discharge) darajasi ham muhim ko‘rsatkichlardan biridir. Litiy-ion batareyalarda bu ko‘rsatkich oyiga taxminan 2–3% ni tashkil etadi, bu esa uzoq muddatli saqlashda energiya yo‘qotishlarini kamaytiradi. Natriy-ion va oqim batareyalarida esa bu ko‘rsatkich turlicha bo‘lib, texnologiyaga qarab farqlanadi [5].

Yuqoridagi ko‘rsatkichlar tahlili shuni ko‘rsatadiki, batareya texnologiyasini tanlashda yagona parametr yetarli emas. Har bir texnologiya ma’lum sharoitda samaraliroq ishlaydi: litiy-ion batareyalar qisqa muddatli va yuqori samaradorlik talab qilinadigan tizimlarda ustun bo‘lsa, oqim batareyalari uzoq muddatli energiya saqlashda samaraliroq hisoblanadi. Shu sababli optimal tanlov ko‘p mezonli tahlil asosida amalga oshirilishi zarur [6].

XULOSA

Ushbu tadqiqotda batareya energiya saqlash tizimlarining asosiy samaradorlik ko‘rsatkichlari tahlil qilinib, turli texnologiyalar qiyosiy baholandi. Natijalar shuni ko‘rsatdiki, litiy-ion batareyalar yuqori samaradorligi va tezkor javob berishi bilan qisqa muddatli tizimlarda ustun, oqim batareyalari esa yuqori sikl resursi sababli uzoq muddatli energiya saqlashda samaraliroq hisoblanadi. Shu bilan birga, batareya texnologiyasini tanlashda yagona ko‘rsatkich yetarli emasligi, balki barcha asosiy parametrlarni kompleks baholash zarurligi aniqlandi.

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URGANCH SHAHRI TRANSPORT TIZIMINING BUGUNGI HOLATI

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Annotatsiya: *Ushbu maqolada Xorazm viloyatining ma’muriy markazi — Urganch shahri jamoat transporti tizimidagi sifat o’zgarishlari va zamonaviylashtirish jarayonlari tahlil qilinadi. Tadqiqotda «Bunyod yo’lovchi tashish» kabi mahalliy korxonalar tomonidan Xitoyning «Yutong» kompaniyasi avtobuslarining joriy etilishi, yo’lovchi oqimining vaqt va yo’nalishlar bo’yicha taqsimlanishi hamda raqamli to’lov tizimlarining samaradorligi ko’rib chiqiladi. SHuningdek, tizimdagi mavjud infratuzilmaviy muammolar va ularni bartaraf etish bo’yicha takliflar berilgan.*

Kalit so’zlar: *Urganch, jamoat transporti, Yutong avtobuslari, Bunyod yo’lovchi tashish, Xorazm yo’lovchi trans, yo’lovchi oqimi, transport logistikasi, ATTO, urbanizatsiya.*

Abstract: *This article analyzes the transformation processes of the public transport system in Urgench, the administrative center of the Khorezm region. It examines the modernization of the transport fleet through the introduction of modern buses from the Chinese company "Yutong" by local transport operators such as "Bunyod Yulovchi Tashish" LLC and "Khorezm Yulovchi Trans". The study provides a comprehensive analysis of passenger flow dynamics based on time periods and key urban routes. Particular attention is paid to the effectiveness of digital payment systems (ATTO) and the integration of GPS monitoring. The article concludes with strategic recommendations for the further development of urban transport infrastructure and the implementation of Intelligent Transport Systems (ITS) to enhance urban mobility and sustainability.*

Keywords: *Urgench, public transport, Yutong buses, Bunyod Yulovchi Tashish, passenger flow analysis, transport logistics, electronic payment system, ATTO, urbanization, transport hub, Intelligent Transport Systems (ITS).*

KIRISH

Bugungi kunda jadal urbanizatsiya jarayonlari kechayotgan sharoitda shahar jamoat transporti aholining iqtisodiy faolligini belgilovchi asosiy

omillardan biriga aylandi. Urganch shahri nafaqat viloyat markazi, balki yirik turistik xab sifatida kengayib borayotgani bois, transport tizimini zamonaviy modelga o'tkazish dolzarb ahamiyat kasb etmoqda. Oxirgi yillarda Xorazm viloyati transport boshqarmasi nazorati ostida shaharda tub islohotlar amalga oshirildi. Xususan, «Bunyod yo'lovchi tashish» MCHJ va «Xorazm yo'lovchi trans» kabi yetakchi mahalliy korxonalar tomonidan jamoat transporti parkini Xitoyning dunyoga mashhur «Yutong» kompaniyasi avtobuslari bilan yangilanishi yo'lovchi tashish sifatini yangi bosqichga olib chiqdi. Ilgari shahar yo'nalishlarida asosan «Isuzu» va xususiy sektordagi «Damas» transportlari ustuvorlik qilgan bo'lsa, hozirda «Bunyod yo'lovchi tashish» korxonasi tomonidan olib kelingan katta sig'imli zamonaviy avtobuslar tizimdagi yuklamani optimallashtirishga xizmat qilmoqda. Bir dona «Yutong» avtobusi o'zining 80-90 kishilik sig'imi bilan o'ntadan ortiq «Damas» o'rnini bosmoqda, bu esa markaziy ko'chalardagi tirbandlikni kamaytirish va ekologik vaziyatni yaxshilash imkonini bermoqda.

Yo'lovchi oqimining tahlili shuni ko'rsatdiki, Urganch shahrida harakatlanish asosan markaziy dehqon bozorlari, Urganch davlat universiteti va temir yo'l vokzali atrofidagi nuqtalarda to'planadi. Oqim dinamikasi kun davomida ikkita asosiy «tig'iz vaqt»ni ko'rsatmoqda: ertalabki 07:30 dan 09:00 gacha va kechki 17:00 dan 19:00 gacha bo'lgan vaqt oralig'ida yuklama maksimal darajaga yetadi. «Bunyod yo'lovchi tashish» tasarrufidagi yangi avtobuslarning yo'nalishga chiqishi natijasida bekatlarda yo'lovchilarning o'rtacha kutish vaqti 20 daqiqadan 10-12 daqiqagacha qisqardi. SHu bilan birga, ATTO elektron to'lov tizimining keng joriy etilishi sohada moliyaviy shaffoflikni ta'minlash bilan bir qatorda, «Xorazm yo'lovchi trans» va boshqa operatorlarga yo'lovchilar sonini real vaqt rejimida monitoring qilish imkonini berdi. Hozirda jamoat transportidagi to'lovlarning 65 foizdan ortig'i elektron shaklda amalga oshirilmoqda, bu esa yo'nalishlarni yo'lovchi talabiga qarab tezkor optimallashtirishga xizmat qilmoqda.

Tizimdagi ijobiy o’zgarishlarga qaramay, katta hajmli avtobuslarning erkin harakatlanishi uchun ayrim markaziy ko’chalarni kengaytirish va bekatlar infratuzilmasini yaxshilash zaruriyati mavjud. Kelajakda Urganch shahrida «Smart-bekat» tizimini rivojlantirish va alohida transport yo’laklarini tashkil etish soha samaradorligini yanada oshiradi.

XULOSA

Xulosa qilib aytganda, mahalliy tashuvchi korxonalar tomonidan Xitoy texnologiyalarining faol o’zlashtirilishi Urganch shahrining zamonaviy qiyofasini shakllantirishda va aholining ijtimoiy ehtiyojlarini qondirishda muhim qadam bo’ldi. Transport logistikasini raqamli texnologiyalar asosida boshqarish Urganchni istiqbolda yuqori darajadagi «aqlli transport» tizimiga ega shaharga aylantiradi.

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УСТРАНЕНИЕ ЛОКАЛЬНОГО ПЕРЕГРЕВА В ФОТОЭЛЕКТРИЧЕСКИХ МОДУЛЯХ ПУТЁМ ПРИМЕНЕНИЯ ИСПАРИТЕЛЬНОГО ОХЛАЖДЕНИЯ И ПЕРЕНОСА РАСПРЕДЕЛИТЕЛЬНОЙ КОРОБКИ

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***Аннотация**: В работе исследуется проблема локального перегрева фотоэлектрических модулей, особенно в области распределительной коробки. Эксперименты показали, что испарительное охлаждение снижает среднюю температуру панели примерно на 10°C, однако не устраняет локальные перегревы. Температура в зоне распределительной коробки достигает 50–55°C. Для устранения данного недостатка предложено перенести распределительную коробку на рамку модуля. Это позволило обеспечить равномерное охлаждение всей поверхности и снизить температуру до 33–35°C, повысив эффективность и надёжность системы.*

***Abstract:** This study investigates local overheating in photovoltaic modules, particularly in the junction box region. Experimental results show that evaporative cooling reduces the average panel temperature by about 10°C but does not eliminate hotspots. The junction box temperature reaches 50–55°C. To solve this issue, the junction box was relocated to the module frame. This modification ensured uniform cooling of the entire surface and reduced temperature to 33–35°C, improving system efficiency and reliability.*

***Ключевые слова:** фотоэлектрический модуль, испарительное охлаждение, распределительная коробка, перегрев*

***Keywords:** photovoltaic modules, evaporative cooling, junction box, overheating*

ВВЕДЕНИЕ

Эффективность фотоэлектрических модулей существенно зависит от их рабочей температуры. Повышение температуры приводит к снижению эффективности примерно на 0,4–0,65% на каждый 1°C выше 25°C [2, 3].

В условиях жаркого климата температура солнечных панелей может достигать 75–80°C, что снижает их производительность и ускоряет деградацию материалов [1, 4].

Несмотря на развитие различных методов охлаждения, большинство исследований сосредоточено на снижении средней температуры панели, без учёта локальных зон перегрева, таких как область распределительной коробки [5, 6].

ОСНОВНАЯ ЧАСТЬ

Эксперимент проводился на двух одинаковых фотоэлектрических модулях мощностью 290 Вт. Один модуль был оснащён системой испарительного охлаждения на основе десяти слоёв увлажнённой марли, второй использовался в качестве контрольного (без охлаждения).

Температурные измерения выполнялись с использованием цифровых датчиков и тепловизионных камер в условиях открытой среды при температуре воздуха 35–40°C и солнечной радиации до 1000 Вт/м².

Результаты показали, что применение испарительного охлаждения позволяет снизить среднюю температуру панели примерно на 10°C [5,6].

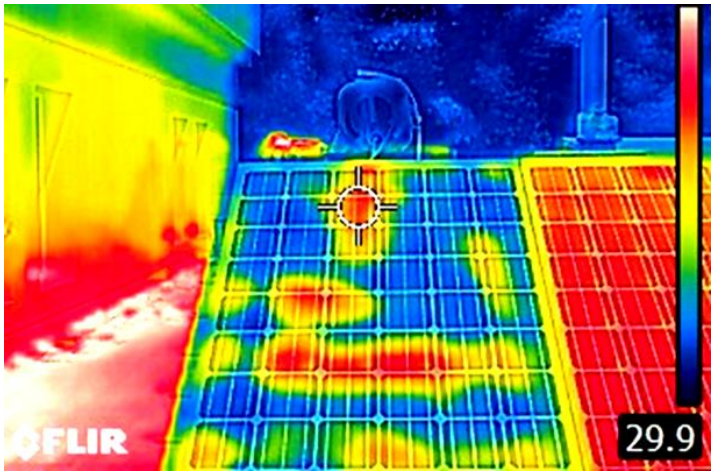

Рисунок 1 – Термограмма фотоэлектрических модулей: слева — модуль с испарительным охлаждением, справа — без охлаждения

Однако в области распределительной коробки сохраняется локальный перегрев с температурой 50–55°C [6].

Для устранения данного недостатка распределительная коробка была перенесена с задней поверхности панели на её рамку. Это позволило обеспечить полное покрытие охлаждающим материалом всей поверхности модуля. В результате температурное поле стало равномерным, а температура снизилась до 33–35°C [3].

ЗАКЛЮЧЕНИЕ

Проведённые исследования показали, что испарительное охлаждение эффективно снижает общую температуру фотоэлектрических модулей, однако не устраняет локальные перегревы в области распределительной коробки.

Перенос распределительной коробки на рамку модуля является эффективным инженерным решением, обеспечивающим равномерное охлаждение и устранение локальных перегревов. Данный подход способствует повышению эффективности и надёжности работы фотоэлектрических систем, особенно в условиях жаркого климата.

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7-SHO‘BA

НЕЙТРАЛИЗАЦИЯ НА ЯЗЫКОВЫХ УРОВНЯХ

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Аннотация: *В статье рассматривается явление нейтрализации как многогранного лингвистического процесса, при котором значимые различия в языковой системе ослабляются или устраняются при определённых условиях. В работе представлен комплексный обзор нейтрализации на различных уровнях языковой структуры, включая фонологический, морфологический, синтаксический, семантический и прагматический. Особое внимание уделяется историческому развитию данного понятия, начиная с трудов Н. С. Трубецкого и его дальнейшего развития в исследованиях структуралистов и функционалистов, таких как Луи Ельмслев и Андре Мартине. В статье подчёркивается теоретическая сложность и продолжающиеся дискуссии относительно сущности и границ нейтрализации в современной лингвистике.*

Ключевые слова: *лингвистическая нейтрализация; фонология; морфология; синтаксис; маркированность; функциональная лингвистика; языковые противопоставления; структурная редукция.*

Annotation: *The article examines the phenomenon of neutralization as a multifaceted linguistic process in which meaningful distinctions within a language system are reduced or eliminated under specific conditions. The study provides a comprehensive overview of neutralization across different levels of linguistic structure, including phonological, morphological, syntactic, semantic, and pragmatic domains. Special attention is given to the historical development of the concept, beginning with the works of N. S. Trubetzkoy and further elaborated by structuralist and functionalist scholars such as Louis Hjelmslev and André Martinet. The study emphasizes the theoretical complexity and ongoing debates surrounding the interpretation and scope of neutralization in modern linguistics.*

Keywords: *linguistic neutralization; phonology; morphology; syntax; markedness; functional linguistics; linguistic contrasts; structural reduction.*

ВВЕДЕНИЕ

Нейтрализация возникает тогда, когда различия, обычно значимые в языке (такие как различия между звуками, формами слов, синтаксическими структурами или значениями), при определённых условиях ослабляются или утрачиваются.

Нейтрализация может наблюдаться на всех уровнях языковой структуры:

– **фонологическая нейтрализация**: утрата фонемных противопоставлений в определённых фонетических;

– **морфологическая нейтрализация**: утрата грамматических различий в формах слов, часто проявляющаяся в виде синкретизма (одна форма выполняет несколько функций);

– **синтаксическая нейтрализация**: сокращение или отсутствие различий в структуре предложения или грамматических конструкциях, которые в других условиях функционально различны;

– **семантическая нейтрализация**: размывание или слияние смысловых различий, часто через использование немаркированных или обобщённых единиц для передачи нескольких частных значений;

– **прагматическая нейтрализация**: нивелирование различий в языковом употреблении и социальном значении, например, использование одной формы обращения там, где в других языках различаются формальные и неформальные формы [1].

Понятие нейтрализации в лингвистике восходит к фонологической теории начала XX века. Н. С. Трубецкой, один из основателей Пражской школы, впервые подробно разработал теорию нейтрализации в своей классической работе *«Основы фонологии»* (опубликованной посмертно в 1939 году) [2]. В фонологии нейтрализация означала снятие фонемных оппозиций в определённых позициях.

В середине XX века лингвисты исследовали возможность применения термина «нейтрализация» за пределами фонологии. Луи

Ельмслев и другие представители глоссематики и структурной семантики рассматривали нейтрализацию в грамматике и смысловом значении. Андре Мартине, ведущий функционалист, также анализировал нейтрализацию в более широком плане, связывая её с понятием маркированности (когда один член оппозиции является немаркированным или нейтральным).

Филимонова в своём комплексном исследовании нейтрализации на различных уровнях отмечает, что в лингвистической литературе существуют «противоречивые мнения о сущности этого явления» [3].

В эпоху генеративной грамматики (начиная с 1960-х годов) нейтрализация имплицитно присутствовала в правилах. Например, в работе Хомского и Халле *«Звуковая структура английского языка»* описаны правила, нейтрализующие различия (например, правило флаппинга в американском английском, при котором /t/ и /d/ звучат одинаково). Генеративные фонологи сосредоточились на вопросе о том, приводит ли нейтрализация к полной тождественности или сохраняются тонкие фонетические различия, что привело к изучению неполной нейтрализации. Неполная нейтрализация – это случаи, когда якобы нейтрализованное противопоставление частично сохраняется.

В фонологии нейтрализация возникает, когда фонемные противопоставления исчезают в определённых позициях, в результате чего две (или более) разные фонемы реализуются одинаково (то есть становятся омофонами в данном контексте). Именно в этой области понятие нейтрализации было впервые систематически изучено [3], и здесь оно проявляется наиболее наглядно.

Хорошо известный пример – оглушение конечных согласных. В таких языках, как русский, немецкий, нидерландский и турецкий, противопоставление звонких и глухих шумных согласных нейтрализуется в конце слова. В русском языке /b, d, g/ реализуются как [p, t, k] в конце слова, так что *признак* и *признать* имеют одинаковый конечный звук [t], несмотря на различие в исходной фонеме. Аналогично, в немецком языке

Rad («колесо», /d/) и *Rat* («совет», /t/) оканчиваются на [t]. Таким образом, противопоставление по звонкости в этой позиции нейтрализуется – на слух невозможно определить исходную фонему. Для обозначения нейтрализованной категории использовалось понятие архифонемы (например, /T/ у Трубецкого) [4].

Во многих языках редукция гласных в безударных слогах приводит к тому, что различные фонемы реализуются одинаково. В русском языке, например, в ударной позиции различаются гласные /a, o, e, i, u, y/, но в безударной позиции /a/ и /o/ редуцируются к [ə], тем самым нейтрализуя это противопоставление. В английском языке также наблюдается нейтрализация гласных в безударных слогах до [ə].

Морфологическая нейтрализация связана с утратой различий между грамматическими формами, в результате чего одна форма выражает несколько категорий. Это часто проявляется как синкретизм, когда несколько грамматических значений совпадают в одной форме [5].

Во многих языках наблюдается падежный синкретизм. В русском языке, несмотря на наличие шести падежей, существуют совпадающие формы. Например, в одном из типов склонения форма дательного и предложного падежей единственного числа совпадает (*комнате* – «к комнате» / «в комнате»).

В английском языке нейтрализация проявляется в системе глагольного согласования: исторически существовало больше различий (например, *thou runnest, he runneth*), но они были утрачены.

Местоимение *you* в английском языке нейтрализовало различие между единственным и множественным числом, а также между формальным и неформальным обращением: ранее существовали *thou* (ед. число, неформально) и *you* (множественное или вежливое), тогда как в современном языке используется только *you*. Это можно рассматривать как морфологическую нейтрализацию с прагматическими последствиями.

Говоря о синтаксической нейтрализации, мы имеем в виду сокращение или слияние различий, которые в иных условиях выражаются синтаксическими средствами. Это явление более абстрактно, чем фонологическая или морфологическая нейтрализация, однако существуют случаи, когда языки нейтрализуют потенциальные синтаксические противопоставления. Синтаксическая нейтрализация в русском и английском языках проявляется в ослаблении или устранении противопоставлений между различными синтаксическими структурами, однако способы её реализации обусловлены типологическими особенностями этих языков.

ЗАКЛЮЧЕНИЕ:

В заключение следует отметить, что нейтрализация представляет собой фундаментальное и широко распространённое явление, отражающее динамическую природу языковых систем. Она показывает, как языковые оппозиции, обычно играющие ключевую роль в различении значений, могут становиться неактуальными или исчезать в определённых контекстах. Проведённый анализ подтверждает, что нейтрализация не ограничивается фонологическим уровнем, где она была впервые описана, а распространяется на все уровни языка, включая морфологию, синтаксис и семантику. Несмотря на длительную историю изучения, данное явление остаётся теоретически сложным и вызывает различные интерпретации среди лингвистов. Приведённые в работе примеры иллюстрируют как полную, так и неполную нейтрализацию, что подчёркивает необходимость дальнейших эмпирических исследований. Понимание нейтрализации способствует более глубокому осмыслению организации языка и взаимодействия формы, значения и употребления.

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PERSUASIVE STRATEGIES IN YASIR QADHI'S SERMONS: A PRAGMATIC AND DISCURSIVE ANALYSIS

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Annotation: *This study investigates the persuasive strategies and linguistic features employed by Dr. Yasir Qadhi in his English-language sermons. Utilizing a pragmatic-discursive framework, the research explores how lexical choices and rhetorical devices function as catalysts for audience engagement. Following Nasir Razzaq's (2023) interdisciplinary approach, the analysis highlights the use of religious authority, storytelling, and emotional appeals in shaping belief systems. The study specifically examines the perlocutive effect of Qadhi's rhetoric on digital audiences. Findings suggest that successful religious discourse in a Western context relies on a hybrid register that bridges classical Islamic tradition with contemporary academic discourse.*

Keywords: *discourse strategies, persuasive strategies, pragmatic functions, perlocutive effect, lexical choices.*

INTRODUCTION

Religion and language are fundamental aspects of human societies that are closely intertwined. Religious texts and teachings are expressed through language, influencing not only our understanding of the divine but also our communication styles. Islamic sermons, known as *khutbas*, are an essential component of religious practice intended to provide moral guidance and encourage adherence to Islamic teachings. Among contemporary English-speaking preachers, Dr. Yasir Qadhi represents a unique case for exploring how linguistic features and persuasive strategies are employed to engage a global audience.

Methodology

This research employs a qualitative research design to analyze the linguistic features of selected sermons. Following the methodology outlined by Nasir Razzaq (2023), the data is collected from publicly available video recordings on online platforms. The analysis focuses on the overall structure, rhetorical devices, lexical choices, and the pragmatic functions of speech acts used to influence the audience's beliefs and behaviors.

Results

Lexical Choices and Religious Authority

Lexical choices in Islamic sermons often emphasize religious concepts and values. Qadhi frequently utilizes classical Arabic phrases such as *Fatwa, Deen* from the Quran and Hadith to enhance the sermon's authenticity and authority. According to Al-Saqqaf (2015), this choice of language contributes to a distinct religious register that establishes a sense of sacredness. Qadhi utilizes an "Academic Islamic English" register, blending specialized theological terms with Western academic vocabulary. This duality establishes the preacher's knowledge and expertise (authority) while making the message relatable to an educated audience.

Pragmatic Functions and Speech Acts

In terms of pragmatics, Islamic sermons employ various speech acts to convey illocutionary force. Qadhi strategically uses directives and rhetorical questions. Imperatives that encourage the audience to follow specific religious teachings. According to Al-Ali (2006), rhetorical questions enhance the persuasive effect by creating a rhythm and encouraging audience reflection.

Below is an excerpt from a sermon by Yasir Qadhi, specifically adapted for digital oratorical platforms. In this discourse, the speaker addresses the criteria for defining a *Muslim* and discusses the boundaries of religious identity. The transcript highlights the pragmatic relationship established between the speaker and his audience, including strategic pauses (indicated in seconds within parentheses) and emphasized lexical choices. The following analysis examines

the illocutionary intent of each conversational turn and the persuasive impact these rhetorical strategies exert on the listeners' perception.

1 We as Muslims have the right to define what is a Muslim.

2 ...And for us, a Muslim is somebody who believes in Allah (1)

3 ...and who believes that the prophet Muhammad sallallahu alaihi wasallam is a

4... messenger whom we must follow in order to worship Allah. (0.5)

5 ...We believe in a divine and we believe in a human being that

6 ...taught us how to worship that divine.

7 ...That is the bare minimum of salvation. (1.5)

8 ...If you do not believe in Allah and or you do not believe in the prophet

9 ... Muhammad being the prophet whom Allah sent for us to learn from

10 ...and to take as a role model, there is no Islam. (1)

11 ... There's no question there.

12 ... I'm somebody who says the bar of salvation is relatively low

13 ...compared to what various sects want to make it. (1)

14 ...And for me, the bar of salvation is as I said, you believe in Allah,

15 ...you believe in the prophet as being the final prophet, (0.5)

16 ...you believe in an on heaven and hell, the basic teachings of Islam.

17 ...And also, [they] issued a fatwa in which they said this group

18 ...cannot be considered to be within the fold of Islam. (1)

19 ...And this is something that everybody understands and knows.

20 ...From my perspective, these are very few groups that we say this about. (0.5)

21 ...the Durus and the Nuses and the followers of the Kadan person.

22 ...These are the types of people we say uncatategorically. (1)

23 ...We say that there's no question that these people are outside

24 ...the fold of Islam and they have no relationship with the dean of Allah.

Lines 1–2: The speaker utilizes the collective pronoun ***We***, establishing a shared identity. This is a pragmatic manifestation of the strategy to foster a sense

of community. Line 7: Through the sentence ***That is the bare minimum of salvation*****,** the speaker employs a logical reasoning strategy. By minimizing the conditions for salvation, he aims to demonstrate that his discourse is both logical and accessible. Lines 8–10: Here, a directive speech act is present, where boundaries are strictly defined through the condition ***If... there is no Islam***. This is part of the logical structures and rhetorical devices inherent in religious discourse. Lines 11 and 23: The phrase ***There's no question there*** serves to establish the truth and inevitability of the information. As Nasir Razzaq notes, this is a tool that enhances the speaker's credibility (ethos). Lines 17–18: In these lines, the religious authority strategy is applied. The use of the word ***fatwa*** reinforces personal opinion with institutional religious power. Lines 21–24: This final section exhibits an exclusive strategy. By declaring certain groups as being outside the boundaries of Islam, the speaker creates a perlocutive effect, inducing a sense of alienation toward these groups in the mind of the listener.

The persuasive effectiveness of Yasir Qadhi's sermon is manifested through several pragmatic and linguistic dimensions:

1. Appeals to Religious Authority and Textual References

The speaker enhances the credibility of his message by anchoring his personal assertions in institutional and divine sources:

Institutional Decrees: In lines 17–18, the use of the phrase *issued a fatwa* indicates that he is not merely expressing a personal opinion but is relaying a formal legal ruling within Islamic jurisprudence.

Foundational Doctrines: By defining a Muslim through the belief in Allah and the Prophet as a *messenger whom we must follow* (lines 2–4), he utilizes what Nasir Razzaq (2023) identifies as the use of religious authority and textual references strategy to establish a sacred foundation for his argument.

2. Logical Reasoning and Minimalism

Qadhi employs a strategy of "theological minimalism" to persuade the audience of the rationality and accessibility of his discourse:

Defining the Threshold: In line 7 (*bare minimum of salvation*) and lines 12–13 (*bar of salvation is relatively low*), he offers a logical alternative to more complex or radical sectarian interpretations.

Conditional Logic: In lines 8–10, he utilizes a strict logical chain (If you do not believe - there is no Islam), which functions as a rhetorical device to leave the audience with a clear, binary choice, thereby reinforcing the validity of his claims.

3.Ethos Building through Collective Identity

The speaker reduces the social distance between himself and the listeners to foster an environment of trust:

The Inclusive We: The frequent use of first-person plural pronouns in phrases like *We as Muslims* (line 1) and *whom we must follow* (line 4) creates a shared identity. This aligns with Razzaq's observation that preachers adapt language to foster a sense of community.

Appeal to Common Knowledge: In line 19, stating that *everybody understands and knows* serves to present his argument as an indisputable truth that requires no further debate, thereby consolidating the audience's consensus.

4.Exclusion and Boundary Maintenance Strategies

A significant persuasive element lies in the clear definition of "the other" to strengthen the "in-group" identity:

Uncategorical Categorization: In lines 22–24, he describes specific groups as being *uncategorically* and *outside the fold* of Islam.

Perlocutive Effect: These lexical choices trigger a specific perlocutive effect, encouraging the audience to distance themselves from out-groups to preserve the purity of the religious community. This is a pragmatic method for managing the discursive field and maintaining communal unity.

5.Prosodic and Rhetorical Emphasis

Repetition for Certainty: The repetition of the phrase *There's no question there* (lines 11 and 23) acts as a prosodic marker of absolute certainty and oratorical authority.

Strategic Lexis: The choice of terms such as *role model, final prophet,* and *bare minimum* ensures that the core concepts are cognitively resonant and easily remembered by the audience.

DISCUSSION

The perlocutive effect refers to the impact the speech has on the listener's attitudes and behaviors. Qadhi's delivery – marked by prosodic features such as strategic pauses – allows the audience to cognitively process complex arguments. As noted by Matoesian (2009), the use of persuasive strategies varies depending on the context and the speaker's goals. Qadhi adapts his delivery to a digital oratorical environment, where the establishes rapport and maintains "face" through sophisticated politeness strategies.

CONCLUSION

The study of linguistic features and persuasive strategies in Yasir Qadhi's sermons offers valuable insights into the role of language in religious discourse. By examining lexical choices, rhetorical devices, and storytelling, we can better understand how preachers engage their audiences. The persuasive power of these sermons is shaped by a complex interplay of religious traditions and rhetorical strategies. This research underscores the importance of interdisciplinary collaboration in deepening our understanding of how language shapes beliefs in religious settings.

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ALEKSANDR FAYNBERG.TASHKENT 1943

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Annotation*:This article is devoted to the analysis of the poem "Tashkent, 1943" by the People's Poet of Uzbekistan, Alexsandr Faynberg. In this poem, the poet artistically depicts the image of Tashkent during the years of the Second World War, presenting it as a city of humanity, kindness, and compassion. Rather than focusing on the cold and destructive reality of war, the poet emphasizes the warmth, empathy, and tolerance preserved in the human heart. This approach proves that Faynberg was a remarkably talented and deeply impressive poet.*

Annotatsiya*: Ushbu maqola O'zbekiston xalq shoiri Aleksandr Faynbergning "Toshkent, 1943" she'rini tahlil qilishga bag'ishlangan. Ushbu she'rda shoir Ikkinchi jahon urushi yillaridagi Toshkent obrazini badiiy tarzda tasvirlaydi va uni insonparvarlik, mehr-oqibat hamda rahm-shafqat shahri sifatida ko'rsatadi. Shoir urushning sovuq va vayronkor haqiqatiga urg'u berish o'rniga, inson qalbida saqlanib qolgan iliqlik, hamdardlik va bag'rikenglikni ta'kidlaydi. Bu yondashuv Faynbergning nihoyatda iste'dodli va chuqur ta'sirli shoir ekanligini isbotlaydi.*

Аннотация*:Данная статья посвящена анализу стихотворения народного поэта Узбекистана Александра Файнберга «Ташкент, 1943 год». В этом произведении поэт художественно изображает образ Ташкента в годы Второй мировой войны, раскрывая его как город гуманизма, доброты и милосердия. В стихотворении акцент делается не на холодной и разрушительной реальности войны, а на тепле, сочувствии и терпимости, сохранившихся в человеческой душе. Такой подход наглядно демонстрирует высокий художественный талант и выразительное мастерство поэта.*

Keywords*: Alexander Feinberg, Tashkent 1943, World War II, the landscape of Tashkent, humanism, compassion.*

Ключевые слова: *Александр Файнберг, Ташкент 1943 года, Вторая мировая война, пейзаж Ташкента, гуманизм, милосердие.*

INTRODUCTION

Literature is such an art that it reflects the experiences and emotions in a person's heart not through melodies or paintings created by artists, but through words and poetic lines. The representatives of this field — poets and writers — find their way into the human soul through their beautiful works of art. One of such multifaceted creators, considered a bridge between the Uzbek and Russian peoples, is Alexander Faynberg. As in the works of many Uzbek poets, among Faynberg's writings there are also pieces that depict the painful yet simple life of the Uzbek people during the years of World War II. This very atmosphere finds its expression in the poem "Tashkent. 1943."

MAIN BODY

The cobbler David's workshop,
Kites tremble on wires above the roof.
Heat crawls toward the beerhouse.
A disabled man's cart on the stone road.
Six months now, Aunt Lidiya is distraught —
A mother who lost her sons waits for a letter.
At the gate, like a poster,
She hovers over old belongings.
Summer's ship sails through the body.
The Father of Nations smiles from a portrait.
Beneath that portrait, there is no bread in the shop.
The kind Uzbek strokes your head.
Ranevskaya finds kerosene from nowhere,
For Akhmatova, the house stands wide open.

In the opening stanzas of the poem, ordinary yet vivid scenes of Tashkent are depicted. The cobbler's workshop, trembling kites above the roofs, the heat creeping toward the beerhouse, the disabled man's cart — all these details bring before our eyes the quiet yet тяжелые realities of city life during the war years. Through these images, the poet presents Tashkent not merely as a geographical place, but as a living organism.

In the following stanza, the human tragedy of war is revealed even more deeply. The lines “Six months now, Aunt Lidiya is distraught — / A mother who lost her sons waits for a letter” express destinies shattered by war. The image of a mother who has lost her sons symbolizes the shared tragedy of millions of mothers. Here, the poet portrays war not as statistics or a historical event, but as a wound inflicted upon the human heart.

Another significant aspect of the poem is the mention of cultural and historical figures. The inclusion of the names Faina Ranevskaya and Anna Akhmatova is not accidental. Evacuated to Tashkent during the war years, these artists represent the city’s transformation into a cultural refuge. The line “For Akhmatova, the house stands wide open” symbolically expresses Tashkent’s hospitality and tolerance.

In the final part of the poem, the kindness of the Uzbek people is emphasized: “The kind Uzbek strokes your head.” This line serves as the ideological conclusion of the entire poem, showing that during the war Tashkent was not only a shelter, but also a spiritual haven. For the poet, Tashkent is a place where humanity was preserved — a symbol of compassion and hope.

CONCLUSION

In conclusion, the poem “Tashkent. 1943” portrays wartime Tashkent not as a historical document, but through the prism of the human soul. The image of the city, human destiny, and interethnic compassion harmoniously unite in the work, inviting the reader to deep reflection. This poem artistically depicts Tashkent as a symbol of humanity during the war years. Although the poet himself belonged to the Russian nation, he was born and raised in this homeland; therefore, he loved and cherished it, praising Uzbekistan in his poetry. In his heart, like other Uzbek writers and poets, there surged devotion to his people, compassion, and a deep sense of empathy. This demonstrates how caring and tolerant our people are.

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TILSHUNOSLIKDA GENDER STEREOTIPLARINING O‘RGANILISHI

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Annotatsiya: *Maqolada tilshunoslikda gender tadqiqotlarining maydonga kelishi, jins, gender tushunchalarining mohiyati va unga bo‘lgan munosab, xususan, bu hodisa zamonaviy lingvistikaning sotsiolingvistika bo‘limining ajralmas bir bo‘lgan gender tilshunoslikning asosiy tadqiqot obyekti ekanligi bayon qilinadi. Shuningdek, olib borilgan ishlarda jinsning biologik xususiyatdan ijtimoiy-psixologik xususiyatga aylanishi, umuman, gender tushunchasi va termining tilshunoslikda paydo bo‘lish jarayoni haqida mulohazalar bildirilgan.*

Kalit so‘zlar: *gender, gender xususiyatlar, ijtimoiy-psixologik tahlil, erkak va ayollar nutqi.*

Аннотация: *В статье рассматривается возникновение гендерных исследований в лингвистике, сущность понятий пола, гендера и отношение к ним, в частности, это явление является основным объектом исследования гендерной лингвистики, которая является неотъемлемой частью социолингвистического раздела современной лингвистики. Также в проведенных работах высказаны мнения о процессе преобразования пола из биологической характеристики в социально-психологическую, в целом о понятии гендера и терминологии в лингвистике.*

Ключевые слова*: гендер, гендерные особенности, социально-психологический анализ, мужская и женская речь.*

Annotation: *The article examines the emergence of gender studies in linguistics, the essence of the concepts of gender and gender, and the relationship to them; specifically, this phenomenon is the primary object of study for gender linguistics, which is an integral part of the sociolinguistic branch of modern linguistics. Additionally, the conducted works express opinions on the process of gender transformation from a biological characteristic into a socio-psychological one, and in general, on the concept of gender and terminology in linguistics.*

Key words: *gender, gender characteristics, socio-psychological analysis, male and female speech.*

KIRISH

Gender tushunchasiga ta’rif berishda munozarali masalalardan biri uni ijtimoiy yoki psixologik tushuncha deb hisoblash masalasi ekanligi bilan birga, ushbu konsepsiyaning ko‘p qirrali xususiyati ham ijtimoiy, ham psixologik jihatni o‘zida birlashtirganidadir. Shu sababli ham, genderolingvistika masalalari bilan qiziqish G‘arb-u Sharq olimlarining diqqatini tortganligi qator tadqiqotlarda o‘z aksini topgan. Mazkur masala o‘tgan asrning 70-yillarida feministik harakat va feministik nazariyaning rivojli tufayli keng tarqala boshlagan. Aslida, gender tushunchasi ijtimoiy psixologiyaning bir yo‘nalishidir. Ammo erkaklik va ayollik inson vujudining biologik jinsi bo‘lsa, gender ijtimoiy jins sifatida erkak va ayolning hayotdagi roli, mavqeyi, tili va haq-huquqlari yig‘indisidir. Darhaqiqat, gender bu - jamiyat tomonidan modellashtirilgan va himoya qilinib qo‘llab-quvvatlanadigan erkak va ayolning xatti-harakatlari, turmush va tafakkur tarzi hamda ularning ijtimoiylashuv jarayonidagi shaxs o‘laroq egallagan roli va munosabatlari tizimidir.

ASOSIY QISM

G‘arbda olib borilgan gender tadqiqotlari rivojida shartli uch bosqichni ajratib ko‘rsatish mumkin. Ilk bosqich (o‘tgan asrning 70-yillari) G‘arb davlatlarida feministik harakat kurtaklari liberal orientatsiyasining jadal rivojlanishi bilan bog‘liq dastlabki ilmiy ishlar paydo bo‘lishida kuzatilgan. Mazkur liberal feminizm tarafdorlari mavjud qonunchilik, huquqiy hujjatlari hamda siyosiy qarashlar va yechimlardagi gender neytrallik jihatlarini hisobga olib, jinslar o‘xshashligi to‘g‘risidagidagi fikrlarni o‘rganish hamda o‘zida aks qilish g‘oyalarini ilgari suradilar. Bu davrda ijtimoiy-psixologiya ilmlarida struktural- funksionalizm nazariyasi ustunlik qilib, unga ko‘ra, jinslar o‘rasidagi munosabatlar gender rollari tushunchasi bilan aniqlandi. Oila timsolida nazar tashlansa, oilaviy vazifalar ajratilishi kerak: ya’ni ayol ichki muvozanatni o‘rnatish vazifani bajaradi, erkaklarga esa, oila va boshqa ijtimoiy tuzilmalar

o‘rtasida instrumental, ya’ni munosabatlarni tartibga solish vazifalari yuklanadi. Gender tadqiqotlarining ikkinchi bosqich rivoji 1980-yillarning 1-yarmiga to‘g‘ri keladi. Bu davrda radikal feminizm kengroq tarqala boshladi. Agar liberal feminizm „o‘xshashlik“ dilemmasi (ikki xil qiyin vaziyat)da rivojlanib, gender muammolarini mushtarak-o‘xshashlik, bir xillik orqali hal qilgan bo‘lsa, radikal feminizm nazariyasi va amaliyoti esa, erkak va ayol o‘rasidagi farqlarga asoslanib harakat qilgan. Radikal feminizm mafkurasidagi asosiy urg‘u ayollarga nisbatan nohaqlik, kamsitish va zulmga qaratilgan. Xotin-qizlarga jamiyatda dastlab ojiza-zaif toifa sifatida qarash, ularning erkaklarga nisbatan past mavqega ega bo‘lishlari kabi tanqidiy klassik psixoanaliz qonuniyatlari va biologik xususiyatlari bilan izohlanardi. Gender tadqiqotlari rivojidagi 3-bosqichning boshlanishi o‘tgan asr 80-yillarining ikkinchi yarmiiga to‘g‘ri kelib, bu davrning o‘ziga xosligi feministik harakat yo‘nalishlarining ko‘pligi bilan tavsiflanadi. Masalan, rangli feminizm, postmodern, gumanistik, ekzistensial madaniy feminizm va boshqalarni ko‘rsatish mumkin

Jahon tilshunoslari “gender” tushunchasi ijtimoiy-gumanitar sohalarning boshqa fanlarida ham bo‘lganidek tilshunoslikda ham tadqiqot obyektga aylanganini ta’kidlaydilar. Mazakur jarayondagi dastlabki ishlardan biri roman-german tillari asosida yaratilgan. Bu J.Lakoffning “Ayollar tili va o‘rni” asari bo‘lib, ishda “ayol tili” termini birinchi marta qo‘llangan. Ish tilning androsentrik tuzilishi va tilda takrorlangan dunyo hamjamiyatidagi ayol timsolining pastligini tasdiqladi. Gender ijtimoiy konsepsiyasining maydonga kelishi antropolog olimlar Gyle Rabin, Joan Scott, Monik Wittig va boshqalarga tegishli. Mazkur yondashuv gender xulq-atvori shakllanishi hamda ongda u haqidagi g‘oyalarning qurilishi ko‘plab omillarga: tarbiya, mehnat taqsimoti, ijtimoiy va hokimiyat institutlari bilan bog‘liq degan postulatga asoslanadi.

Bu bosqichda gender tadqiqotlari shakllanishi va ularning rus zaminidagi rivoji haqida ikki xil nuqtayi nazar mavjud. Xususan, Pushkareva Rossiyada gendershunoslik shakllanishi dastlabki bosqichida qiyinchiliklarni boshidan kechirganligini ta’kidlaydi va jamoatchilik bilimi maxsus paradigmasiga

aylanganligi hamda tilshunoslikdan boshqa deyarli barcha sohalarda ko‘rib chiqilishiga ishonch bildiradi. Shuningdek, S.A.Ushakin “gender” tushunchasining gumanitar fanlarda inkor etilishiga ishora qiladi, uning fikricha, “begonaligi” g‘arbshunoslik terminologiyasidan ekstrapolyatsiya (noma’lum holatni taxmin qilish) qilinganligi bilan bog‘liq.

Gender tushunchasiga ta’rif berishda munozarali masalalardan biri uni ijtimoiy yoki psixologik tushuncha deb hisoblash masalasi ekanligi bilan birga, ushbu konsepsiyaning ko‘p qirrali xususiyati ham ijtimoiy, ham psixologik jihatni o‘zida birlashtirganidadir. Kirilinaning so‘zlariga ko‘ra, eng umumiy ma’noda tilshunoslikda jinsni o‘rganish muammolarning ikki guruhiga taalluqlidir: 1. Til va unda jinsning aks etishi. Ushbu yondashuvning maqsadi turli jinsdagi odamlarning mavjudligi tilda qanday namoyon bo‘lishini (birinchi navbatda nominativ tizim, leksika, sintaksis, gender kategoriyasi va boshqalar tekshiriladi), erkaklarga qanday baholar berilishini tasvirlash; ayollar qaysi semantik sohalarda eng sezilarli aniq ifodalanganini tushuntirishdan iborat. 2. Erkaklar va ayollarning nutqi, kommunikativ xulq-atvori, bu yerda tipik strategiya va taktikalar, leksika birliklarining jinsga xos tanlovi, muloqotda muvaffaqiyatga erishish yo‘llari, lug‘at,
sintaktik tuzilmalarni tanlashda afzalliklar va boshqalar, farqlanadi – ya’ni erkak va ayol nutqining o‘ziga xos xususiyatlari aniqlanadi [Kirilina: 2002, 44].

V.Labov o‘z tadqiqotida ijtimoiy mavqe, millat, jins, yosh va atrof-muhit omillarining ta’sirini o‘rgangan. Mazkur ish juda muhim bo‘lib, chunki unda respondentlar jinsi, yoshi, ijtimoiy mavqeyi bo‘yicha sinchkovlik bilan tanlangan o‘rta sinf vakillari, oddiy shahar aholisi olingan. Har bir respondentning nutqi turli vaziyatlarda, rasmiydan norasmiygacha, bir vaqtning o‘zida bir necha omillar - lingvistik, sotsiologik va situatsion nuqtayi nazardan tahlil qilingan. Bu tadqiqot ishi jinsning nutqqa ta’sir etuvchi omillardan biri degan xulosaning ilmiy e’tirofini namoyon qilgan. [Labov:1971. 187]

Taniqli tilshunos Gulxumor Yusupova gender tushunchasi O‘zbekistonda yangi tushuncha hisoblanishini ta’kidlab, yurtimizda ham bu borada salmoqli

ishlar olib borilganligini ta’kidlaydi. Xususan, G.A. Matkarimovaning 2002-yilda yozilgan “Xalqaro va milliy huquqda ayollarning gender va reproduktiv huquqlari” mavzusidagi nomzodlik dissertatsiyasi gender tadqiqotlarining ilk namunasi ekanligini, keyininchalik M.M. Tilavovaning “O‘quvchilarda gender tenglik va farqlar asosida umummehnat ko‘nikmalarini shakllantirishning pedagogik asoslari (boshlang‘ich sinf mehnat darslari misolida)” nomzodlik dissertatsiyasi, o‘zbek tilshunosligida ilk bor genderning o‘rganilishi 2011-yil A.A. Morozovaning “Лингвокогнитивное содержание гендерных стереоипов женственности и мужественности (на материале испанского языка)” mavzusidagi ishi va G.I. Ergashevaning “Ingliz va o‘zbek tillari frazeologizm va paremiyalarida gender aspektining qiyosiy-tipologik tadqiqi” mavzusidagi nomzodlik ishi kabilarni sanab o‘tadi. Albatta, bu kabi ishlar gender tilshunosligining yangi qirralarini ochib berishga qaratilganligi bilan qimmatlidir.

XULOSA

Bugungi kunda gender xususiyatlarini maqom, ijtimoiy guruh, ta’lim darajasi, vaziyat konteksti va boshqalar bilan birgalikda, shuningdek, jamiyatdagi o‘zgaruvchan vaziyatni hisobga olgan holda ko‘rib chiqish kerak, degan ko‘zqarash ilgari surilmoqda. Turli jins guruhi vakillari nutqidagi farqlar erkak psixixologiyasi ayol psixikasidan farq qilishi, ya’ni har xil jinsdagilarning dunyoni turlicha idrok qilishi va shunga mos ravishda ifodalashi bilan izohlanadi. Erkaklar ham, ayollar ham o‘z tajribalariga tayanib, u yoki bu vaziyatni baholaydilar. Binobarin, erkaklar va ayollar nutqini o‘rganish shuni ko‘rsatadiki, ular orasida gapirish va yozishda farq bor albatta. Jinsning tilga ta’sirini o‘rganish uchun gender xususiyatlarini maqom, ijtimoiy guruh, ta’lim darajasi, vaziyat konteksti va boshqalar bilan birgalikda, shuningdek, jamiyatdagi o‘zgaruvchan vaziyatni hisobga olgan holda ko‘rib chiqish zarur.

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MUSTAQILLIK YILLARIDA JANUBIY XORAZM HUDUDINING ARXEOLOGIK JIHATDAN O‘RGANILISHI

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Annotatsiya: *Maqolada mustaqillik yillarida janubiy Xorazm hududida olib borilgan arxeologik tadqiqotlarning tarixi haqida ma’lumot berilgan. Xorazm hududining janubiy qismida joylashgan arxeologik yodgorliklar bo‘yicha tadqiqotlarning natijalari to‘g‘risida masalalar bayon qilingan.*

Kalit so‘zlar: *Janubiy Xorazm, Xumbuztepa, Toshqal’a, Elxaras, Katqal’a, fortifikatsiya.*

Аннотация: *В статье представлена информация об истории археологических исследований, проведенных на территории южного Хорезма в годы независимости. Изложены вопросы о результатах исследований археологических памятников, расположенных в южной части Хорезмской области.*

Ключевые слова: *Южный Хорезм, Хумбузтепа, Ташкала, Эльхарас, Каткала, фортификация.*

Abstract: *This article presents information on the history of archaeological research conducted in the territory of southern Khorezm during the years of independence. Issues regarding the results of research on archaeological sites located in the southern part of the Khorezm region are presented.*

Keywords: *South Khorezm, Khumbuztepa, Tashkala, Elkharas, Katkala, fortification.*

KIRISH

Mustaqillik yillarida Janubiy Xorazm hududida olib borilgan tadqiqotlarda mavjud ma’lumotlar o‘z tasdig‘ini topgan holda, ular yangicha yondoshuv asosida chuqur tahlil qilingan va tabiiy fanlarning yangi yutuqlaridan unumli foydalanish orqali tarixining noma’lum tomonlari yoritilgan.

XX asrning oxiri - XXI asrning boshlarida Xumbuztepa yodgorligida Rossiyaning Sharq xalqlari san'ati Davlat muzeyi ilmiy xodimi, arxeolog S.B.Bolelov tomonidan qayta arxeologik tadqiqot ishlari olib borilgan [1][2]. Bu davrda olim Xumbuztepadagi arxeologik tadqiqotni davom qildirib, uning davriy sanasini qadimiylashtirgan. Yodgorlikka mil.avv.VII asrning oxiri – mil.avv.VI asrning birinchi yarmi asos solingan degan xulosani bergan. S.R.Bolelov bu yerdan yerto'la, chayla, ikki yarusli xumdon va uning yonida joylashgan ustaxonani ochgan. S.R.Bolelov Xumbuztepa yodgorligining uchta rivojlanish davrini ko'rsatgan. Birinchi davrini XT–I deb ajratgan va uning rivojlanishini ikkita bosqichga: XT–Ia va XT–Ib bosqichlariga ajratgan. Xumbuztepaning ikkinchi davrida XT-II da, birinchi bosqichda qurilgan yerto'la va xumdonlar ehtiyotkorlik bilan ko'milgan va ularning ustidan yangi bino barpo etilgan. Xumdon esa, qayta ta'mirlangan [3]. Xumbuztepadan topilgan moddiy arxeologik buyumlariga o'xshaydigan buyumlar, yodgorlikdan undan uch kilometr pastda joylashgan Toshsaqadan, uning janubidagi tarqoq manzilgoh Qoratoshdan va Xazorasp shahridan ham topilgan.

Xumbuztepada arxeologik tadqiqot ishlari XXI asrning boshlarida Ma'mun akademiyasining Janubiy Xorazm ekspeditsiyasi a'zolari tomonidan davom qildirilgan. Bu davrda S.R.Baratov Xumbuztepaning eng pastki madaniy qatlamidan ibodatxonaning izlarini, daxma va kulolchilik ustaxonasining izlarini aniqlagan [4].

Xorazm viloyatining Xazorasp tumani hududidan, ya'ni Amudaryoning o'ng qirg'og'idagi Ucho'choq tepaligining janubiy g'arbiy tomonidan Toshqal'ada (Doshqal'a) yodgorligi 1939-yilda topilgan. Dastlab tadqiqotchilar uning tarhini aniqlashgan. U yerdan topilgan moddiy buyumlar, asosan, sopol idishlarning bo'laklari tadqiq etilgan [5]. 1966-yilda Toshqal'ada Xorazm arxeologik ekspeditsiyasi a'zolari tomonidan ikkinchi marta arxeologik tadqiqot ishlari olib borilgan. Bunda ham tadqiqot ishi keng miqyosda olib borilmagan. 1974-yilda statsionar, ya'ni keng miqyosda tadqiqot ishlari olib borilgan. Bu davrda ham Toshqal'aning mil. avv. IV asrdan milodiy VII asrgacha faoliyat

olib borganligi asoslangan [6]. Yodgorlikda XXI asrning boshlarida ham arxeologik tadqiqot ishlarini olib borilgan bo‘lib, bu davrda S.R.Baratov va U.Raxmonovlar tomonidan o‘tkazilgan [7]. Toshqal’aning tarhi to‘g‘rito‘rtburchak shaklida bo‘lib, 4,5 metr balandlikda qurilgan. Tepalikning uzunligi 90x70 metr bo‘lganligi uchun, qal’aning tarhi o‘ziga xos tarzda bo‘lgan. Mustahkam mudofaa devoriga ega, shahar darvozasi o‘ziga xos fortifikatsiya asosida qurilgan. Tadqiqotlar jarayonida qal’aning ichki qismidan aholining xo‘jalik faoliyatiga oid moddiy manbalar topilmaganligi sababli, S.R.Baratov uni ibodatxona bo‘lgan bo‘lishi mumkin degan g‘oyani ilgari surgan.

1998-1999 yillarda Xorazm Ma’mun Akademiyasi Arxeologiya, tarix va falsafa bo‘limining arxeologiya guruhi xodimlari antik davrga oid Qalajiqda tadqiqot ishlarini olib borishdi. Harbiy qal’a sifatida bunyod etilgan Qalajiq mustahkam istehkomga ega bo‘lgan, bu esa uzoq muddatli mudofaaga mo‘ljallanganligini ko‘rsatadi [8].

2001 yilda L.M.Levina 1973-1975 yillarda Elxarasda olib borilgan tadqiqot ishlarining o‘rganilish darajasini yoritgan [9]. Yodgorlik mil.avv. V asrning oxiri -IV asr boshlarida qurilgan. Bu yerdan loydan yasalgan haykallar topilgan.

Chap qirg‘oq Katqal’adagi dastlabki arxeologik tadqiqot ishlari faqat kuzatuv-qidiruv ishlari bo‘lib, bu davrda yodgorlikning xronologiyasi va rivojlanish bosqichlari aniqlangan. Bu davrda shaharga mil.avv. IV – III asrlarda asos solingan bo‘lib, milodiy VII – VIII asrlarga, IX – XI asrlarga va XVII-XIX asrlarga oid madaniy qatlamlari aniqlangan va topografik xaritasi ishlangan [10].

Mustaqillik yillarida dastlabki tadqiqot ishlari 1994 yilda Q.Sobirov va R.Abdirimovlar tomonidan olib borilgan. Bu davrda qal’a g‘arbiy devorining burjining hajmi, dastlabki qurilish bosqichida devorning qalinligi 5,5 metr bo‘lganligi va fortifikatsiyasi aniqlanib, mudofaa devorning qurilish uslubi boshqa qal’alar mudofaa elementlari bilan qiyosiy tahlil qilingan. Shu bilan birga qal’a mil.avv. IV asrda bunyod etilganligi yana bir asoslangan [11].

2002–2011-yillarda va 2021–2023-yillarda ham yodgorliklar arxeologik tadqiqot ishlari olib borilgan. Bu davrda qal’aning markaziy va g‘arbiy qismi

keng tadqiq qilinib, antik davrning ikkinchi bosqichiga oid platforma, turar joy qoldiqlari va arxaik davrga oid monumental inshoot qoldiqlari topilgan. Baxrom 38 bet. Ilk antik davrga oid mudofaa devori tadqiq qilingan. Shaharning tuzilishi, xronologiyasiga oid yangi manbalar aniqlangan. Shaharga mil.avv. VI asrda asos solinganligi aniqlab berildi.

Xorazm arxeologik etnografik ekspeditsiyasi a'zolari tomonidan Amudaryoning o'rta oqimi o'rganilganda bu hudud ikkita tarixiy -madaniy hududga ajratilgan. Bunga Zemm va Amul hududlari bo'lib, Zemm tarixiy madaniy hududga Kerka va Mirzaobod hududidagi yodgorliklar kirgan. Amul hududiga Chorjo'y va Qorabekaul hududlaridagi yodgorliklar kirgan.

Burxanov tomonidan olib borilgan tadqiqot ishlarida bu hudud 4 ta yirik tarixiy madaniy vohaga ajratilgan [12]. Janubiy hududda Kerka va Mirzabek vohalari va markaziy hududda joylashgan Qorabekaul va Chorjo'y vohalariga ajratilgan bo'lib, ular bir-biridan cho'l bilan ajratilgan.

XULOSA

Mustaqillik yillarida Janubiy Xorazm hududida olib borilgan arxeologik tadqiqotlar natijalari shuni ko'rsatadiki, mazkur mintaqa qadimgi davrlardan boshlab yuksak darajada rivojlangan tarixiy-madaniy hududlardan biri hisoblanadi. Zamonaviy ilmiy yondashuvlar va tabiiy fanlar yutuqlarining tatbiq etilishi orqali ilgari mavjud bo'lgan qarashlar aniqlashtirildi va yangi ilmiy xulosalar bilan boyitildi.

Xumbuztepa, Toshqal'a, Qalajiq, Elxaras va Katqal'a kabi yodgorliklarda olib borilgan tadqiqotlar hududda miloddan avvalgi davrlardan boshlab uzluksiz madaniy va ijtimoiy-iqtisodiy taraqqiyot jarayonlari kechganini tasdiqlaydi. Ayniqsa, mazkur yodgorliklarda aniqlangan me'moriy inshootlar, hunarmandchilik markazlari va ibodatxona qoldiqlari jamiyatning murakkab tuzilishga ega bo'lganini ko'rsatadi.

Shuningdek, Janubiy Xorazm hududining tarixiy-madaniy jihatdan alohida vohalarga bo'linishi va ular o'rtasidagi hududiy farqlarni aniqlash, mintaqaning ichki rivojlanish xususiyatlarini chuqurroq tushunishga imkon

berdi. Tadqiqotlar natijasida ayrim yodgorliklarning davriy sanasi qadimiylashtirilib, ularning tarixiy ahamiyati yanada aniqlashtirildi.

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BOLALAR ADIBLARINI O‘RGANISHNING AHAMIYATI

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Annotatsiya: *O‘zbek bolalar adabiyoti, asrlar davomida yosh avlod tarbiyasida muhim rol o‘ynab kelgan, xalqimizning ma’naviy hayotida chuqur ildiz otgan sohalardan biridir. Har bir xalqning kelajagi — uning yoshlariga, ularning ongi va dunyoqarashiga bog‘liq. Shu jihatdan, bolalarga mo‘ljallangan badiiy asarlar, ular orqali tarbiyaviy g‘oyalarni singdirish, ma’naviy qadriyatlarni yetkazish dastlabki qadamlardan biri hisoblanadi. Bu asarlar orqali bolalar dastlab dunyoni, jamiyatni, insoniy fazilatlarni anglay boshlaydi, o‘z qobiliyat va iste’dodlarini aniqlashga kirishadilar.*

Kalit so‘zlar: *bolalar adabiyoti, adiblar, tarbiya, oila, Vatan, ma’naviyat, estetik tarbiya, kitob, bolalar, yoshlar, ma’rifat, kitobxonlik.*

Annotation: *Uzbek children’s literature has played an important role in educating the younger generation for centuries and has become one of the deeply rooted fields in the spiritual life of our people. The future of any nation depends on its youth, their consciousness, and worldview. In this regard, literary works intended for children serve as one of the first steps in instilling educational ideas and conveying spiritual values. Through such works, children begin to understand the world, society, and human virtues, and start to discover their own abilities and talents.*

Keywords: *children’s literature, writers, education, family, homeland, spirituality, aesthetic education, book, children, youth, enlightenment, reading culture*

KIRISH

Bolalar adabiyotining ahamiyati juda keng qamrovli. Uning asosiy maqsadi nafaqat bolalarning kitobxonlik malakalarini oshirish, balki, eng avvalo, ularning ichki dunyosini boyitish, orzu-umidlarini kengaytirish, ijtimoiy hayotga moslashishlariga yordam berish, to‘g‘ri va sog‘lom shaxs bo‘lib shakllanishlariga xizmat qilishdan iborat. Adabiyot vasitasida bola o‘zini, mavjud muammolarni tanib oladi, ular uchun to‘g‘ri yo‘l va yechim topadi,

jamiyatda o‘z o‘rnini anglaydi. O‘zbek bolalar adabiyoti vakillari — adiblar, shoirlar va yozuvchilar — har bir asar orqali bolalarning qalbida ezgulik urug‘ini qadash, Vatanga, ota-onaga mehr, do‘stlik, vatanparvarlik, halollik, samimiyat kabi yuksak insoniy fazilatlarni singdirishga harakat qiladilar. Ular bolalar dunyosini chuqur o‘rgangan, ularning ruhiyati, orzu va havaslarini, hayotga, atrofdagilarga bo‘lgan munosabatini, ichki kurashlarini, holatlarini tushungan holda ijod qiladilar. Bunday asarlar o‘qishli bo‘ladi, bolani ortidan ergashtira oladi, unga tarbiya, ma’naviyat, e’tiqod, ilm va ma’rifat beradi [1,45-b].

O‘zbek adabiyotining bolalarga yo‘naltirilgan yo‘nalishida Muhammad To‘xtaboyev, Hadiya Sodikova, G‘afur G‘ulom, Xudoyberdi To‘xtaboyev, Xurshid Davron, Fayzulla Xo‘jayev, Tohir Malik, Tog‘ay Murod va yana ko‘plab yozuvchilar o‘zining yorqin asarlari bilan ajralib turadi. Ularning har biri bolalar hayotiga mos obrazlar, holatlarni aks ettirib, yosh kitobxon dunyoqarashini shakllantirishga xizmat qiladi. Ular yozgan ertaklar, hikoyalar, doston va povestlar bolalarni olam-olam hayrat, quvonch va o‘y-fikrga chorlasa, ba’zan yig‘latadi, ba’zan kuldiradi, ammo har doim o‘ylantiradi, to‘g‘ri yo‘lga boshlaydi. Bolalar adabiyotini o‘rganish, uni chuqur tahlil qilish, bu sohada yetarli bilim va malaka orttirish har bir o‘qituvchi, har bir ota-ona uchun ham muhim sanaladi. Yosh avlod vakillariga kitob tanlash, ularning kitobxonlik faoliyatini nazorat qilish, asar mazmuni ustida birga fikrlashish, bolada o‘qishga qiziqish uyg‘otish, bularning barchasi ta’lim va tarbiya tizimining ajralmas bo‘lagidir. Zamonaviy dunyoda axborot oqimi kuchli, rang-barang bo‘layotgan bir paytda, bolalarning vijdonini, dunyoqarashini, boshqalar bilan munosabatini yuksaltirishda badiiy asarlarning o‘rni beqiyosdir. Kitoblarni o‘qish orqali bola adabiy nutq, so‘z boyligi, fikr oqizilishi, mantiqiy tafakkurni rivojlantiradi, yangi ma’lumot va bilimlarni egallaydi. Shuningdek, bolalar adiblarini o‘rganish, ularning asarlari bilan tanishish, bolalarning didini, estetik ko‘zqarashini shakllantirish uchun ham xizmat qiladi. Yaxshi yozilgan badiiy asarlar bola qalbida san’at, adabiyot va madaniyatga chuqur muhabbat uyg‘otadi. Bu muhabbat esa kelajakda ularning dunyoni go‘zal ko‘ra olishi, har

qanday sohada o‘z yo‘lini topilishi uchun zamin yarata oladi. O‘zbek bolalar adabiyotida real hayot, ijtimoiy muammolar, ma’naviy qadriyatlar, Bardavom urf-odatlar va milliy an’analar yuksak badiiy did, rang-barang ifoda vositalari vositasida aks ettirilgan. Tariximizda e’tiborli adiblar tomonidan bolalar uchun yozilgan asarlar, ertak, doston, she’r va hikoyalar yoshlarni yurtga muhabbat, tabiatni asrash, buyuk ajdodlarga sadoqat, odob-axloq, halollik, istibdodga qarshi kurashish, bilim olish, orzu-umidga yetishish kabi g‘oyalarga yetaklaydi.

Bolalar adabiyotini o‘rganish, bolalarni kuchli shaxs qilib tarbiyalashning eng samarali yo‘llaridan biri hisoblanadi. Asarlarni o‘rganish orqali bola o‘z his-tuyg‘ularini to‘g‘ri ifoda etishga, boshqalarga xayrixoh bo‘lishga, jamiyat qoidalariga rioya qilish, halollik, samimiylikni qadrlashga o‘rganadi. Bolaning tasavvuridagi hayot, uning ertangi orzulariga bog‘liq. Adabiyot bolalar orzularini yuksaltiradi. Yangi manzillar sari undaydi, hayotni, o‘zini, boshqalarni qadrlashga o‘rgatadi. Bola o‘zi uchun, boshlari uchun muhim bo‘lgan qadriyat va fazilatlarni kitobdan, adabiy asardan oladi. O‘zbek adabiyotida bolalar uchun qayg‘urgan, ularning hayoti, niyati, orzu-umidlari, qiziqishlari va muammolarini yoritgan yozuvchilar har bir asari orqali bolaning ichki dunyosiga kirib boradi, uni o‘z orzu va umidlari sari yetaklaydi. Asarlar nafaqat bolani tarbiyalaydi, balki ularga hayotning, jamiyatning, olamning mazmun-mohiyatini ochib beradi, unda iste’dod, iqtidor urug‘ini qadaydi. Bolalar adiblarini o‘rganish orqali yoshlar ulkan hayot saboqlarini oladilar. Asarlarda tasvirlangan oila qadri, ota-onaga ehtirom, insonlarga xayrixohlik, milliy g‘urur va vatanparvarlik hislari, muruvvat va oqibatlilik, bag‘rikenglik yoshlarning ruhiyatiga boy ma’no bag‘ishlaydi. Har bir satr orqali bola o‘z hayotini, orzu-umidini, maqsadini aniq belgilashga harakat qiladi. G‘ayrat, tashabbus, mehnatsevarlik, halollik, to‘g‘rilik singari fazilatlar bolalar adabiyotida asosiy yo‘nalishlardan biri sifatida ko‘zga tashlanadi. Ushbu adabiy meros bolalarda mustaqil fikrlash, yaxshi va yomonni farqlash, sof yurak va beg‘ubor orzu-umidlar uchun kurashish, hayotda qat’iylik va matonat ko‘rsatish, kuchli iroda va olijanoblik fazilatlarini rivojlantirishda benihoya muhim rol

o‘ynaydi. O‘ziga xos milliy qadriyatlarimizni, xalq og‘zaki ijodiyoti asosidagi ibratli hikoyalar, ertaklar, doston va rivoyatlar bolalarning dunyo haqidagi tasavvurlarini kengaytiradi, ruhiy-axloqiy tarbiyaga asos soladi [2, 72-b].

Zamonaviy sharoitda, bolalarning kitob o‘qishga bo‘lgan qiziqishini oshirish uchun, bolalar adabyotini va ularning adiblarini har tomonlama chuqur o‘rganish, samarali metodlardan foydalanish, yangi pedagogik yondashuvlarni tatbiq qilish juda muhim. Kitobxonlikni rivojlantirishda maktab, oila va ijtimoiy muhit bir-biri bilan hamkorlikda harakat qilishi lozim. Bolalarga o‘qilishi lozim bo‘lgan kitoblarni tanlash, ular bilan muloqot qilish, muhokama qilish, asardan olingan xulosalarni hayotga tatbiq qilish bo‘yicha tartibli va rejalashtirilgan ishlar olib borish kerak. O‘zbek bolalar adabiyoti – bolalar ruhiyatiga eng yaqin, hayotiy muammolarga, orzu-umid, mehr-oqibat, insoniylikka yo‘naltirilgan asarlar majmuasidir. Unda xalqimizning milliy tarixi, madaniyati, qadriyatlari, hayotiy tajribasi aks etadi. Har bir asar, dastlabki satrlardanoq, bolalarning qalbida ularni yaxshilik, to‘g‘rilik, halollikka undaydi. Millionlab bolalar mana shu adabiy asarlar orqali yetuk inson bo‘lib kamol topmoqda.

Bolalar adabiyotini o‘rganish, respublikamizdagi har bir maktabda, kutubxonada, oila va jamiyatda doimiy e’tibor markazida bo‘lishi lozim. Zero, bolalar adabiyoti kelajagimiz egalari uchun axloqiy, ma’naviy, intellektual rivojning muhim zaminidir. Shu sabab, bolalar adabiyotini rivojlantirish, unga munosib e’tibor qaratish, adiblarning ijodini keng o‘rganish va yosh avlodga yetkazish, bu borada yangi asarlar yaratish va e’lon qilish, zamonaviy imkoniyatlardan foydalanish — bularning barchasi ta’lim, tarbiya va ma’naviy hayotimizning eng dolzarb masalalaridan biri bo‘lib qoladi. Bolalar uchun mo‘ljallangan asarlarni o‘rganish, ilg‘or adiblar ijodini chuqur tahlil qilish, yoshlarimizga mazmunli, milliy ruhda tarbiyaviy asarlarni yetkazish har bir pedagog, adabiyotshunos, ota-ona, kitobsevar yurtdoshimizning orzu-umidi, maqsadi, muqaddas burchi bo‘lib qolaveradi. Kitob — har bir bolaning eng yaqin do‘sti bo‘lmog‘i kerak. U bolaning qalbida orzu, umid, ishonch, farzandlik tuyg‘ulari uyg‘otadi, unda to‘g‘rilik, halollik, hamkorlik, yurtdoshlar bilan

totuvlik, jonkuyarlik, matonat, saxovat, mehr va shijoat singari insoniy fazilatlarni tarbiyalab boradi. Barchamizning oldimizda turgan asosiy vazifalardan biri bolalar adabiyoti namoyondalari — adiblar, shoirlar, yozuvchilarning asarlarini doimiy o‘rganib borish, ularni bolalar ongiga singdirish, oila, maktab, jamiyatda kitobxonlik muhitini rivojlantirish, bolalarning bo‘sh vaqtini kitob o‘qish, adabiyot bilan tanishishga yo‘naltirish, bu orqali eng muhim maqsad — erkin fikrlovchi, ma’naviy boy, maqsadli, vatanparvar, halol va fidoyi yoshlarni tarbiyalashdir. O‘zbek bolalar adabiyoti doirasidagi ijodiy izlanishlar, yangi avlod vakillari uchun yozilayotgan asarlar, o‘z shakli va mazmuni bilan bolalarga yaqinligi, sodda va ravon tili, o‘ziga xos obrazlar, hayotiy voqealar bilan yoshlarda kitobga, ilm va ma’rifatga bo‘lgan ehtiyoj va ishtiyoqni kuchaytiradi. Natijada, mustaqil fikrlay oladigan, millat va Vatan taqdiriga befarq bo‘lmagan, baquvvat, kuchli, bilimli, ma’naviy boy shaxslar yetishib chiqadi [3, 95-b].

XULOSA

Bolalar adabiyoti va uning namoyondalarini o‘rganish, inson hayotida eng muhim, ajralmas, aziz qadriyatdir. U yosh avlodning tafakkuri, ma’naviy dunyosi shakllanishida, o‘ziga ishonchi va shaxs fazilatlarini rivojlantirishda, jamiyatda o‘z o‘rnini topishda asqotadigan bebaho manba vazifasini bajaradi. O‘zbek bolalar adabiyotini o‘rganish davlat va jamiyat darajasida hamisha e’tibordan chetda qolmasligi kerak. Har bir yosh kitobxon, bolajon yuragiga kirib boradigan yaxshi asar — kelajak poydevoridir. Bu sohadagi adiblarning o‘lmas asarlari, yoshlarning hayotga, jamiyatga va insonlarga bo‘lgan munosabatini yaxshilashda, ularni ulug‘ orzular sari yetaklashda, har qadamda to‘g‘ri yo‘lni tanlashda ishonchli yo‘lboshchi bo‘lib xizmat qilaveradi.

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BOSHLANG‘ICH SINF O‘QUVCHILARIDA NUTQ MADANIYATI VA O‘ZARO MULOQOT ODOBINI SHAKLLANTIRISHNING IJTIMOIY-PEDAGOGIK ASOSLARI

O‘zbekiston respublikasi

Termiz davlat pedagogika instituti

Boshlang‘ich ta’lim kafedrasi o‘qituvchisi

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Annotatsiya *Ushbu maqolada boshlang‘ich sinf o‘quvchilarida nutq madaniyati va muloqot odobini shakllantirishning ijtimoiy-pedagogik mexanizmlari tadqiq etiladi. Kichik maktab yoshidagi bolalarning o‘zaro muloqot jarayonida yuzaga keladigan muammolar tahlil qilinib, ularni bartaraf etishda oila va maktab hamkorligining ahamiyati yoritilgan. Maqolada o‘quvchilarning ijtimoiy moslashuvini ta’minlash hamda nutqiy etiket qoidalarini o‘zlashtirishga doir samarali pedagogik tavsiyalar bayon etilgan bo‘lib, ular bolaning barkamol shaxs bo‘lib yetishishiga xizmat qiladi.*

Kalit so‘zlar: *nutq madaniyati, muloqot odobi, boshlang‘ich sinf, ijtimoiy-pedagogik asoslar, nutqiy etiket, muloqot madaniyati, shaxs rivojlanishi.*

Abstract *This article examines the socio-pedagogical mechanisms for developing speech culture and communication etiquette among primary school students. It analyzes the challenges arising during the interpersonal communication of young schoolchildren and highlights the significance of cooperation between family and school in overcoming these issues. The article provides effective pedagogical recommendations for ensuring students' social adaptation and mastering the rules of speech etiquette, all of which contribute to the development of a well-rounded and harmonious individual.*

Keywords: *speech culture, communication etiquette, primary school, socio-pedagogical foundations, speech etiquette, culture of communication, personality development.*

KIRISH

Insoniyat taraqqiyotining hozirgi bosqichida muloqot madaniyati nafaqat shaxsiy fazilat, balki ijtimoiy zaruriyatga aylanmoqda. Ayniqsa, boshlang‘ich

sinf davrida bolada muloqotga kirishish, o‘z fikrini boshqalarga tushuntirish va jamiyatda o‘z o‘rnini topish jarayoni faol kechadi. Nutq madaniyati - bu shunchaki to‘g‘ri so‘zlash emas, balki tinglovchiga nisbatan hurmat, so‘z tanlash mahorati va nutqiy vaziyatga moslashish qobiliyatidir.

ASOSIY QISM

Nutq madaniyati va muloqot odobining pedagogik ahamiyati boshlang‘ich sinf o‘quvchilarida nutq madaniyatini shakllantirish, eng avvalo, ularning tildan to‘g‘ri va o‘rinli foydalanish ko‘nikmalarini rivojlantirishni anglatadi. Pedagogik nuqtai nazardan, bu jarayon ikki yo‘nalishda amalga oshadi:

1.Lingvistik jihat- so‘zlarni talaffuz qilish qoidalari, so‘z boyligi va grammatik izchillik.

2.Etik jihat- muloqot jarayonida o‘zaro hurmat, muomala odobi va nutqiy etiket salomlashish, minnatdorchilik, xayrlashish,mehmon kutish qoidalari, jamoat joyda o`zini titish qoidalariga rioya qilish.

Kichik maktab yoshidagi bolalarda taqlid qilish xususiyati kuchli bo‘lgani sababli, o‘qituvchining nutqi asosiy pedagogik vosita vazifasini o‘taydi. O‘qituvchi nutqi aniq, tushunarli va emotsional boy bo‘lishi o‘quvchida “namunaviy nutq” modelini shakllantiradi.

Muloqot odobini shakllantirishning ijtimoiy omillari o‘quvchi nutqi faqat maktabda emas, balki ma’lum bir ijtimoiy muhitda shakllanadi. Bunga quyidagilar kiradi:

- ✓ **Oila muhiti-** bola ilk muloqot ko‘nikmalarini oilada oladi. Agar oilada o‘zaro hurmat va adabiy til me’yorlarida so‘zlashish ustuvor bo‘lsa, maktabdagi pedagogik jarayon yanada samarali kechadi.
- ✓ **Tengdoshlar guruhi-** sinfdoshlar bilan muloqot jarayonida bola “ijtimoiy roller”ni o‘rganadi. Bu bosqichda nizolarni nutq orqali hal qilish, boshqalarni tinglash va o‘z fikrini madaniyatli tarzda bayon etish o‘rgatiladi.

✓ **Axborot maydoni-** televideniye, ijtimoiy tarmoqlar va multfilmlar o‘quvchi nutqiga bevosita ta’sir ko‘rsatmoqda. Pedagogik vazifa - ushbu ta’sirlar orasidan ijobiylarini saralab olishga ko‘maklashishdir.

Nutq madaniyatini rivojlantirishning pedagogik mexanizmlari ma’lumki, nutq va tafakkur o‘zaro bog‘liq. O‘quvchilarda muloqot odobini tizimli shakllantirish uchun quyidagi pedagogik bosqichlarni amalga oshirish lozim:

✓ **Nutqiy vaziyatlarni yaratish-** darslarda o‘quvchilarni erkin muloqotga undaydigan "muammoli vaziyatlar" yaratish. Masalan: “Agar do‘stingiz sizdan xafa bo‘lsa, uni qanday so‘zlar bilan yupatgan bo‘lardingiz?”

✓ **Lug‘at ustida ishlash-** o‘quvchilar lug‘atidagi “qo‘pol” yoki “ko‘cha” so‘zlarini adabiy, ijobiy so‘zlar bilan almashtirish ko‘nikmasini hosil qilish.

✓ **Interfaol metodlar:** “Bumerang”, “Aqliy hujum” va “Rolli o‘yinlar” orqali bolani jamoada so‘zlashga, o‘zgalar fikrini bo‘lmasdan eshitishga o‘rgatish.

Muloqot odobini baholash mezonlari o‘quvchining muloqot madaniyati shakllanganligini quyidagi belgilar orqali aniqlash mumkin:

✓ Nutqiy etiket qoidalarini vaziyatga qarab to‘g‘ri qo‘llashi;

✓ Suhbatdoshining yoshi va ijtimoiy mavqeyini hisobga olishi;

✓ Nutqning aniqligi, mantiqiyligi va boyligi;

✓ Noverbal muloqot vositalaridan (imo-ishora, nigoh, tabassum) o‘rinli foydalanishi.

XULOSA

Asosiy qismda ta’kidlanganidek, nutq madaniyati faqat til o‘rgatish fani emas, balki ijtimoiy tarbiya mahsulidir. O‘qituvchi va ota-onaning maqsadli hamkorligi o‘quvchining jamiyatda o‘z so‘ziga ega, madaniyatli shaxs bo‘lib shakllanishini ta’minlaydi. Boshlang‘ich sinf o‘quvchilarida nutq madaniyatini shakllantirish murakkab ijtimoiy-pedagogik jarayon bo‘lib, u o‘qituvchidan yuksak mahorat va sabr-toqatni talab qiladi. Bolaning muloqoti qanchalik odobli

va madaniyatli bo‘lsa, uning jamiyatdagi ijtimoiy integratsiyasi shunchalik muvaffaqiyatli kechadi. Mazkur jarayon nafaqat darslarda, balki maktabdan tashqari faoliyatda ham izchil davom ettirilishi shart.

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DIPLOMATIC CEREMONIES IN THE KOKAND KHANATE: HISTORICAL, POLITICAL, AND CULTURAL DIMENSIONS

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Abstract: *This article provides a comprehensive analysis of diplomatic ceremonies in the Kokand Khanate, examining their structural organization, symbolic functions, and political implications. Drawing upon historical sources, the study explores both formal and informal dimensions of court protocol and diplomatic etiquette. Particular attention is given to the role of ceremonial practices in articulating political authority, regulating interstate communication, and reinforcing hierarchical relationships between polities. The findings suggest that diplomatic ceremonies functioned not merely as ritualized performances but as strategic instruments of foreign policy, contributing to the consolidation of the khanate's international standing and legitimacy.*

Keywords: *Kokand Khanate, diplomacy, diplomatic ceremonies, court protocol, political symbolism, interstate relations.*

MAIN TEXT

The Kokand Khanate, as one of the political entities in Central Asia during the eighteenth and nineteenth centuries, developed a sophisticated system of diplomatic practices that reflected both regional traditions and broader patterns of pre-modern statecraft. Among these practices, diplomatic ceremonies occupied a central position, serving as a codified mechanism through which political authority, legitimacy, and interstate relations were publicly enacted and negotiated.

Diplomatic interaction within the khanate was not limited to pragmatic exchanges of information; rather, it was embedded within a highly ritualized framework that governed the reception of envoys, the exchange of gifts, and the articulation of official discourse. These ceremonies constituted a performative

space in which power relations were symbolically expressed and reaffirmed. As noted by S. M. Murodkhonov, the protocol of diplomatic receptions in the Kokand court functioned as a key indicator of the political disposition toward foreign states [1, p. 94]. A crucial component of these ceremonial practices was the formal audience between the khan and foreign envoys. This process unfolded through a sequence of meticulously regulated stages, including the ceremonial reception, the presentation of gifts (*peshkash*), diplomatic dialogue, and the documentation of proceedings in accordance with established protocol. Such procedural rigor ensured not only the maintenance of diplomatic decorum but also the projection of political order and institutional coherence.

The spatial and procedural organization of receptions further underscores the اهمیت of protocol in the Kokand court. Ambassadors were received in the *salomkhona*, a designated ceremonial hall that functioned as a locus of diplomatic interaction. According to F. Nazarov, the ambassador's entrance into the hall was carefully orchestrated: he was escorted by ministers on both sides, while another official facilitated access by opening the door [2, p. 27]. This choreography of movement and positioning was not incidental; rather, it constituted a symbolic grammar through which respect, hierarchy, and political recognition were communicated.

The exchange of gifts represented another essential dimension of diplomatic ceremonies. The practice of *peshkash* was imbued with both material and symbolic significance, as the nature, quality, and value of the gifts conveyed messages regarding the status and intentions of the sending polity. In this context, gift exchange operated as a form of non-verbal diplomatic communication, encoding political meanings within material objects. The reciprocal presentation of gifts by the khan further reinforced the principles of mutual recognition and diplomatic reciprocity.

The Kokand Khanate's diplomatic engagement with major contemporary powers, including Qing China and the Ottoman Empire, illustrates the broader geopolitical relevance of these ceremonial practices. The visit of the Chinese

envoy Daketa in 1829, for instance, provides valuable insight into the performative dimension of Kokand diplomacy. Contemporary accounts indicate that the envoy was deeply impressed by the scale of hospitality, the aesthetic sophistication of the court, and the ceremonial grandeur of the reception. As Sh. Kuldoshev observes, Daketa's reports emphasized the splendor of Kokand, its sociopolitical cohesion, and the perceived stability of its structures [3, p. 122].

Similarly, the dispatch of Kokand envoys to foreign courts was accompanied by elaborate ceremonial preparations. The case of Muhammad Zohid Khoja's mission to the Ottoman Empire exemplifies this practice. The envoy carried a carefully curated collection of gifts, including a copy of the Qur'an, luxury textiles, and horses, each of which symbolized the khanate's respect and diplomatic intent [4, p. 134]. Such practices highlight the integrative role of material culture in the conduct of diplomacy.

Beyond formal ceremonies, informal practices—such as banquets, artistic performances, and social gatherings—also played a significant role in sustaining diplomatic relations. These events provided opportunities for cultural exchange and the cultivation of interpersonal trust, thereby complementing the formal mechanisms of diplomacy. As D. Sultanova argues, diplomatic ceremonies in Central Asian khanates also served as a medium for showcasing internal cultural capacity and refinement [5, p. 101].

CONCLUSION

The diplomatic ceremonies of the Kokand Khanate constituted a highly structured and symbolically rich system governed by strict protocols and normative conventions. Far from being merely decorative or ceremonial, these practices functioned as integral components of the khanate's political strategy, facilitating the management of foreign relations and the articulation of state authority. By institutionalizing diplomatic interaction within a ritualized framework, the Kokand Khanate was able to reinforce its political legitimacy, project its cultural sophistication, and secure its position within the regional system of interstate relations.

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ENHANCING UZBEK STUDENTS' SPEAKING SKILLS THROUGH ROLE-PLAY AND DISCUSSION BASED ACTIVITIES

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Abstract: *The ability to communicate effectively in English is essential in modern education, yet many students lack confidence when speaking in class. This study investigates the causes of these difficulties and explores the effectiveness of classroom activities, such as group work, role-play, and discussion, in improving speaking skills among 7th-grade Uzbek learners. The research was conducted at School Number 92 with 15 A2–B1 level learners over three weeks, during which data were collected through observation checklists, speaking interviews, and assessment rubrics to monitor progress. In Week 1, students' speaking problems were identified through lesson observation, revealing low participation, hesitation, pronunciation difficulties, and a small group of non-participating learners. In Week 2, interactive techniques such as role-play, pair work, and group discussion were implemented, and participation was systematically recorded using observation notes and rubrics. By Week 3, students' speaking performance was reassessed through short interviews, supported by audio recordings and rating scales to ensure more objective evaluation. Overall, a comparison of Week 1 and Week 3 results shows clear improvement, with increased participation, reduced hesitation, and greater confidence in speaking tasks. These findings indicate that communicative activities such as role-play and discussion enhance fluency, engagement, and confidence in English speaking among Uzbek students.*

Key words: *Uzbek EFL learners; classroom observation; interactive activities: role-play and communicative discussion tasks; speaking proficiency development; A2-B1 level students.*

INTRODUCTION

In recent years, the importance of English language proficiency has significantly increased due to globalization and the growing need for

international communication. The president of Uzbekistan Shavkat Mirziyoyev also spoke at several events on the need to encourage young people to learn foreign languages and actively participate in them «It is time to create a new system of teaching foreign languages in our country, which will become a solid foundation for the future. Since we set ourselves the goal of building a competitive state, from now on the graduates of schools, lyceums, colleges and universities must be fluent in at least two foreign languages. This strict requirement should become the main criterion for the work of the director of each educational institution»[53] Shavkat Mirziyoyev said.

Among the four language skills: listening, speaking, reading and writing, speaking is often considered one of the most challenging skills for English as a Foreign Language (EFL) learners. Many Uzbek students struggle to express their ideas fluently and confidently in classroom settings, which may be caused by limited vocabulary, lack of practice, anxiety, or more teacher-centered classroom environments that do not provide enough opportunities for interaction. In Kenya, it has been observed that students often lack both communicative and linguistic competence and tend to switch between Sheng, Kiswahili, and English during classroom conversations and group discussions (Abenga,2005). Similarly, Mwamba (2005). found that many secondary school students were shy and preferred to remain silent in class because they struggled to express themselves effectively in spoken English. This finding is also supported by Richards (2005), who noted that learners with limited linguistic competence usually speak slowly, take longer to construct utterances, and participate less actively in conversations. Moreover, their spoken English often sounds unnatural and is characterized by weak grammar and poor pronunciation.

In some schools, many teachers use traditional methods and activities which are focusing on grammar, just copying and writing the rules. As a consequence, their students can not use the language in real life communication,

[53] https://www.president.uz/en/lists/view/4327

because of many of them understand the English language well, yet they have a problem in conversations. The process of communication involves both the speaker and the listener, each playing an essential role in effective interaction (Tuan and Mai, 2015). Language scholars suggest that learner-centered classroom activities—such as group discussions, speeches, storytelling, drama, debates, poem recitation, songs, and tongue-twisters—can help address the issue of low oral proficiency (Okech at al 2005). These activities promote active student participation, increase motivation, and provide opportunities for learners to use English authentically in meaningful contexts.

Furthermore, research indicates that students are generally more willing to interact with their peers and tend to produce more complex responses compared to interactions with teachers (Achmad and Yusuf, 2014: 151). Students often feel more comfortable working collaboratively, making mistakes, and receiving feedback from peers, as peer correction is perceived as less intimidating than teacher feedback. Therefore, this study aims to examine the types of classroom activities used by teachers and how they contribute to enhancing students' active participation in secondary school English lessons.

Students' speaking ability is developed by focusing on several key aspects, including pronunciation, grammar structure, vocabulary use, content, and fluency. Small-group discussion is a teaching technique where the teacher divides the class into small groups, usually consisting of four to five students. In this method, students sit facing each other and communicate freely. This environment encourages open interaction and allows learners to use the language without hesitation.

When implementing group discussions, several important factors must be considered, particularly the roles of students, the classroom environment, and the teacher. Teachers need to effectively organize the class to ensure smooth interaction. Typically, each group includes a leader and other members. For a successful discussion, every student should clearly understand and fulfill their assigned role within the group (Crisianita, S. & Mandasari, B,2022).

Communication in the second language has always been a source of frustration for language learners, yet communicative competence holds an important place in language learning. Role Play Activities (RPA) enhance learners' motivation by making the learning process more enjoyable and engaging, while also offering rich language exposure. There are several strong arguments supporting the use of RPA in second language classrooms. It increases learners' motivation because it is both fun and entertaining. In addition, it naturally integrates different language skills and supports students who may not have experienced such interactive learning before.

RPA also has a significant impact on classroom atmosphere and interaction, helping learners recognize and correct common English mistakes. It creates opportunities for students to communicate with each other even when their vocabulary is limited, encouraging them to express themselves more confidently. Learners benefit from experiencing realistic language situations, and RPA helps improve speaking skills by introducing useful phrases and everyday expressions. Moreover, it supports the development of multiple intelligences through active participation.

Working collaboratively in groups and interacting with peers is an important part of RPA. However, some teachers still prefer traditional teaching methods and avoid using RPA due to concerns about classroom control, organization, and maintaining authority. If they try implementing it and observe its effectiveness, they are more likely to adopt RPA in their teaching practice (Mustafa Altun,2015).

Research questions:

1.What difficulties do Uzbek students face in developing their speaking skills?

2.What is the impact of interactive classroom activities on students' fluency?

Methodology:

The present study was conducted at Secondary School in Uzbekistan, with a 7th-grade class of 15 students (7 boys and 8 girls) at A2-B1 proficiency level. The intervention lasted 3 weeks.

Data were collected through multiple instruments: a pre-test and a post-test to assess students' speaking proficiency before and after the intervention; classroom observations to monitor their participation and speaking performance; and a speaking assessment rubric used to evaluate students' responses during interviews.

In the first week, an initial observation and a pre-test were conducted to identify students' speaking abilities. Students were asked simple questions that required them to express their opinions. Based on their responses, they were categorized into three groups: students who answered confidently, those who hesitated and paused while speaking, and those who did not respond at all. During this week, three lessons were observed, focusing on students' participation, common difficulties: lack of vocabulary, fear of making mistakes, lack of confidence, limited speaking practice, pronunciation difficulties, and areas for improvement.

In the second week, interactive activities such as role-plays and discussion-based tasks were implemented to improve students' speaking skills. Students actively participated and completed the tasks with interest. During the discussion-based activities, students were encouraged to share their opinions on familiar topics and respond to their peers' ideas, which helped to develop their fluency and confidence. For the role-play activity, students were divided into pairs and assigned topics such as "The Lost Backpack" and "At the Hospital." Most students showed enthusiasm and made an effort to perform their roles effectively.

In the third week, a short interview was conducted in which students were asked about their future goals. Their responses were audio-recorded and evaluated using a speaking assessment rubric. The results indicated a noticeable improvement in comparison to Week 1.

1.Role-Play Activity

Role-play is an effective technique to develop students' speaking skill as it provides ample opportunities to the students to take roles of different persons. Several studies have been carried out to find the different aspects of role play techniques in EFL classrooms. This activity is designed to promote meaningful language use by encouraging learners to interact, negotiate meaning, and express their ideas in context. Role-play supports the development of key speaking sub-skills, including fluency, pronunciation, and pragmatic competence, while also fostering learners' confidence and reducing speaking anxiety. Furthermore, it creates opportunities for collaborative learning through pair or group work, allowing students to practice communication strategies in a supportive and engaging environment.

2.Discussion based activity

Discussion-based activities involve structured or semi-structured communicative tasks in which learners engage in guided conversations on selected topics, express their opinions, justify their ideas, and respond to others in an interactive classroom setting. These activities are designed to promote meaningful language use by encouraging students to communicate spontaneously rather than relying on memorized sentences.

For example, students may be asked to discuss topics such as "Healthy lifestyle habits" or "My favorite school subject". In these discussions, learners work in pairs or small groups, share their viewpoints, agree or disagree with others, and provide reasons for their answers.

Such activities support the development of fluency, coherence, and interactional competence, as students are required to speak continuously and respond appropriately to their peers. Moreover, they enhance critical thinking skills by encouraging learners to analyze different ideas and evaluate alternative perspectives. In addition, discussion-based activities help reduce speaking anxiety and build confidence, as students practice language in a supportive and

collaborative environment where mistakes are considered a natural part of learning.

Result:

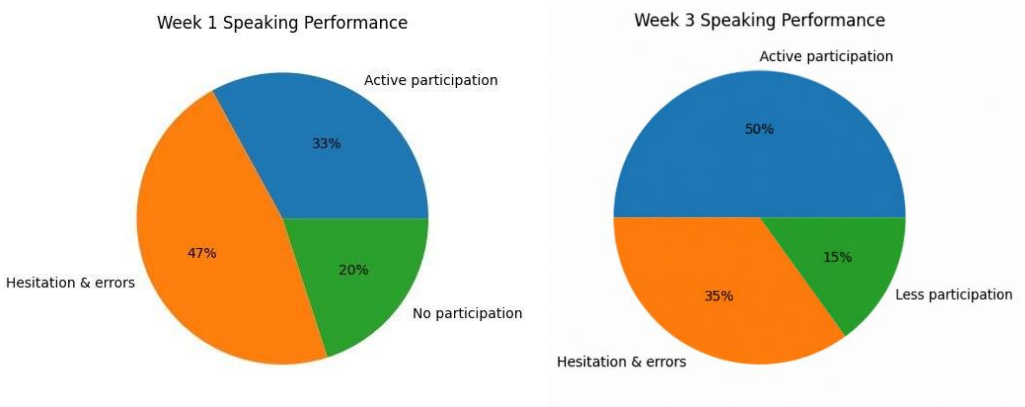
The results of the study are presented through two main figures, which illustrate the key findings of the research. Figure 1 gives the information about the students' speaking performance in the first week, based on the initial observation checklist results. The findings revealed several common challenges among learners, including shyness when speaking in front of the class, limited vocabulary knowledge, low frequency of English usage, and frequent pronunciation errors.

At the end of Week 1, the results showed that 33% of students were able to respond to the given questions effectively. Although their answers were generally grammatically correct and clear, some minor pronunciation mistakes were still observed. Meanwhile, 47% of students demonstrated hesitant speech with frequent pauses, uncertainty, and a few grammatical errors during their responses. The remaining 20% of students did not attempt to speak at all and were unable to understand or respond to the questions given. Overall, Figure 1 clearly indicates that the majority of students had low to moderate speaking ability at the beginning of the study. In week 2, role-play and discussion-based activities were applied as part of the teaching process. As the activities were highly engaging and motivating for learners, they actively participated in all tasks, completing them with considerable enthusiasm and effectively articulating their ideas while collaborating with their peers, and all results were systematically gathered through recordings throughout the week.

According to Figure 2, a considerable improvement in students' speaking performance was observed in comparison to Week 1. The proportion of students demonstrating good speaking ability increased significantly, reaching 50%, indicating a clear enhancement in fluency and communicative competence. Students became more confident and were able to express their ideas more smoothly with reduced anxiety during speaking tasks.

At the same time, 35% of students still exhibited a certain level of hesitation; however, this tendency was notably less frequent than in the initial stage. Moreover, both grammatical and pronunciation errors showed a visible decline, reflecting gradual improvement in linguistic accuracy.

Furthermore, the percentage of students who did not participate in speaking activities decreased to 15%, as even previously passive learners began to make attempts to engage in oral communication. In general, Figure 2 demonstrates a positive and steady progression in students' speaking skills throughout the intervention period.



DISCUSSION

This study focuses on the impact of interactive role-play and discussion-based activities on students' speaking performance. The findings indicate that the implementation of such activities had a significant positive effect on learners' oral communication skills. These results reinforce the view that learner-centered and communicative approaches foster a supportive and low-anxiety learning environment. In particular, activities such as role-play and group discussions provide learners with opportunities to use language in meaningful and authentic contexts, thereby facilitating the development of communicative competence and reducing speaking anxiety. Tompkins (2001) defines role play as one of the classroom teaching techniques that encourage students to participate actively in the learning process. Therefore, foreign language students practice the target language in contexts similar to real-life situations where stress and shyness are removed.

This finding is consistent with previous research emphasizing the importance of active learning and student engagement in second language acquisition. The use of multiple data collection instruments, including observation checklists, participation records, audio recordings, and speaking rating scales, enhanced the reliability and validity of the evaluation process. The observable progress over the three-week intervention suggests that sustained exposure to communicative tasks plays a crucial role in improving learners' speaking abilities. Despite overall improvement, a proportion of students continued to exhibit hesitation and limited participation. This may be attributed to individual learner differences, such as language anxiety, insufficient vocabulary knowledge, or limited prior speaking experience.

CONCLUSION

In conclusion, this research aimed to investigate the effectiveness of role-play and discussion-based activities in improving students' speaking skills. It was observed that role-play activities created a highly engaging learning environment where students could step into various real-life situations, such as ordering food, visiting a doctor, or making travel arrangements. This type of practice allowed learners to use English in a more natural and meaningful way, rather than simply memorizing rules or vocabulary. As a result, students gradually became more confident in expressing themselves, reduced their fear of making mistakes, and showed a greater willingness to participate in speaking tasks. In addition, role-play encouraged creativity and spontaneity, helping learners improve not only their fluency but also their ability to think quickly in English during communication. Discussion-based tasks provided students with valuable opportunities to express their thoughts, share personal opinions, and listen to different viewpoints in a structured and meaningful way. These activities encouraged learners to think critically about various topics, organize their ideas before speaking, and respond appropriately to their classmates' contributions. As a result, students improved their ability to build coherent arguments, use a wider range of vocabulary, and maintain conversations for a

longer period. Moreover, discussion-based interaction helped create a supportive classroom atmosphere where learners felt more comfortable participating, which further contributed to the development of their speaking confidence and overall communicative competence. The findings confirm that both role-play and discussion-based activities are effective in enhancing students' speaking performance. These methods not only improve fluency and accuracy but also increase motivation and participation in the classroom. Therefore, it is suggested that such interactive approaches should be consistently applied in English language teaching to achieve better learning outcomes.

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BADIIY ASARLARDA O'SMIRLAR PSIXOLOGIYASI : BOLALAR ADABIYOTI MISOLIDA

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Annotatsiya: *Ushbu tezisda bolalar adabiyotida o'smir obrazini psixologik talqin qilish muammosi tahlil qilinadi. Tadqiqotning maqsadi badiiy matnda o'smirlik davriga xos identiklik izlanishi, emotsional beqarorlik va ijtimoiy moslashuv jarayonlarining ifoda vositalarini aniqlashdir. Metodologiya sifatida psixopoetik tahlil, narratologik yondashuv va komparativ o'qish usullari qo'llanadi. Ilmiy yangilik o'smir psixikasining matn ichki tuzilmasi bilan bog'lanish mexanizmlarini tipologik asosda yoritishdan iborat.*

Abstract :*This thesis examines psychological representation of adolescents in children's literature through close reading of literary texts. The study aims to identify narrative and stylistic devices that convey identity formation, emotional instability, and social adaptation typical of adolescence. Methodologically, it combines psychopoetic analysis, narratology, and comparative interpretation. The novelty lies in proposing a typological model of how adolescent psychology correlates with textual structure, voice, and character-focused focalization.*

Kalit so'zlar: *o'smir psixologiyasi; bolalar adabiyoti; psixopoetika; narratologiya; identiklik; emotsional dinamika; badiiy konflikt*

Keywords: *adolescent psychology; children's literature; psychopoetics; narratology; identity formation; emotional regulation; literary conflict*

KIRISH

Badiiy adabiyot, ayniqsa bolalar va o'smirlar uchun mo'ljallangan asarlar, o'quvchini voqea-hodisalarga ko'ndalang guvoh sifatida emas, balki ichki tajriba ishtirokchisi sifatida jalb etishi bilan ajralib turadi. O'smirlik davri esa shaxsiy "men"ni qayta qurish, qadriyatlar ierarxiyasini sinash, tanaga va ijtimoiy rolga doir sezgirlikning ortishi, tengdoshlar bahosiga qaramlikning kuchayishi

kabi jarayonlar bilan xarakterlanadi. Shuning uchun bolalar adabiyotida o‘smir psixologiyasini badiiy modellashtirish masalasi nafaqat tarbiyaviy-axloqiy maqsadlar doirasida, balki matnning ichki poetik tizimi, qahramon nutqi, muallif pozitsiyasi va o‘quvchi qabulining psixologik mexanizmlari nuqtayi nazaridan ham ilmiy ahamiyat kasb etadi. Mazkur tezisning asosiy g‘oyasi shundan iboratki, o‘smir psixikasiga xos beqarorlik va izlanish badiiy matnda alohida motivlar orqali emas, balki voqealar qurilishi, fokuslash (fokalizatsiya), ichki monolog, dialogik to‘qnashuv va tafsilotlar seleksiyasi orqali tizimli tarzda ifodalanadi.

O‘smir psixologiyasini badiiy asarda tahlil qilishda adabiyotshunoslik va psixologiya tutashgan maydon zarur metodologik tayanch bo‘lib xizmat qiladi. Psixopoetik yondashuv matnning estetik qurilmasi bilan qahramon ruhiy holati o‘rtasidagi o‘zaro bog‘liqlikni ochishga imkon beradi: obrazning kechinmalari shunchaki “tasvir” emas, balki kompozitsion harakatlantiruvchi kuch, konfliktni kuchaytiruvchi omil, ramziy tafsilotlarni tanlovchi mezon sifatida ishlaydi.[54] Shu bilan birga, rivojlanish psixologiyasi o‘smirlik davridagi kognitiv va affektiv o‘zgarishlarning tipik ko‘rinishlarini belgilab beradi; bunday bilim badiiy qahramonning impulsivligi yoki ikkilanishi qaysi nuqtada realistik psixologik mantiqqa mos kelishini tekshirishga yordam beradi[55]. Bu yerda muhim metodik shart shuki, badiiy matn klinik kuzatuv emas; demak, tahlil qahramon “diagnozi”ga emas, balki psixologik holatning estetik shakllanishi va o‘quvchi ongida qanday ma’no uyg‘otishiga qaratiladi. Shuning uchun narratologik yondashuv, xususan, hikoya qiluvchi instansiya, vaqt va xotira rejimlari, ichki nutqning tashkil topishi, ko‘rish nuqtasining almashishi kabi omillar psixologik talqin uchun hal qiluvchi ahamiyatga ega.[56]

Bolalar adabiyotida o‘smir obrazi ko‘pincha “o‘tish davri”ning chegaraviy tajribasini ifodalovchi badiiy model sifatida quriladi. Chegaraviylik

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[56] Genette G. Narrative Discourse: An Essay in Method. — Ithaca: Cornell University Press, 1980. — 285 p.

ikki yo‘nalishda namoyon bo‘ladi: birinchisi, bolalikdan kattalikka o‘tish bilan bog‘liq ijtimoiy kutishlar bosimi; ikkinchisi, shaxsning ichki me’yorlar tizimi hali barqarorlashmaganligi sababli qaror qabul qilishdagi ikkilanish. Badiiy matnda bu holat konfliktning oddiy “tashqi” ko‘rinishidan ko‘ra, qahramon idrokining parchalangan ritmi, bir epizoddan boshqasiga keskin o‘tishlar, tafsilotlarda ortiqcha sezgirlik, muhim bo‘lmagan narsalarga haddan tashqari e’tibor, ayrim joylarda esa muhim faktlarni inkor qilish orqali beriladi. O‘smir qahramon dunyoni ko‘pincha “adolat-adolatsizlik”, “qabul qilish-rad etish” kabi keskin oppozitsiyalar asosida baholaydi; bu esa badiiy nutqda qat’iy modal birliklar, keskin intonatsiya, o‘zini oqlash yoki o‘zini ayblashga moyil sintaktik konstruksiyalar bilan ifodalanadi. Bunday belgilarning poetik qiymati shundaki, ular qahramonni “tarbiyalash ob’ekti”ga aylantirib qo‘ymay, uning ichki tajribasini voqelik bilan teng maqomda ko‘rsatadi; natijada o‘quvchi o‘smir dunyoqarashining mantiqiy emas, lekin psixologik asoslanganligini his qiladi.

Tadqiqot nuqtayi nazaridan, o‘smir psixologiyasining badiiy ifodasida uchta markaziy komponent ajralib chiqadi. Birinchi komponent identiklik izlanishidir. Identiklik o‘smir adabiyotida ko‘pincha ism, laqab, rol, kiyinish, qiziqishlar, “men kimman” savoli bilan bog‘liq epizodlar orqali ochiladi, biroq uning chuqur mexanizmi narrativning o‘zida yotadi: qahramon o‘zini hikoya qilib berishga urinadi, o‘z tarixini qayta tuzadi, ayrim faktlarni kuchaytiradi yoki yashiradi, shunday qilib, “men”ning matndagi modeli hosil bo‘ladi. Bu jarayonlarda muallifning masofasi muhim: agar muallif izohi haddan tashqari ustun bo‘lsa, o‘smirning ichki ovozi susayadi va psixologik ishonchlilik kamayadi; aksincha, ichki fokalizatsiya kuchaygan sari o‘quvchi o‘smirning o‘zini anglashdagi nomukammallikni “kamchilik” emas, tabiiy bosqich sifatida qabul qiladi.[57] Ikkinchi komponent emotsional dinamika bo‘lib, u kayfiyatning tez almashishi, affektiv portlash, uyat, rashk, qo‘rquv, g‘urur kabi holatlarning bir-biriga tutashib ketishi bilan ko‘rinadi. Badiiy matnda emotsional dinamika ko‘pincha detallarning psixologik yuklanishi orqali beriladi: tovush, rang, hid,

[57] Genette G. Narrative Discourse: An Essay in Method. — Ithaca: Cornell University Press, 1980.

oddiy predmetlar qahramon kechinmasining “signal”iga aylanadi, epizodlar esa shu signallar bilan bir-biriga ulanadi. Uchinchi komponent ijtimoiy moslashuv va kommunikativ ziddiyatdir: oila, maktab, tengdoshlar guruhi o‘smir uchun baholash maydoniga aylanadi, bu esa dialoglarning keskinligi, sukutning kuchayishi, kinoya, himoya mexanizmlari, “o‘zim bilaman” pozitsiyasi orqali ochiladi. Mazkur uchlik bir-biridan ajralgan holda emas, balki bir-birini shartlantirgan holda ishlaydi: identiklik izlanishi emotsional beqarorlikni kuchaytiradi, emotsional beqarorlik ijtimoiy muloqotda xatolarga olib keladi, bu xatolar esa o‘z navbatida identiklikni qayta ko‘rib chiqishga majbur etadi.

Bolalar adabiyotidagi o‘smir obrazini tahlil qilishda badiiy konfliktning tabiati alohida e’tiborni talab qiladi. An’anaviy yondashuvlarda konflikt ko‘pincha “yaxshi-yomon” ssenariysi doirasida ko‘riladi, biroq o‘smir psixologiyasi aks etgan asarlarda konfliktning markazi ko‘proq ichki qarama-qarshiliklar bilan belgilanadi: qahramon bir vaqtning o‘zida mustaqillikka intiladi va himoyaga muhtoj bo‘ladi, e’tirof kutadi va e’tirofdan qo‘rqadi, o‘zini boshqalardan farqlashni xohlaydi va shu bilan birga guruhga tegishli bo‘lishni istaydi. Shuning uchun badiiy konfliktni psixologik talqin qilishda antagonistik personajlarning mavjudligi shart emas; ba’zan konflikt qahramonning o‘z nutqi, xotirasi, rejalari va real harakati o‘rtasidagi nomutanosiblikdan tug‘iladi. Bu o‘rinda kompozitsion vositalar, masalan, kechiktirilgan yechim, retrospektiv lavhalar, parallel epizodlar, ramziy takrorlar qahramon ruhiyatidagi qaytalanish va “tiqilib qolish” holatini estetik shaklda namoyon qiladi[58]. O‘zbek bolalar adabiyotshunosligida badiiy qahramonning ruhiy olamini ochish masalalari ko‘tarilgan bo‘lib, psixologizmning milliy poetik an’analar bilan uyg‘unligi ayniqsa muhim ekani ta’kidlanadi .[59] Shu jihatdan o‘smir obrazini o‘rganish milliy adabiy tafakkurda shaxs va jamiyat munosabatining nozik qatlamlarini ko‘rsatadi.

[58] Бахтин М. М. Вопросы литературы и эстетики. — Москва: Художественная литература, 1975.
[59] Yo‘ldoshev Q. Adabiy tahlil asoslari. Toshkent, O‘qituvchi, 2000. 240 b.

Metodologik jihatdan komparativ o‘qish o‘smir psixologiyasining universallik va madaniy xoslik chegaralarini belgilashga xizmat qiladi. Jahon adabiyotshunosligida bolalar adabiyotining o‘quvchi ongiga ta’siri, qahramon bilan identifikatsiya jarayoni, badiiy tajribaning tarbiyaviy emas, empatik imkoniyatlari keng tahlil qilingan.[60] Bu yondashuvlarni o‘zbek bolalar adabiyoti materialiga tatbiq etishda ehtiyotkorlik zarur: chunki ijtimoiy muloqot me’yorlari, oilaviy model, kattalar va bolalar o‘rtasidagi masofa turlicha. Shunga qaramay, o‘smirlikka xos psixologik mexanizmlar, xususan, tengdoshlar tomonidan qabul qilinish ehtiyoji, o‘z “men”ini sinash, ideallash va hafsalasi pir bo‘lish sikllari ko‘plab madaniyatlarda uchraydigan umumiy hodisalardir.[61] Badiiy asar ana shu umumiylikni milliy hayot tafsilotlari orqali konkretlashtiradi: makon (mahalla, maktab), nutq registrlari, muloqot etiketi, kinoya va muomala uslubi qahramon psixologiyasini “joylashtiradi”, ya’ni uni ijtimoiy haqiqat bilan bog‘laydi. Bu bog‘lanish tahlilida tilshunoslik omillari ham muhim: o‘smir nutqidagi so‘z tanlovi, dialogdagi pauza va takrorlar, baholovchi birliklarning ko‘pligi qahramonning ichki holatini bevosita yoritadi.[62] Demak, ixtisoslik doirasi nuqtayi nazaridan badiiy matndagi o‘smir psixologiyasi til birliklari va poetik struktura kesishgan joyda to‘liq ochiladi.

Tahlil natijalarini umumlashtirib, bolalar adabiyotida o‘smir psixologiyasini badiiy ifodalashning tipologik modelini taklif etish mumkin. Birinchi tip ichki fokalizatsiyaga tayangan psixologik model bo‘lib, bunda voqea qahramon idroki “filtri”dan o‘tadi va o‘quvchi o‘smirning dunyoni qurish usulini kuzatadi; bu model empatiyani kuchaytiradi, lekin muallif masofasini to‘g‘ri taqsimlashni talab qiladi. Ikkinchi tip dialogik-konfliktli model bo‘lib, bunda psixologiya asosan muloqotdagi to‘qnashuv, kinoya, sukut, inkor va kelishuvning qiyin kechishi orqali ko‘rinadi; bu model ijtimoiy moslashuv muammolarini aniqroq ochadi. Uchinchi tip ramziy-detal modeli bo‘lib, bunda

[60] Nikolajeva M. Children’s Literature Comes of Age: Toward a New Aesthetic. New York, Garland Publishing, 1996. 272 p.
[61] Erikson E. H. Identity: Youth and Crisis. — New York: W. W. Norton, 1968. — 336 p.
[62] Qo‘ng‘urov R., Begmatov E., Xudoyberganova D. O‘zbek tili stilistikasi. Toshkent, Fan, 2013. 352 b.

o‘smir kechinmasi predmet, makon, takroriy motivlar orqali kodlanadi; bunday kodlash psixologik holatni to‘g‘ridan-to‘g‘ri “aytish”dan ko‘ra, badiiy ta’sirni kuchaytiradi. Ushbu tiplar amalda aralash holda uchrashi mumkin, biroq ularni ajratish tahlilning aniqligini oshiradi va badiiy asarda psixologizmning qaysi mexanizm ustunligini ko‘rsatadi.

XULOSA

Xulosa qilib aytganda, bolalar adabiyotida o‘smir psixologiyasi badiiy matnning mavzuiy qatlami bilangina cheklanmaydi, balki narrativ qurilish, til vositalari, kompozitsion ritm va detal tanlovi orqali tizimli ravishda modellashtiriladi. Tadqiqot o‘smirlikka xos identiklik izlanishi, emotsional dinamika va ijtimoiy moslashuvning badiiy ifoda mexanizmlari o‘zaro bog‘langan holda ishlashini ko‘rsatdi hamda psixologizmni tipologik tahlil qilish imkonini beruvchi uch modelni asoslab berdi. Bu yondashuv bolalar adabiyotini faqat didaktik vosita sifatida emas, balki shaxsning ichki tajribasini madaniy-estetik shaklda ifodalovchi murakkab badiiy tizim sifatida o‘rganishga xizmat qiladi.

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ERON TASHQI SIYOSATINING O‘ZIGA XOS XUSUSIYATLARI VA UNDA SURIYA OMILI

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Anotatsiya. *Ushbu maqolada Eron Islom Respublikasining tashqi siyosatiga xos asosiy xususiyatlar hamda unda Suriya omilining o‘rni tahlil qilinadi. Tadqiqotda Eron tashqi siyosatining ideologik asoslari, jumladan, Islom inqilobi g‘oyalari, realpolitik tamoyillari va “qarshilik o‘qi” konsepsiyasi yoritiladi. Shuningdek, Eronning Iroq, Suriya, Livan va Yaman kabi davlatlardagi siyosiy va harbiy ta’siri ham ko‘rib chiqiladi. Maqolada yadroviy dastur bilan bog‘liq muammolar, Yadro kelishuvi (JCPOA) doirasidagi jarayonlar hamda AQSh va Isroil bilan munosabatlardagi keskinliklar tahlil etiladi. Eron xavfsizlik siyosatining diplomatik, harbiy va gibrid vositalarga asoslangani ham ochib beriladi. Mazkur maqola Eronning mintaqaviy geosiyosiy jarayonlardagi rolini tushunishga xizmat qiladi.*

Annotation. *This article analyzes the main distinctive features of the foreign policy of the Islamic Republic of Iran, with particular emphasis on the role of the Syrian factor. The study explores the ideological foundations of Iran’s foreign policy, including the ideas of the Islamic Revolution, principles of realpolitik, and the concept of the “Axis of Resistance.” It also examines Iran’s political and military influence in countries such as Iraq, Syria, Lebanon, and Yemen. The article discusses issues related to Iran’s nuclear program, the processes within the framework of the Joint Comprehensive Plan of Action (JCPOA), and tensions in relations with the United States and Israel. It further highlights that Iran’s security policy is based on a combination of diplomatic, military, and hybrid tools. The article contributes to a better understanding of Iran’s role in regional geopolitical processes.*

Kalit so’zlar: *Eron islom inqilobi, realpolitik, tashqi siyosat, “qarshilik o‘qi” Yadro kelishuvi (JCPOA).*

Keywords: *Islamic Revolution of Iran, realpolitik, foreign policy, “Axis of Resistance,” Nuclear Deal (JCPOA)*

KIRISH

Hech bir Yaqin Sharq davlati Erondek keng geografik hudud, strategik joylashuv, katta va nisbatan savodli aholi, qadimiy tarix hamda ulkan tabiiy resurslar uyg‘unligiga ega emas. Ushbu omillar Tehronda kim hokimiyatda bo‘lishidan qat’i nazar, mamlakatning mintaqaviy ustunlikka intilishini doimiy ravishda shakllantirib keladi[1.B-19]. Muhammad Rizo Pahlaviy davrida Eron tashqi siyosati ko‘proq dunyoviy va millatchilik ruhida olib borilib, mamlakatning xalqaro tizimdagi mavqeini mustahkamlash hamda G‘arb bilan yaqin hamkorlikni rivojlantirishga qaratilgan edi. Bu davrda Eron AQShning mintaqadagi muhim ittifoqchilaridan biri sifatida ko‘rilgan va uning tashqi siyosati global tizimga integratsiyalashuvga yo‘naltirilgan edi.

Biroq Eron islom inqilobidan so‘ng mamlakat tashqi siyosatida tub burilish yuz berdi. Yangi siyosiy tuzum Islom Respublikasi tashqi siyosatni antiimperialistik va islomiy-inqilobiy mafkura asosida qayta shakllantirdi. Ruhulloh Xomeyniy tomonidan ilgari surilgan g‘oyalarga ko‘ra, Eron nafaqat milliy manfaatlarini himoya qiluvchi davlat, balki butun musulmon dunyosida “zulmga qarshi kurashuvchi” markaz sifatida namoyon bo‘lishi kerak edi. Natijada, tashqi siyosat faqat realpolitik asosida emas, balki mafkuraviy maqsadlar bilan ham chambarchas bog‘lanib ketdi.[2. B-47]

Islom Respublikasi tashqi siyosatining asosiy yo‘nalishlaridan biri AQSh va uning mintaqadagi ittifoqchilariga qarshi qat’iy qarshilik ko‘rsatishdan iboratdir. Eron 1979-yilgi garov inqirozidan boshlab ikki davlat o‘rtasidagi munosabatlar keskin tus olib, o‘zaro ishonchsizlik va qarama-qarshilik asosida rivojlandi. Ushbu ziddiyat vaqt o‘tishi bilan an’anaviy diplomatik raqobatdan ko‘ra murakkabroq asimmetrik qarama-qarshilik shakliga kirdi. Eron to‘g‘ridan-to‘g‘ri harbiy to‘qnashuvdan qochgan holda, proksi kuchlar va gibrid strategiyalar orqali AQSh manfaatlariga qarshi chiqishni afzal ko‘rdi.

Shu bilan birga, Eron tashqi siyosatining muhim mafkuraviy komponentlaridan biri Isroil davlatiga nisbatan keskin salbiy munosabatdir. Inqilobdan so‘ng Isroilning legitimligi rad etilib, sionizm G‘arb

imperializmining ajralmas qismi sifatida talqin qilindi.[3. B-71] Bu qarashlar asosida Eron mintaqada Isroilga qarshi turuvchi kuchlarni qo‘llab-quvvatlash siyosatini olib bordi. Xususan, Hizbulloh kabi tashkilotlarga ko‘rsatilayotgan yordam Eronning mintaqaviy strategiyasida muhim o‘rin egallaydi. Bu orqali Eron bevosita harbiy to‘qnashuvsiz ham Isroilga bosim o‘tkazish imkoniyatiga ega bo‘lmoqda.

Eron tashqi siyosatining yana bir muhim jihati bu mintaqaviy ta’sirni kengaytirishda proksi kuchlardan samarali foydalanishidir. Ayniqsa, 2003-yilda Saddam Husayn rejimining ag‘darilishi ortidan yuzaga kelgan siyosiy bo‘shliq Eron uchun yangi imkoniyatlar yaratdi. Eron Iroqdagi shia siyosiy kuchlari va qurolli guruhlar bilan yaqin aloqalar o‘rnatib, ushbu davlatni o‘zining strategik ta’sir doirasiga kiritishga muvaffaq bo‘ldi. Bu esa Eron uchun nafaqat xavfsizlik zonasini kengaytirish, balki AQShga qarshi mintaqaviy bosimni kuchaytirish imkonini ham berdi.

Eron tashqi siyosatida Suriya alohida strategik ahamiyat kasb etadi. Suriyaning sobiq prezidenti Bashar al-Assadning 2024 yil oxirida hokimiyatdan chetlatilishi va Prezident Ahmad al-Sharaa boshchiligida yangi hukumatning shakllanishi Yaqin Sharq geosiyosatida tub burilish nuqtasini belgiladi. Bu voqea nafaqat Assadlar oilasining ellik yildan ortiq davom etgan hukmronligiga yakun yasadi, balki Eronning Suriyadagi roli va strategiyasini keskin qayta ko‘rib chiqishga majbur qildi.

Ko‘p yillar davomida Eron Assadning eng yaqin ittifoqchilaridan biri bo‘lib, milliardlab dollar mablag‘ sarfladi, harbiy maslahatchilar va ittifoqchi qurolli guruhlarni joylashtirdi hamda Suriyaning siyosiy va iqtisodiy tizimiga chuqur kirib bordi. Bashar al-Assad boshchiligidagi hukumat bilan ittifoq Eronning Yaqin Sharqdagi geosiyosiy strategiyasining markaziy elementlaridan biri hisoblanar edi. Suriya Eron uchun nafaqat muhim ittifoqchi, balki Livandagi Hizbulloh bilan aloqa o‘rnatish imkonini beruvchi geografik ko‘prik vazifasini ham bajaradi. Shu sababli, Suriya fuqarolar urushi boshlanishi Eron uchun jiddiy geosiyosiy sinovga aylandi.

Mazkur urush davomida Eron Assad rejimini qo‘llab-quvvatlash uchun katta miqdorda harbiy, moliyaviy va tashkiliy resurslarni safarbar etdi.[4. B-78-81] Eronning Inqilobiy gvardiyasi, shuningdek, unga yaqin bo‘lgan turli qurolli guruhlar Suriyada faol ishtirok etdi. Bu yordam nafaqat Assad hokimiyatini saqlab qolishda muhim rol o‘ynadi, balki Eronning mintaqadagi ta’sirini yanada mustahkamladi. Natijada “qarshilik o‘qi” deb ataluvchi geosiyosiy blok shakllandi. Ushbu blokka Suriya hukumati, Hizbulloh, Iroqdagi shia guruhlari va Yaman husiylari kiradi hamda ular o‘zaro muvofiqlashtirilgan tarzda faoliyat yuritadi. 2024-yilning dekabr oyida uzoq davom etgan Assad oilasing hukumronligi asosan sunniylardan iborat bo‘lgan „Hayat tahrir ash Shom’’ guruhi tomonidan ag’darildi. Muhammad al Jo’loniy esa Suriyadagi muvaqqat hukumat rahbariga aylandi. Ahmad ash Shara nomi bilan davlatni boshqarayotgan Jo‘loniy bugun shia Eroni bilan munosabatlarni juda ehtiyotkorlik bilan amalga oshirmoqda. Ayni vaqtda Eronning Suriyani amaldagi hokimyat bilan aloqalarni normallashtirishga urinishlari besamar qolmoqda. Eronning Suriyaning inqilobdan keyingi hukumati bilan istamay amalga oshirgan yaqinlashuvi sovuq strategik mantiqqa asoslangan edi: “Eron Suriyada hokimiyat kimning qo‘lida bo‘lishidan qat’i nazar, u bilan do‘stona munosabatlarni saqlashga majbur, chunki ular bu mamlakatni Isroil va AQShga qarshi kelajakdagi operatsiyalar uchun zarur deb bilishadi”. Boshqacha aytganda, hatto Suriya rahbariyati tubdan o‘zgargan bo‘lsa ham, Suriyaning geografiyasi va strategik ahamiyati Eron uchun o‘sha-o‘sha qolardi.[5. B-8]

Shuningdek, Eronning tashqi siyosatida yadroviy dastur ham muhim o‘rin tutadi. 2015-yilda imzolangan Yadro kelishuvi (JCPOA) Eron uchun xalqaro sanksiyalarni yumshatish imkonini yaratgan edi. Biroq 2018-yilda AQShning ushbu kelishuvdan chiqishi vaziyatni yana keskinlashtirdi. Natijada Eron yadroviy dasturini qayta faollashtirib, uni siyosiy bosim vositasi sifatida qo‘llay boshladi. Bu esa o‘z navbatida xalqaro maydonda Eron atrofidagi ziddiyatlarni yanada kuchaytirdi.

XULOSA

Eron Islom Respublikasining tashqi siyosati murakkab va ko‘p qatlamli xarakterga ega bo‘lib, unda mafkuraviy tamoyillar va pragmatik geosiyosiy manfaatlar o‘zaro chambarchas bog‘langan holda namoyon bo‘ladi. Mamlakat tashqi siyosatining asosiy yo‘nalishlari Islom inqilobi g‘oyalari, antiimperialistik yondashuv, shuningdek, mintaqaviy kuchlar muvozanatida o‘z ta’sir doirasini kengaytirishga qaratilgan realpolitik strategiyalar bilan belgilanadi. Shu jihatdan Eron tashqi siyosati nafaqat ideologik asosga, balki amaliy xavfsizlik va strategik manfaatlarga ham tayanadi.

Tadqiqot natijalari shuni ko‘rsatadiki, Eronning “qarshilik o‘qi” konsepsiyasi uning mintaqaviy siyosatining markaziy ustunlaridan biri bo‘lib, bu tizim orqali Tehron Iroq, Suriya, Livan va Yaman kabi davlatlarda o‘z ta’sirini proksi kuchlar vositasida mustahkamlab kelmoqda. Ayniqsa, Suriya omili Eron strategiyasida alohida o‘rin egallab, u nafaqat geografik bog‘lovchi hudud, balki Eronning Livandagi ittifoqchilari bilan uzluksiz aloqa tizimini ta’minlovchi muhim geosiyosiy ko‘prik sifatida xizmat qilgan. Shu bilan birga, Eron tashqi siyosati doimiy ravishda AQSh va Isroil bilan keskin raqobat sharoitida shakllanib kelmoqda. Bu raqobat an’anaviy diplomatik darajadan chiqib, asimmetrik qarama-qarshilik va gibrid strategiyalar ko‘rinishiga ega bo‘lgan. Yadroviy dastur va JCPOA atrofidagi jarayonlar esa Eronning xalqaro tizimdagi pozitsiyasini yanada murakkablashtirib, uni bir tomondan bosim ostida bo‘lgan, ikkinchi tomondan esa muzokara salohiyatiga ega davlat sifatida namoyon etmoqda.

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FARZAND TARBIYASIDA OTA-ONANING O'RNI

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***Annotatsiya**: Ushbu maqolada farzand tarbiyasida ota-onaning tutgan o'rni va mas'uliyati ilmiy-pedagogik nuqtai nazardan tadqiq etilgan. Oila - jamiyatning asosiy qismi sifatida bola shaxsini shakllantirishdagi birlamchi muhit ekanligi tahlil qilingan. Ota-ona ta'sirining psixologik, axloqiy va ijtimoiy jihatlari o'rganilgan. Zamonaviy oilalarda yuzaga kelayotgan tarbiyaviy muammolar va ularning yechim yo'llari ko'rsatilgan. Tadqiqot natijalari asosida ota-onalarga amaliy tavsiyalar ishlab chiqilgan.*

***Kalit so'zlar:** oila tarbiyasi, ota-ona mas'uliyati, bolaning shaxsiy rivojlanishi, axloqiy tarbiya, zamonaviy oila, pedagogik ta'sir, ijtimoiy muhit, psixologik omillar.*

***Аннотация**: В данной статье с научно-педагогической точки зрения исследована роль и ответственность родителей в воспитании ребёнка. Семья анализируется как первичная среда формирования личности ребёнка, являющаяся основной ячейкой общества. Изучены психологические, нравственные и социальные аспекты влияния родителей. Показаны воспитательные проблемы, возникающие в современных семьях, и пути их решения. На основании результатов исследования разработаны практические рекомендации для родителей.*

***Ключевые слова:** семейное воспитание, родительская ответственность, личностное развитие ребёнка, нравственное воспитание, современная семья, педагогическое воздействие, социальная среда, психологические факторы.*

***Annotation**: This article examines the role and responsibility of parents in child upbringing from a scientific and pedagogical perspective. The family is analyzed as the*

primary environment for shaping a child's personality, serving as the fundamental unit of society. The psychological, moral, and social aspects of parental influence are studied. Educational challenges arising in modern families and their solutions are discussed. Based on the research findings, practical recommendations for parents have been developed.

Keywords: *family upbringing, parental responsibility, child's personal development, moral education, modern family, pedagogical influence, social environment, psychological factors.*

KIRISH

Insoniyat tarixida har doim oila va unda bolaning tarbiyalanishi muhim o’rin egallagan. Bola dunyoga kelgan paytdan boshlab uning atrofidagi birinchi va eng muhim shaxslar ota-ona hisoblanadi. Ular farzandning jismoniy, ruhiy va ma'naviy rivojlanishiga to’g’ridan-to’g’ri ta'sir ko’rsatadi. O’zbekiston Respublikasida oilaviy qadriyatlarni mustahkamlash va yosh avlodni barkamol etib tarbiyalash davlat siyosatining ustuvor yo’nalishlaridan biri sifatida belgilangan [4].

Zamonaviy jamiyatda globallashuv, raqamli texnologiyalarning jadal rivojlanishi va ijtimoiy o’zgarishlar oilaviy tarbiyaga yangicha talablar qo’ymoqda. Ko’plab ota-onalar ish bilan band bo’lganligi, moliyaviy qiyinchiliklari yoki pedagogik bilimlarning etishmasligi sababli farzandlarining tarbiyasi uchun yetarlicha vaqt ajrata olmaydilar. Bu esa bolalarda ijtimoiy-psixologik muammolarning kelib chiqishiga zamin hozirlaydi.

Pedagogika va psixologiya fanlarida ota-onaning farzand tarbiyasidagi o’rni keng tadqiq etilgan bo’lsada, bu masala hamon dolzarb bo’lib qolmoqda. [3]Aynan shu masalani chuqurroq o’rganish va ota-onalarga amaliy ko’rsatmalar berish ushbu tadqiqotning asosiy maqsadini tashkil etadi.

ASOSIY QISM

Amalga oshirilayotgan ishlar

O’zbekistonda oilaviy tarbiyani mustahkamlash borasida qator muhim ishlar amalga oshirilmoqda:

Qonunchilik bazasi takomillashtirilmoqda. "Oila to'g'risida" gi qonun, bolalar huquqlari va ta'lim sohasidagi qator me'yoriy hujjatlar ota-onaning tarbiyaviy mas'uliyatini belgilab bergan. Oilaviy kodeksdagi tegishli moddalar ota-onalarning farzand oldidagi huquq va majburiyatlarini doimo tartibga soladi.

Oilani qo'llab-quvvatlash tizimlari yaratilmoqda. Mahallalar, yoshlar markazlari va xotin-qizlar qo'mitalari orqali ota-onalarga pedagogik ko'mak ko'rsatish yo'lga qo'yilmoqda. Oilaviy maslahat markazlari, psixolog xizmatlari va ijtimoiy yordamlar kengaytirilmoqda.

Ota-onalar maktabi tashkil etilmoqda. Maktabgacha ta'lim muassasalari va maktablarda ota-onalar uchun maxsus treninglar, seminarlar va ma'rifiy dasturlar amalga oshirilmoqda. Ota-onalarga farzand tarbiyasida zamonaviy usullar va psixologik bilimlar yetkazilmoqda.

Axborot-targ'ibot ishlari olib borilmoqda. Ommaviy axborot vositalari, ijtimoiy tarmoqlar va maktablar orqali oilaviy tarbiya mavzusida keng targ'ibot ishlari amalga oshirilmoqda. Kitoblar, risolalar va video materiallar tayyorlanib, aholiga tarqatilmoqda.

Muammo

Amaldagi amaliyotda bir qator jiddiy muammolar mavjud:

Vaqt tanqisligi va e'tiborsizlik. Ko'plab ota-onalar ish va moddiy ta'minot bilan band bo'lib, farzandlari bilan yetarli vaqt o'tkaza olmaydilar. Ota-ona va bola o'rtasidagi muloqot kamayib, hissiy aloqa susayadi. Bu bolalarda yolg'izlik hissi, xavotir va xatti-harakatlar muammolarini keltirib chiqaradi.

Pedagogik bilimlarning yetishmasligi. Ko'pchilik ota-onalar o'z farzandlarini qanday tarbiyalash kerakligini bilmaydilar. Ular o'zlari o'sgan usullarni - ko'pincha qattiq jazolash yoki haddan tashqari erkinlik berishni davom ettiradilar. Bunday yondashuvlar bolaning psixologik rivojlanishiga salbiy ta'sir qiladi.

Raqamli texnologiyalarning salbiy ta'siri. Gadjetlar va internet tarmoqlari bolaning vaqtini ko'p olayotganligi, ota-onalarning nazoratisiz turli zararli kontentlarga duch kelayotganligi jiddiy muammo bo'lib turibdi. Ijtimoiy

tarmoqlardagi noto’g’ri ta'sir bola dunyoqarashi va qadriyatlarini buzishga olib kelishi mumkin.

Ota-ona o’rtasidagi ziddiyat. Ba'zi oilalarda ota va ona tarbiya masalasida bir xil fikrda bo’lmaydi. Bu ikkilamchi talablar bolada chalg’ish va shaxsiy noaniqliklarga olib kelishi mumkin. Oiladagi mojarolar va ajralishlar bolaning ruhiy holatiga juda kuchli salbiy ta'sir ko’rsatadi.

Shaxsiy namuna va qadriyatlar ziddiyati. Ota-onalar bolalarga nisbatan ta’qiq qo’yib, o’zlari boshqacha yashaydilar. Bola so’zdan ko’ra amaliy namunadan ko’proq ta'sirlanganligi uchun bunday holat uning kelajakda shaxs sifatida shakllanishiga katta zarar yetkazadi.

Yechim

Yuqorida sanab o’tilgan muammolarni hal etish uchun quyidagi kompleks yondashuv taklif etiladi:

1. Mehr-muhabbat va qat'iyatlilik muvozanati. Psixologlar tomonidan eng maqbul deb topilgan "demokratik" tarbiya uslubi mehr-muhabbat ko’rsatish bilan birga aniq chegaralar o’rnatishni talab etadi. Bola sevimli ekanini his etishi, shu bilan birga nima to’g’ri, nima noto’g’ri ekanini bilishi zarur [1]. Ota-ona farzandining har bir yutuqini maqtab, qo’llab-quvvatlab, kamchiliklarini esa mehribonlik bilan tuzatib borishi lozim.

2. Faol muloqot va tinglovchilik. Ota-ona va bola o’rtasidagi ochiq, samimiy muloqot tarbiyaning asosiy vositasi hisoblanadi. Bolaning tashvishi, quvonchi va savollarini diqqat bilan tinglashi, ularga hurmat bilan munosabatda bo’lish bolada ishonch va xavfsizlik hissini tug’diradi [2]. Kundalik suhbatlar, birgalikda kechki ovqatlanish va oilaviy faoliyat ana shu muloqotning muhim shakllaridir:

– Har kuni farzand bilan kamida 20-30 daqiqa sifatli vaqt o’tkazish;

– Bolaning his-tuyg’ularini inkor etmay, ularga nom berish va tushunishga ko’maklashish;

– Oilaviy marosimlarga barcha oila a'zolarning qatnashishini ta'minlash;

– Diniy va milliy bayramlarni birgalikda nishonlash orqali qadriyatlarni singdirish

3. Shaxsiy namuna orqali tarbiya. Bola ota-onasini kuzatib, ularning xatti-harakatlariga taqlid qiladi. Shuning uchun ota-onaning o’zi halollik, mehnatsevarlik, odamgarchilik va ma'naviy qadriyatlarga amal qilishi eng kuchli tarbiya vositasi hisoblanadi. Ota-ona o’qishga, bilim olishga, ijodiy faoliyatga qiziqish ko’rsatsa, bolada ham bu sifatlar tabiiy ravishda shakllanadi.

4.Raqamli muhitda ongli tarbiya.

Bugungi kunda gadjetlar va internetdan foydalanishda aniq qoidalarni belgilash muhim hisoblanadi. Bolaning yoshiga mos va foydali kontentni tanlash, ekran oldida o‘tkaziladigan vaqtni me’yorlash zarur. Ota-onalar farzandlari bilan birga texnologiyalardan oqilona foydalanishni yo‘lga qo‘yishlari, ijtimoiy tarmoqlardagi faoliyatini nazorat qilib borishlari lozim. Shu bilan birga, internetdagi zararli axborotlardan himoya qilish, bolaning bo‘sh vaqtini foydali mashg‘ulotlar bilan to‘ldirish ham muhimdir. Ota-onalar o‘zlari ham to‘g‘ri namuna ko‘rsatib, farzandlarida mas’uliyatli va ongli foydalanish ko‘nikmalarini shakllantirishlari kerak.

5. Maktab va mahalla bilan hamkorlik.

Farzand tarbiyasi faqat oilada emas, balki maktab, mahalla va jamiyat bilan uzviy hamkorlik asosida olib borilishi zarur. Ota-onalar farzandining maktabdagi hayotiga befarq bo‘lmasdan, uning o‘qishi, xulqi va qiziqishlari bilan muntazam qiziqib borishlari kerak. O‘qituvchilar bilan doimiy muloqotda bo‘lish, ota-onalar yig‘ilishlarida faol qatnashish muhimdir. Shuningdek, mahalla tomonidan tashkil etiladigan tadbirlar, ma’naviy-ma’rifiy uchrashuvlarda ishtirok etish orqali bola ijtimoiy muhitga moslashadi. Bunday hamkorlik farzandning har tomonlama rivojlanishi va ijtimoiylashuviga ijobiy ta’sir ko‘rsatadi.

XULOSA

Farzand tarbiyasida ota-onaning o’rni beqiyos va almashtrib bo’lmasdir. Oila - bolaning dunyoga nazar tashlashini, qadriyatlarni o’rganishini va o’zligini

anglashini ta'minlaydigan birinchi maktab. Tadqiqot natijalari shuni ko’rsatadiki, bola tarbiyasida muvaffaqiyatga erishish uchun quyidagi asosiy omillar muhim ahamiyat kasb etadi:

– Ota-onaning bolaga bo’lgan so’zsiz muhabbati va e'tiborining doimiyligi bola xavfsizlik hissini shakllantiradi va uning ruhiy salomatligini ta'minlaydi.

– Tarbiyaviy yondashuv izchil, muvozanatli va bola yoshiga mos bo’lishi zarur.

– Ota-onaning o’z ustida ishlashi, pedagogik bilimlarni oshirishi va zamonaviy muammolarga moslashishi - barkamol avlodni tarbiyalashning kaliti.

– Oila, maktab va jamiyat o’rtasidagi uyg’un hamkorlik bolaning har tomonlama kamol topishini ta'minlaydi [5].

Ushbu tadqiqot natijalarini amaliyotga tatbiq etish davomida ota-onalarning farzandlar bilan munosabati sifati oshadi, oiladagi psixologik muhit yaxshilanadi va bolalarda ijobiy shaxsiy fazilatlar shakllana boshlaydi. Kelajakda ota-onalarni o’qitish dasturlari, raqamli tarbiya vositalari va ijtimoiy yordam mexanizmlarini takomillashtirish orqali bu yo’nalishda yanada yuqori natijalarga erishish mumkin.

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5. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. – Cambridge: Harvard University Press, 1979. – 330 p.

UCHQUN NAZAROVNING “CHAYON YILI” ROMANIDA PSIXOLOGIK TASVIRNING O’RNI

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Annotatsiya. *Ushbu maqola “Chayon yili” romanida psixologik tasvirning badiiy tizimdagi o‘rni va funksional yukini tahlil qiladi. Tadqiqotning maqsadi asarda qahramon ichki dunyosini ifodalovchi psixologik vositalar, ularning syujet-kompozitsiya bilan aloqasi hamda o‘quvchi idroki va estetik ta’sir mexanizmlarini aniqlashdir. Metodologiya sifatida yaqin o‘qish, narratologik tahlil, psixopoetika va obrazlar semantikasi yondashuvlari qo‘llanadi. Material bazasi roman matni va mavzuga oid nazariy manbalardan iborat. Ilmiy yangilik shundaki, romandagi ichki monolog, erkin bilvosita nutq, psixologik detal va vaqt-ong korrelyatsiyasi bir butun psixologik kompozitsiya sifatida izchil tizimlashtirilib, ularning konflikt dinamikasini boshqarishdagi roli ko‘rsatiladi. Natijalar psixologik tasvir qahramon axloqiy tanlovi, ijtimoiy bosim va shaxsiy mas’uliyat muammosini badiiy idrokda kuchaytirishini asoslaydi.*

Аннотация. *В статье анализируется роль психологического изображения в художественной системе романа «Чайон йили» и его функциональная нагрузка. Цель исследования заключается в выявлении средств психологизации повествования, способов репрезентации внутреннего мира героя, их связи с сюжетно-композиционной организацией и механизмов эстетического воздействия на читателя. Методологическую основу составляют близкое чтение, нарратологический анализ, психопоэтика и семантический анализ образов; материалом служит текст романа и релевантные теоретические источники. Научная новизна состоит в системном описании внутреннего монолога, свободно-косвенной речи, психологической детали и корреляции времени с сознанием как единого комплекса, управляющего динамикой конфликта. Показано, что психологическое изображение усиливает проблематику нравственного выбора, давления среды и личной ответственности, формируя напряжение между внешним действием и внутренним самоосмыслением.*

Abstract. *This article examines the role of psychological depiction in the artistic system of the novel "Chayon yili" and its functional significance. The study aims to identify the key techniques used to represent the protagonist's inner world, explain how these techniques interact with plot and composition, and clarify the mechanisms through which psychological narration shapes readers' aesthetic perception. The methodology combines close reading, narratological analysis, psychopoetics, and semantic interpretation of imagery; the research corpus includes the novel's text supported by relevant theoretical scholarship. The novelty of the study lies in systematizing inner monologue, free indirect discourse, psychological detail, and the time-consciousness correlation as an integrated psychological composition that governs conflict dynamics. The findings demonstrate that psychological depiction intensifies the themes of moral choice, social pressure, and personal responsibility by establishing a persistent tension between external events and internal self-reflection.*

Kalit so'zlar*. psixologik tasvir, psixopoetika, ichki monolog, erkin bilvosita nutq, psixologik detal, narratologiya, badiiy konflikt*

Ключевые слова. *психологическое изображение, психопоэтика, внутренний монолог, свободно-косвенная речь, психологическая деталь, нарратология, художественный конфликт.*

Keywords. *psychological depiction, psychopoetics, inner monologue, free indirect discourse, psychological detail, narratology, literary conflict.*

KIRISH

O'zbek nasrida psixologik tasvirning taraqqiyoti badiiy tafakkurning ichki dinamizmi, shaxs va muhit munosabatlarining murakkablashuvi hamda ijtimoiy tajriba qatlamlarining estetik shakllanishi bilan uzviy bog'liq. Zamonaviy roman poetikasida psixologik tasvir nafaqat qahramon ruhiy holatini "tasvirlash", balki voqelikni idrok etish usulini, tanlovlar motivatsiyasini, axloqiy mezonlar tizimini ham badiiy tarzda qurish vazifasini bajaradi. Shu ma'noda "Chayon yili" romanini psixologik tahlil qilish asarning faqat syujetiy voqealarini emas, balki ong oqimi, ichki tortinish, ishonch va shubha, ijtimoiy bosim va shaxsiy mas'uliyat o'rtasidagi taranglikni aniqlash uchun ham zarur. Adabiyotshunoslikda psixologizmni talqin qilishga doir yondashuvlar turlicha: bir tomonda psixologik tasvirni realizmning "ichki ishonchlilik" mezoni sifatida

ko‘ruvchi konsepsiyalar, ikkinchi tomonda esa narrativ strategiyalar, nutq shakllari va fokalizatsiya orqali ongning matndagi modellashtirilishini markazga qo‘yuvchi qarashlar ustuvor[63]. O‘zbek adabiyotshunosligida ham roman poetikasida qahramon ichki dunyosini berish vositalari, detal semantikasi hamda konfliktning psixologik motivatsiyasi masalalari izchil yoritilgan bo‘lsa-da, ayrim asarlar doirasida psixologik tasvirning kompozitsion “boshqaruv mexanizmi” sifatidagi roli yetarli darajada tizimlashtirilmagan.[64] Shuningdek, xalqaro nazariy tafakkurda psixopoetika va narratologiya kesishgan nuqtalarda ichki monolog, erkin bilvosita nutq, vaqt tajribasi va xotira strukturalarining badiiy funksiyalari keng tahlil qilinadi, bu esa “Chayon yili” matnini ham shu metodologik koordinatalarda ko‘rishga undaydi.[65]

Mazkur tadqiqotning maqsadi “Chayon yili” romanida psixologik tasvirning asosiy shakllari va ularning badiiy tizimdagi vazifalarini aniqlashdan iborat. Vazifalar quyidagicha: birinchidan, qahramon ongining matndagi ifoda usullarini (ichki monolog, erkin bilvosita nutq, psixologik portret va detal) ajratish va tavsiflash; ikkinchidan, psixologik tasvirning syujet ritmi va kompozitsion tugunlar bilan aloqasini ko‘rsatish; uchinchidan, psixologik tasvirning konflikt dinamikasini kuchaytirish, obrazlararo masofani belgilash hamda o‘quvchi empatiyasini yo‘naltirishdagi rolini asoslash. Ilmiy yangilik shundaki, romandagi psixologik vositalar alohida epizodiy usullar sifatida emas, balki yagona psixologik kompozitsiya, ya’ni voqea-hodisa va ichki idrok o‘rtasidagi muntazam almashuvni tashkil qiluvchi tizim sifatida tahlil etiladi. Amaliy ahamiyat maqola natijalaridan roman poetikasi, matn tahlili va adabiy talqin kurslarida, shuningdek, badiiy psixologizmni o‘rgatish metodikasida foydalanish imkoniyati bilan belgilanadi.

ASOSIY QISM

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[64] Qo‘shjonov M. O‘zbek romani poetikasi. Toshkent, Fan, 2010.280b.

[65] Genette G. Narrative Discourse: An Essay in Method. Ithaca, Cornell University Press, 1980. 285 p.

Tadqiqot materiali sifatida “Chayon yili” romanining matni asosiy korpusni tashkil etdi, qo‘shimcha manbalar sifatida psixologizm va narrativ tahlilga doir nazariy ishlanmalar jalb qilindi. Metodlar majmuasi bir-birini to‘ldiruvchi to‘rt yo‘nalishda qurildi. Birinchi yo‘nalish yaqin o‘qish usuli bo‘lib, unda psixologik mazmunni tashuvchi kalit parchalarning leksik-semantik qatlamlari, sintaktik ritmi, takrorlar va pauzalar orqali hosil bo‘ladigan emotsional bosim aniqlanadi. Ikkinchi yo‘nalish narratologik tahlil bo‘lib, fokalizatsiya almashinuvi, hikoya qiluvchi pozitsiyasi, vaqt rejimi (retrospektsiya, hozirgi vaqtning cho‘zilishi, kutilma) hamda nutq shakllari (to‘g‘ridan-to‘g‘ri nutq, bilvosita nutq, erkin bilvosita nutq)ning psixologik effektlari baholanadi.[66] Uchinchi yo‘nalish psixopoetik yondashuv bo‘lib, unda obrazlarning ichki motivatsiyasi, affektiv holatlar dinamikasi, xotira va travmatik tajriba izlari badiiy shaklga qanday ko‘chirilishi tahlil qilinadi [5]. To‘rtinchi yo‘nalish semantik tahlil bo‘lib, psixologik detal, predmet va makon tasvirlarining ichki ma’no qatlamlari hamda ramziy intensivligi ochib beriladi. Metodologik tanlovning ilmiy asosliligi shundaki, psixologik tasvir ko‘pincha bevosita “ruhiy holat” nomlanishi bilan emas, balki nutq, detal, ritm va kompozitsion o‘tishlar orqali bilvosita shakllanadi; shu sababli ko‘p usulli tahlil romandagi psixologik qatlamni integral ko‘rishga imkon beradi [4]. “Chayon yili” romani qahromonlarining ichki olami juda turfa xil, aslo bir-birini takrorlamaydi. Oynisa, Qayumjon, Ma’sud, Muqaddas, personaj sifatida qatnashgan Shamsi xola obrazlarining ruhiyati asarda juda sokin, samimiylikka yog’rilgan qalb egalari sifatida keltiriladi. To’g’ri, Muqaddas yoshlik qilib, nomaqulchillika yo’l qo’yadi, lekin u ayol kishi, bu – uning ojizligi edi. Lekin, u boshqalarga hech qachon yomonlik istamaydigan ijobiy obrazdir. Murodxo’ja, Hoshimjon obrazlari orqali o’z manfati yo’lida hech narsadan tab tortmaydigan insonlar qiyofasi tasvirlangan.

NATIJALAR

[66] Rimmon-Kenan S. Narrative Fiction: Contemporary Poetics. London, Routledge, 2002. 192 p.

Roman matni psixologik tasvirning bir nechta barqaror mexanizmlariga tayanishini ko‘rsatadi. Birinchi mexanizm ichki monologning kompozitsion tugunlarda faollashuvidir: qahramon qaror oldidan yoki ortga qaytmas oqibatni his qilgan pallalarda ichki nutqning sintaktik tuzilishi cho‘ziladi, shartli va taxminiy konstruksiyalar ko‘payadi, natijada tashqi voqea “to‘xtagandek”, ong esa “tezlashgandek” taassurot paydo qiladi. Ikkinchi mexanizm erkin bilvosita nutq orqali muallifiy bayon bilan qahramon idroki chegarasining xiralashuvidir; bunda baholovchi so‘zlar, kinoya yoki iztirob ohangi ko‘pincha muallifga emas, balki qahramonning o‘zini oqlash yoki o‘zini ayblashga moyil ichki pozitsiyasiga bog‘lanadi. Shu yo‘l bilan roman qahramon ruhiyatini “tashqaridan” tasvirlamay, balki idrokning o‘z ichida yashirin baholash mexanizmini namoyon qiladi.

Uchinchi mexanizm psixologik detalning muntazam ishlatilishidir. Detal ko‘pincha portret unsuridan ko‘ra predmet, harakat yoki makon elementida jamlanadi: takrorlanadigan mayda ishoralar, oddiy ko‘rinadigan, biroq har safar turlicha kontekstda qayta uchraydigan predmetlar qahramonning beqaror ruhiy holatini “o‘lchov birligi”ga aylantiradi. Detalning semantik yuklanishi shundan iboratki, u emotsional holatni nomlamasdan, uni sezdiradi; qahramonning xavotiri, ichki qarshiligi yoki o‘ziga ishonchsizligi aynan shu predmetiy qatlamda “sokin” tarzda yig‘ilib boradi. To‘rtinchi mexanizm vaqt va ong korrelyatsiyasidir: roman ayrim bo‘laklarda vaqtni siqadi, ayrim bo‘laklarda esa bir lahzani kengaytiradi, vaqtning bunday elastikligi qahramon xotirasining qaytishlari, pushaymon va taxminlar bilan to‘lib-toshgan ong holati bilan uyg‘unlashadi. Natijada syujetning tashqi ketma-ketligi bilan ruhiy tajribaning ichki ketma-ketligi bir-biridan farqlanib, psixologik taranglikni kuchaytiradi.

Beshinchi mexanizm dialogning psixologik “bo‘shliqlar” orqali qurilishidir. Roman dialoglarida aytilgan gapdan ko‘ra aytilmay qolgan ma’no ko‘proq ishlaydi: javobning kechikishi, mavzuning chetlab o‘tilishi, takroriy savollar yoki yarim gaplar qahramonlar o‘rtasidagi ishonchsizlik va himoyalanish strategiyasini ko‘rsatadi. Bu bo‘shliqlar qahramonlararo

munosabatni sotsiologik voqelik sifatida emas, balki psixologik masofa sifatida o‘lchashga xizmat qiladi. Oltinchi mexanizm konfliktning psixologik motivatsiyalanishidir: tashqi nizolar ichki ehtiyojlar, qadriyatlar to‘qnashuvi, o‘zini saqlash instinkti va axloqiy ideal o‘rtasidagi qarama-qarshilikdan oziqlanadi. Shu tarzda roman konfliktni faqat voqealar sathida emas, qahramonning o‘z-o‘zi bilan munosabatida ham barqaror ushlab turadi.

MUHOKAMA

Olingan natijalar psixologik tasvirning romandagi funksiyasi “ruhiy holatni bezash” emas, balki badiiy strukturani tashkil etish ekanini ko‘rsatadi. Bu holat narratologiyada psixologik fokalizatsiya va nutq shakllari orqali ongni modellashtirish haqidagi qarashlar bilan mos keladi: qahramon idroki matnning semantik markaziga aylanganda, syujetning ma’nosi ham aynan idrokdagi siljishlar orqali ochiladi.[67] Romanda erkin bilvosita nutqning faolligi muallifiy hukmni minimal darajaga tushirib, o‘quvchini qahramonning o‘zini oqlash va o‘zini tanqid qilish mexanizmlari orasida “ichkaridan” kuzatuvchi holatiga olib kiradi; bu esa psixopoetik konsepsiyalarda ta’kidlanadigan affektiv tajriba va til o‘rtasidagi uzviy bog‘liqlikni kuchaytiradi.[68] Psixologik detalning predmetiy qatlamda jamlanishi esa realizm va modern proza tajribalarini bog‘lovchi ko‘prik sifatida talqin qilinishi mumkin: detal bir vaqtning o‘zida ham referensial (hayotiy), ham semantik (ramziy) vazifa bajarib, qahramon ruhiyatining “sukutdagi” izlarini saqlaydi.

Roman doirasida vaqtning elastikligi va xotira qaytishlari o‘quvchi idrokida konfliktni nafaqat natija, balki jarayon sifatida ko‘rishga imkon beradi. Bu yerda psixologik tasvir axloqiy tanlov muammosini soddalashtirmaydi; aksincha, tanlovning ichki narxi, kechiktirilgan qaror, o‘zini aldash va o‘zini anglash bosqichlari bosqichma-bosqich badiiylashtiriladi. Bunday yondashuv o‘zbek romaniga xos ijtimoiy-axloqiy muammolarni shaxs ichki dunyosida “qayta yozish” orqali umumiylashadi, natijada individual tajriba kengroq ma’no

[67] Rimmon-Kenan S. Narrative Fiction: Contemporary Poetics. London, Routledge, 2002. 192 p.
[68] Vygotsky L. S. Psychology of Art. Cambridge, MIT Press, 1971. 288 p.

ufqlarini ochadi. Amaliy jihatdan, mazkur tahlil “Chayon yili”ni o‘qitish va sharhlash jarayonida o‘quvchining diqqati voqea bayonidan ko‘ra narrativ texnika va psixologik belgilar tizimiga ko‘chirilsa, asar mazmuni chuqurroq idrok etilishini ko‘rsatadi.

Tadqiqot cheklovlari shundan iboratki, tahlil asosan matn ichki ko‘rsatkichlariga tayandi va qabul (resepsiya) masalasini empirik usullar bilan tekshirmadi; shuningdek, romanning turli nashr variantlari mavjud bo‘lsa, ularning tekstologik farqlari alohida korpusiy tekshiruvga tortilmadi. Kelgusida “Chayon yili” psixologizmini muallifning boshqa asarlari bilan qiyosiy tahlil qilish, shuningdek, o‘zbek romanida erkin bilvosita nutqning evolyutsiyasini korpus lingvistikasi elementlari bilan o‘rganish istiqbolli ko‘rinadi.[69]

XULOSA

Tadqiqot “Chayon yili” romanida psixologik tasvir badiiy tizimning markaziy tashkil etuvchi omillaridan biri ekanini ko‘rsatdi. Asarda ichki monolog va erkin bilvosita nutq qahramon idrokini narrativning semantik markaziga aylantirib, muallifiy bayon bilan qahramon ongini nozik tarzda yaqinlashtiradi. Psixologik detal va predmet-makon signallari ruhiy holatni bevosita nomlamasdan sezdirib, emotsional taranglikni izchil yig‘adi va konflikt dinamikasini boshqaradi. Vaqtning elastik qurilishi va xotira qaytishlari syujetni tashqi ketma-ketlikdan ko‘ra ichki tajriba ketma-ketligiga bog‘lab, axloqiy tanlov muammosini murakkab jarayon sifatida yoritadi. Natijada psixologik tasvir roman estetik ta’sirini kuchaytirib, qahramon mas’uliyati va muhit bosimi o‘rtasidagi ziddiyatni chuqur badiiy umumlashtirish darajasiga

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YANGI O'ZBEKISTON SHAROITIDA YOSHLAR MA'NAVIY-AXLOQIY QIYOFASINI TAKOMILLASHIRISHDA TA'LIM VA TARBIYA UZVIYLIGI

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Annotatsiya: *Mazkur maqolada Yangi O'zbekiston sharoitida yoshlarning ma'naviy-axloqiy qiyofasini shakllantirishda ta'lim va tarbiya jarayonlarining uzviyligini ta'minlashning dolzarb masalalari tadqiq etilgan. Ma'naviy tarbiya jarayoniga innovatsion yondashuvlarni tatbiq etish, raqamli texnologiyalardan unumli foydalanish va pedagogik integratsiya usullari ilmiy asoslangan. Maqolada xorijiy va mahalliy olimlarning qarashlari qiyosiy tahlil qilinib, yoshlar tarbiyasida tizimli yondashuvning ahamiyati ochib berilgan.*

Kalit so'zlar: *Yangi O'zbekiston, ma'naviy-axloqiy tarbiya, ta'lim-tarbiya uzviyligi, innovatsion ta'lim, pedagogik texnologiyalar, globallashuv, intellektual salohiyat, tizimli yondashuv.*

Аннотация: *В данной статье исследуются актуальные вопросы обеспечения непрерывности процессов образования и воспитания в формировании духовно-нравственного облика молодежи в условиях Нового Узбекистана. Научно обоснованы инновационные подходы к процессу духовно-нравственного воспитания, эффективное использование цифровых технологий и методы педагогической интеграции. В статье проводится сравнительный анализ взглядов зарубежных и отечественных ученых, раскрывается значение системного подхода в воспитании молодежи.*

Ключевые слова: *Новый Узбекистан, духовно-нравственное воспитание, непрерывность образования и воспитания, инновационное образование, педагогические технологии, глобализация, интеллектуальный потенциал, системный подход.*

Abstract: *This article examines the pressing issues of ensuring the continuity of education and upbringing processes in shaping the spiritual and moral character of youth in the conditions of New Uzbekistan. Innovative approaches to the process of moral education, the effective use of digital technologies, and methods of pedagogical integration are*

scientifically substantiated. The article provides a comparative analysis of the views of foreign and local scholars, revealing the significance of a systematic approach to youth upbringing.

Keywords: *New Uzbekistan, spiritual and moral upbringing, continuity of education and upbringing, innovative education, pedagogical technologies, globalization, intellectual potential, systematic approach.*

KIRISH

Bugungi kunda O’zbekistonda amalga oshirilayotgan keng ko’lamli islohotlarning markazida inson kapitalini rivojlantirish va komil insonni voyaga yetkazish masalasi turibdi. Prezidentimiz Shavkat Mirziyoev ta’kidlaganidek, “Agar biz ta’limni o’zgartirmasak, ta’lim insonni o’zgartirmasa, biz ko’zlagan strategik maqsadlarimizga erisha olmaymiz” [1]. Yangi O’zbekistonning strategik maqsadi Uchinchi Renessans poydevorini yaratish ekan, bu jarayonda yoshlarning nafaqat intellektual, balki yuksak ma’naviy-axloqiy qiyofaga ega bo’lishi hal qiluvchi ahamiyat kasb etadi. “Yangi O‘zbekiston taraqqiyot strategiyasi”da yillar davomida amal qilib kelgan “**davlat – jamiyat – inson**” tamoyili **“inson – jamiyat – davlat**” tamoyiliga o‘zgartirilmoqda. Yanada sodda qilib aytganda, O‘zbekistonda har bir fuqaroning qadrini yuksaltirish va farovonligini oshirish zarurligiga urg‘u berilmoqda. Buni hozirgi hayotimizning har bir jabhasida ko’rishimiz mumkin. Masalan, ta’lim gumanistik pedagogika va ijtimoiy rekonstruksionizm nazariyalariga hamohangdir. Ya’ni, ta’lim faqat bilim berish emas, balki shaxsning xatti-harakatini va dunyoqarashini o‘zgartiruvchi vositadir. Bundan tushunish mumkin-ki, strategik maqsadlarga (iqtisodiy o‘sish, texnologik taraqqiyot) faqat “eskicha fikrlaydigan” kadrlar bilan erishib bo‘lmaydi. Ta’lim insonni “ijtimoiy mas’uliyatli subyekt”ga aylantirishi lozim.

Uchinchi Renessans poydevori faqat raqamli texnologiyalar bilan emas, balki “Ma’naviy-axloqiy immunitet” bilan quriladi. Tarixiy tajriba (Birinchi va Ikkinchi Renessanslar) shuni ko‘rsatadiki, ilmiy yuksalish har doim kuchli falsafiy-axloqiy poydevorga tayangan.

Shuning uchun ham ma’naviy sohada ham tub burulishlar amalga oshmoqda. Bizning mavzuyimizga daxldor bo’lgan jabhalarda ham. Avvalo,

ma’naviy-axloqiy qiyofa nima degan savolga javob topaylik. Ma’naviy-axloqiy qiyofa — bu shaxsning ichki dunyosi, qadriyatlari, milliy va umuminsoniy an’analarga bo’lgan munosabati hamda ijtimoiy mas’uliyatining yaxlit ifodasidir. Globallashuv va axborot xurujlari kuchaygan davrda yoshlarni ma’naviy tahdidlardan himoya qilish, ularda mafkuraviy immunitetni shakllantirish ta’lim va tarbiyaning tizimli integratsiyasini talab etadi. Shunday ekan, bu soha har qachongidanda muhim va dolzarbdir.

Ta’lim va tarbiya uzviyligi masalasi qadimdan sharq mutafakkirlari va g’arb pedagoglarining diqqat markazida bo’lib kelgan. Abu Nasr Forobiy o’zining “Fozil odamlar shahri” asarida ta’lim va tarbiyani bir-biridan ajratib bo’lmasligini, ta’lim bilim berish bo’lsa, tarbiya shu bilim asosida axloqiy fazilatlarni shakllantirish ekanini uqtirgan. Forobiy ta’rifiga ko‘ra, ta’lim — xalqlar va shaharlarda nazariy fazilatlarni vujudga keltirishdir. Tarbiya esa xalqlarda amaliy fazilatlar va san’atlarni (hunarlarni) vujudga keltirish usulidir[2].

O’zbekistonlik olimlardan M. Quronov, Sh. Qurbonov, U. Mahkamovlar o’z tadqiqotlarida milliy tarbiyaning metodologik asoslarini ishlab chiqqanlar. Xususan, pedagogika fanlari doktori, professor M. Quronov ta’kidlashicha, “Tarbiya — bu shunchaki o’git emas, balki yoshlar qalbida milliy g’urur va mas’uliyatni uyg’otadigan tizimli innovatsion jarayon bo’lishi kerak” [3]. Haqiqatdan ham shunday bo’lishi kerakligini xorijlik bir qancha olimlarning fikrlarini ko’rib chiqish orqali isbotlashga harakat qilamiz.

Jumladan, zamonaviy tadqiqotchilardan A.N. Leontev va L.S. Vigotskiy shaxsning rivojlanishida ijtimoiy muhit va faoliyatning rolini yuqori baholaganlar[4]. G’arb olimlaridan J.Dyui ta’limni “hayotga tayyorgarlik emas, balki hayotning o’zi” deb hisoblab, tarbiyani ijtimoiy tajriba orqali shakllantirishni taklif qilgan. Bugungi innovatsion sharoitda ushbu klassik qarashlarni raqamli pedagogika bilan sintez qilish zarurati tug’ilmoqda.

Bugungi kunda ushbu olimlarning qarashlarini raqamli pedagogika bilan birlashtirish quyidagi jadvalda o‘z aksini topadi:

Olim / Nazariya	**Klassik tushuncha**	**Raqamli sintez (Innovatsiya)**
L. Vigotskiy	Ijtimoiy muloqot	Kollektiv onlayn ta'lim, Mentorlik platformalari
A. Leontyev	Ongli faoliyat	VR/AR simulyatsiyalari, dasturlash, raqamli ijod
J. Dyui	Tajriba orqali o'rganish	Muammoli ta'lim (PBL), real keyslar bilan ishlash

UNESCOning “Ta’lim: yashirin xazina” (Delors ma’ruzasi) hisobotida keltirilgan to‘rt ustun — bilishni o‘rganish, bajarishni o‘rganish, birga yashashni o‘rganish va bo‘lishni (o‘zligini anglashni) o‘rganish tamoyillari bugungi islohotlarning pedagogik asosi hisoblanadi.

Maqolani yozish jarayonida tizimli tahlil, qiyosiy-mantiqiy yondashuv, pedagogik kuzatuv va innovatsion modellashtirish metodlaridan foydalanildi. Yangi O’zbekistonning Taraqqiyot strategiyasida belgilangan ustuvor vazifalar maqolaning metodologik asosini tashkil etdi.

Yangi O’zbekistonda ta’lim-tarbiya uzviyligini innovatsion ta’minlash bir nechta muhim yo’nalishlarni o’z ichiga oladi:

1. Tarbiya jarayonini raqamlashtirish va "Smart-tarbiya" texnologiyasi:

Hozirgi yoshlar — “alfa” avlodi vakillaridir. Ular uchun an’anaviy ma’ruza shaklidagi o’gitlar samarasiz bo’lib qolmoqda. Innovatsion yondashuv tarbiya jarayoniga VR (virtual borliq) va AR (to’ldirilgan borliq) texnologiyalarini olib kirishni taqozo etadi. Masalan, tarix darslarida talabalarni virtual ravishda Amir Temur davriga yoki Imom Buxoriy yashagan muhitga “sayohat qildirish” ularda milliy iftixor tuyg’usini kitobdagi matndan ko’ra kuchliroq shakllantiradi.

2. Geymifikatsiya (O’yinlashtirish) usuli

Ma’naviy-axloqiy tushunchalarni yoshlar ongiga singdirishda ta’limiy o’yinlardan foydalanish yuqori natija beradi. Bunda axloqiy dilemmalar va

muammoli vaziyatlar yechimiga asoslangan interaktiv loyihalar yoshlarda mustaqil qaror qabul qilish va mas’uliyatni his etish ko’nikmasini rivojlantiradi.

3. “Ustoz-shogird” an’anasining innovatsion transformatsiyasi

Klassik “ustoz-shogird” tizimi bugungi kunda kouching va mentorlik shakllari bilan boyitilmoqda. Endilikda ustoz faqat bilim beruvchi emas, balki talabaning shaxsiy rivojlanishini yo’naltiruvchi strategik maslahatchiga aylanmoqda. Bu esa ta’lim muassasasidagi muhitni “avtoritar”likdan “hamkorlik”ka o’zgartiradi.

Ta’lim-tarbiya uzviyligini ta’minlashda quyidagi vositalar kompleksidan foydalanish maqsadga muvofiq:

- Integrativ o’quv dasturlari: Har bir fanning (xoh matematika, xoh fizika bo’lsin) ichiga ma’naviy va axloqiy komponentlarni singdirish. Masalan, aniq fanlarni o’qitishda buyuk ajdodlarimizning ilmiy merosi orqali vatanparvarlikni targ’ib qilish.
- Ijtimoiy loyihalar: Talaba yoshlarning "Kelajak liderlari", "Volontyorlik harakati" kabi ijtimoiy faol loyihalarda ishtiroki ulardagi axloqiy qiyofani amaliyotda toblaydi.
- Media-savodxonlik: Yoshlarni axborot xurujlaridan himoya qilish uchun ularga "axborot filьtri"ni yaratish vositalarini o’rgatish.

Ilmiy munozara va tahlil

Ko’pchilik tadqiqotchilarning fikricha, ta’lim va tarbiyani alohida bo’g’in sifatida ko’rish pedagogik xatolikdir. Masalan, nemis pedagogi I.Gerbart ta’limsiz tarbiya, tarbiyasiz ta’lim bo’lmasligini qattiq turib ta’kidlagan. Biroq, bugungi kunning o’ziga xos jihati shundaki, tarbiya jarayoni endilikda faqat maktab yoki oila bilan chegaralanib qolmayapti. Global internet tarmog’i “parallel tarbiyachi” rolini o’tamoqda.

Shu bois, biz taklif etayotgan "Tizimli innovatsion ta’minlash" modeli quyidagi uchlikni nazarda tutadi:

Oila + Ta’lim muassasasi + Raqamli muhit. Agar ushbu zanjirning biror bo’g’inida uzilish bo’lsa, yoshlarning ma’naviy qiyofasida deformatsiya kuzatiladi.

Akademik S. G’ulomov ta’kidlaganidek, "Raqamli iqtisodiyot davrida bizga nafaqat kod yozishni biladigan dasturchi, balki milliy qadriyatlarni chuqur anglaydigan, vijdon amri bilan ishlaydigan mutaxassis kerak"[5]. Raqamli iqtisodiyot faqatgina texnologiyalar, algoritmlar va “katta ma'lumotlar” (Big Data) yig‘indisi emas. Akademik G‘ulomov bu yerda “texnokratik yondashuv” (faqat texnika va samaradorlikka e'tibor berish) bilan “gumanistik yondashuv” (insoniy qadriyatlarni ustun qo‘yish) o‘rtasidagi muvozanatga urg‘u bermoqda. Bu fikr ta’lim va tarbiya uzviyligining strategik ahamiyatini to’laqonli ifodalaydi.

Olib borilgan tahlillar shuni ko’rsatadiki, ta’lim va tarbiya uzviyligini innovatsion ta’minlash natijasida:

1. Yoshlarning ijtimoiy faolligi va mas’uliyat hissi 30-40% ga ortadi.
2. Media-madaniyat shakllanishi natijasida yot g’oyalarga ergashish ko’rsatkichi pasayadi.
3. Ta’lim sifati va o’zlashtirish samaradorligi axloqiy muhit barqarorligi hisobiga yaxshilanadi.

Yangi O’zbekistonda yoshlar ma’naviy-axloqiy qiyofasini takomillashtirish – bu uzluksiz va dinamik jarayon. Ushbu jarayonni innovatsion ta’minlash uchun quyidagilarni amalga oshirish taklif etiladi:

- Birinchidan, oliy va o’rta maxsus ta’lim tizimida “Ma’naviyat va innovatsiya” markazlarini tashkil etish va ularni zamonaviy media-texnologiyalar bilan jihozlash.
- Ikkinchidan, pedagogik kadrlarni tayyorlashda ularning nafaqat mutaxassislik bilimi, balki psixologik-pedagogik va mentorlik ko’nikmalarini baholash tizimini joriy etish.

• Uchinchidan, milliy qadriyatlarimizni zamonaviy trendlar (infografikalar, qisqa metrajli motivatsion roliklar, podkastlar) shaklida yoshlar auditoriyasiga yetkazish tizimini yo’lga qo’yish.

XULOSA

Xulosa qilib aytganda, ta’lim va tarbiyaning innovatsion uzviyligi Yangi O’zbekistonning strategik taraqqiyotini ta’minlovchi asosiy drayverdir. Shaxs ma’naviyati va intellektual salohiyatining uyg’unligi mamlakatning xalqaro maydondagi raqobatbardoshligini belgilab beradi. Yuqoridagi fikrlar Yangi O‘zbekistonning ijtimoiy-falsafiy doktrinasini ifodalaydi. Undagi o‘zgarishlar shunchaki strukturaviy emas, balki qadriyatlarga asoslangan (value-based) transformatsiyadir. Bu jarayonda ta’lim – harakatlantiruvchi kuch, inson qadri esa – yakuniy maqsad sifatida namoyon bo‘ladi.

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O‘ZBEK ADABIYOTSHUNOSLIGIDA BIOGRAFIK METOD TARAQQIYOT TAMOYILLARI: NAIM KARIMOVNING OYBEK HAQIDAGI TADQIQOTLARI MISOLIDA

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Annotatsiya*:Mazkur maqolada o‘zbek adabiyotshunosligida biografik metodning taraqqiyot tamoyillari ilmiy-nazariy jihatdan tahlil qilindi. Xususan, tasniflash jarayonida Naim Karimovning Oybek hayoti va ijodiga bag‘ishlangan tadqiqotlari asosiy manba sifatida jalb etildi. Tadqiqotda muallif–matn–kontekst uchligi doirasida biografik yondashuvning funksional imkoniyatlari ochib berilib, Oybek ijodidagi biografik chizgilar konkret dalillar asosida ilmiy-amaliy jihatdan tahlil etildi. Shuningdek, Naim Karimov tomonidan biografik metod tamoyillariga tayangan holda adib ijodining qayta rekonstruksiya qilinishiasoslab berildi.*

Kalit so‘zlar: *biografik metod, taraqqiyot tamoyillari, tasnif, biografik chizgi, kontekst, rekonstruksiya, muallif–matn–kontekst munosabati, ilmiy tahlil*

Abstract*:This article examines the developmental principles of the biographical method in Uzbek literary studies from a theoretical and methodological perspective. In particular, the classification process is based on the analysis of Naim Karimov’s studies devoted to the life and works of Oybek. Within the framework of the author–text–context triad, the functional potential of the biographical approach is revealed, and the biographical elements in Oybek’s творчество are analyzed on the basis of concrete sources and evidence. Furthermore, the article substantiates how Naim Karimov reconstructs the writer’s creative legacy relying on the principles of the biographical method.*

Keywords*:biographical method, developmental principles, classification, biographical element, context, reconstruction, author–text–context relationship, literary*

KIRISH

Biografik metodni adabiyotshunoslik metodologiyasi doirasida “taraqqiyot tamoyillari” mezonida tadqiq etish, avvalo, metodning tarixiy

shakllanishini oddiy xronologik ketma-ketlikda qayd etish bilan kifoyalanmaydi. Aksincha, uning to’g’ri va maqbul usul sifatida tan olinishi, tayanch manbalari, matnni izohlashdagi kuchi va imkoniyati, nazorat mexanizmlarining (fikr yoki xulosaning to'g'riligini dalillar orqali tekshirish va tasdiqlash, manba tanqidi, mantiqiy moslik, etik cheklovlar) bosqichma-bosqich murakkablashib borishini nazariy qayta tiklab tushunishni talab qiladi. Biografik metod o‘z mohiyatiga ko‘ra adabiy jarayonni “shaxs–matn–kontekst” uchburchagi ichida o‘qish usuli bo‘lib, uning taraqqiyoti aynan shu uch nazariy yondashuv qay tarzda qayta taqsimlanishi bilan belgilanadi. Ayrim davrlarda shaxs determinanti kuchaysa, boshqa davrlarda matn mustaqilligi yoki tarixiy-madaniy tizimlarning ustuvorligi kuchayadi. Metodning “taraqqiyot tamoyillari” esa ana shu o'zgarib turuvchi jarayonlarni ilmiy me’yorlar asosida izohlash va boshqarish qoidalarini ishlab chiqish jarayonidan iboratdir. [1] Adabiyotshunos Naim Karimov o’z tadqiqotlarida bu tamoyillarga yetarlicha amal qilgan. Birgina, Oybek haqidagi tadqiqotlariga to’xtalsak, buyuk adibning o’zi yozgan “Bolalik xotiralarim”avtobiografik qissasi, rafiqasi Zarifa Saidnosirova tomonidan yaratilgan avtobiografik roman “Oybegim mening” kabi konkret manbalar mavjudligiga qaramasdan uning bolalik va undan keyingi umr yo'llarida hamfikr bo'lgan qadrdonlari Mirkarim Osim, Zulfiya, Mirtemir, Mamarasul Boboyev, Shuhrat, Turob To'la, Izzat Sulton, Saidvali Sharafiddinov, Homil Yoqubov, Vohid Zohidov, Inoyat Maxsumov, Xolida Sulaymonova kabi o’nlab ijodkorlar, adabiyotshunoslar va nashriyot vakillaridan Oybek to’g’risidagi ma’lumotlarni olib, o’z tadqiqotlarida foydalangan. Munaqqid tahlil jarayonini xotiralar, hujjatlar, davr ruhining ta’siri, ijodkorning shaxsiyati, moddiy va psixologik ahvoli kesishuvida talqin qilgan.

ASOSIYQISM

Oybekning 1935-yil iyulida Andijonga safar qilishi, qishloq xo’jaligini o’rganib, u yerda olgan taassurotlari asosida “Dehqon” lirik dostonini yaratishi ijodkor nomini yanada mashhur qiladi. Asarda boylarning qo’lida “qarol” yoki “chorakor” bo’lib ishlab, faqirlikda hayot kechirayotgan dehqonlarning sovetlar

zamonida kolxozga a'zo bo'lib kirib, ishi va turmushi ancha o'nglangani haqida so'z boradi. Bu o'rinlarda Oybek ijodida kontekst ta'siri ustuvorlik qilganligini ko'rishimiz mumkin.[2] Hassos adib "Qutlug' qon" asari haqida o'z tarjimayi holida quyidagicha o'rinlar bor: "Men tarjima bilan shug'ullanar ekanman o'z qahramonlarimda bo'lajak revolyutsion kurashchilarni, sovet jamiyatini quruvchilarni xalq ichidan chiqqan kishilarda ko'rdim".[3] Ushbu asarga siyosiy tazyiq asosida rus inqilobchisi Petrov obrazining kiritilishini Naim Karimov o'zining "Petrov jumbog'i" maqolasida shunday baholaydi: "Asarning yozuvchilar uyushmasida o'tkazilgan va bizgacha yetib kelgan ikkinchi muhokamasida Oybekka qo'yilgan eng katta va asosiy ayb- romanda o'zbek mehnatkashlari ijtimoiy ongining o'sishida "ulug' rus xalqining progressiv roli" ko'rsatilmagani edi".[4] Munaqqid siyosiy tuzum ta'sirida asarga olib kirilgan obrazni chiqarib tashlab, (yozuvchi hayotligidagi oxirgi nashr daxlsiz hisoblansada) asarni Oybek aslida yozgan variantni qayta tiklaydi. Bu jarayonni adabiyotshunos Suvon Meli "O'zbek adabiyotining patriarxi" maqolasida shunday izohlaydi: "Buyuk adibning ijodiy ong va ilg'amida Yo'lchi vatanparvar, milliy qahramon sifatida gavdalangan. Asarga Petrov kiritilishi bilan Yo'lchi obrazida og'ish sodir bo'ladi, endi u milliy, xalq qahramoni emas,go'yo rus inqilobchilari safiga o'tib, salkam bolshevik sifatida ko'rina boshlaydi".[5]

Davr haqiqatiga tik boqa olgan, asliyatni tiklash orqali yozuvchining asardan ko'zlagan asl maqsadini ro'yobga chiqargan adabiyotshunos Naim Karimov biografik metodning taraqqiyot tamoyillarini adabiyotshunoslik tarixida yangi bosqichga olib chiqdi. Busiz ham asar o'z qiymatiga ega edi. Ammo Naim Karimovdek yuksak vijdon sohiblari tarixiy haqiqatning orqa fonda qolib ketishiga ko'z yumib keta olmagan. Boshqa bir o'rinda esa ijodkorning shaxsi, (iqtisodiy qiyinchiliklar bilan o'tgan yillar va ularning natijasida orttirilgan og'ir xastalik bilan kurash), umidsizlik tuyg'ulari bilan qoplangan psixologik holati ustuvorlik qilgan. Munaqqid adib ijodini biografik metod asosida quyidagicha tahlil qiladi:

Ko’nglim yarali, ko’nglim yarali,
Bahorlar mendan uzoqqa qochdi.
Xastalik esa quchog’in ochdi,
Boyaqish ko’nglim qonli yosh sochdi,
Ko’nglim yarali, ko’nglim yarali.
Qorong’i kecha… Yolg’iz ingrayman,
Ko’ksimni bosmish hijronning g’ami.
Yotog’im – olov, jahannam kabi
Tegmaydi yellar go’zal ko’klardan,
Ko’nglim yarali, ko’nglim yarali

Oybekning ushbu she’ri 1929-yilning 13-14-may kunlarida qaynisinglisi Sharifaga yozilgan maktubi orqali, qolaversa, ushbu xotiralar batafsil yozilgan Zarifa Saidnosirovaning “Oybegim mening” avtobiografik qissasi orqali yetib kelgan bo’lib, Naim Karimov “Oybek va Zarifa” asarida Oybekning o’sha vaqtdagi holatini quyidagicha tasvirlaydi: “Vaholanki, Oybek... Vaholanki, Oybek nafas olish organlari yallig‘langanligi sababli, sovuq yotoqxonada tongga qadar mijja qoqmay chiqayotgan edi... Qon tupurib, og'ir xastalik bilan ana shunday yakka-ma yakka olishayotgan Oybek uchun birdan bir hayot va umid manbai Zarifa edi. Shuning uchun ham uning shu kezlarda yozgan maktublarida oshiq shoirning faryodi jaranglab turadi.”[6]

Avvalo, biografik metodning asosiy tamoyili — ijodkor shaxsiy hayoti va uning ijodiy mahsuli o‘rtasidagi uzviy bog‘liqlikni ochish — mazkur parchada aniq ko‘rinadi. Muallif Oybekning og‘ir kasallik holatini (“nafas olish organlari yallig‘langanligi”, “qon tupurib”) tasvirlash orqali uning ruhiy va jismoniy iztiroblarini konkret biografik faktlar asosida rekonstruksiya qiladi. Bu yerda hayotiy tafsilotlar shunchaki fon emas, balki adibning ichki kechinmalarini tushuntiruvchi determinativ omil sifatida talqin etiladi.

Ikkinchidan, munaqqid biografik materialni psixologik interpretatsiya bilan uyg‘unlashtiradi. Zarifa obrazi (“birdan bir hayot va umid manbai”) faqat biografik shaxs sifatida emas, balki ijodiy ilhom va mavjudlik motivatsiyasining

markazi sifatida talqin qilinadi. Bu yondashuv biografik metodning psixologik yo‘nalishiga xos bo‘lib, shaxsiy munosabatlarning ijodiy jarayonga ta’sirini ochib beradi. Shu orqali Zarifa Saidnosirova nafaqat tarixiy shaxs, balki poetik energiya manbai sifatida qayta talqin qilinadi.

Uchinchidan, matnda epistolyar manbalarga ishora (“shu kezlarda yozgan maktublarida oshiq shoirning faryodi”) biografik metodning manbashunoslik asoslarini ko‘rsatadi. Munaqqid shaxsiy maktublarni dalil sifatida jalb etib, ularni adabiy matnni talqin qilishda autentik material sifatida ishlatadi. Bu esa ilmiylik va ishonchlilik darajasini oshiradi hamda subyektiv tasvirni hujjatli asos bilan mustahkamlaydi.

To‘rtinchidan, tasviriy-ifodaviy vositalarning tanlanishi ham metodologik ahamiyatga ega. “Yakka-ma yakka olishayotgan”, “oshiq shoirning faryodi” kabi iboralar biografik faktni emotsional-estetik talqinga aylantiradi. Bu holatda munaqqid nafaqat faktni qayd etadi, balki uni badiiylashtiradi, natijada biografik metod interpretativ darajaga\ko‘tariladi.

XULOSA

Xulosa qilib aytganda, Naim Karimov ushbu parchada biografik metoddan kompleks tarzda foydalanadi: (1) hayotiy faktlarni aniqlik bilan berish, (2) ularni psixologik talqin qilish, (3) epistolyar manbalarga tayanish va (4) badiiy ifoda orqali chuqurlashtirish. Natijada Oybekning shaxsiy fojeasi va ijodiy ruhiyati o‘rtasidagi ichki bog‘liqlik ilmiy asosda ochib beriladi.

Shu o’rinda e’tiborni Zarifa Saidnosirovaning “Oybegim mening” asaridan olingan yuqoridagi “Ko’nglim yarali” she’ri ostida berilgan sharhga qaratsak: “Oybekning ana shunday og‘ir xastalik paytida yozgan she’rlari keyinchalik tanqidchilarga dastak bo‘lib qoldi. Ular bu she’rlarga yopishib, Oybekni badbin kayfiyat bilan yo‘g‘rilgan she’rlar yozishda aybladilar. Ular fikriga ko‘ra, ona tuprog‘idan, yor-do‘stlaridan uzoqda, musofirlikda yashayotgan, buning ustiga, ham iqtisodiy jihatdan qiynalgan, ham turli og‘ir xastalikka yo‘liqqan shoir faqat Sovet hukumatini sharaflovchi she’rlar yozishi, o‘z dardi va alamlarini esa ichiga yutishi lozim edi.”[7]

Zarifa Saidnosirovaning “Oybegim mening” asaridan keltirilgan mazkur parcha biografik metod nuqtayi nazaridan tahlil etilganda, unda adabiy matn bilan ijodkor shaxsiyati o‘rtasidagi murakkab munosabatlar yaqqol namoyon bo‘ladi. Biografik metodning asosiy tamoyiliga ko‘ra, badiiy asar muallif hayoti, ruhiy kechinmalari va ijtimoiy sharoitidan ajratib qaralmasligi kerak. Shu ma’noda, parcha markazida turgan Oybek shaxsiyati va uning og‘ir kasallik davridagi ruhiy holati muhim tahlil obyekti hisoblanadi.

Avvalo, parcha Oybekning ijodiy faoliyati bilan uning hayotiy sharoiti o‘rtasidagi uzviy bog‘liqlikni ochib beradi. Shoirning “qon tupurib”, og‘ir xastalik bilan kurashayotgan paytda yozgan she’rlari tabiiy ravishda iztirob, tushkunlik va umidsizlik kayfiyatlari bilan sug‘orilgan. Biografik metod nuqtayi nazaridan bu holat mutlaqo qonuniy: ijodkorning ruhiy-psixologik kechinmalari uning badiiy matnida aks etadi. Demak, tanqidchilarning bu she’rlarni “badbin kayfiyat mahsuli” sifatida baholashi biryoqlama yondashuv ekanini ko‘rish mumkin.

Qolaversa, parcha sovet davri adabiy siyosatining ijodkor shaxsiga qo‘ygan mafkuraviy talablarini ham ochib beradi. Tanqidchilarning fikriga ko‘ra, shoir qanday sharoitda bo‘lishidan qat’i nazar, Sovet tuzumini ulug‘lovchi asarlar yaratishi lozim edi. Bu esa biografik metod nuqtayi nazaridan muhim ziddiyatni yuzaga chiqaradi: ijodkorning individual ichki dunyosi bilan tashqi mafkuraviy bosim o‘rtasidagi qarama-qarshilik. Oybek misolida bu ziddiyat ayniqsa keskin tus oladi, chunki uning og‘ir kasallik va musofirlik sharoitidagi ruhiy holati rasmiy ideologiya talablariga mos kelmaydi.

Mazkur holat yuzasidan yana shuni aytish mumkinki, mazkur parcha memuar xarakterga ega bo‘lib, muallif – Zarifa Saidnosirova – Oybek hayotining bevosita guvohi sifatida chiqish qiladi. Bu esa biografik metod uchun muhim manba bo‘lib xizmat qiladi. Chunki unda shoirning ichki kechinmalari, yashash sharoiti va ijodiy jarayoni autentik tarzda aks ettirilgan. Shu bois, Saidnosirovaning guvohliklari Oybek ijodini talqin qilishda ishonchli biografik material sifatida baholanishi mumkin.

Xulosa qilib aytganda, ushbu parcha biografik metod asosida tahlil qilinganda, Oybek she’riyatidagi “badbinlik” aslida shoirning og‘ir hayotiy sharoiti, jismoniy iztiroblari va ruhiy kechinmalarining badiiy ifodasi ekani ayon bo‘ladi. Tanqidchilarning esa bu jihatni e’tibordan chetda qoldirib, ijodkorni faqat mafkuraviy mezonlar asosida baholaganlari ilmiy jihatdan asossiz yondashuv sifatida talqin qilinadi.

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ФОРМЫ, МЕТОДЫ И СРЕДСТВА ПРОЕКТИРОВАНИЯ ПРОЦЕССА ВОСПИТАНИЯ В ДУХЕ НАЦИОНАЛЬНЫХ И ОБЩЕЧЕЛОВЕЧЕСКИХ ЦЕННОСТЕЙ ПРИ ОБУЧЕНИИ РОДНОМУ ЯЗЫКУ

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***Аннотация**: В данной статье рассматриваются теоретико-методические основы проектирования процесса воспитания обучающихся в духе национальных и общечеловеческих ценностей при обучении родному языку. Обоснована значимость родного языка как важнейшего средства формирования духовно-нравственной культуры личности, национального самосознания, уважения к культурному наследию и общечеловеческим идеалам. Особое внимание уделено формам, методам и педагогическим средствам организации воспитательного процесса на уроках родного языка. Освещены возможности интеграции инновационных педагогических технологий, интерактивных методов, художественных текстов и цифровых образовательных ресурсов в процесс воспитания. В статье разработаны научно-методические рекомендации по совершенствованию системы духовно-нравственного воспитания учащихся начального образования на основе национальных и общечеловеческих ценностей.*

***Annotation:** This article examines the theoretical and methodological foundations of designing the process of educating students in the spirit of national and universal values through mother tongue teaching. The importance of the native language as a key means of forming students' spiritual and moral culture, national identity, respect for cultural heritage, and universal ideals is substantiated. Special attention is paid to the forms, methods, and pedagogical tools used in organizing the educational process in mother tongue lessons. The possibilities of integrating innovative pedagogical technologies, interactive methods, literary texts, and digital educational resources into the educational process are highlighted. Scientific and methodological recommendations for improving the system of spiritual and*

moral education of primary school students based on national and universal values are developed in the article.

Ключевые слова: *родной язык, национальные ценности, общечеловеческие ценности, духовно-нравственное воспитание, образовательный процесс, педагогические технологии, методы обучения, формы воспитания, начальное образование, проектирование.*

Keywords: *mother tongue, national values, universal values, spiritual and moral education, educational process, pedagogical technologies, teaching methods, educational forms, primary education, instructional design.*

ВВЕДЕНИЕ

В условиях глобализации и стремительного развития информационного общества особую актуальность приобретает проблема духовно-нравственного воспитания подрастающего поколения. Одной из важнейших задач современной системы образования является формирование у обучающихся уважения к национальным традициям, культурному наследию, родному языку, а также воспитание гуманистических качеств, основанных на общечеловеческих ценностях.

Родной язык выступает не только средством коммуникации, но и важнейшим инструментом передачи духовных, культурных и нравственных ценностей народа. Через изучение языка обучающиеся приобщаются к истории, литературе, традициям, национальному мировоззрению и культурной памяти своего народа. В связи с этим обучение родному языку должно быть направлено не только на формирование речевых компетенций, но и на воспитание личности, способной осознавать свою национальную идентичность и уважать ценности мировой культуры.

Современный образовательный процесс требует проектирования эффективных форм, методов и средств воспитания в духе национальных и общечеловеческих ценностей. В данной статье рассматриваются научно-теоретические основы организации такого процесса, а также анализируются современные педагогические подходы и технологии,

способствующие повышению эффективности воспитательной работы на уроках родного языка.

Методы и степень изученности проблемы Проблема духовно-нравственного воспитания обучающихся средствами родного языка занимает важное место в педагогической науке. В научной литературе воспитание рассматривается как целенаправленный процесс формирования личности, основанный на усвоении культурных, моральных и социальных ценностей общества.

Теоретическую основу исследования составляют следующие педагогические принципы:

Принцип культуросообразности — обучение должно быть связано с национальной культурой, традициями и духовным наследием народа.

Принцип гуманизации образования — личность обучающегося рассматривается как высшая ценность образовательного процесса.

Принцип интеграции обучения и воспитания — процесс усвоения знаний должен сочетаться с формированием нравственных качеств личности.

Принцип активности и самостоятельности — обучающиеся должны выступать активными участниками воспитательного процесса.

Вопросы воспитания на основе национальных ценностей исследовались в трудах восточных мыслителей — Алишера Навои, Абу Насра Фараби, Ибн Сины, а также современных педагогов и психологов. Существенный вклад в изучение духовно-нравственного воспитания внесли Л.С. Выготский, В.А. Сухомлинский, Ш.А. Амонашвили, Джон Дьюи и другие исследователи.

Среди узбекских учёных проблемы формирования духовности и нравственной культуры учащихся средствами родного языка изучались Б. Абдуллаевой, М. Нуритдиновой, Н. Салохиддиновой, Х. Норбутаевым и другими исследователями.

Анализ научной литературы показывает, что в современных условиях особое значение приобретает проектирование воспитательного процесса на основе интеграции инновационных педагогических технологий, интерактивных методов и национально-культурного содержания обучения.

Результаты исследования Проведённый теоретико-практический анализ позволил определить наиболее эффективные формы, методы и средства воспитания обучающихся в духе национальных и общечеловеческих ценностей при обучении родному языку.

Формы организации воспитательного процесса

Установлено, что наибольшую эффективность демонстрируют следующие формы работы:

интегрированные уроки;

уроки-дискуссии;

творческие проекты;

литературные вечера;

инсценировки и ролевые игры;

конкурсы выразительного чтения;

коллективные творческие задания.

Применение данных форм способствует развитию коммуникативной культуры, уважения к национальным традициям, толерантности и социальной активности учащихся.

Методы воспитания

В ходе исследования выявлена эффективность следующих методов:

метод проблемного обучения;

метод проектов;

интерактивные методы («мозговой штурм», «кластер», «синквейн», дебаты);

метод анализа художественного текста;

рефлексивные методы;

эвристическая беседа.

Использование художественных произведений, пословиц, народных сказок и произведений классической литературы способствует формированию нравственных качеств личности, уважения к старшим, любви к Родине и чувства ответственности.

Средства воспитания

В качестве эффективных педагогических средств определены:

учебники и художественная литература;

мультимедийные презентации;

цифровые образовательные ресурсы;

аудио- и видеоматериалы;

национальный фольклор;

электронные платформы и интерактивные задания.

Особое значение имеет использование цифровых технологий, которые повышают мотивацию обучающихся и обеспечивают интеграцию традиционных и инновационных методов воспитания.

Результаты опытно-экспериментальной работы показали, что систематическое применение национально ориентированных воспитательных технологий на уроках родного языка способствует:

повышению познавательной активности учащихся;

развитию самостоятельного мышления;

укреплению духовно-нравственных качеств;

формированию уважения к национальным и общечеловеческим ценностям.

Обсуждение Современный образовательный процесс требует перехода от традиционной передачи знаний к формированию личности, способной к духовному саморазвитию и социальной ответственности. В этом контексте родной язык выступает важнейшим фактором воспитания гармонично развитой личности.

Интеграция инновационных педагогических технологий с национально-культурным содержанием обучения обеспечивает создание благоприятной воспитательной среды. Особое значение имеют технологии STEAM-образования, проектный метод, информационно-коммуникационные технологии и личностно-ориентированный подход.

Также установлено, что воспитание в духе общечеловеческих ценностей способствует развитию межкультурного диалога, толерантности, уважения к правам человека и гуманистическому мировоззрению обучающихся.

ЗАКЛЮЧЕНИЕ

На основе проведённого исследования были сформулированы следующие выводы:

Обучение родному языку является важным средством воспитания обучающихся в духе национальных и общечеловеческих ценностей.

Проектирование воспитательного процесса требует комплексного использования современных форм, методов и средств обучения, ориентированных на развитие духовно-нравственной культуры личности.

Интеграция инновационных педагогических технологий с национальным содержанием образования способствует повышению эффективности воспитательной работы и развитию творческого потенциала обучающихся.

Использование художественной литературы, народного творчества, интерактивных методов и цифровых образовательных ресурсов обеспечивает формирование у учащихся уважения к национальным традициям, культурному наследию и общечеловеческим идеалам.

Воспитание в духе национальных и общечеловеческих ценностей при обучении родному языку выступает важным условием формирования гармонично развитой, духовно богатой и социально активной личности.

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YOSHLAR UCHUN XORIJIY TILLARNI BILISHNING AHAMIYATI

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Annotatsiya: *Mazkur maqolada ta'limda uzviy ravishda xorijiy tillarni o'rganishning yoshlar hayotidagi ahamiyati yoritishga bag'ishlangan va xorijiy tillarning ta'lim sifati, kasbiy rivojlanish va shaxsiy kamolotga ta'siri izchil tahlil qilinib, xorijiy tillarni o'rganish jarayonida uchraydigan muammolar va ularni bartaraf etish yo'llari bayon etilgan.*

Kalit so'zlar: *Xorijiy tillar, yoshlar, ta'lim, globallashuv, kasbiy rivojlanish, raqobatbardoshlik, madaniyatlararo muloqot, shaxsiy o'sish.*

Abstract: *This article is dedicated to highlighting the importance of learning foreign languages as an integral part of education in the lives of young people, and a consistent analysis of the impact of foreign languages on the quality of education, professional development, and personal growth, and describes the problems encountered in the process of learning foreign languages and ways to overcome them.*

Key words: *Foreign languages, youth, education, globalization, professional development, competitiveness, intercultural communication, personal growth.*

Аннотация: *В данной статье освещается важность изучения иностранных языков в жизни молодежи как неотъемлемой части образования, последовательно анализируется влияние иностранных языков на качество образования, профессиональное развитие и личностный рост, описываются проблемы, возникающие в процессе изучения иностранных языков, и пути их преодоления.*

Ключевые слова: *Иностранные языки, молодежь, образование, глобализация, профессиональное развитие, конкурентоспособность, межкультурный диалог, личностный рост.*

KIRISH

Bugungi globallashuv davrida xorijiy tillarni bilish jamiyat taraqqiyotining muhim omillaridan biri hisoblanadi. Ayniqsa, yosh avlodning

maktab davridan boshlab xorijiy tillarni o‘rganishi ularning kelajakdagi ta’lim va kasbiy faoliyati uchun mustahkam poydevor yaratadi. Xorijiy til bilimlari orqali yoshlar dunyoqarashini kengaytiradi, zamonaviy bilim va axborotlarga ega bo‘ladi hamda jamiyatda faol o‘rin egallash imkoniyatiga ega bo‘ladi.[70]

Hozirgi davrda ilm-fan, texnologiya va iqtisodiyotning jadal rivojlanishi natijasida turli davlatlar o‘rtasidagi hamkorlik yanada kuchayib bormoqda. Bunday sharoitda xorijiy tillarni bilish nafaqat shaxsiy ehtiyoj, balki ijtimoiy zaruratga ham aylanmoqda. Chunki zamonaviy bilimlarning katta qismi ingliz, nemis, fransuz, xitoy kabi xorijiy tillarda yaratilmoqda. Ushbu manbalardan samarali foydalanish uchun esa yoshlar xorijiy tillarni yetarli darajada bilishi zarur.Maktab ta’limi xorijiy tillarni o‘rganishning boshlang‘ich bosqichi bo‘lib, aynan shu davrda o‘quvchilarda tilga bo‘lgan qiziqish va dastlabki ko‘nikmalar shakllanadi. Ushbu poydevor oliy ta’lim bosqichida, xususan birinchi kurs talabalari davrida yanada mustahkamlanib, ilmiy va kasbiy rivojlanish uchun muhim asos vazifasini bajaradi. Shu sababli maktab davrida olingan til bilimlari talabalarning keyingi akademik faoliyatida muhim rol o‘ynaydi. Shuningdek, xorijiy tillarni bilish yoshlarning xalqaro maydonga chiqishiga ham keng imkoniyat yaratadi. Bugungi kunda ko‘plab yoshlar xorijiy universitetlarda tahsil olish, xalqaro konferensiyalarda qatnashish, ilmiy loyihalarda ishtirok etish hamda turli grant dasturlarida qatnashish imkoniyatiga ega bo‘lmoqda. Bunday imkoniyatlardan samarali foydalanish uchun esa mustahkam til bilimlari talab etiladi.Xorijiy tillarni yaxshi bilgan yoshlar xalqaro stipendiya va grant dasturlarida faol qatnashish imkoniyatiga ega bo‘ladilar. Masalan, turli davlatlar tomonidan taqdim etiladigan ta’lim grantlari, akademik almashinuv dasturlari va qisqa muddatli o‘quv kurslari yoshlarning bilim va tajribasini oshirishga xizmat qiladi. Bunday dasturlar orqali talabalar boshqa davlatlarning ta’lim tizimi, ilmiy yondashuvlari va innovatsion metodlari bilan yaqindan tanishadilar.Shuningdek,

1. [70] Karimov I.A. Yuksak ma’naviyat – yengilmas kuch. — Toshkent: Ma’naviyat nashriyoti, 2008. — 176 bet.

xalqaro ta’lim dasturlarida qatnashish yoshlarning mustaqil fikrlashini rivojlantiradi hamda ularni global muammolarni kengroq nuqtai nazardan tahlil qilishga o‘rgatadi. Turli millat vakillari bilan muloqot qilish jarayoni esa yoshlarning ijtimoiy faolligini oshirib, ularda madaniyatlararo hamkorlik ko‘nikmalarini shakllantiradi. Bundan tashqari, xorijiy tillarni bilgan yoshlar xalqaro mehnat bozorida ham katta imkoniyatlarga ega bo‘ladilar. Bugungi kunda ko‘plab xalqaro kompaniyalar va tashkilotlar xorijiy tilni mukammal biladigan mutaxassislarni izlamoqda. Shu sababli xorijiy til bilimlari yoshlarning kelajakdagi kasbiy faoliyatida muhim ustunlik yaratadi.Xorijiy tilni o‘rganish jarayoni nafaqat bilim olish, balki shaxsning intellektual rivojlanishiga ham ijobiy ta’sir ko‘rsatadi. Til o‘rganish jarayonida inson tafakkuri, mantiqiy fikrlashi va xotira qobiliyati rivojlanadi. Shu sababli ko‘plab tadqiqotchilar xorijiy tillarni o‘rganishni yoshlarning umumiy intellektual salohiyatini oshiruvchi muhim omillardan biri sifatida baholaydilar.Ilmiy tadqiqotlarga ko‘ra, bir nechta tilni o‘rganish inson miyasi faoliyatini yanada faollashtiradi. Bunday jarayonda miya turli til tizimlari o‘rtasida tezkor bog‘lanishlar yaratadi, natijada fikrlash jarayoni tezlashadi va analitik tafakkur rivojlanadi. Bu esa talabalarga murakkab ilmiy masalalarni tahlil qilishda va muammolarga kreativ yondashishda yordam beradi. Bundan tashqari, xorijiy til o‘rganish xotirani mustahkamlashga ham katta ta’sir ko‘rsatadi. Yangi so‘zlar, grammatik tuzilmalar va talaffuz qoidalarini o‘zlashtirish jarayoni inson xotirasini doimiy ravishda mashq qildiradi. Natijada yoshlarning eslab qolish qobiliyati kuchayadi va yangi ma’lumotlarni tezroq o‘zlashtirish imkoniyati paydo bo‘ladi.Shuningdek, til o‘rganish jarayonida talabalarda muloqot madaniyati, nutq ravonligi va o‘z fikrini aniq ifoda etish ko‘nikmalari ham rivojlanadi. Bu esa nafaqat akademik faoliyatda, balki kundalik hayotda ham muhim ahamiyatga ega. Natijada xorijiy tillarni egallagan yoshlar keng dunyoqarashga ega, mustaqil fikrlaydigan va zamonaviy bilimlarni tez o‘zlashtira oladigan shaxslar sifatida shakllanadilar.Bundan tashqari, xorijiy tillarni bilish yoshlar uchun turli xalqaro tashkilotlar, ilmiy markazlar va nufuzli universitetlar bilan hamkorlik

qilish imkoniyatlarini ham kengaytiradi. Masalan, xalqaro grantlar, stipendiya dasturlari va akademik almashinuv loyihalari yoshlarning ilmiy salohiyatini rivojlantirishga xizmat qiladi. Bunday dasturlar orqali talabalar nafaqat nazariy bilimlarni, balki amaliy tajribani ham egallaydilar. Xalqaro miqyosdagi ta’lim dasturlarida qatnashgan yoshlar turli mamlakatlarning ta’lim tizimi, ilmiy maktablari va pedagogik yondashuvlari bilan yaqindan tanishadilar. Bu esa ularning ilmiy fikrlash doirasini kengaytirib, global muammolarga yangicha yondashuv bilan qarash imkonini yaratadi. Natijada yoshlar zamonaviy bilimlarga ega bo‘lgan, ochiq fikrli va tashabbuskor mutaxassislar sifatida shakllanadi. Shuningdek, xorijiy til bilimlari yoshlarning ilmiy faoliyatiga ham ijobiy ta’sir ko‘rsatadi. Ilmiy maqolalar yozish, xalqaro konferensiyalarda ishtirok etish hamda xorijiy ilmiy manbalardan foydalanish jarayonida til bilimlari muhim ahamiyat kasb etadi. Bu esa talabalarning ilmiy izlanish olib borish ko‘nikmalarini shakllantiradi.Til o‘rganishning intellektual rivojlanishga ta’siri ham alohida e’tiborga loyiqdir. Bir nechta tilni o‘rganish inson tafakkurining moslashuvchanligini oshiradi, muammolarni turli nuqtai nazardan ko‘rib chiqish imkonini beradi. Bunday ko‘nikmalar esa zamonaviy jamiyatda muhim hisoblangan kreativ fikrlash va innovatsion yondashuvlarni shakllantirishga yordam beradi.Bundan tashqari, xorijiy tilni o‘rganish jarayoni yoshlarning mantiqiy fikrlashini rivojlantiradi. Grammatik tizimlarni o‘rganish, yangi so‘zlarni o‘zlashtirish va nutq jarayonida ularni to‘g‘ri qo‘llash miyadagi analitik jarayonlarni faollashtiradi. Natijada talabalarning muammolarni hal qilish qobiliyati ham sezilarli darajada rivojlanadi.Xorijiy til bilimlari shuningdek yoshlarning o‘ziga bo‘lgan ishonchini ham mustahkamlaydi. Chet elliklar bilan erkin muloqot qila olish, xalqaro muhitda o‘z fikrini aniq bayon etish imkoniyati talabalarning ijtimoiy faolligini oshiradi. Bu esa ularning shaxsiy rivojlanishida muhim omil bo‘lib xizmat qiladi. Yuqoridagi omillarni inobatga olgan holda mazkur maqolada xorijiy tillarni o‘rganishning yoshlar hayotidagi ahamiyati, ayniqsa maktab o‘quvchilari hamda birinchi kurs talabalari misolida tahlil qilinadi. Shuningdek, xorijiy tillarni o‘rganish

jarayonida uchraydigan muammolar va ularni bartaraf etishning samarali yo‘llari ilmiy asosda yoritib beriladi.

Xorijiy tillarni bilish ta’lim sifatini oshirishda muhim ahamiyat kasb etadi. Bugungi kunda ilmiy maqolalar, darsliklar, o‘quv qo‘llanmalar va elektron manbalarning katta qismi xorijiy tillarda yaratilmoqda. Shu sababli xorijiy tillarni bilgan o‘quvchi va talabalar zamonaviy bilimlarga kengroq va tezroq ega bo‘lish imkoniyatiga ega bo‘ladilar.

Maktab davrida xorijiy tilni o‘rganish o‘quvchilarning xotirasi, talaffuzi va muloqot ko‘nikmalarini shakllantiradi. Aynan shu bosqichda tilga nisbatan ijobiy munosabat hosil bo‘lib, keyingi ta’lim bosqichlari uchun zarur bilimlar bazasi yaratiladi. Oliy ta’lim muassasasiga qadam qo‘ygan birinchi kurs talabalari uchun esa maktabda olingan xorijiy til bilimlari ilmiy matnlarni tushunish va mustaqil ta’limni samarali tashkil etishda muhim rol o‘ynaydi.Shuningdek, xorijiy tillarni bilish yoshlarning xalqaro ta’lim dasturlari, grantlar va akademik almashinuv loyihalarida ishtirok etish imkoniyatlarini kengaytiradi. Bu jarayonlar orqali yoshlar nafaqat bilim, balki hayotiy tajriba ham orttiradilar. Hozirgi kunda mehnat bozorida yuqori malakali va raqobatbardosh kadrlar talab etilmoqda. Xorijiy tillarni bilish esa yoshlarning kasbiy muvaffaqiyatini ta’minlovchi muhim omillardan biri hisoblanadi. Ko‘plab ish beruvchilar xorijiy tillarni biladigan mutaxassislarga ustunlik beradi.So‘nggi yillarda O‘zbekistonda xorijiy tillarni sifatli o‘qitish va xalqaro hamkorlikni rivojlantirish borasida keng ko‘lamli islohotlar amalga oshirilmoqda. Xususan, xorijiy ta’lim muassasalari bilan hamkorlikni kuchaytirish, xorijiy til sohiblarini (native speakers) o‘quv jarayoniga jalb etish, professor-o‘qituvchilar va talabalar uchun xorijda malaka oshirish hamda stajirovkalar ulushini oshirish muhim vazifalar sifatida belgilangan. Hozirgi kunda ko‘plab talabalar 2- yoki 3-bosqichdayoq C1 darajadagi xalqaro sertifikatlarni qo‘lga kiritmoqda. Bunday yutuqlar yoshlarning kelajakdagi kasbiy faoliyatida muhim ustunlik yaratadi. Shuningdek, til bilimlarini amaliy kasb bilan uyg‘unlashtirishga qaratilgan qo‘shma ta’lim dasturlari ham joriy

etilmoqda. Masalan, “O‘zbekiston havo yo‘llari” milliy aviakompaniyasi bilan hamkorlikda xorijiy tilni yaxshi biladigan yoshlar uchun bort kuzatuvchisi va styuardessa kasblariga tayyorlash dasturlari yo‘lga qo‘yilmoqda. “O‘zbekturizm” tashkiloti bilan hamkorlikda esa xorijiy tilni puxta egallagan bitiruvchi kurs talabalari tur-operatorlik faoliyatiga tayyorlanmoqda.[71] Globallashuv va faol xalqaro hamkorlik sharoitida noyob xorijiy tillarni biladigan malakali mutaxassislarga ehtiyoj tobora ortib bormoqda. Shu sababli xorijiy tillarni chuqur o‘rganish bugungi yoshlar uchun nafaqat shaxsiy rivojlanish, balki kasbiy muvaffaqiyatga erishishning muhim omili sifatida namoyon bo‘lmoqda. Natijada xorijiy tillarni puxta egallagan yoshlar jamiyat taraqqiyotida faol ishtirok etadigan, zamonaviy bilim va ko‘nikmalarga ega bo‘lgan mutaxassislar sifatida shakllanmoqda. Xorijiy tillarni o‘rganish nafaqat bilim olish, balki shaxsiy kamolot jarayonida ham muhim o‘rin tutadi. Turli xorijiy tillarni bilgan yoshlar boshqa millat va madaniyat vakillari bilan erkin muloqot qila oladilar. Bu esa ularning dunyoqarashini kengaytirib, jamiyatda bag‘rikeng va ochiq fikrli shaxs sifatida shakllanishiga yordam beradi. Madaniyatlararo muloqot yoshlarning ijtimoiy faolligini oshiradi. Xorijiy tillarni bilgan talaba xalqaro konferensiyalar, seminarlar va ilmiy loyihalarda ishtirok etish imkoniyatiga ega bo‘ladi. Bu jarayonlar orqali yoshlar o‘z fikrini erkin bayon qilish, muammolarga turli nuqtayi nazardan qarash va mustaqil qaror qabul qilish ko‘nikmalarini rivojlantiradi. Shuningdek, til o‘rganish jarayoni shaxsning intellektual rivojiga ijobiy ta’sir ko‘rsatadi. Tadqiqotlarga ko‘ra, bir nechta tilni bilish inson xotirasini mustahkamlaydi, tafakkur tezligini oshiradi va tahliliy fikrlash qobiliyatini rivojlantiradi. Birinchi kurs talabasi uchun bu juda muhim, chunki oliy ta’lim bosqichida bilimlarni tez o‘zlashtirish talab etiladi. Xorijiy tillarni o‘rganish jarayonida yoshlar, ayniqsa birinchi kurs talabalari qator qiyinchiliklarga duch keladilar. Ushbu muammolarning asosiy sabablari sifatida til muhiti yetishmasligi, amaliy mashg‘ulotlarning kamligi va o‘ziga

[71] O‘zbekiston Respublikasi Oliy ta’lim, fan va innovatsiyalar vazirligi. Ta’lim sohasiga oid me’yoriy-huquqiy hujjatlar to‘plami. — Toshkent, 2022. — 120 bet.

bo‘lgan ishonchning pastligi ko‘rsatiladi. Ko‘plab talabalar grammatik qoidalarga haddan tashqari e’tibor qaratib, erkin muloqot qilishdan cho‘chiydilar. Natijada ular tilni amaliy qo‘llash imkoniyatidan kam foydalanadilar. Bundan tashqari, ayrim talabalar uchun xorijiy tilni o‘rganish motivatsiyasining yetarli emasligi ham muhim muammo hisoblanadi. Yana bir muhim muammo — vaqtni to‘g‘ri rejalashtira olmaslikdir. Birinchi kurs talabalari yangi fanlar, mustaqil ta’lim va kundalik mashg‘ulotlar o‘rtasida muvozanatni saqlashda qiyinchilikka duch keladilar. Bu esa xorijiy tillarni o‘rganishga ajratiladigan vaqtning kamayishiga olib keladi. Shuningdek, ayrim hollarda o‘quv jarayonida zamonaviy metodlarning yetarli darajada qo‘llanilmasligi ham muammolardan biri sifatida namoyon bo‘ladi. An’anaviy dars uslublari ko‘proq nazariy bilim berishga qaratilgan bo‘lib, talabalarning faol muloqot qilish ko‘nikmalarini rivojlantirishga yetarli darajada xizmat qilmasligi mumkin. Natijada talabalar grammatik bilimga ega bo‘lsalar ham, amaliy nutq jarayonida qiynalib qoladilar. Bundan tashqari, til o‘rganishda psixologik omillar ham muhim rol o‘ynaydi. Ayrim talabalar xato qilishdan qo‘rqishlari sababli xorijiy tilda gapirishdan tortinadilar. Bu holat esa til o‘rganish jarayonini sekinlashtiradi. Aslida esa til o‘rganishda xatolar tabiiy jarayon bo‘lib, ular orqali yangi bilimlar mustahkamlanadi. Texnologiyalardan to‘g‘ri foydalanmaslik ham muammolardan biri hisoblanadi. Bugungi kunda internet, mobil ilovalar va onlayn platformalar xorijiy tillarni o‘rganish uchun katta imkoniyatlar yaratmoqda. Biroq ayrim talabalar ushbu imkoniyatlardan yetarli darajada foydalanmaydilar yoki ularni noto‘g‘ri maqsadlarda sarflaydilar. Shuningdek, ayrim ta’lim muassasalarida til muhiti yetarli darajada shakllanmaganligi ham xorijiy tilni o‘rganish samaradorligiga ta’sir ko‘rsatadi. Talabalar kundalik hayotda xorijiy tilda muloqot qilish imkoniyatiga kam ega bo‘lsalar, ularning nutq ko‘nikmalari sekin rivojlanadi. Shu sababli xorijiy tillarni o‘rganish jarayonida uchraydigan muammolarni chuqur tahlil qilish va ularni bartaraf etish bo‘yicha samarali choralar ko‘rish muhim ahamiyat kasb etadi. Faqatgina nazariy bilim bilan cheklanib qolmasdan, amaliy muloqotga

asoslangan yondashuvni rivojlantirish til o‘rganish samaradorligini sezilarli darajada oshiradi. Xorijiy tillarni samarali o‘rganish uchun avvalo talabalarda to‘g‘ri motivatsiya shakllantirilishi lozim. Bunda xorijiy tillarning kelajakdagi kasbiy va shaxsiy rivojlanishdagi o‘rni haqida muntazam tushuntirish ishlari olib borilishi muhim ahamiyatga ega.Amaliy mashg‘ulotlarga ko‘proq e’tibor qaratish, suhbat klublari tashkil etish va zamonaviy axborot texnologiyalaridan foydalanish xorijiy tillarni o‘rganishda ijobiy natija beradi. Onlayn platformalar, mobil ilovalar va video darslar talabalarning mustaqil ta’limini samarali tashkil etishga yordam beradi.Xorijiy tillarni o’qitishda metodik yondashuvlar muhim ahamiyat kasb etadi. Kommunikativ yondashuv til o’rganishda samarali metodlardan biri sifatida e’tirof etiladi.[72] Shuningdek, o‘qituvchilar tomonidan interaktiv metodlardan foydalanish, talabalarni faol ishtirok etishga undash va ularni rag‘batlantirish muhim hisoblanadi. Bunday yondashuv orqali birinchi kurs talabalarining xorijiy tillarni o‘rganishga bo‘lgan qiziqishi oshadi va o‘ziga bo‘lgan ishonchi mustahkamlanadi.

XULOSA

Xulosa qilib aytganda, xorijiy tillarni bilish yoshlar, ayniqsa birinchi kurs talabalari uchun zamon talabi hisoblanadi. Xorijiy tillar ta’lim sifatini oshirish, kasbiy rivojlanish imkoniyatlarini kengaytirish va shaxsiy kamolotni ta’minlashda muhim omil bo‘lib xizmat qiladi. Bugungi kunda xorijiy tillarni bilgan yoshlar jamiyatda faol, tashabbuskor va raqobatbardosh shaxs sifatida shakllanmoqda. Shuning uchun oliy ta’lim muassasalarida xorijiy tillarni o‘rganishga alohida e’tibor qaratish, talabalar uchun qulay sharoitlar yaratish va ularni doimiy qo‘llab-quvvatlash muhim vazifalardan biridir. Mazkur maqolada keltirilgan fikr va xulosalar yoshlarni xorijiy tillarni chuqur o‘rganishga undaydi hamda ularning kelajakdagi muvaffaqiyatli faoliyatiga ijobiy ta’sir ko‘rsatadi.

[72] Harmer J. How to Teach English. — London: Longman, 2007. — 288 p.

ВЛИЯНИЕ СОЦИОКУЛЬТУРНЫХ ТРАНСФОРМАЦИЙ НА ОТНОШЕНИЕ МОЛОДЕЖИ К СЕМЕЙНОЙ ЖИЗНИ

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Аннотация: *в данной статье посредством обзора литературы изучаются изменения в семейных отношениях молодежи под воздействием социокультурных трансформаций.*

Социокультурные изменения, такие как переход к индивидуализму, разнообразие семейных структур и изменение культурных норм, оказали значительное влияние на межличностные отношения в семье среди молодежи.

В разделе "Методы" анализируются различные исследования, определяющие ключевые аспекты стабильности семьи, динамики отношений и благополучия молодежи.

Результаты показывают, что хотя семейные отношения в целом способствуют удовлетворенности молодежи жизнью, влияние этих отношений варьируется в зависимости от культурного контекста и проявляется сильнее в индивидуалистических обществах. В разделе "Обсуждение" представлены рекомендации для будущих исследований и политики, направленные на поддержку крепких семейных связей в условиях изменяющейся социокультурной среды.

Ключевые слова*: социокультурные трансформации, подготовка молодежи к семейной жизни, постмодернистское общество, традиционные семейные ценности, брак и родительство, социальная идентичность*

Abstract*: this article explores changes in youth family relationships under the influence of socio-cultural transformations through a review of relevant literature.*

Socio-cultural changes-such as the shift toward individualism, diversity in family structures, and evolving cultural norms-have significantly affected interpersonal dynamics within families among young people.

The methodology section examines various studies to identify key aspects of family stability, relationship dynamics, and youth well-being. Findings indicate that while family relationships generally support young people's overall life satisfaction, the extent of this influence varies by cultural context and is stronger in individualistic societies. The discussion provides recommendations for future research and policy, focusing on supporting strong family bonds in a changing socio-cultural environment.

***Keywords**: socio-cultural transformations, youth preparation for family life, postmodern society, traditional family values, marriage and parenting, social identity*

ВВЕДЕНИЕ

В последние годы социокультурные трансформации, происходящие в обществе, оказывают значительное влияние на жизнь молодежи, в частности на семейные отношения, а также на их мировоззрение и систему ценностей. Эти процессы связаны с глобализацией, технологическим развитием, расширением межкультурных связей и экономическими изменениями, что приводит к трансформации межличностных отношений молодежи, восприятия семьи и традиционных семейных ценностей.

Особенно заметным является стремление молодежи к самостоятельности, рост возможностей свободного мышления и принятия независимых решений, а также широкое распространение интернета и социальных сетей, что вынуждает по-новому осмысливать роль и функции молодежи в семье. Эти изменения оказывают влияние на культурную и социальную структуру общества, а также на качество семейных отношений.

В статье рассматриваются социокультурные трансформации и их влияние на семейные отношения молодежи. Цель исследования заключается в выявлении тенденций изменения семейных отношений среди современной молодежи, анализе основных проблем и путей их преодоления.

В современных обществах социокультурные трансформации оказывают существенное влияние на семейные отношения молодежи. В условиях постмодернистского общества традиционные семейные ценности претерпевают изменения, а отношение молодежи к семье, браку, родительству и межличностным отношениям приобретает новые формы. Эти процессы влияют на социальную и культурную идентичность молодежи, а также на развитие института семьи в обществе [2, с. 56].

Методы исследования

В статье широко использованы интегрированные качественные и количественные методы исследования. В рамках исследования были проанализированы результаты анкетирования и интервью, проведенных среди молодежи. Анкетирование позволило выявить отношение молодежи к семье, взгляды на брак и значимость семейных ценностей.

Кроме того, были изучены данные анализа социальных сетей и существующие научные источники, что позволило определить социокультурные изменения, влияющие на семейные отношения молодежи. Выборка исследования включала 20 респондентов в возрасте от 18 до 30 лет.

Результаты

Результаты исследования показали, что в постмодернистском обществе взгляды молодежи на семью существенно отличаются от традиционных представлений. Так, 65 % респондентов ценят равенство и свободу в семейных отношениях, что в определенной степени противоречит традиционным семейным структурам.

Отношение к браку также претерпевает изменения: среди молодежи возрастает распространенность свободных отношений и форм долгосрочного партнерства. Влияние социальных сетей и средств массовой информации формирует новые подходы к семейным ценностям, в особенности в контексте взаимоотношений между родителями и детьми. В

то же время 30 % респондентов считают необходимым сохранение традиционных семейных ценностей.

Исследование показало, что социокультурные трансформации влияют на семейные отношения молодежи по следующим основным направлениям:

1. Изменение ценностей. Молодежь уделяет больше внимания свободе мышления и самостоятельному принятию решений по сравнению с предыдущими поколениями. При сохранении уважения к семейным ценностям и традициям меняются формы и содержание их проявления.
2. Коммуникация и взаимопонимание. Повышается уровень диалога и взаимопонимания между поколениями в семье. Несмотря на стремление молодежи к свободе и независимости, отношения с родителями продолжают развиваться, что способствует укреплению взаимопонимания [7, с. 50].
3. Влияние технологий и социальных сетей. Интернет и социальные сети расширяют социальные связи молодежи, оказывая влияние на семейную среду и создавая условия для свободного выражения собственного мнения. Вместе с тем в ряде случаев наблюдаются чрезмерная зависимость от технологий и ослабление семейных ценностей.
4. Проблемы и конфликтность. У части молодежи выявлены трудности в принятии семейных обязанностей, а также конфликты, связанные с вопросами личной свободы и индивидуальных прав, что приводит к росту напряженности и недопонимания в семье.
5. Планы на будущее. Взгляды молодежи на будущую семейную жизнь и жизненные планы отличаются от взглядов старшего поколения: приоритет отдается свободе, личностному развитию и образовательным возможностям [5, с. 33].

Обсуждение

Полученные результаты подтверждают, что социокультурные трансформации в постмодернистском обществе оказывают значительное влияние на семейные отношения молодежи. Традиционные семейные роли и ценности постепенно трансформируются, а индивидуализм и ориентация на свободу становятся более выраженными. Это приводит к формированию новых представлений о функциях семьи и ее роли в обществе.

В то же время подчеркивается важность сохранения и развития семейных ценностей в культурно-историческом контексте. Высшие учебные заведения и другие социальные институты общества должны разрабатывать обновленные и современные педагогические подходы к подготовке молодежи к семейной жизни с учетом текущих социокультурных изменений.

Современные трансформации оказывают влияние на функциональные компоненты семьи и формируют новое отношение молодежи к семейным ценностям, ролям и взаимодействию. В этой связи система образования должна быть ориентирована не только на передачу теоретических знаний, но и на формирование практических навыков и жизненной готовности.

Перспективы дальнейших исследований в данной области обусловлены двойственным характером влияния социокультурных изменений. С одной стороны, усиливаются свобода мышления, личная независимость и самостоятельность в принятии решений, что способствует развитию доверия, открытости и гармоничных отношений в семье.

С другой стороны, агрессивное проникновение глобальной культуры, неограниченные информационные потоки, ослабление семейных ценностей, рост индивидуализма и потребительских установок приводят к конфликтности, эмоциональной отчужденности и увеличению числа разводов, что представляет угрозу семейной стабильности.

В этой связи особую значимость приобретает согласованная деятельность системы образования, культуры, социальной политики и

психологических служб. Комплексные программы, реализуемые с участием психологов и семейных педагогов, тренинги и консультационные центры способствуют повышению уровня личностной и социальной зрелости молодежи [6, с. 94].

Особое внимание следует уделять гармоничному сочетанию национального культурного наследия, традиционных ценностей и современных подходов в подготовке молодежи к семейной жизни. Формирование ответственности за родительство, понимание социальной и духовной сущности брака, культуры общения, навыков компромисса и эмоциональной устойчивости должно осуществляться осознанно и системно.

Высшие учебные заведения должны стать центрами научно-практических исследований в данной сфере, разрабатывая педагогические, психологические и социологические подходы с учетом социальных потребностей общества.

В условиях стремительных социокультурных изменений обеспечение устойчивости семейных отношений и сопровождение молодежи в этом сложном процессе является актуальной задачей, требующей научно обоснованного системного подхода, институционального взаимодействия и долгосрочных стратегических мер.

ЗАКЛЮЧЕНИЕ

Социокультурные трансформации в современном обществе оказывают все более сильное влияние на семейные отношения молодежи. Глобализация, урбанизация, распространение цифровой культуры, а также изменение взглядов на гендерные роли и традиционные ценности выступают ключевыми факторами данного процесса [8, с. 198].

К положительным аспектам относятся расширение личной свободы, осознанный подход к созданию семьи, укрепление принципов гендерного равенства и развитие семейных отношений, основанных на взаимном уважении. Вместе с тем наблюдаются и негативные последствия, такие как

ослабление традиционных ценностей, рост индивидуализма, увеличение числа разводов и снижение уровня семейной ответственности среди молодежи.

Управление данными социокультурными изменениями, формирование и сохранение устойчивой социально-культурной среды являются одними из приоритетных задач современности. Особенно актуальной становится необходимость системного подхода к повышению готовности молодежи к семейной жизни и укреплению семейных ценностей [4, с. 250].

В этом направлении важное значение имеет модернизация системы образования, культуры и психологических служб. Внедрение специальных образовательных программ по подготовке к семейной жизни, расширение пропаганды национальных и культурных ценностей, а также активизация деятельности психологических консультационных центров отвечают современным социальным потребностям.

Кроме того, взаимодействие социальных институтов, включая махаллю, средства массовой информации и религиозные организации, способствует формированию у молодежи навыков здоровых семейных отношений и социальной ответственности.

Таким образом, всестороннее изучение отношения молодежи к семейной жизни в условиях социокультурных трансформаций, выявление актуальных проблем и разработка научно обоснованных решений являются приоритетными задачами современной социологии, педагогики и психологии. В перспективе целесообразно проведение более глубоких и сравнительных исследований с учетом возрастных, социальных и культурных различий, что будет способствовать укреплению социокультурной стабильности, развитию здоровых семейных отношений и всестороннему развитию молодежи.

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WESTERN SOURCES ON THE RELATIONS BETWEEN THE BUKHARA KHANATE AND INDIA IN THE EARLY MODERN PERIOD (16th–18th CENTURIES)

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Abstract: *This article examines how Western scholars and travellers have documented and interpreted the diplomatic, cultural, and commercial relations between the Bukhara Khanate and the Indian subcontinent during the early modern period, approximately spanning the sixteenth through eighteenth centuries.*

Keywords: *Bukhara Khanate, India, early modern Central Asia, Western sources, Orientalism, Silk Road trade, diplomatic history, Naqshbandiyya, Mughal Empire, source criticism.*

INTRODUCTION

The early modern history of Eurasia is increasingly understood not as a mosaic of self-contained civilisations but as a dense network of interactions sustained by mobile merchants, itinerant scholars, and state-sponsored embassies. Among the most consequential of these cross-regional linkages was the relationship between the Bukhara Khanate—the pre-eminent political and spiritual centre of Transoxiana—and the Indian subcontinent, above all the Mughal Empire. This relationship was simultaneously commercial, diplomatic, and cultural: it was animated by the movement of commodities and currencies, by the exchange of letters and gifts between sovereigns, and by the shared Persianate literary and religious culture that bound the two regions together. Despite its evident importance, the Bukharo-Indian relationship has not received the sustained analytical attention it deserves in Anglophone scholarship, and its treatment in Western primary sources remains poorly theorised.

EUROPEAN TRAVELOGUES AND MERCHANT REPORTS (16TH–18TH CENTURIES)

The earliest sustained Western documentation of Central Asian–Indian commercial and diplomatic networks dates to the mid-sixteenth century, when English merchants under the auspices of the Muscovy Company began probing overland routes through Persia and Transoxiana to the subcontinent. Anthony Jenkinson's account of his journey to Bukhara in 1558–1560 represents a foundational document in this regard. Although Jenkinson did not reach India, his narrative is replete with observations on the Indian merchant diaspora resident in Bukhara—their commercial practices, legal status, and cultural distinctiveness—and on the political disruption of trade routes caused by the Uzbek-Safavid conflict over Khorasan. Jenkinson's text thus furnishes incidental but valuable evidence for the presence and organization of the Indian trading community in the Bukharan marketplace well before the more systematic accounts of the seventeenth century.

The seventeenth century produced a substantially richer corpus of Western documentation. French jewel-merchant Jean-Baptiste Tavernier's six voyages to Asia, published in 1676, devoted considerable attention to the overland and maritime routes linking Central Asia to Mughal India. Tavernier was primarily interested in precious stones and the economics of their trade, but his narrative incidentally records the presence of Bukharan merchants at Mughal courts, the terms on which they conducted business, and the political conditions that facilitated or disrupted their movement. Similarly, the Flemish traveller Jan Janszoon Struys, who passed through Bukhara in the 1670s, left observations on the Indian quarter of the city and on the regulatory framework governing foreign merchants. These accounts share a common limitation: they were produced by individuals whose primary purpose was commercial reconnaissance, and their observations are shaped accordingly. Diplomatic exchanges, religious transactions, and cultural borrowings—all central to the Bukharo-Indian relationship—fall largely outside their frame of interest.

The situation changes somewhat in the eighteenth century, when Russian imperial expansion into Central Asia generated a new genre of documentation: the official intelligence report. Russian agents such as Florio Beneveni, who spent several years at the Bukharan court in the 1720s, produced detailed accounts of the political structure of the khanate, its external relations, and its commercial ties with India. Beneveni's reports, preserved in the Russian imperial archives and partially published in the nineteenth century, are notable for their attention to diplomatic protocol and their recording of correspondence between the Bukharan and Mughal courts. They represent a qualitative advance over earlier travellers' accounts, though they remain subordinate to a strategic calculus—the interest of St Petersburg in establishing commercial and political influence in the region.

The emergence of academic Orientalism in the nineteenth century transformed the terms on which Western scholars engaged with Central Asian–Indian relations. The most important figure for the present inquiry is Joseph Senkowski, the Polish-Russian Orientalist whose Supplement a Histoire Generale des Huns, des Turcs et des Mogols synthesised Persian, Uzbek, and Arabic sources on Central Asian history and furnished European readers with the first systematic account of the Bukhara Khanate's political history based on indigenous documentation. Senkowski's work remains valuable precisely because it transmits—in French translation—substantial extracts from chronicles and diplomatic correspondence that have since been lost or remain inaccessible in manuscript form. At the same time, Senkowski's interpretive framework is characteristically Orientalist in the pejorative sense: he tends to read Central Asian political history through a lens of dynastic decline and cultural stagnation, a perspective that ill-serves the analysis of the dynamic commercial and cultural exchanges between Bukhara and India.

Later nineteenth-century scholarship continued to engage with Bukharo-Indian relations primarily through the lens of trade. Henry Walter Bellew's reports on Afghan commerce and Wilhelm Tomaschek's geographical studies of

Central Asian routes contributed important data on the physical infrastructure of exchange—the caravanserais, the mountain passes, the river crossings—without substantially advancing understanding of the diplomatic or cultural dimensions of the relationship. Mir Abdulkarim Bukharis Histoire de lAsie Centrale, edited and published by Charles Schefer in 1876, constitutes an important partial exception: it is a Bukharan chronicle rather than a Western text, but Schefer's editorial apparatus situates the chronicle within the framework of European Central Asian studies and mediates its reception accordingly. Schefer's translations and annotations brought Bukharan dynastic history into Western scholarly consciousness, though his apparatus also domesticates the text, filtering its voice through the conventions of nineteenth-century French Orientalism.

The most significant reorientation of Anglophone scholarship on Central Asian–Indian relations was accomplished by Scott C. Levi, whose monograph The Indian Diaspora in Central Asia and Its Trade remains the standard treatment of the subject. Levi's work is distinguished by its extensive use of Persianate primary sources—above all the Tarikh-i Muqim Khani and related chronicles—alongside Russian archival materials and European travellers' accounts. This multi-archival approach enables Levi to reconstruct the Indian merchant community (Hindus and Multanis) in Bukharan cities with a level of specificity unachievable from Western sources alone.

Levi's central argument—that the Indian diaspora in Central Asia was not a marginal phenomenon but a structurally integral component of regional commercial life, protected by the Bukharan state and subject to its own juridical norms—has substantially revised earlier accounts that portrayed the Indian presence as episodic and commercially subordinate. His reconstruction of the saraf (money-changing) and credit networks maintained by Multani and Hindu merchants demonstrates that these communities were not passive conduits of European or Mughal commercial imperialism but active agents in the construction of a Central Asian commercial order.

Despite its considerable achievement, Levi's monograph illustrates a residual limitation of even the most sophisticated Anglophone scholarship: the diplomatic and cultural dimensions of the Bukharo-Indian relationship remain undertheorized. The Naqshbandiyya Sufi order, whose shrines in Bukhara attracted substantial pilgrimage traffic from India and whose shaykhs maintained correspondence with Mughal grandees, features in Levi's account primarily as a backdrop rather than as an analytical object. Similarly, the formal diplomatic exchanges between the Bukharan khans and the Mughal emperors—exchanges documented in both Persian and Uzbek sources and involving substantial symbolic and material transfers—receive insufficient attention. These are precisely the dimensions of the relationship that a dissertation drawing on Tashkent, Delhi, and London archives is best placed to recover.

METHODOLOGICAL CONCLUSIONS AND RESEARCH AGENDA

The foregoing survey permits several methodological conclusions bearing on current and future research on Bukharo-Indian relations. First, Western sources—travelogues, merchant reports, official intelligence dispatches, and Orientalist monographs—are indispensable for the reconstruction of commercial networks and are partially useful for the reconstruction of diplomatic exchanges, particularly for the eighteenth century. Their utility diminishes markedly for cultural and religious dimensions of the relationship, which are systematically underrepresented in texts produced by individuals whose primary interest was economic or strategic.

Second, Western sources consistently exhibit what might be called a ''transaction bias'': they attend to exchanges that can be quantified (commodities, prices, duties) and neglect exchanges that are qualitative (gifts, letters, visits, shared devotional practice). This bias produces a partial and systematically distorted account of the relationship that must be corrected through recourse to Persian and Uzbek chronicles, to Naqshbandī maktubat (letter collections), and to the diplomatic correspondence preserved in the Central State Archive of Uzbekistan in Tashkent.

Third, the most productive methodological strategy for dissertation research on this topic is not the rejection of Western sources but their systematic triangulation with non-Western materials. Each category of source illuminates aspects of the relationship that the others obscure: European travellers provide granular commercial data; Russian imperial reports document the mid-eighteenth century diplomatic conjuncture; Persian chronicles record the ideological and ceremonial dimensions of inter-court relations; Uzbek administrative documents register the fiscal and juridical dimensions of the Indian merchant presence. A research design that combines materials from the Central State Archive of Uzbekistan, the National Archives of India, and the British Library's India Office Records is best positioned to do justice to the complexity of the Bukharo-Indian relationship.

Finally, particular attention should be devoted to the Naqshbandiyya as a transnational network linking Bukhara and India. The order's shrines, its circulation of texts, and its role as a mediator between the Bukharan and Mughal courts have been noted in the existing literature but not systematically analysed.

CONCLUSION

Western sources on the relations between the Bukhara Khanate and India constitute a valuable but profoundly partial archive. From Jenkinson's sixteenth-century merchant reconnaissance to Levi's twenty-first-century monograph, they have consistently foregrounded the commercial dimensions of the relationship while subordinating its diplomatic, cultural, and religious aspects. This bias reflects the interests of the individuals and institutions that produced the sources—merchants, imperial agents, and academic Orientalists—rather than the actual texture of Bukharo-Indian interaction, which was rich, multi-dimensional, and sustained across three centuries. A critical reading of Western sources, combined with systematic engagement with Persianate, Uzbek, and Russian materials, offers the most promising path toward a comprehensive understanding of one of early modern Eurasia's most consequential bilateral relationships.

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LEXICAL CLASSIFICATION OF BUILDING TERMS RELATED TO NON-RESIDENTIAL SITUATIONS IN UZBEK AND ENGLISH

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Annotation: *The article scientifically analyzes the general description of the principles of semantic association of building terms related to various social, everyday, and cultural aspects of human life, as well as its activities, with terms specific to non-residential buildings in construction.*

Keywords: *terms, lexical and thematic classification, semantic features, terms.*

INTRADUCTION

As is known, terminology, as the most socially conditioned layer of the dictionary, actively reflects the social and technical requirements of the existence and development of society. Construction terms not only reflect the scientific generalization of construction practice and the level of development of construction science, but also indirectly, to a certain extent, contribute to the development of some social foundations of society. Terms denoting non-residential buildings are special concepts that reflect the social side of human life.

The terms specific to non-residential buildings include building terms related to various social, everyday, cultural aspects of human life, as well as its activities. A general description of the principles of semantic association of terms of this type shows that the main feature of their interconnection is thematic association, the basis of which is the meaning of the functional purpose. This feature characterizes each thematic group as part of this type separately and the

entire composition of terms of this type. This can be compared in the following selected group of terms:

1. Names of buildings intended for on-site education: **in Uzbek:** *maktab, institut, universitet;* **in English:** *university, institute, school;*

2. Names of buildings intended for human health in places: **in Uzbek:** *kasalxona, boshpana, tug‘ruqxona, muolajaxona, klinika, sanatoriy, dorixona, malhamxona, rentgenografiya, jonlantirish binosi;* **in English:** *hospital, chemist's, chemist's shop, drug-store, maternity home, maternity hospital, lying-in home, lying-in hospital, delivery room, policlinic, nursing-home, mad-room;*

3. Names of buildings of cultural institutions: **in Uzbek:** *madaniy-maishiy binolar; kutubxona, suratga olish uyi, rasmchilar uyi, madaniyat uyi, madaniyat saroyi, teatr, kinozal, majlislar uyi, kutubxona, kuzatuv maydonchasi;* **in English:** *library, reading-room, pavilion, exhibition pavilion, museum;*

4. Names of buildings intended for sports: **in Uzbek:** *sport inshootlari, stadion, arena, sport maydonchasi, sport klubi, sport saroyi, tenis korti, sport zali, suzish havzasi, avtomobil poyga maydonchasi;* **in English:** *gym hall, court, stadium, sport hall, pool, cycle track, hippodrome;*

5. Names of business establishments: **in Uzbek:** *do‘kon, bozor, yo‘lak, unversal do‘kon, kitob do‘koni, chodir do‘kon, butik, chodir, tim, bit bozori;* **in English:** *covered, market, kiosk, booth, bookstall, tray, pagoda, market-building, tent, marquee, penthouse;*

6. Names of buildings intended for rent and guests: **in Uzbek:** *mehmonxonxona, qasr, saroy ;* **in English:** *hotel, inn, boarding-house;*

7. Names of public service buildings: **in Uzbek:** *sartaroshxona, ustaxona, soatni ta'mirlash ustaxonasi, poyabzal ta'mirlash ustaxonasi, tsex (ustaxonalarni birlashtiruvchi tsex);* **in English:** *photographer 's, hairdresser 's, work-shop, shoe-work-shop, clock repair shop;*

8. Names of buildings of industrial and agricultural enterprises: **in Uzbek:** *zavod, g‘isht ishlab chiqarish zavodi, sement zavodi, kombinat, ipak fabrikasi, yog‘ochni qayta ishlash zavodi, temir-beton zavodi, qurilish asboblari zavodi,*

poyabzal fabrikasi, ustaxona, ombor, tovuqxona, otxona, molxona, qozonxona, ferma, shipang, issiqxona, boshqaruv binosi, garaj; **in English:** *works, factory, plant, reinforced concrete construction works, brickfield, cement - works, motor automobile works, smithy, forge, farriery, boiler - room, boiler - house, boiler - shop, workshop, hot bed, green - house, forcing bed, farm, poultry, poultry farm, cow - shed, dairy, dairy farm, cattle - breeding farm, garage etc.*

Although the above groups differ from residential buildings, we have witnessed the use of the names of some buildings in the names of residential buildings in everyday life.

In the process of studying terms related to the construction industry, we also found it necessary to pay attention to the lexemes that decorate the following buildings and divide them into the following groups.

The semantic (conceptual) division of this group of terms related to the design features of this component of residential buildings may be different. These groups are formed by:

1. Terms denoting the structure of the building (large or small type, multi-storey buildings): **in English:** *beam-ceiling, joist-ceiling, flat slab-ceiling, much-room-floor;* **in Uzbek:** *qavat, zina, bo‘lak.*

2. Terms denoting construction methods and floor types: **in English:** *rest, lean, hung-ceiling, suspended ceiling, brick-arch floor, beam and girder-floor, open-floor, settle on steel (iron) or timber beam;* **in Uzbek:** *tiyaga qo‘yish, g‘isht qoplamasi, panjara va to‘siqning yuqori qoplamasi, setkali qoplama, miramirli devor tosh, metall to‘siqlar, devorlarni tashqi qo‘llab-quvvatlovchi qoplama, ichki devorlarni qo‘llab-quvvatlovchi qoplama, g‘isht ustunini qo‘llab-quvvatlovchi qoplama va h.k.*

3. Terms that describe design: **in English:** *monolithic floor, arched-floor, cellular floor, composite floor, rib floor, prefabricated floor, prefabricated ferro-concrete floor; o‘zbek tilida: monoletka, temir biton, armatura to‘qimasi, loy shuvoqli bostirma, yog‘och tirgakli pech ayvon va boshqalar.*

4. Terms denoting parts: **in English:** *camp-ceiling, basement-floor, between the storysed floor, lower, ground floor;* **in Uzbek:** *podval, yuqori bolaxona, pastki qavat, qavatlar orasi, poygak.*

5. Coating names: **in English:** *coom ceiling, main beam, secondary beam, plate, columns, bear elements, anchor, sill anchor;* **in Uzbek:** *issiqlik izolyasiyasi qatlami va konsertlarning ovoz izolasiyasi, to‘siqlar va ustunlar, yuk ko‘taruvchi elementlar, qotirma murvati, qotirmoq;*

6. Terms describing material coating: **in English:** *concrete ceiling, reinforced-concrete ceiling, armored concrete room, armored, floor, battle, deck floor, metal - deck rooms;* **in Uzbek:** *usti betonli stol, temir-beton qoplama, quvur elementlarining temir-beton qoplamasi, metall astar.*

During the research process, we also paid attention to construction terms meaning floor, and their general meaning in both languages is called by the following words: pol- floor. During the research process, we divided the terms into groups:

1. Terms denoting the design features of floors: **in English:** *tongue – floor, wearing floor, inlaid – floor, parquet on black dual floor, parquet - floor on armored concrete ceiling, timber-framed floor, floor on groove (rebel);* **in Uzbek:** *yog‘ochpol, ko‘tarmalari temirdan bo‘lgan pol, biton pol, parket pollar, to‘kli pol, linolium.*

2. Terms denoting the components of floors: **in English:** *composite floor, composition floor, continuous floor, inlaid floor, piece floor;* **in Uzbek:** *qattiq pol, koshinkor qoplama pol, bir-biriga kiydirma pol, yog‘och parchalaridan tayyorlangan pol, temir moslamalaridan tayyorlangan pol.*

3. Names of floor types: **in English:** *asphalt floor; cement floor; clay floor; timber floor; ideal floor; parquet floor; open steel floor; parquet-board floor; linoleum floor; topiflaks floor; revetment floor; asphalt-mastic floor, cork -floor; deal - floor; parquet - board; sound and heat isolation; parquet - board; floor- oard; plinth; shields; logs; - sand, asphalt-layer;* **in Uzbek:**

loydan qilingan pol, parket taxta qavat, asfalt qatlamli pol, bir-biriga kiydiriladigan taxta pol, asfaltdan qilingan pol, temirli pol, bitonli pol.

In the process of studying construction terminology, we also worked on the terms used in both languages for the roofs of houses and their functional parts. We divided them into the following groups:

1. Common terms describing the roof: **in English:** *roof protection part, bearing roof, pitch of roof, pitch of roof, lifting roof, pitching roof, deck - room flat – roof, dead- level roof, open roof, high(rise) roof, curb roof, broach roof, cantilever roof, cut roof, dome-shaped roof, double lean – roof, double - double dome ~ shaped roof, French roof, high-pitched roof, hip-roof, lean to mansard roof, sloping roof, structure roof;* **in Uzbek:** *tomning bir qismi, tomning ko‘taruvchi qismi, tomni temasi, tomning qiyaligi, nishabli, qiya tom; tekis tom, nishabli, qiya tom; tekis tom, chordoqsiz tom, yuqori tom, tomni himoya qiluvchi qismi, boshqariladigan tom, ko‘tarma tom, o‘lik tom, baland tom, bir qavatli tom; tepalikli tom; konsol (konsol) tomi; yarim suvli tom; gumbazli tom; bir qavatli; to‘g‘ri nishabli tom; to‘rt qavatli tom; bir qavatli mansard tomi; qiya tom; tirgakli tom.*

2. Terms that hold the roof in place and adjust its shape: **in English:** *collar, slab, plate, arched room; collar-roof, sompass-roof, composite roof, clerestory-room; equilateral roof, framed roof, island station-roof, king-bolt truss, king-post-truss, lamella trussless wood, upright, stanchion, post, collar, purlin-squared beam, inner support, extra support, truss, purlin-truss, refter-frame, ferro concrete refter, fish-plate;* **in Uzbek:** *yoqa; tirgak, plita, plastinka, kemerli tom, bitonni ustun, yog‘ochli tom, ustun, temir ustun, xari, so‘lanka, tom yoqasi, kompas-tom, kompozit tom, teng qirrali tom; ramkali tom.*

CONCLUSION

In conclusion, we have examined the meanings of construction terms in the lexicon of construction terms related to types of construction, components, elements, and structural organization features. At the same time, we have tried

to analyze the aspects of the organization of the lexical component of construction terminology in English and Uzbek.

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7-SINF O‘QUVCHILARIDA INGLIZ TILI LUG‘AT BOYLIGINI INTERAKTIV USULLAR ORQALI RIVOJLANTIRISH

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Annotatsiya. *Mazkur maqolada 7-sinf o‘quvchilarida ingliz tili lug‘at boyligini oshirishning samarali usullari yoritilgan. Ayniqsa, interaktiv metodlardan foydalanish orqali o‘quvchilarning so‘z boyligini kengaytirish, ularning darsga bo‘lgan qiziqishini oshirish hamda bilimlarni mustahkamlash imkoniyatlari tahlil qilingan. Tadqiqot davomida zamonaviy pedagogik texnologiyalar, o‘yinlar, guruhli ishlash va kommunikativ mashg‘ulotlarning ahamiyati ko‘rib chiqildi. Interaktiv usullar o‘quvchilarni faol ishtirok etishga undab, ularning nutqiy kompetensiyasini rivojlantirishda muhim omil bo‘lib xizmat qilishi asoslab berildi.*

Kalit so’zlar:*interaktiv usullar, ingliz tili, lug'at, o'quvchilar, ta'lim, kommunikativ yondashuv, pedagogika.*

Аннотация. *В данной статье рассматриваются эффективные методы расширения словарного запаса английского языка у учащихся 7-го класса. В частности, анализируются возможности развития лексического запаса учеников посредством интерактивных методов, повышения их интереса к урокам, а также закрепления полученных знаний. В ходе исследования были рассмотрены современные педагогические технологии, игровые методы, групповая работа и значимость коммуникативных занятий. Обосновано, что интерактивные методы побуждают учащихся к активному участию и являются важным фактором развития их речевой компетентности.*

Ключевые слова: *интерактивные методы, английский язык, словарный запас, учащиеся, образование, коммуникативный подход, педагогика.*

Abstract. *This article examines effective methods for enriching the English vocabulary of 7th-grade students. In particular, it analyses the opportunities for expanding students' word stock through interactive methods, increasing their engagement in lessons, and consolidating acquired knowledge. During the research, modern pedagogical technologies, game-based*

approaches, group work, and the significance of communicative activities were explored. It is substantiated that interactive methods encourage students' active participation and serve as a vital factor in developing their communicative competence.

Keywords: *interactive methods, English language, vocabulary, students, education, communicative approach, pedagogy.*

KIRISH

Bugungi globallashuv davrida ingliz tilini bilish har bir o‘quvchi uchun muhim ahamiyat kasb etadi. Ayniqsa, umumta’lim maktablarida o‘quvchilarning lug‘at boyligini oshirish asosiy vazifalardan biri hisoblanadi. Chunki tilni mukammal o‘zlashtirish bevosita so‘z boyligiga bog‘liqdir.

7-sinf o‘quvchilari til o‘rganishda faol bosqichda bo‘lib, ularning qiziqishi yuqori bo‘ladi. Shu sababli dars jarayonida interaktiv usullardan foydalanish orqali ularning bilimini oshirish mumkin. Mazkur maqolada aynan shu masala tahlil qilinadi.

Metodlar

Tadqiqot davomida bir nechta metodlardan foydalanib, empirik ma'lumotlar yiġildi. Empirik ma'lumotlar Namangan viloyati, Pop tumanidagi 36-sonli umumta’lim maktabida tahsil olayotgan 7-sinf o'quvchilari ishtirokida yiġildi. Ushbu tadqiqotda jami 60 nafarga yaqin o'quvchilar hamda 4 nafar ingliz tili o’qituvchisi ishtirok etdilar. Ishtirok etuvchilar 14-15 yosh oralig’idagi o'quvchilardan tashkil topdi.

Talabalar o'rtasida ichki motivatsiya darajasi, o'quv jarayoniga bo'lgan munosabat va o'z-o'zini boshqarish ko’nikmalarini aniqlash maqsadida Likert shkalasidan foydalangan holda so'rovnomalar o'tkazildi. Shuningdek, talabalar faolligini baholash uchun qisqa savol-javoblar o'tkazildi. Sifat metodlari doirasida esa yarim-strukturalashgan intervyular o'tkazildi va o'quvchilarning dars jarayoni haqidagi fikrlari aniqlandi.

Natijalar

O‘tkazilgan tadqiqot natijalari shuni ko‘rsatdiki, ingliz tili darslarida interaktiv usullardan foydalanish 7-sinf o‘quvchilarining lug‘at boyligini oshirishda yuqori samaradorlikka ega. Tadqiqot davomida to‘plangan

ma’lumotlar shuni ko'rsatadiki, Likert shkalasi asosida o‘tkazilgan so‘rovnoma natijalariga ko‘ra, o‘quvchilarning 85% dan ortig‘i an’anaviy darslarga qaraganda, interaktiv o‘yinlar va kommunikativ mashg‘ulotlar orqali yangi so‘zlarni o‘rganishga ko‘proq qiziqish bildirishgan. O‘quvchilarda dars jarayoniga nisbatan ichki motivatsiya va o‘z-o‘zini boshqarish ko‘nikmalari sezilarli darajada oshgani kuzatildi.

Qisqa savol-javoblar va test natijalari tahlili shuni ko‘rsatdiki, interaktiv usullar, masalan, "Word Association", "Role play" yordamida o‘rganilgan so‘zlarning xotirada saqlanish darajasi an’anaviy yodlash usuliga qaraganda 30-35% yuqori bo‘ldi.

Yarim-strukturalashgan intervyular davomida o‘quvchilar guruhlarda ishlash davomida o‘zlarini erkin his qilishlarini va yangi so‘zlarni nutqiy vaziyatlarda qo‘llash osonroq kechishini ta’kidladilar.

Muhokama.

Ushbu tadqiqot natijalari 7-sinf o‘quvchilarida ingliz tili lug‘at boyligini oshirishda interaktiv metodlarning an’anaviy o‘qitish usullaridan ustunligini tasdiqlaydi. Tadqiqot davomida aniqlangan holatlarni quyidagicha tahlil qilish mumkin:

7-sinf o‘quvchilari o‘smirlik davriga qadam qo‘yganliklari sababli, ularda ijtimoiy muloqotga bo‘lgan ehtiyoj yuqori bo‘ladi. Interaktiv metodlar aynan shu ehtiyojni qondiradi. Natijalarda ko‘ringan 85% lik motivatsiya o‘sishi shuni ko‘rsatadiki, o‘quvchi jarayonning faol ishtirokchisiga aylanganda, yangi leksik birliklarni ixtiyoriy ravishda o‘zlashtiradi. Bu esa kognitiv yuklamani kamaytirib, so‘zlarning uzoq muddatli xotirada saqlanishini ta’minlaydi.

Tadqiqotda qo‘llanilgan kommunikativ yondashuv o‘quvchilarga so‘zlarni alohida emas, balki nutqiy vaziyat ichida o‘rganish imkonini berdi. Bu jarayon "so‘zni yodlash" bosqichidan "so‘zni qo‘llash" bosqichiga o‘tishni tezlashtiradi. Metodlar qismida qayd etilgan Likert shkalasi natijalari o‘quvchilarning o‘z-o‘zini boshqarish ko‘nikmalari oshganini ko‘rsatdi — bu

esa mustaqil ravishda yangi so‘zlarni qidirish va ularni nutqda ishlatishga intilishdan dalolat beradi.

Sifat metodlari (intervyular) shuni ko‘rsatdiki, interaktiv muhit o‘qituvchi va o‘quvchi o‘rtasidagi "to‘siq"ni kamaytiradi. Pop tumanidagi 36-sonli maktab misolida ko‘rdikki, o‘qituvchi faqat axborot beruvchi emas, balki fassilitator (yo‘naltiruvchi) vazifasini bajarganda, o‘quvchilar xato qilishdan qo‘rqmay qo‘yadilar. Bu esa til o‘rganishdagi eng katta to‘siq bo‘lgan "nutqiy qo‘rquv"ni yengishga yordam beradi.

XULOSA

O‘tkazilgan ilmiy kuzatishlar va amaliy tadqiqotlar asosida 7-sinf o‘quvchilarida ingliz tili lug‘at boyligini oshirish masalasi bo‘yicha quyidagi yakuniy xulosalarga kelindiki, interaktiv usullar an’anaviy lug‘at yodlash metodlaridan farqli o‘laroq, o‘quvchilarning darsdagi faolligini oshiribgina qolmay, balki yangi so‘zlarni kontekstual bog‘liqlikda o‘rganish samaradorligini sezilarli darajada yaxshilaydi.

Tadqiqot natijalari o‘quvchilarning so‘z boyligini oshirishda vizual, eshitish va harakatli (kinestetik) usullarning uyg‘unlashuvi eng yaxshi natija berishini ko‘rsatdi. Zamonaviy pedagogik texnologiyalar o‘quv jarayonidagi psixologik to‘siqlarni bartaraf etib, o‘quvchilarda o‘z-o‘ziga ishonch va jamoada ishlash ko‘nikmalarini shakllantiradi. Bu esa ingliz tilini chet tili sifatida o‘rganishdagi motivatsiyani barqaror ushlab turishning asosiy omilidir. Namangan viloyati, Pop tumanidagi 36-sonli maktab tajribasi shuni ko‘rsatdiki, interaktiv metodlarni darsning barcha bosqichlarida qo‘llash o‘qituvchi va o‘quvchi o‘rtasidagi hamkorlikni yangi bosqichga olib chiqadi.

Xulosa qilib aytganda, interaktiv yondashuv zamonaviy ta’lim talablariga to‘liq javob beradi va 7-sinf o‘quvchilarining kommunikativ kompetensiyasini rivojlantirishda muhim poydevor bo‘lib xizmat qiladi.

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FOREIGN EXPERIENCE OF USING CASE MANAGEMENT IN STUDYING WOMEN'S PROBLEMS

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Abstract: *Case management has emerged internationally as a central approach in responding to violence against women (VAW), intimate partner violence (IPV), and other gender-based problems. This article reviews foreign experience in using case management to study and respond to women's problems, synthesizing models from humanitarian settings, high-income countries, and middle-income contexts. We analyze frameworks, implementation strategies, evaluation evidence, ethical and safety considerations, and lessons applicable to settings seeking to strengthen services for survivors. The review draws on international guidelines, peer-reviewed evaluations, and programmatic manuals to identify effective components and persistent challenges.*

Keywords: *case management, gender-based violence, intimate partner violence, social work, GBV, protection, survivors, international guidelines*

INTRODUCTION

Gender-based violence (GBV) and related problems affecting women are global in scope and constitute a major public health, human rights, and social welfare challenge. Case management is a client-centred, coordinated approach designed to link survivors to services, manage complex needs across sectors, and promote safety, empowerment, and recovery. While core principles of case management are shared internationally, models vary by sector (health, protection, social services), setting (stable vs. humanitarian), and resource level.

This article surveys foreign experience with case management as applied to women's problems, focusing on: commonly used frameworks and international standards, sectoral implementations (health, shelters,

legal/protection), evidence of effectiveness, practical challenges and ethical considerations and actionable recommendations for countries looking to adopt or adapt these practices.

Definitions and conceptual framework. Case management (CM) in GBV/VAW contexts refers to a structured process of assessment, planning, coordination, monitoring and advocacy to meet the needs of survivors. A survivor-centred case management approach emphasises safety, confidentiality, informed consent, empowerment, and do-no-harm principles. In protection and humanitarian practice, CM is often referred to as protection case management or GBV case management—terms that imply multi-sector coordination and rigorous confidentiality and data-protection standards.

Core functions typically include: needs assessment; individualized service planning; coordination of referrals; follow-up and monitoring; documentation and data protection; and advocacy.

Key international guidelines and standards. Several widely used international frameworks guide GBV-related case management. Notable among them are:

Interagency GBV Case Management Guidelines (2017): Provides standards and step-by-step guidance for GBV case management, particularly in humanitarian settings. It outlines intake, risk assessment, safety planning, documentation, and referral coordination.

Protection Case Management Guidance (UNHCR/IRC, 2019–2023): Offers a human-rights-based protection CM approach that emphasizes client-centred planning and measurable outcomes.

WHO and health-sector guidance: WHO curricula and national clinical guidelines integrate case management elements into health responses for survivors, emphasizing clinical care, referral pathways, and data protection.

UN Women and regional toolkits: Training manuals and guidance on remote case management and multi-sectoral assessments augment operational practice.

These instruments stress standardisation, quality assurance, training and supervision, and the safety/confidentiality of survivors.

4. International models and sectoral examples

Humanitarian settings. In humanitarian and displacement settings, GBV case management is frequently delivered by protection clusters, UN agencies, and NGOs using the Interagency GBV Case Management Guidelines. Caseworkers are trained to manage acute risk, provide psychosocial first aid, and coordinate multi-sector referrals under constrained resources. Cash assistance, protection monitoring, and community-based safety mechanisms are often integrated.

Health sector and hospital-based models. Hospitals and primary care settings adopt case management to identify survivors, provide medical care, document injuries, and refer to protection services. Social workers or nurse case managers embedded in hospitals lead multidisciplinary teams for coordinated care and follow-up.

Shelter and social services. Shelters use case management as a backbone—supporting safety planning, legal assistance, housing, economic empowerment, and long-term reintegration. Case managers facilitate access to benefits, employment support, and psycho-social services.

Community-based and remote case management. Emerging practice includes remote case management (helplines, digital platforms) for survivors who cannot access in-person services. Toolkits and guidance for remote services stress safety, confidentiality, and adaptation of psychosocial support remotely.

Evidence of effectiveness and evaluation findings

Systematic reviews and empirical studies show mixed but generally positive outcomes associated with coordinated case management: improved access to services, better safety planning, increased use of legal remedies, and gains in mental health and empowerment when accompanied by psychosocial interventions. However, high-quality longitudinal studies remain limited;

challenges include heterogeneity of interventions, ethical constraints in randomized designs, and difficulties in long-term follow-up.

Evaluation literature highlights that outcomes improve when case management is:

- survivor-centred and trauma-informed;
- delivered by trained and supervised staff;
- supported by clear referral pathways and inter-agency coordination;
- backed by data-protection protocols and monitoring systems.

Core components of effective case management. Based on guidelines and program evaluations, effective CM programs share several components:

1. Standardized intake and risk assessment tools that identify immediate danger and urgent needs.

2. Individualized service plans created with the survivor's participation and consent.

3. Multisectoral referral networks with memoranda of understanding where possible.

4. Regular follow-up and outcome monitoring, including client feedback mechanisms.

5. Supervision, training and support for caseworkers, including secondary trauma mitigation.

6. Robust data protection and secure record-keeping.

Challenges, limitations, and risks. Common barriers found across contexts include:

- Resource constraints (staffing, funding, logistic limits).
- Poor coordination between sectors and agencies resulting in referral breakdowns.
- Cultural and legal barriers that discourage reporting or service uptake.
- Data protection and confidentiality risks—especially in small communities or where records are insecure.

- Burnout and secondary trauma among caseworkers without adequate supervision.
- Measurement challenges: attributing client outcomes directly to CM interventions is methodologically complex.

Ethical and safety considerations. Confidentiality, informed consent, do-no-harm, and survivor autonomy are fundamental. Programs must implement strict data protection measures, secure storage, limited access protocols, and clear informed consent procedures. Safety planning must be individualized and account for potential escalation of risk.

Adapting foreign experience to national/local contexts: recommendations. Countries seeking to adopt or adapt foreign case management experience for women's problems can consider the following steps:

1. Adopt a survivor-centred legal and ethical framework aligned with international standards.
2. Use existing international guidelines (Interagency GBV CM, Protection CM, WHO) as templates for national SOPs and training curricula, adapting language and protocols to local systems.
3. Invest in training and supervision, prioritizing trauma-informed care and staff wellbeing.
4. Establish formal referral pathways and multisector coordination mechanisms, with clear roles and data-sharing agreements that safeguard privacy.
5. Integrate data protection measures and digital security for case records.
6. Pilot remote case management services where access barriers exist and evaluate them rigorously.
7. Design monitoring and evaluation (M&E) frameworks with realistic, survivor-centred indicators and mixed-methods approaches.

8. Engage communities and survivors in service design to increase acceptability and cultural fit.

CONCLUSION

In conclusion, Foreign practice demonstrates that case management—when implemented in a survivor-centred, coordinated, and well-resourced manner—can improve access to services, safety, and empowerment outcomes for women experiencing violence and related problems. The international guidance and evidence base offer practical blueprints for countries adapting these models, while cautioning that adequate training, coordination, data protection, and evaluation are essential to success.

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BOSHLANG‘ICH SINF O‘QUVCHILARINI NUTQINI RIVOJLANTIRISH METODIKASI

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Annotatsiya: *Mazkur maqola ona tili va o‘qish savodxonligi darslarida boshlang‘ich sinf o‘quvchilarida til ko‘nikmalarini rivojlantirishning nazariy asoslari va amaliy yondashuvlarini o‘rganishga bag‘ishlangan. Ona tili va o‘qish savodxonligi darslarida til ko‘nikmalarini turli metodlar asosida rivojlantirish o‘quvchilarning umumiy o‘zlashtirishini va kommunikativ kompetensiyasini oshirishda muhim ahamiyatga ega ekanligini ko‘rsatadi.*

Abstract*: This article is devoted to the study of theoretical foundations and practical approaches to the development of language skills in primary school students in native language and reading literacy classes. It shows that the development of language skills in native language and reading literacy classes using various methods is important for improving students' overall mastery and communicative competence.*

Kalit so‘zlar: *til ko‘nikmalari, tinglash, gapirish, o‘qish, yozish, ona tili, o‘qish savodxonligi, kompleks rivojlantirish, interfaol metodlar, integratsiyalashgan ta’lim, boshlang‘ich sinf, kommunikativ kompetensiya.*

Keywords: *language skills, listening, speaking, reading, writing, native language, reading literacy, comprehensive development, interactive methods, integrated education, primary school, communicative competence.*

KIRISH

Boshlang‘ich sinf o‘quvchilarining nutqini rivojlantirish metodikasi o‘quvchilarning yosh xususiyatlarini hisobga olgan holda, ularning so‘z boyligini oshirishga, grammatik savodxonligini rivojlantirishga va nutqiy faolligini oshirishga qaratilgan bo‘lishi kerak. Rus metodisti M.R. Lvov o‘zining “Boshlang‘ich sinflarda rus tilini o‘qitish metodikasi” asarida

boshlang‘ich sinf o‘quvchilarining nutqini rivojlantirishning samarali usullarini keltirgan[73]. O‘qituvchilar darslarda turli xil nutqiy mashqlar, o‘yinlar, munozaralar, loyihalar va rolli o‘yinlardan foydalanishlari mumkin. Shuningdek, o‘quvchilarni kitob o‘qishga, hikoyalar yozishga va o‘z fikrlarini erkin ifoda etishga undash muhim ahamiyatga ega.

Shunday qilib, nutqni rivojlantirishning nazariy asoslarini chuqur anglash o‘qituvchilarga boshlang‘ich sinf o‘quvchilarining nutqini samarali rivojlantirishga yordam beradi. Pedagogik va tilshunoslik nazariyalarini, shuningdek, nutqni rivojlantirishga ta’sir etuvchi zamonaviy omillarni hisobga olish o‘qituvchilarga o‘quvchilarning individual xususiyatlariga mos keladigan va ularning nutqiy kompetensiyasini oshirishga qaratilgan ta’limiy strategiyalarni ishlab chiqishga imkon beradi.

Boshlang‘ich sinf o‘quvchilarida nutq o‘stirishning nazariy asoslari bir qator fanlarning integratsiyalashgan yondashuvini talab etadi. Bu jarayon nafaqat lingvistik bilimlarni o‘zlashtirishni, balki bolaning kognitiv, emotsional va ijtimoiy rivojlanishini ham qamrab oladi. Ushbu bo‘limda K.D. Ushinskiyning “Ona tili” asarining nutq o‘stirish metodikasiga qo‘shgan hissasi va nutq o‘stirish nazariyasining boshqa fanlar bilan o‘zaro aloqalari ko‘rib chiqiladi. K.D. Ushinskiyning “Ona tili” asari bolalarga ona tilini o‘rgatishda yangi metodik yondashuvni taqdim etdi. Ushinskiy ona tilini o‘qitishning uchta asosiy maqsadini belgilab berdi: (1- rasmga qarang)

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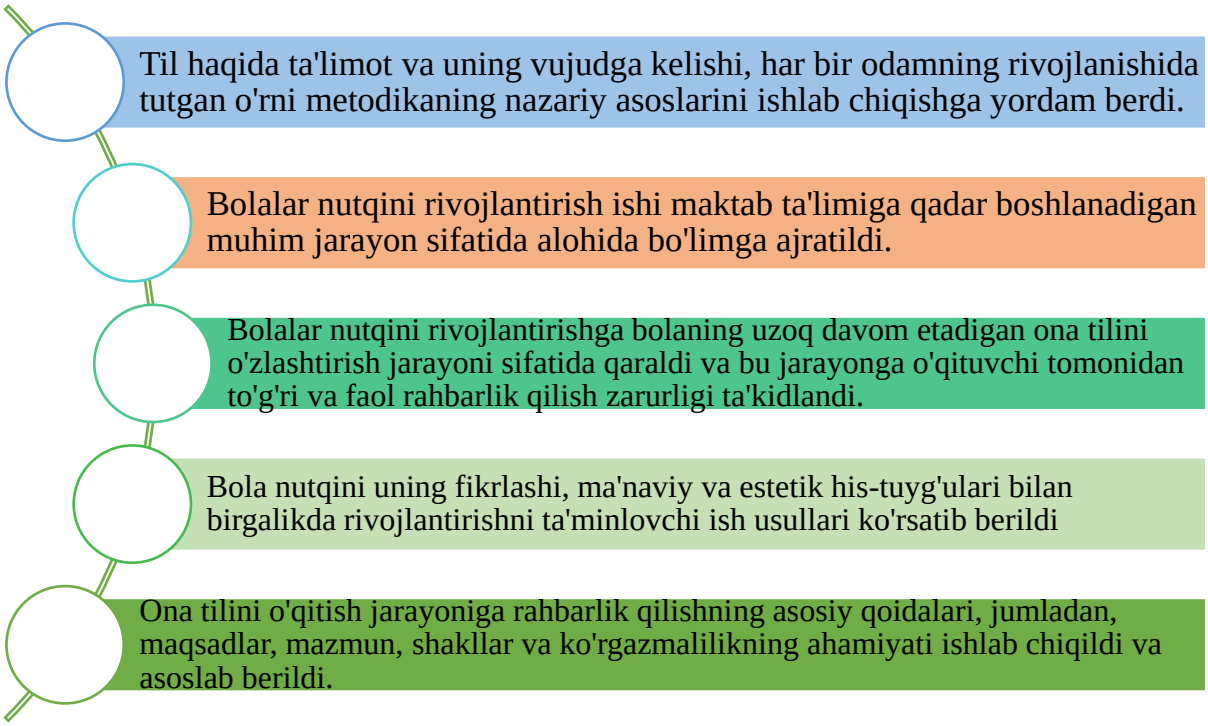
1- rasm. Ona tilini o‘qitishning uchta asosiy maqsadi

Ushbu maqsadlarga erishishda Ushinskiy ketma-ketlik emas, balki bir vaqtning o‘zida integratsiyalashgan yondashuvni taklif qildi.”Ona tili” kitobi nafaqat bilimlar manbai, balki badiiy ensiklopediya bo‘lib, ertaklar, topishmoqlar, maqollar, tez aytishlar, qo‘shiqlar va she’rlarni o‘z ichiga oladi. Ushinskiy birinchi bo‘lib bolalarni o‘z zamondoshlari va klassik rus adabiyoti namoyandalari asarlari bilan tanishtirdi. Kitobning tuzilish tartibi bolaning tabiat, odamlar va jamiyat haqidagi bilimlarini kengaytirishga qaratilgan bo‘lib, uni tanish narsalardan notanish narsalarga olib boradi. Ushinskiyning ta’kidlashicha, 6 yoshgacha bo‘lgan bolalar nutqida tovushlarning tushunarsizligi, lug‘at boyligining yetarli emasligi va o‘zaro bog‘liqlikning yo‘qligi kabi xususiyatlar mavjud[74]. Shuning uchun, u bolalar bilan mashg‘ulot o‘tkazishning turli shakllarini taklif qilgan, jumladan, bolalar hayotidan hikoyalar, narsalarning xususiyatlarini taqqoslash mashqlari, suratlar asosida hikoya qilish va o‘qish-yozishga tayyorlovchi amaliy mashqlar. K.D. Ushinskiyning til va uning bolaning ruhan shakllanishida tutgan o‘rni haqidagi ta’limoti nutqni rivojlantirish metodikasini mustaqil fan sifatida ajratish uchun muhim ahamiyatga ega bo‘ldi. Ushinskiyning g‘oyalari quyidagi asosiy yo‘nalishlarni o‘z ichiga oladi: **(2- rasmga qarang)**

[74] Ushinskiy, K.D. (1861). Ona tili. Sankt-Peterburg



2- rasm. nutqni rivojlantirish metodikasining asoasiy yo‘nalishlari

Til ko‘nikmalarini rivojlantirish, boshlang‘ich ta’lim tizimida bolaning ma’naviy, intellektual va emotsional rivojlanishini mustahkamlash uchun zarur jarayondir. Bu jarayon bolalarning kommunikativ qobiliyatlarini shakllantirish va ularni jamiyatda muvaffaqiyatli ishtirok etishga tayyorlashga qaratilgan. Til o‘stirish jarayonida qo‘llaniladigan turli metodlar bolalarning bilimlarini kengaytirish va zarur ko‘nikmalarini rivojlantirishga yordam beradi.

Tilni rivojlantirish jarayonida ko‘rgazmali usullar orqali o‘qitish bolaning o‘zlashtirish jarayonini yanada qulaylashtiradi. Ko‘rgazmali va interaktiv metodlar yordamida bolalar o‘z qiziqishlarini yanada oshirib, o‘qitish jarayonida faol ishtirok etish imkoniyatiga ega bo‘ladi, bu esa ularning til ko‘nikmalarining rivojlanishida ijobiy ta’sir ko‘rsatadi[75]. O‘quvchilar tasviriy materiallar, rassomlik ishlari va raqamli resurslar yordamida til orqali fikr bildirish va o‘zlarini ifodalashni muvaffaqiyatli o‘rganadilar. O‘quvchilarning bilimlarini amaliyotga tatbiq etish jarayoni kontekstual yondashuv asosida amalga oshirilishi muhimdir. Bu yondashuv bolalarga o‘z hayotida uchraydigan

vaziyatlarni tahlil qilish va ularga tegishli bilimlarni o‘zlashtirish imkoniyatini berish kerak. Kontekstual o‘qitish bolalarga dolzarb va qiziqarli mavzularni o‘rganishga, sifatli ta’sir ko‘rsatishga yordam beradi. Bu jarayon o‘quvchilarning ijodkorlik va tanqidiy fikrlash qobiliyatlarini yanada oshirishga xizmat qiladi[76].Til ko‘nikmalarini rivojlantirish jarayonida o‘zaro hamkorlikning o‘rni katta ahamiyatga ega. O‘qituvchi va o‘quvchilar o‘rtasida ochiq va ijobiy munosabatlar o‘rnatish, shuningdek, o‘quvchilar orasida hamkorlik va guruhda ishlashni ta’minlash juda muhimdir. Bunday yondashuv bolalarni bir-birlari bilan fikr almashishga va guruhda birgalikda ishlashga rag‘batlantiradi. O‘zaro hamkorlik orqali bolalar bir-biridan o‘rganish va fikrlarini ochiq ifodalash imkoniyatiga ega bo‘ladilar[77]. Til ko‘nikmalarini rivojlantirish jarayoni ta’limda ko‘rgazmali usullar, kontekstual yondashuv va o‘zaro hamkorlik orqali bolalarning ma’naviy, intellektual va emotsional rivojlanishini samarali qo‘llab-quvvatlaydi. Bu jarayon bolalarga mustaqil fikrlash, muammolarni hal qilish va kommunikativ ko‘nikmalarini rivojlantirishda yordam beradi. O‘qituvchilar va o‘quvchilar o‘rtasida samimiy va ochiq munosabatlarni o‘rnatish, shuningdek, ta’lim jarayonini qiziqarli va interaktiv qilish, bolalarning ta’lim sifatini oshirishga yordam beradi.

XULOSA

Til — bu odamlar orasidagi eng muhim muloqot vositasi. Shuning uchun tilni o‘rganish, uning qoidalariga rioya qilish inson madaniyatining muhim qismidir. Har bir o‘quvchi o‘z ona tilini mukammal bilishi, undan to‘g‘ri foydalana olishi va nutq orqali o‘z fikrlarini erkin ifoda eta olishi kerak. O‘zbek tili — millatimizning ma’naviy boy merosidir. Uni asrash, boyitish va kelajak avlodlarga yetkazish barchamizning muqaddas burchimizdir. Adabiy tilda gapirish odamlarning bir-birini tez va oson tushunishiga yordam beradi.

Shuning uchun bolalarni adabiy nutqqa o‘rgatishda oila, maktab va jamiyatning roli juda muhim.

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MIGRANT OILASI IJTIMOIY INSTITUT SIFATIDA: XUSUSIYATLARI VA MOSLASHUVI

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Anotatsiya: *Ushbu maqolada migrant oilalarning yangi ijtimoiy voqelikdagi bevosita hayot faoliyati, ularning o'zaro munosabatlari hamda ijtimoiy muhit bilan aloqaga kirishish mexanizmlarini tahlil qilishga bag'ishlanadi. Maqolada "faoliyat" tushunchasi markaziy o'ringa chiqadi. Zero, migrant oilaning moslashuv darajasi uning yangi sharoitda qanchalik faol va samarali hayot kechirayotganligi bilan belgilanadi. Migrant oilalarning ijtimoiy-psixologik faoliyati o'ziga xos "ikkiyoqlama" xarakterga ega. Bir tomondan, oila o'zining ichki yaxlitligini, milliy-madaniy o'zligini va an'anaviy qadriyatlarini saqlab qolishga intiladi. Ikkinchi tomondan esa, yashab turgan jamiyatning iqtisodiy, huquqiy va madaniy tizimiga integratsiya bo'lish uchun o'z faoliyat shakllarini o'zgartirishga majbur bo'ladi.*

Kalit so'zlar: *migrant oila, reproduktiv funksiya, tarbiyaviy funksiya, kommunikativ funksiya, diaspora.*

Abstract: *This article is devoted to the analysis of the direct life activities of migrant families in the new social reality, their mutual relations and mechanisms of interaction with the social environment. The concept of "activity" takes a central place in the article. After all, the level of adaptation of a migrant family is determined by how actively and effectively it lives in new conditions. The socio-psychological activity of migrant families has a peculiar "dual" character. On the one hand, the family strives to preserve its internal integrity, national-cultural identity and traditional values. On the other hand, it is forced to change its forms of activity in order to integrate into the economic, legal and cultural system of the society in which it lives.*

Keywords: *migrant family, reproductive function, educational function, communicative function, diaspora.*

KIRISH

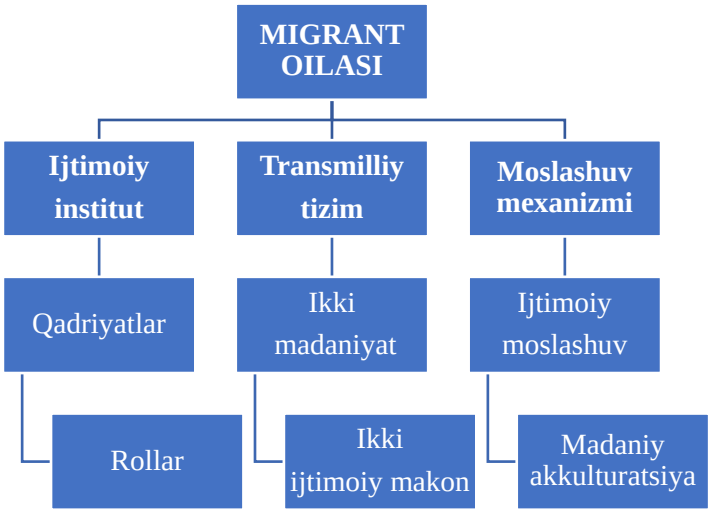
Migrant oilasi zamonaviy ijtimoiy tizimlarning tarkibiy qismi sifatida oila institutining an’anaviy funksiyalarini saqlab qolgan holda, migratsiya jarayonining bosqichlari va shart-sharoitlari ta’sirida murakkab transformatsiyaga uchraydigan ijtimoiy institutdir. Migratsiya jarayonida esa oila institutining mazkur elementlari qayta ko‘rib chiqiladi, moslashtiriladi va yangi ijtimoiy-madaniy sharoitga mos ravishda qayta shakllanadi. Shu bois migrant oilasi alohida o‘rganishni talab qiluvchi ijtimoiy institut sifatida namoyon bo‘ladi.

Oila institutining ijtimoiy mohiyati shundan iboratki, u jamiyatning eng qadimgi, eng barqaror va eng zarur bo‘g‘ini sifatida reproduktiv, tarbiyaviy, iqtisodiy, himoya va kommunikativ funksiyalarni bajaradi. Migratsiya esa ushbu funksiyalarni vaqtinchalik yoki doimiy o‘zgarishga majbur etadi. Natijada “migrant oilasi” tushunchasi shakllanadi - bu nafaqat geografik joy almashinuvi, balki ijtimoiy institut sifatidagi oila tizimining qayta ijtimoiylashuvi, madaniy moslashuv jarayoni, psixologik muvofiqlashuv va oila ichki rollarining transformatsiyasidan iborat murakkab tizimdir.

Migrant oilasi - bu transmilliy ijtimoiy institut**,** ya’ni uning faoliyati bir vaqtning o‘zida ikkita makonda:

1. kelib chiqqan mamlakat madaniyatida,
2. qabul qiluvchi mamlakat ijtimoiy-madaniy tizimida amalga oshadi.

Quyidagi jadval oila institutining an’anaviy funksiyalari va migratsiya sharoitida ushbu funksiyalarning qanday transformatsiyaga uchrashini tizimli ravishda yoritadi. Migratsiya jarayoni oilaning reproduktiv, tarbiyaviy, iqtisodiy, kommunikativ va himoya funksiyalariga turlicha darajada ta’sir ko‘rsatib, ularning mazmuni, bajarilish mexanizmlari hamda psixologik asoslarida sezilarli o‘zgarishlar yuzaga keltiradi. Shu bois migratsiya - oila funksiyalarining qayta shakllanishi va moslashuv mexanizmlarining yangidan tashkil topishiga olib keluvchi murakkab ijtimoiy-psixologik jarayon sifatida namoyon bo‘ladi.



Migrant oilasi institutsional mohiyati[78]

Migratsiya jarayoni oilaning an’anaviy funktsiyalarini o‘zgartiradi yoki qayta taqsimlaydi. Bu o‘zgarishlar ko‘pincha quyidagi holatlarda namoyon bo‘ladi: Oila a’zolarining vaqtincha ajralib qolishi. Moliyaviy yuklarning qayta taqsimlanishi. Gender rollarning o‘zgarishi. Muloqot shakllarining virtual ko‘rinishga o‘tishi. Ota-onaning nazorat va tarbiya mexanizmlaridagi uzilishlar Quyidagi jadval oila institutining an’anaviy funksiyalari va migratsiya sharoitida ushbu funksiyalarning qanday transformatsiyaga uchrashini tizimli ravishda ko‘rsatadi. Migratsiya jarayoni oilaning reproduktiv, tarbiyaviy, iqtisodiy, kommunikativ va himoya funksiyalariga turlicha darajada ta’sir etib, ularning mazmuni, bajarilish mexanizmlari va psixologik asoslarida sezilarli o‘zgarishlarni yuzaga keltiradi.

Oila institutining funksiyalari va migratsiya ta’siri[79]

Oila funksiyasi	**An’anaviy ko‘rinishi**	**Migratsiya sharoitida o‘zgarishi**
Reproduktiv	Barqaror oila tarkibi	Oila a’zolarining ajralishi, transmilliy aloqa
Tarbiyaviy	Birgalikda tarbiya	Masofaviy tarbiya, nazoratning susayishi
Iqtisodiy	Oila ichida mehnat taqsimoti	Remittansga bog‘liqlik, rol uzgarishi

[78] Rasm muallif tomonidan migrant oilaning sotsiologik, psixologik va institutsional talqinlariga doir zamonaviy ilmiy manbalar (Castles & Miller, 2013; Levitt, 2001; Bryceson & Vuorela, 2002) asosida ishlab chiqilgan.

[79] Jadval muallif tomonidan migratsiya sotsiologiyasi, oilashunoslik va transmilliy oila konsepsiyalariga oid ilmiy manbalar (Jonston & Sztompka, 2010; Levitt, 2001; Castles & Miller, 2013) asosida qayta ishlangan.

Himoya	Emotsional qo‘llab-quvvat	Psixologik izolyatsiya, yolg‘izlanish
Kommunikativ	Yuzma-yuz muloqot	Virtual muloqot, madaniy ziddiyatlar

Migrant oilasining ijtimoiy institut sifatidagi mohiyatini belgilovchi asosiy jarayon - bu oilaning ichki tizimining o‘zgarishi. Mazkur transformatsiyalar quyidagi yo‘nalishlarda namoyon bo‘ladi:

1. Gender rollarning o‘zgarishi: erkak mehnat migrantiga aylansa, ayol oilani boshqaruvchi asosiy kuch bo‘lib qoladi; ayrim mamlakatlarda aksincha, ayollar migrantga aylanadi, bu esa erkakning oiladagi roliga ta’sir qiladi.
2. Oilaviy ierarxiyaning qayta shakllanishi: Ota-ona avtoritetining pasayishi. Bolalarning yangi madaniyatni tezroq o‘zlashtirishi. Oilada “ikki madaniyatli ziddiyat”ning kuchayishi
3. Emotsional va psixologik transformatsiyalar: Vatan sog‘inchi. Moslashuv stressi. Madaniy identifikatsiya inqirozi. Oila a’zolarida turlicha moslashuv sur’atlari
4. Ijtimoiy transformatsiya: Yangi jamiyat bilan munosabat tizimining shakllanishi. Diaspora bilan aloqalarning kuchayishi. Yangi ijtimoiy rol va statuslar.

Migrant oilasi ijtimoiy institut sifatida o‘zining murakkab, ko‘p qirrali va dinamik tuzilishi bilan ajralib turadi. Uning mohiyati shundaki, oila jamiyatning asosiy ijtimoiy qadriyatlarini saqlagan holda, yangi ijtimoiy makonda qayta moslashadi, transformatsiyalanadi va transmilliy institutga aylanadi. Bu jarayon nafaqat iqtisodiy omillar, balki madaniy, psixologik, kommunikativ va ijtimoiy strukturalar bilan ham chambarchas bog‘liq bo‘lib, oila tizimi ichida chuqur o‘zgarishlarni yuzaga keltiradi.

Migrant oilalar jamiyatning ijtimoiy tuzilmasida muhim o‘rin tutadigan barqaror tizim bo‘lib, ular an’anaviy oila institutining barcha asosiy funksiyalarini o‘zida mujassamlashtiradi. Ammo migratsiya jarayoni ushbu funksiyalarning bajarilish mexanizmini keskin o‘zgartiradi, ularni yangi

ijtimoiy-madaniy kontekstga moslashishga majbur etadi. Migratsiya sharoiti oilaning iqtisodiy, ijtimoiy, tarbiyaviy va himoya funksiyalarini transformatsiyalab, oila institutini “transmilliy oila tizimi”ga aylantiradi. Shuning uchun migrant oilalarning ijtimoiy funksiyalarini o‘rganish nafaqat nazariy, balki amaliy jihatdan ham katta dolzarblik kasb etadi.

Reproduktiv funksiyalar - bu oila tarkibining davomiyligini ta’minlaydigan asosiy mexanizmlar bo‘lib, migratsiya jarayoni ushbu funksiyaning bajarilish sur’ati va sifatini sezilarli darajada o‘zgartiradi. Migrant oilalarda ko‘p hollarda: Oila a’zolarining vaqtincha ajralib yashashi. Transmilliy nikohlar sonining ortishi. Turmush qurish yoshining kechikishi. Maktabgacha yoshdagi bolalarning psixologik barqarorligiga ta’siri kuzatiladi. Shu bois reproduktiv funksiyaning migratsiya sharoitida bajarilishi nafaqat biologik, balki psixologik va ijtimoiy omillar bilan ham belgilanadi.

Tarbiyaviy funksiya oilaning eng muhim vazifalaridan biri bo‘lib, migratsiya sharoiti bu funksiyani murakkablashtiradi. Migrant oilalarda odatda quyidagilar kuzatiladi: Ota-ona va bolaning moslashuv sur’atining farqi. Virtual tarbiya shaklining kuchayishi. Madaniyatlararo identifikatsiya muammolari. Bolalarning yangi jamiyatda tez integratsiya qilishi. Bola yangi ijtimoiy muhitga tezroq moslashgan bir paytda ota-onalarning moslashuvi asta-sekin kechadi. Avtoritetning susayishi, muloqot chastotasining qisqarishi va tarbiyaviy nazoratning zaiflashuvi tarbiya jarayonining umumiy sifatiga bevosita ta’sir ko‘rsatadi. Ushbu transformatsiya tarbiyaviy funksiyaning mazmuni va mexanizmlarida sezilarli o‘zgarishlarni yuzaga keltiradi. Quyidagi jadval migratsiya sharoitida tarbiyaviy funksiyaning qanday o‘zgarishini umumlashtirib beradi.

Tarbiyaviy funksiyaning o‘zgarishi

An’anaviy tarbiya	**Migratsiya sharoitidagi tarbiya**
Yuzma-yuz muloqot	Onlayn muloqot / virtual tarbiya
Ota-onaning barqaror nazorati	Nazoratning susayishi
Yagona madaniy model	Ikkilamchi madaniy model
Oila ichida barqaror rollar	Rollarning qayta taqsimlanishi
Ota-onaga yuqori ishonch	Avtoritetning pasayishi

Migrant oilalar iqtisodiy funksiyani eng faol bajaradi, chunki: Remittanslar (xorijdan yuborilgan pul) oilaning asosiy daromad manbai bo‘ladi. Ayollarning iqtisodiy faolligi ortadi. Mehnat migrantining roli oila iqtisodiy barqarorligining asosiy omiliga aylanadi. Iqtisodiy bosimlar tarbiyaviy va psixologik muammolarni kuchaytiradi. Bu jarayonlar oilaning ichki ierarxiyasi va mas’uliyat taqsimotida sezilarli o‘zgarishlarga olib keladi.

Migratsiya sharoitida oilaning himoya funksiyasi eng ko‘p zaiflashadigan yo‘nalish hisoblanadi. Oila a’zolarining vaqtinchalik ajralishi, psixologik izolyatsiya, til bilmaslik, ijtimoiy qo‘llab-quvvatlash tarmog‘ining cheklanganligi himoya funksiyasini zaiflashtiradi.

Eng ko‘p uchraydigan muammolar**:** Yolg‘izlanish, Stressning kuchayishi, Ijtimoiy qo‘llab-quvvatlash tarmog‘ining yo‘qligi, Emotsional bo‘shliq, Qabul qiluvchi jamiyatda diskriminatsiya.

Kommunikativ funksiya - bu oila a’zolari o‘rtasidagi muloqot, axborot almashinuvi, emotsional aloqalarning barqarorligi. Migratsiya sharoitida: Yuzma-yuz aloqa kamayadi. Virtual muloqot kuchayadi. Til to‘siqlari tufayli ichki ixtiloflar paydo bo‘ladi. Ota-ona va bola o‘rtasida “madaniy tafovut” kuchayadi. Bu jarayon oilaviy birlikka ta’sir qiluvchi eng sezgir mexanizmlardan biridir. Migratsiya sharoitida muloqotning shakli, chastotasi va mazmunidagi o‘zgarishlar oila a’zolari o‘rtasidagi emotsional va psixologik aloqalarning barqarorligini belgilaydi. Quyidagi jadval migrant oilalarda kommunikativ funksiyaning qanday transformatsiyaga uchrashini umumlashtirib beradi.

Migrant oilalarda kommunikativ funksiyaning o‘zgarishi

Asosiy ko‘rsatkich	**An’anaviy oila**	**Migrant oila**
Muloqot shakli	Yuzma-yuz	Virtual
Hissiy yaqinlik	Kuchli	O‘zgaruvchan
Axborot almashinuvi	Doimiy	Cheklangan
Madaniy uyg‘unlik	Barqaror	Ikki madaniyatli

Migrant oilalarning moslashuv jarayonida eng murakkab va ko‘p qirrali sohalardan biri – bu psixologik moslashuvdir. Ijtimoiy va madaniy muhit

o‘zgarishi nafaqat tashqi sharoitlarga moslashishni, balki shaxsiy identifikatsiya, qadriyatlar tizimi, emotsional holat va oila ichki munosabatlarining qayta shakllanishini ham talab etadi. Oila ichidagi rollarning qayta taqsimlanishi, iqtisodiy va maishiy yuklamaning ortishi, madaniy qadriyatlar to‘qnashuvi, ijtimoiy qo‘llab-quvvatlash tarmog‘ining zaifligi psixologik noqulaylikni kuchaytiradi. Shu nuqtai nazardan, migrant oilalar bilan ishlashda faqat iqtisodiy yoki huquqiy yordam emas, balki psixologik maslahat, oilaviy terapiya, psixoprofilaktika va madaniy moslashuvni yengillashtiruvchi dasturlarni joriy etish alohida ahamiyat kasb etadi. Natijada, psixologik moslashuvdagi muammolarni erta aniqlash, ularni tizimli ravishda o‘rganish va maqsadli psixologik yordam choralarini ishlab chiqish migrant oilalarning barqarorligi, bolalar rivojining sog‘lom kechishi hamda yangi jamiyatga konstruktiv integratsiyasini ta’minlashning muhim sharti hisoblanadi.

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IMOM G‘AZZOLIY ASARLARI KORPUSI VA UNING LINGVISTIK TADQIQI: SEMANTIK TEGLASH VA ONTOLOGIK MODELLASHTIRISH

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Annotatsiya: *Mazkur maqolada Imom G‘azzoliy asarlarining elektron korpusini yaratish, matnlarni semantik annotatsiyalash (teglash) va mutafakkir merosiga xos bo‘lgan tushunchalar ontologiyasini ishlab chiqish masalalari tadqiq etiladi. Tadqiqotda matndagi "yashirin" ma’no munosabatlarini aniqlashda semantik teglashning o‘rni, xalqaro tajriba va o‘zbek tili korpusi uchun taklif etilayotgan semantik guruhlar tahlil qilingan. Mazkur tadqiqotning asosiy maqsadi — G‘azzoliy asarlarida mavjud semantik tizimni aniqlash, uni ontologik model asosida tasniflash va kompyuter lingvistikasi vositalari yordamida semantik tarmoq ko‘rinishida modellashtirishdan iborat.*

Kalit so`zlar: *semantik, teglash, razmetkalash, modellashtirish, ontologik, yashirin ma’no*

Annotation: *This article examines the issues of creating an electronic corpus of Imam Ghazzali's works, semantic annotation (tagging) of texts, and developing an ontology of concepts inherent in the thinker's heritage. The study analyzes the role of semantic tagging in identifying "hidden" meaning relationships in the text, international experience, and proposed semantic groups for the Uzbek language corpus. The main goal of this study is to identify the semantic system present in the works of Ghazzali, classify it based on an ontological model, and model it in the form of a semantic network using computational linguistics tools.*

Keywords: *semantic, tagging, markup, modeling, ontological, hidden meaning*

1. KIRISH (INTRODUCTION)

Zamonaviy kompyuter lingvistikasida matnlarni nafaqat grammatik yoki leksik, balki semantik darajada qayta ishlash ustuvor yo‘nalishga aylandi. Matnni semantik razmetkalash (semantik teglash) – matndagi so‘z yoki so‘z birikmasining ma’lum bir semantik kategoriya yoki undan ham kichikroq

semantik guruhga, semantik maydon yoki ma’no klasteriga mansubligini ko‘rsatib beruvchi maxsus belgi-izohlar bilan belgilanashidir [1]. So‘nggi yillarda kompyuter lingvistikasi sohasida yuz berayotgan rivojlanishlar tilni faqat grammatik jihatdan emas, balki semantik darajada ham o‘rganishni taqozo etmoqda. Ayniqsa, diniy-falsafiy matnlar murakkab ma’no tizimiga ega bo‘lib, ularni an’anaviy lingvistik usullar yordamida to‘liq ochib berish har doim ham mumkin emas. Imom G‘azzoliy asarlari mazmunan chuqur, konseptual jihatdan murakkab va o‘zaro bog‘langan tushunchalarga boy bo‘lib, unda diniy, axloqiy hamda ijtimoiy kategoriyalar bir butun tizimni tashkil etadi.

Semantik teglash jarayonida har bir ahamiyatli birlik o‘z ma’no doirasi bo‘yicha teglar bilan markalanadi. Bunday semantik teglash lingvistik korpuslarni chuqurroq tahlil etish, mavzuli qidiruvni amalga oshirish va matndan “yashirin” ma’no munosabatlarini aniqlash imkonini beradi [2]. Ilmiy adabiyotlarda til korpuslarini semantik annotatsiyalash masalasi xorijda anchadan buyon o‘rganilib, dastlabki yutuqlarga erishilgan. Masalan, ingliz tilida WordNet semantik tarmog‘iga asoslangan dastur yordamida ilk bor Brown korpusi avtomatik semantik teglangan [3]. Biroq, o‘zbek tili va xususan, Imom G‘azzoliy asarlarining tili uchun tayyor semantik teglash tizimlari hali ishlab chiqilmagan. Mazmunan boy bunday manbalarning elektron korpusini yaratish va semantik teglash orqali tahlil etish muhim ilmiy ahamiyatga ega.

2. METODLAR VA KORPUS MATERIALLARI (METHODS)

Tadqiqot uchun Imom G‘azzoliyning o‘zbek tiliga tarjima qilingan bir qator asarlaridan elektron matnlar jamlanmasi tuzildi. Xususan, korpus quyidagi 10 ta asosiy manbani o‘z ichiga oldi: “Kimyoi saodat”, “O‘limdan keyingi hayot”, “Ey, farzand”, “Ilm kitobi”, “Riyozatun nafs”, “Tafakkur kitobi”, “Mukoshafatul qulub”, “Oxiratnoma”, “Qirq hadisi qudsiy”, “Qiyomat va oxirat alomatlari”.

Ushbu korpus hajmi ~1,2 million belgidan iborat bo‘lib, so‘z shakllari soni ~200 ming tokenni tashkil etdi. Korpusdagi matnlar to‘liq tahrir qilinib, UTF-8 kodida normalizatsiya qilindi. So‘ngra matnlar *Sketch Engine* korpus menejeri

dasturiga yuklanib, u yerda ajratkichlar yordamida gaplarga va so‘zlarga tokenlashtirildi.

3. NATIJALAR: SEMANTIK TOIFALAR ONTOLOGIYASI (RESULTS)

Imom G‘azzoliy asarlari mazmunini aks ettiruvchi asosiy semantik guruhlar maxsus ontologik model tarzida ishlab chiqildi. Avvalo, eng yirik 3 ta semantik soha tanlandi: diniy, axloqiy va ijtimoiy.

1. **Diniy maydon:** "Ilohiyot" (Alloh nomlari, Qur’onga oid atamalar), "ibodat amallari" (namoz, ro‘za, zakot, haj), "oxirat" (jannat, do‘zax, qiyomat) kabi guruhlar.
2. **Axloqiy maydon:** "Fazilatlar" (sabr, shukr, qanoat, halollik), "nuqsonlar" (kibr, riyo, hasad, ochko‘zlik), "botiniy holatlar" (ixlos, tavba, taqvo, nafs) kabi guruhlar.
3. **Ijtimoiy maydon:** "Shaxs" (inson, bandalik, nafis odat), "jamiyat" (xalq, millat, jamoa, davlat) kabi guruhlar.

Umumiy hisobda korpus uchun 13 ta yirik semantik guruh va ularning ostida taxminan 80 ga yaqin aniqroq semantik to‘dalar tasniflandi. Bu ontologiyani tuzishda bevosita korpus matnlarini o‘rganish (bottom-up) usulidan foydalanildi.

4. MUHOKAMA (DISCUSSION)

NLP (tabiiy tilni avtomatik qayta ishlash)da matnlarning semantik qatlamini formal tarzda ifodalash ma’no-qidiruv (concept-based search) imkoniyatlarini kengaytiradi. Masalan, oddiy kalit so‘z bo‘yicha qidiruvda foydalanuvchi “sabr” so‘zini kiritganda faqat aynan shu so‘z uchragan joylar topiladi. Semantik teglangan korpusda esa “axloqiy fazilat” kategoriyasiga mansub barcha o‘xshash kontentni (masalan “chidam”, “bardosh”, “matonat”) ham qidiruv natijalariga qo‘shish mumkin bo‘ladi [6].

Shu tariqa, semantik annotatsiya qidiruvning kontseptual darajada amalga oshishiga zamin yaratadi va G‘azzoliy merosining lisoniy-falsafiy manzarasini aniqroq ko‘rsatadi.

XULOSA

Imom G‘azzoliy asarlari korpusini yaratish va uni semantik teglash mutafakkirning boy intellektual merosini zamonaviy axborot texnologiyalari yordamida chuqurroq anglashga xizmat qiladi. Ushbu tadqiqot natijasida shakllangan semantik ontologiya o‘zbek tilidagi diniy-axloqiy matnlarni avtomatik tahlil qilishning fundamental bazasi bo‘lib xizmat qilishi mumkin

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SHAXSIY HIMOYA VOSITALARINI QURITISHNING ZAMONAVIY YECHIMLARI

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Annotatsiya: *Ushbu maqolada yong‘in qutqaruvchilarning shaxsiy himoya vositalari, ayniqsa jangovar kiyimlarini quritishning zamonaviy yechimlari tahlil qilingan. Yong‘in o‘chirish jarayonida jangovar kiyimlar yuqori harorat, namlik, tutun, zaharli gazlar va kimyoviy moddalar ta’sirida ifloslanadi hamda namlanadi. Ularni noto‘g‘ri quritish himoya xususiyatlarining pasayishiga, xizmat muddatining qisqarishiga va yong‘in qutqaruvchilar xavfsizligining kamayishiga olib keladi. Maqolada ventilyatsion quritish shkaflari, ichki havo bosimi asosida ishlovchi tizimlar, infraqizil quritish usullari hamda dezinfeksiyali avtomatik quritish tizimlari o‘rganilgan. Shuningdek, mobil jangovar kiyim quritish shkafi loyihasi taklif etilgan bo‘lib, unda issiq suv aylanish tizimi, issiq havo oqimi, ventilyatsiya va avtomobilga ulanadigan tirkama mexanizmi qo‘llanilgan. Ushbu innovatsion loyiha yong‘in qismlarida tezkorlik, qulaylik va samaradorlikni oshirishga xizmat qiladi.*

Kalit so‘zlar: *shaxsiy himoya vositalari, jangovar kiyim, quritish shkafi, issiq havo tizimi, issiq suv aylanishi, mobil quritish tizimi, ventilyatsiya, yong‘in xavfsizligi, qutqaruvchilar, himoya kiyimi.*

Abstract*: This article analyzes modern solutions for drying personal protective equipment of firefighters, especially firefighting combat clothing. During firefighting operations, protective clothing is exposed to high temperatures, moisture, smoke, toxic gases, and chemical substances, causing contamination and wetness. Improper drying reduces protective performance, shortens service life, and decreases firefighter safety. The article studies ventilation drying cabinets, internal air pressure systems, infrared drying methods, and automatic disinfection drying systems. In addition, a mobile drying cabinet project for firefighting combat clothing is proposed, including a hot water circulation system, hot air flow, ventilation system, and a trailer mechanism connected to a vehicle. This innovative project increases efficiency, convenience, and operational readiness in fire rescue departments.*

Keywords: *personal protective equipment, firefighting suit, drying cabinet, hot air system, hot water circulation, mobile drying system, ventilation, fire safety, rescuers, protective clothing*

KIRISH

Bugungi kunda yong‘in qutqaruvchilarning hayoti va sog‘lig‘ini himoya qilish masalasi favqulodda vaziyatlar tizimining eng muhim yo‘nalishlaridan biri hisoblanadi. Yong‘in o‘chirish jarayonida qutqaruvchilar yuqori harorat, ochiq alanga, zaharli gazlar, kuchli tutun, namlik va turli mexanik xavflarga duch keladilar. Shu sababli ularning shaxsiy himoya vositalari, ayniqsa jangovar kiyimlari, hayotni saqlab qoluvchi asosiy himoya vositasi hisoblanadi.Jangovar kiyimlar ko‘p qatlamli maxsus materiallardan tayyorlanib, issiqlik, suv, kimyoviy ta’sir va mexanik zarbalardan himoya qilishga mo‘ljallangan. Biroq har bir yong‘in o‘chirish amaliyotidan so‘ng ushbu kiyimlar namlanadi, tutun va kuyik bilan ifloslanadi hamda kimyoviy moddalar ta’sirida qoladi. Agar bu kiyimlar to‘g‘ri yuvilmasa va quritilmasa, ularning himoya xususiyatlari keskin pasayadi.

Amaliyotda ko‘plab yong‘in qismlarida jangovar kiyimlarni oddiy radiatorlarda, ochiq havoda yoki quyosh ostida quritish holatlari uchraydi. Bu esa himoya qatlamlarining buzilishiga, reflektor lentalarning yemirilishiga va kiyimning xizmat muddatining qisqarishiga olib keladi. Zamonaviy yondashuv esa maxsus professional quritish tizimlarini joriy etishni talab qiladi.

Hozirgi vaqtda ventilyatsion quritish shkaflari, ichki havo bosimi bilan quritish tizimlari, infraqizil quritish usullari va avtomatik dezinfeksiyali quritish tizimlari keng qo‘llanilmoqda. Ushbu texnologiyalar kiyimning barcha qatlamlarini bir xil va xavfsiz quritish imkonini beradi.

Mazkur maqolada shaxsiy himoya vositalarini quritishning zamonaviy yechimlari tahlil qilinadi hamda mobil jangovar kiyim quritish shkafi loyihasi ilmiy asosda taklif etiladi. Ushbu loyiha issiq suv aylanishi, issiq havo oqimi, ventilyatsiya tizimi va mobil transport imkoniyatlarini birlashtirgan innovatsion texnologiya sifatida ishlab chiqilgan.

1. Yong‘in qutqaruvchilarning shaxsiy himoya vositalari

Yong‘in qutqaruvchilarning shaxsiy himoya vositalari ularning xizmat faoliyatida hayoti va sog‘lig‘ini saqlashga xizmat qiluvchi eng muhim texnik

vositalardan biri hisoblanadi. Yong‘in o‘chirish, qutqaruv ishlari hamda favqulodda vaziyatlarni bartaraf etish jarayonida qutqaruvchilar yuqori harorat, ochiq alanga, tutun, zaharli gazlar, portlash xavfi, elektr toki, mexanik shikastlanish va kimyoviy moddalarga duch keladilar. Shu sababli maxsus himoya vositalarisiz samarali va xavfsiz faoliyat olib borish deyarli imkonsizdir.

Shaxsiy himoya vositalari asosan ikki turga bo‘linadi: asosiy himoya vositalari va maxsus himoya vositalari. Asosiy himoya vositalari kundalik xizmat va yong‘in o‘chirish jarayonida doimiy qo‘llaniladi. Maxsus himoya vositalari esa yuqori xavfli va murakkab vaziyatlarda ishlatiladi.

Asosiy himoya vositalariga jangovar kiyim, himoya dubulg‘asi, maxsus qo‘lqoplar, issiqlikka chidamli etiklar, nafas olish apparati, xavfsizlik kamari, signal chirog‘i, himoya ko‘zoynagi va bosh himoya vositalari kiradi. Ushbu vositalar yong‘in qutqaruvchini to‘g‘ridan-to‘g‘ri issiqlik va alanga ta’siridan himoya qiladi.

Jangovar kiyim eng asosiy himoya vositasi hisoblanadi. U ko‘p qatlamli maxsus matodan tayyorlanib, yuqori harorat, namlik va mexanik zarbalarga bardosh beradi. Odatda uning tashqi qatlami olovga chidamli Nomex, Kevlar yoki Aramid materiallaridan tayyorlanadi. Ichki qatlam esa issiqlik izolyatsiyasi va namlikdan himoya vazifasini bajaradi.

Nafas olish apparati yong‘in vaqtida hosil bo‘ladigan zaharli gazlar va tutundan himoyalanish uchun ishlatiladi. Ayniqsa karbon monoksid, ammiak va boshqa zaharli gazlar mavjud bo‘lgan muhitda bu vosita hayotni saqlab qoluvchi asosiy jihoz hisoblanadi.Dubulg‘a bosh qismni mexanik zarbalardan, yuqori haroratdan va yiqilayotgan jismlardan himoya qiladi. Maxsus etiklar esa oyoqlarni issiqlik, namlik va elektr toki xavfidan saqlaydi.

Maxsus himoya vositalariga kimyoviy himoya kiyimlari, radiatsiyadan himoya vositalari, portlashga qarshi kiyimlar, balandlikda ishlash uchun xavfsizlik tizimlari, sho‘ng‘ish jihozlari va maxsus aloqa vositalari kiradi.

Bugungi kunda zamonaviy yong‘in xavfsizligi tizimlarida individual joylashuv aniqlash qurilmalari, aqlli sensorli signal tizimlari va avtomatik

monitoring vositalari ham keng qo‘llanilmoqda. Bu esa qutqaruvchilarning xavfsizlik darajasini yanada oshirmoqda.Shaxsiy himoya vositalarining sifati va texnik holati doimiy nazorat qilinishi lozim. Chunki eskirgan yoki noto‘g‘ri ishlatilgan himoya vositasi favqulodda vaziyatda katta xavf tug‘dirishi mumkin.

2. Jangovar kiyimlarning ahamiyati va muammolari

Jangovar kiyim yong‘in qutqaruvchilar faoliyatidagi eng muhim himoya vositasi bo‘lib, u bevosita inson hayotini saqlashga xizmat qiladi. Yong‘in vaqtida yuqori harorat, ochiq alanga, tutun, bug‘, zaharli gazlar va mexanik xavflar inson organizmiga jiddiy zarar yetkazishi mumkin. Shu sababli jangovar kiyim qutqaruvchining “ikkinchi terisi” deb ataladi.Jangovar kiyimning asosiy vazifasi inson tanasini yuqori haroratdan himoya qilish, issiqlik o‘tkazuvchanligini kamaytirish, namlik va kimyoviy moddalarning ichkariga kirishini oldini olish hamda mexanik shikastlanishlardan saqlashdan iborat.

Zamonaviy jangovar kiyim odatda to‘rt qatlamdan iborat bo‘ladi. Tashqi qatlam olov va alanga ta’siridan himoya qiladi. Ikkinchi qatlam namlik va suv o‘tkazmaslik vazifasini bajaradi. Uchinchi qatlam issiqlik izolyatsiyasi uchun xizmat qiladi. To‘rtinchi ichki qatlam esa qulaylik va gigiyenani та'minlaydi.Biroq amaliyotda jangovar kiyimlardan foydalanishda bir qator muammolar mavjud. Eng katta muammolardan biri – kiyimlarning noto‘g‘ri parvarish qilinishi hisoblanadi. Yong‘in o‘chirishdan keyin kiyimlarda tutun, kuyik, yonuvchi moddalar, kimyoviy qoldiqlar va zaharli changlar to‘planadi. Agar ular to‘g‘ri tozalanmasa, keyingi foydalanishda sog‘liq uchun jiddiy xavf tug‘diradi.

Ikkinchi muammo – noto‘g‘ri quritish jarayoni. Ko‘plab joylarda jangovar kiyimlar oddiy radiatorlarda, pech yaqinida yoki quyosh ostida quritiladi. Bu esa matoning issiqlikka chidamliligini kamaytiradi, reflektor lentalarning yemirilishiga olib keladi va himoya qatlamlarini buzadi.

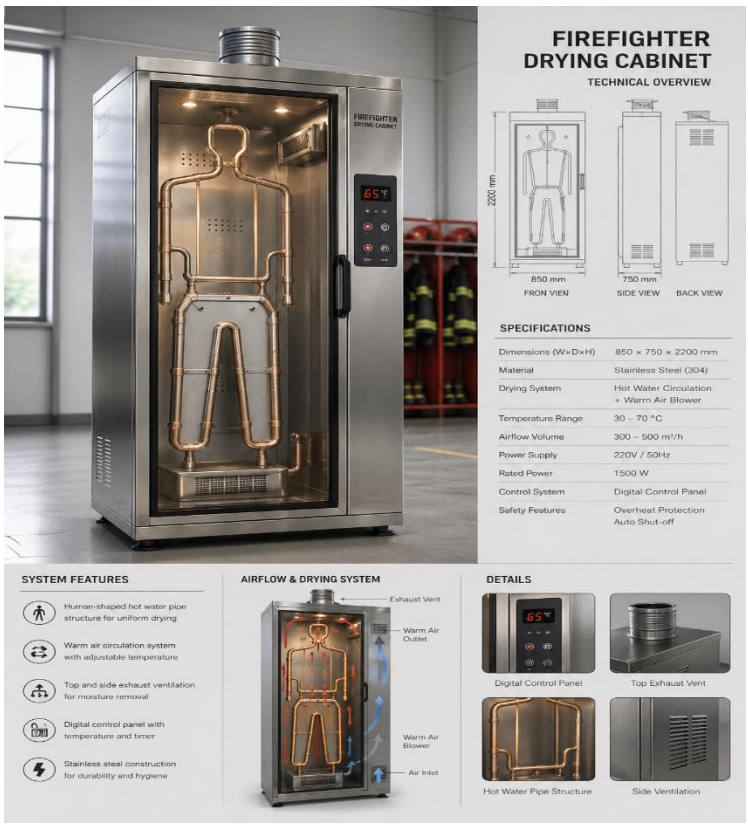
Yana bir muammo – kiyimlarning og‘irligi va noqulayligi. Ba’zi eski turdagi kiyimlar juda og‘ir bo‘lib, uzoq vaqt ishlashda qutqaruvchining harakatini cheklaydi. Bu esa ish samaradorligini pasaytiradi va charchoqni

oshiradi.Muntazam texnik ko‘rikning yetarli emasligi ham muhim muammo hisoblanadi. Tikuvlarning bo‘shashi, membranalarning shikastlanishi, fermuarlarning buzilishi va ichki qatlamlarning yemirilishi ko‘pincha vaqtida aniqlanmaydi.

Shuningdek, ayrim hududiy yong‘in qismlarida zamonaviy quritish shkaflari va professional yuvish tizimlarining yetishmasligi kuzatiladi. Bu esa jangovar kiyimlarning xizmat muddatini qisqartiradi va yong‘in qutqaruvchilar xavfsizligiga salbiy ta’sir ko‘rsatadi.Shu sababli jangovar kiyimlarni nafaqat sifatli ishlab chiqarish, balki ularni to‘g‘ri saqlash, yuvish, quritish va texnik xizmat ko‘rsatish tizimini takomillashtirish ham juda muhim hisoblanadi. Zamonaviy quritish texnologiyalarini joriy etish aynan shu muammoning samarali yechimlaridan biri bo‘lib xizmat qiladi.

3. Zamonaviy quritish tizimlari tahlili

Hozirgi vaqtda yong‘in qutqaruvchilarning jangovar kiyimlarini quritish uchun zamonaviy va samarali texnologiyalar keng qo‘llanilmoqda. Ushbu tizimlarning asosiy maqsadi kiyimning himoya xususiyatlarini saqlab qolish, xizmat muddatini uzaytirish va qutqaruvchilarning xavfsizligini oshirishdan iborat.



1-rasm.

Issiq suv yordamida quritish tizimi

Oddiy quritish usullari, masalan radiator yonida, quyosh ostida yoki isitish pechlari yaqinida quritish, maxsus himoya qatlamlariga zarar yetkazadi. Yuqori harorat ta’sirida matoning issiqlikka chidamliligi pasayadi, reflektor lentalar yemiriladi va ichki membranalar buziladi. Shu sababli professional quritish tizimlaridan foydalanish zarur hisoblanadi.

Birinchi zamonaviy usul — ventilyatsion quritish shkaflari hisoblanadi. Bu tizimda jangovar kiyim maxsus metall shkaf ichiga osib qo‘yiladi va past haroratli issiq havo ventilyatorlar yordamida bir tekis aylantiriladi. Harorat odatda 35–45°C oralig‘ida ushlab turiladi. Bu esa matoga zarar yetkazmasdan xavfsiz quritishni ta’minlaydi.

Ikkinchi usul — ichki havo bosimi bilan quritish tizimidir. Bu eng samarali professional texnologiyalardan biri hisoblanadi. Kiyim maxsus stendga osiladi va uning ichki qismiga iliq havo yuboriladi. Natijada barcha qatlamlar bir xil quriydi, ichki namlik tez chiqariladi va deformatsiya yuz bermaydi.

Uchinchi usul — infraqizil quritish tizimidir. Infraqizil nurlar yordamida namlik chuqur qatlamlardan chiqariladi. Bu usul tez quritish imkonini beradi va energiya tejamkor hisoblanadi. Biroq harorat nazorati juda aniq bo‘lishi talab qilinadi.

To‘rtinchi usul — dezinfeksiyali avtomatik quritish tizimidir. Bu tizimlarda UV sterilizatsiya, ozon bilan ishlov berish, antibakterial filtrlash va hidlarni yo‘qotish funksiyalari mavjud. Bu nafaqat quritish, balki sanitariya va gigiyena talablarini ham ta’minlaydi.

Beshinchi usul — sensorli aqlli quritish tizimidir. Unda namlik sensori kiyimning holatini avtomatik aniqlaydi va kerakli quritish vaqtini o‘zi belgilaydi. Bu energiya sarfini kamaytiradi va ortiqcha quritishni oldini oladi.



2-rasm

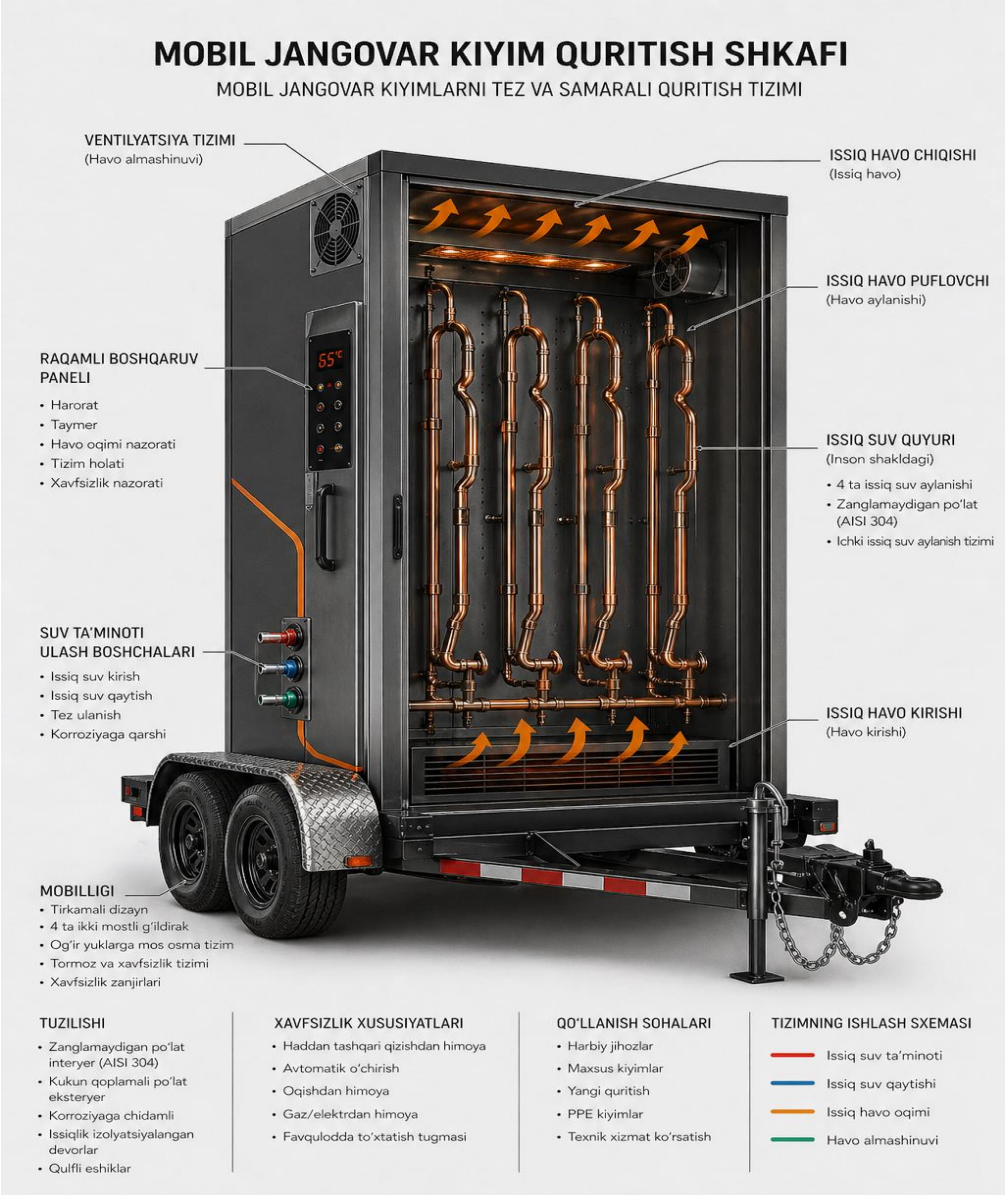
Zamonaviy quritish tizimlari

Bugungi kunda eng samarali variant sifatida ventilyatsion, ichki havo bosimli va dezinfeksiyali kompleks quritish shkaflari tavsiya etiladi.

4. Mobil jangovar kiyim quritish shkafi loyihasi

Mazkur maqolada yong‘in qutqaruvchilar uchun yangi innovatsion mobil jangovar kiyim quritish shkafi loyihasi taklif etiladi. Ushbu loyiha amaliy qulaylik, tezkorlik va yuqori samaradorlikni ta’minlashga qaratilgan.

Loyihaning asosiy g‘oyasi shundan iboratki, jangovar kiyimlarni faqat bino ichida emas, balki bevosita xizmat hududida, favqulodda vaziyat joyiga yaqin hududda ham quritish imkoniyati yaratiladi. Bu esa vaqtni tejaydi va qutqaruvchilarning tezkor tayyorgarligini oshiradi.



3-rasm

Mobil jangovar kiyim quritish shkafining umumiy ko‘rinishi

Mazkur rasmda yong‘in qutqaruvchilarning jangovar kiyimlarini tezkor va xavfsiz quritish uchun mo‘ljallangan mobil quritish shkafi tasvirlangan. Tizim avtomobilga ulanadigan tirkama asosida ishlab chiqilgan bo‘lib, favqulodda vaziyat hududiga olib borish imkoniyatiga ega. Shkaf ichida 4 ta odam tanasi shaklidagi issiq suv aylanish quvurli kiyim ilgichlari joylashtirilgan. Ushbu ilgichlar orqali jangovar kiyim ichki tomondan quritiladi.

Rasmda shkaf ichida joylashgan issiq havo uzatish tizimi va ventilyatsiya mexanizmi ko‘rsatilgan. Maxsus issiq havo bloki jangovar kiyimning tashqi va ichki qatlamlariga bir tekis harorat yetkazib beradi. Ventilyatsiya tizimi esa ortiqcha namlikni tashqariga chiqaradi, havo almashinuvini ta’minlaydi va bakterial muhit hosil bo‘lishining oldini oladi.Va issiq suv manbaini ulash uchun tashqi ulash boshchalari hamda mobil g‘ildirakli konstruksiya tasvirlangan. Tizim 4 ta ikki mostli g‘ildirak bilan jihozlangan bo‘lib, xizmat hududida erkin harakatlanish imkonini beradi. Issiq suv manbai markaziy tizim yoki mobil isitish qurilmasidan ta’minlanishi mumkin.

Shkaf avtomobilga ulanadigan maxsus tirkama ko‘rinishida loyihalashtirilgan. Unda 4 ta ikki mostli g‘ildirak mavjud bo‘lib, transport vositasi yordamida istalgan hududga olib borish mumkin. Bu tizim mobil yong‘in qismlari uchun ayniqsa qulay hisoblanadi.Shkaf ichida 4 ta odam tanasi shaklidagi maxsus kiyim ilgichlar joylashtirilgan. Ushbu ilgichlar oddiy metall konstruksiya emas, balki issiq suv aylanadigan quvur tizimidan tashkil topgan. Issiq suv quvurlar orqali harakatlanib, kiyimni ichki tomondan quritadi. Bu usul ayniqsa qalin ko‘p qatlamli jangovar kiyimlar uchun juda samarali hisoblanadi.

Bundan tashqari shkaf ichida kichik konditsionerga o‘xshash issiq havo uzatish tizimi mavjud. Ushbu tizim tashqi va ichki qatlamlarga bir tekis issiq havo oqimini yetkazib beradi. Natijada kiyim tezroq va sifatliroq quriydi.Ventilyatsiya tizimi esa havo almashinuvini ta’minlaydi, ortiqcha namlikni tashqariga chiqaradi va hidlarni kamaytiradi. Bu tizim kiyim ichida bakteriya va mog‘or hosil bo‘lishining oldini oladi.Shkafning tashqi qismida issiq suv manbaini ulash uchun maxsus ulash boshchalari joylashtirilgan. Bu esa

markaziy issiq suv tizimi yoki mobil isitish moslamasi bilan ulanish imkonini beradi.Shkafning ochiq qismi g‘ildirak joylashgan tomonda joylashtirilgan bo‘lib, bu foydalanish qulayligini oshiradi. Avtomobilga ulanadigan tirkama qismi esa alohida transport funksiyasini bajaradi.

Mazkur loyiha zamonaviy, iqtisodiy va amaliy yechim sifatida yong‘in xavfsizligi tizimida katta ahamiyatga ega bo‘lishi mumkin.

5. Innovatsion tizimning texnik afzalliklari va samaradorligi

Taklif etilgan mobil jangovar kiyim quritish shkafi mavjud oddiy quritish usullariga nisbatan bir qator muhim afzalliklarga ega. Ushbu loyiha nafaqat kiyimni tez quritish, balki uning himoya xususiyatlarini saqlab qolish, xizmat muddatini uzaytirish va yong‘in qutqaruvchilar xavfsizligini oshirishga xizmat qiladi.

Birinchi afzallik — vaqt tejalishidir. Oddiy sharoitda jangovar kiyimlarni tabiiy usulda quritish ko‘p vaqt talab qiladi. Ayniqsa qalin ko‘p qatlamli kiyimlar uzoq vaqt nam holatda qoladi. Taklif etilgan tizimda esa issiq suv aylanishi va issiq havo oqimi birgalikda ishlashi natijasida quritish jarayoni bir necha barobar tezlashadi.

Ikkinchi afzallik — bir tekis quritish imkoniyatidir. Ko‘pincha oddiy quritishda kiyimning tashqi qismi quruq bo‘lsa ham, ichki qatlamlar nam bo‘lib qoladi. Bu esa keyingi foydalanishda noqulaylik tug‘diradi. Odam shaklidagi issiq suv quvurli ilgichlar ichki qatlamlarni ham bir xil quritishga yordam beradi.

Uchinchi afzallik — gigiyena va sanitariya talablariga mosligidir. Ventilyatsiya tizimi namlikni chiqaradi, hidlarni kamaytiradi va bakteriyalar ko‘payishining oldini oladi. Bu ayniqsa doimiy xizmatda bo‘ladigan yong‘in qutqaruvchilari uchun juda muhimdir.

To‘rtinchi afzallik — mobil foydalanish imkoniyati. Tirkama shaklidagi konstruktsiya tufayli tizimni istalgan hududga olib borish mumkin. Bu esa favqulodda vaziyatlarda joyning o‘zida tezkor xizmat ko‘rsatish imkonini yaratadi.

Beshinchi afzallik — iqtisodiy samaradorlikdir. To‘g‘ri quritilgan jangovar kiyim uzoq muddat xizmat qiladi, yangi kiyim xarid qilish xarajatlari kamayadi va ta’mirlash ishlari qisqaradi.

Texnik hisob-kitoblarga ko‘ra, ushbu tizim yong‘in qismlarida ekspluatatsiya xarajatlarini kamaytirish bilan birga, operativ tayyorgarlik darajasini ham sezilarli oshiradi.

6. Iqtisodiy va amaliy ahamiyati

Yong‘in qutqaruvchilarning jangovar kiyimlari maxsus va qimmat himoya vositalari hisoblanadi. Ularning noto‘g‘ri saqlanishi va noto‘g‘ri quritilishi tez eskirishga olib keladi. Bu esa davlat byudjeti va tashkilot xarajatlariga salbiy ta’sir ko‘rsatadi.Taklif etilgan mobil quritish shkafi ushbu muammoni iqtisodiy jihatdan samarali hal qilish imkonini beradi.

Birinchi navbatda, kiyimlarning xizmat muddati uzayadi. Bu esa yangi kiyim xarid qilish ehtiyojini kamaytiradi.

Ikkinchidan, yong‘in qutqaruvchilarning doimiy tayyor holatda bo‘lishi ta’minlanadi. Nam yoki noto‘g‘ri quritilgan kiyim bilan xizmatga chiqish xavfli hisoblanadi. Ushbu loyiha esa har doim sifatli va tez quritilgan himoya kiyimini ta’minlaydi.

Uchinchidan, mobil tizim hududiy yong‘in qismlarida, vaqtinchalik xizmat punktlarida va katta favqulodda vaziyatlarda juda katta amaliy ahamiyatga ega bo‘ladi. Bu tizimni voqea joyiga yaqin hududda ishlatish mumkin.Shuningdek, ushbu loyiha mahalliy ishlab chiqarish asosida tayyorlanishi mumkinligi sababli import xarajatlarini kamaytirish imkoniyatini ham beradi.

Amaliyot shuni ko‘rsatadiki, jangovar kiyimning sifati bevosita inson hayoti bilan bog‘liq. Shu sababli bunday innovatsion tizimga sarflangan mablag‘ kelajakdagi katta yo‘qotishlarning oldini oladi.

XULOSA

Yong‘in qutqaruvchilarning shaxsiy himoya vositalari, ayniqsa jangovar kiyimlari, ularning hayoti va sog‘lig‘ini himoya qiluvchi eng muhim

vositalardan biri hisoblanadi. Ushbu kiyimlar yuqori harorat, ochiq alanga, tutun, zaharli gazlar, namlik va mexanik xavflardan himoya qiladi.Biroq jangovar kiyimlardan samarali foydalanish faqat ularning sifati bilan emas, balki to‘g‘ri yuvish, saqlash va quritish tizimi bilan ham chambarchas bog‘liqdir. Noto‘g‘ri quritish natijasida kiyimning himoya xususiyatlari pasayadi, xizmat muddati qisqaradi va qutqaruvchilar xavfsizligi kamayadi.

Maqolada zamonaviy quritish tizimlari, jumladan ventilyatsion shkaflar, ichki havo bosimi bilan quritish, infraqizil texnologiyalar va dezinfeksiyali avtomatik tizimlar tahlil qilindi.Shuningdek, yangi innovatsion loyiha sifatida mobil jangovar kiyim quritish shkafi taklif etildi. Ushbu tizim issiq suv aylanishi, issiq havo oqimi, ventilyatsiya tizimi va avtomobilga ulanadigan tirkama mexanizmini o‘z ichiga oladi.

Mazkur loyiha amaliy qulaylik, iqtisodiy samaradorlik, tezkorlik va yuqori xavfsizlikni ta’minlaydi. Ushbu innovatsion yechim yong‘in xavfsizligi tizimida zamonaviy va istiqbolli texnologiya sifatida katta ahamiyat kasb etadi.Kelajakda ushbu loyihani ishlab chiqarishga joriy etish va takomillashtirish orqali yong‘in qutqaruvchilarning xizmat samaradorligini yanada oshirish mumkin.

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10. Yong‘in qutqaruvchilarning maxsus himoya vositalari bo‘yicha amaliy qo‘llanmalar

ZAMONAVIY TA'LIM TEXNOLOGIYALARI VA O'ZBEK ADABIY TILINING RIVOJLANISHIDA ICHKI VA TASHQI OMILLAR

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Annotatsiya*: Ushbu maqolada zamonaviy ta'lim texnologiyalarining pedagogik yondashuvlar bilan uyg'unligi hamda o'zbek adabiy tilining rivojlanishiga ta'sir etuvchi ichki va tashqi omillar kompleks tarzda tahlil qilinadi. Raqamli ta'lim vositalarining til o'rgatish jarayonidagi o'rni, interaktiv metodlar va milliy til siyosatining o'zaro munosabati ko'rib chiqiladi. Tadqiqot natijasida zamonaviy texnologiyalar milliy tilning boyishiga xizmat qilishi bilan birga, uning sofligi va normativligini saqlashda ham muhim omil ekanligiga oid xulosalar shakllangan.*

Abstract*: This article provides a comprehensive analysis of the integration of modern educational technologies with pedagogical approaches and the internal and external factors influencing the development of the Uzbek literary language. The role of digital educational tools in language teaching, interactive methods, and the relationship between national language policy are examined. The study concludes that modern technologies both enrich the national language and serve as an important factor in preserving its purity and normative standards.*

Kalit so'zlar: *zamonaviy ta'lim texnologiyalari, pedagogik yondashuvlar, o'zbek adabiy tili, til rivojlanishi, ichki va tashqi omillar, raqamli ta'lim, til siyosati.*

Keywords: *modern educational technologies, pedagogical approaches, Uzbek literary language, language development, internal and external factors, digital education, language policy.*

KIRISH

XXI asr — texnologik inqilob va axborot sivilizatsiyasi davri. Bu davr ta'lim tizimiga, jumladan, til ta'limiga ham yangi talablar va imkoniyatlar olib keldi. Bir tomondan, zamonaviy pedagogik texnologiyalar o'quvchi va talabalarni motivatsion jihatdan rag'batlantirish, bilimni chuqurlashtirish hamda til ko'nikmalarini rivojlantirishda samarali vosita bo'lib xizmat qilmoqda. Ikkinchi tomondan esa, raqamli muhitdagi til muloqoti adabiy til me'yorlarining o'zgarishiga, yangi leksik va grammatik hodisalarning paydo bo'lishiga zamin yaratmoqda.

O'zbek adabiy tilining rivojlanishi tarixan ikkita asosiy manba — ichki (til tizimining o'z imkoniyatlari) va tashqi (boshqa tillar, madaniyat, siyosat, texnologiya ta'siri) omillar orqali kechib kelgan. Bugungi kunda ushbu ikki jarayon bir-biri bilan yanada chambarchas bog'liq holda namoyon bo'lmoqda: texnologik muhit yangi terminlar, uslublar va muloqot shakllarini tug'dirmoqda, bu esa tilning rivojlanishini jadallashtirib, ayni paytda uning normativligini saqlash masalasini dolzarb qilib qo'ymoqda.

Ushbu tadqiqotning maqsadi — zamonaviy ta'lim texnologiyalari va pedagogik yondashuvlar bilan o'zbek adabiy tilining ichki va tashqi omillar ta'sirida rivojlanishi o'rtasidagi o'zaro bog'liqlikni ilmiy jihatdan asoslash hamda amaliy tavsiyalar ishlab chiqishdir.

ASOSIY QISM

1. Zamonaviy ta'lim texnologiyalari: mohiyati va pedagogik ahamiyati

Zamonaviy ta'lim texnologiyalari deganda raqamli, interaktiv va kommunikativ vositalar asosida qurilgan ta'lim jarayoni tushuniladi. Bu tushuncha an'anaviy darslik va leksiyalardan tortib, sun'iy intellekt asosidagi adaptiv o'quv tizimlari, virtual sinf xonalari va gamifikatsiya elementlarigacha bo'lgan keng doirani qamrab oladi. Pedagogik jihatdan zamonaviy texnologiyalar o'quvchi markazli yondashuvni (student-centred approach) kuchaytirib, ta'limni individuallashtirish, differensiallashtirish va shaxsga yo'naltirishga keng imkon beradi.

Masalan, til ta'limida mobil ilovalar (Duolingo, Quizlet), sun'iy intellekt asosidagi chatbotlar va virtual ta'lim muhitlari (Moodle, Google Classroom) keng qo'llanilmoqda. Bu vositalar o'quvchilarga til materiallari bilan interaktiv tarzda ishlash, xatolarini tezda tuzatish va o'z sur'atida o'rganish imkonini beradi. Tadqiqotchilar ta'kidlaganidek, "texnologik integratsiya an'anaviy metodikaning o'rnini emas, balki uning samaradorligini oshiradi" (Warschauer & Healey, 1998).

O'zbekistonda so'nggi yillarda ta'lim raqamlashtirish bo'yicha katta qadamlar qo'yildi: Milliy elektron ta'lim portali, raqamli darsliklar va Smart sinf xonalari joriy etildi. Biroq, pedagogik texnologiyalarning samarali qo'llanilishi uchun faqat texnik vositalar yetarli emas — o'qituvchi kompetensiyasi va metodologik yondashuv hal qiluvchi ahamiyat kasb etadi.

2. Pedagogik yondashuvlar va til o'qitishdagi innovatsiyalar

Pedagogik yondashuv (pedagogical approach) — ta'lim jarayonini tashkil etishning umumiy falsafasi va tamoyillari yig'indisi. Zamonaviy til ta'limida quyidagi yondashuvlar alohida o'rin tutadi: kommunikativ yondashuv (Communicative Language Teaching), kontent asosidagi ta'lim (Content-Based Instruction), tanqidiy pedagogy va loyiha asosidagi ta'lim (Project-Based Learning). Ushbu yondashuvlar til bilimini nazariy emas, balki amaliy muloqot vositasi sifatida o'zlashtirishga qaratilgan.

O'zbek tili ta'limida ham kommunikativ yondashuv tobora keng joriy etilmoqda. Ayniqsa, yozma va og'zaki nutq ko'nikmalarini bir vaqtda rivojlantirish, autentik matnlar bilan ishlash va muloqotli vaziyatlar yaratish orqali til o'rganish samaradorligi sezilarli oshadi. Zamonaviy adabiyotda ta'kidlanganidek, "kommunikativ kompetensiyani shakllantirish — bu nafaqat grammatik qoidalarni bilish, balki ularni muayyan ijtimoiy kontekstda qo'llay olish demakdir" (Hymes, 1972). Ushbu tamoyil o'zbek adabiy tilining normativ qo'llanilishini o'rgatishda ham muhim asos bo'lib xizmat qiladi.

3. O'zbek adabiy tilining rivojlanishidagi ichki omillar

Ichki omillar — bu til tizimining o'z strukturasidan kelib chiqadigan qonuniyatlar va jarayonlar. Ular quyidagilarni o'z ichiga oladi: so'z yasalishi (derivatsiya), ma'no ko'chishi (semantik evolyutsiya), grammatik o'zgarishlar va uslubiy tabaqalanish. O'zbek adabiy tilida ichki omillar, birinchi navbatda, tilning o'z lug'at boyligidan foydalanib yangi terminlar yaratishda namoyon bo'ladi. Masalan, "dasturchi", "ma'lumotlar bazasi", "elektron pochta" kabi so'zlar o'zbek so'z yasash usullari asosida shakllangan autentik neologizmlardir.

Fonologik va morfologik tizimning ichki mantiqiyligiga asoslangan bu jarayon tilning o'z-o'zini takomillashtirish mexanizmi sifatida qaraladi. Shu bilan birga, adabiy til normalari ham o'z evolutsiyasini bosib o'tmoqda: nutqiy tajriba to'planib, ba'zi shakl va ma'nolar iste'moldan chiqib ketsa, boshqalari mustahkamlanib norma maqomini oladi.

4. O'zbek adabiy tilining rivojlanishidagi tashqi omillar

Tashqi omillar qatoriga boshqa tillarning ta'siri (kontakt lingvistikasi), globallashuv, siyosat, madaniyat va texnologiyalar kiritiladi. O'zbek tili tarixan arab, fors, rus va hozirgi kunda ingliz tillarining kuchli ta'sirini his qilib kelmoqda. Ayniqsa, XX asr boshidan so'ng rus tili orqali kirgan so'zlar va mustaqillikdan keyin ingliz tili ta'sirida kuchayygan internatsionalizm o'zbek adabiy tilining leksik tarkibini sezilarli boyitgan, shu bilan birga, "tashqi unsurlar" masalasini ham ko'ndalang qo'ygan.

Bugungi kunda raqamli texnologiyalar va internet muhiti yangi tashqi omil sifatida maydonga chiqmoqda. Ijtimoiy tarmoqlarda o'zbek tilidagi muloqot — orfografik normalar, yangi lug'at birliklari ("post qilmoq", "like bosmoq", "share qilmoq") va gibrid til hodisalari — adabiy tilning normativlik muammosini dolzarb qilib qo'ydi. Shuningdek, davlat til siyosati ham tashqi omil sifatida katta rol o'ynaydi: lotin yozuviga o'tish, terminologiya komissiyalari faoliyati va rasmiy hujjatlar tili standartlari adabiy tilga bevosita ta'sir ko'rsatmoqda.

5. Ta'lim texnologiyalari va til rivojlanishining o'zaro ta'siri

Zamonaviy ta'lim texnologiyalari, bir tomondan, o'zbek adabiy tilining normativ qo'llanilishini keng auditoriyaga yetkazishda qudratli vositaga aylanmoqda. Masofaviy ta'lim platformalari, elektron darsliklar va multimediali o'quv materiallari orqali adabiy til normalari haqidagi ma'lumotlar mamlakatning eng chekka hududlaridagi o'quvchilarga ham yetib borishi mumkin bo'ldi. Bu jihat tilni birlashtirib, standartlashtirish funktsiyasini bajaradi.

Boshqa tomondan, interaktiv va ijodiy ta'lim muhiti tilning jonlanishiga, uning yangi vaziyatlarda yangi shaklda namoyon bo'lishiga zamin yaratadi. O'quvchilar bloglar yozadi, video darsliklar tayyorlaydi, podcast chiqaradi — bularning barchasi o'zbek tilidagi yangi janr va uslublarning shakllanishiga olib kelmoqda. Pedagogning vazifasi ana shu ijodiy jarayonni adabiy til me'yorlari doirasida yo'naltirish va o'quvchini til boyligidan ongli foydalanishga o'rgatishdir.

XULOSA

Tadqiqot natijalari shuni ko'rsatdiki, zamonaviy ta'lim texnologiyalari va pedagogik yondashuvlar o'zbek adabiy tilining rivojlanishi bilan uzviy bog'liq. Raqamli ta'lim vositalaridan oqilona foydalanish adabiy til normalarini keng auditoriyaga yetkazish, tilga qiziqishni oshirish va til malakalarini rivojlantirishda samarali omil bo'lib xizmat qiladi.

O'zbek adabiy tilining rivojlanishida ichki omillar — til tizimining o'z imkoniyatlari — va tashqi omillar — boshqa tillar, texnologiya va siyosat ta'siri — dialektik birlikda harakat qiladi. Bugungi texnologik muhitda bu ikkala omil yanada kuchayib, bir-birini to'ldirmoqda. Shuning uchun til ta'limini raqamlashtirish jarayonida adabiy tilning normativligi va sofligi masalasiga alohida e'tibor qaratish, pedagogik texnologiyalarni til me'yorlarini o'rgatish bilan organik ravishda birlashtirish zarurdir.

Kelajakdagi tadqiqotlar uchun maqsadli yo'nalish sifatida sun'iy intellekt vositalarining o'zbek adabiy tili o'qitishidagi imkoniyatlarini chuqur o'rganish va

til siyosatining raqamli ta'lim bilan integratsiyasini ta'minlash masalalarini tavsiya etish mumkin.

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ZAMONAVIY O‘ZBEK TILIDA INTERNET LEKSIKASINING SHAKLLANISHI

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Annotatsiya: *Mazkur maqolada zamonaviy axborot texnologiyalari sharoitida o‘zbek tilida internet leksikasining shakllanishi va uning lingvistik xususiyatlari tahlil qilinadi. Internet muhitida yuzaga kelayotgan yangi so‘zlar, iboralar, qisqartmalar hamda xorijiy tillardan o‘zlashgan birliklarning ma’no va qo‘llanish doirasi yoritiladi. Tadqiqotda internet leksikasining til taraqqiyotidagi o‘rni va uning ijtimoiy-madaniy ahamiyati ochib beriladi.*

Kalit so‘zlar: *o‘zbek tili, internet leksikasi, neologizm, gibrid so‘zlar, ijtimoiy tarmoqlar, kommunikatsiya, sotsiolingvistika, til taraqqiyoti*

Annotation: *This article analyzes the formation of internet lexicon in the modern Uzbek language under the influence of information technologies and its linguistic features. It examines new words, expressions, abbreviations, and borrowings from foreign languages that emerge in the internet environment, as well as their meanings and usage. The study highlights the role of internet lexicon in language development and its socio-cultural significance.*

Keywords: *Uzbek language, internet lexicon, neologism, hybrid words, social networks, communication, sociolinguistics, language development.*

KIRISH

Zamonaviy axborot texnologiyalari rivojlanishi natijasida internet inson hayotining ajralmas qismiga aylandi. Ijtimoiy tarmoqlar va onlayn platformalar ta’sirida o‘zbek tiliga yangi leksik birliklar kirib kelmoqda. Bu jarayon tilning tabiiy rivojlanishi bilan bog‘liq bo‘lib, yangi so‘zlar, atamalar va gibrid shakllarning paydo bo‘lishiga olib kelmoqda. Ayniqsa, ingliz tilidan o‘zlashgan so‘zlar internet leksikasining shakllanishida muhim rol o‘ynaydi.

Metodlar

Mazkur maqolada nazariy-tavsifiy va tahliliy yondashuv qo‘llanildi. Tadqiqot davomida internet leksikasiga oid lingvistik adabiyotlar, ilmiy manbalar hamda mavjud nazariy qarashlar o‘rganildi va umumlashtirildi.

Shuningdek, internet muhitida (ijtimoiy tarmoqlar, messenjerlar va onlayn muloqot platformalari) kuzatiladigan til birliklari kuzatuv metodi asosida tahlil qilindi. Bu jarayonda yangi so‘zlar, qisqartmalar, gibrid shakllar va xorijiy o‘zlashmalar tasniflandi. Tadqiqotda qiyosiy va sotsiolingvistik yondashuvdan foydalanilib, internet leksikasining shakllanishi til va jamiyat o‘rtasidagi o‘zaro bog‘liqlik nuqtayi nazaridan o‘rganildi.

Natijalar

Tadqiqot natijalari shuni ko‘rsatadiki, zamonaviy o‘zbek tilida internet leksikasining shakllanishi murakkab va ko‘p qatlamli jarayon hisoblanadi. Ushbu jarayon tilning ichki imkoniyatlari hamda tashqi (xorijiy tillar ta’siri) omillar asosida rivojlanmoqda.

Birinchidan, internet leksikasida **xorijiy o‘zlashmalar** muhim o‘rin egallaydi. Ayniqsa, ingliz tilidan kirib kelgan “test”, “monitoring”, “kollej”, “blog”, “chat”, “like” kabi so‘zlar keng qo‘llanilmoqda. Bu birliklar ko‘pincha o‘zbek tiliga to‘liq moslashgan yoki qisman fonetik o‘zgarishlar bilan ishlatilmoqda.

Ikkinchidan, internet muhitida **qisqartmalar va slang birliklar** tez-tez uchraydi. Ular muloqotni tezlashtirish va ixchamlashtirish vazifasini bajaradi. Masalan, “lol”, “brb”, “omg” kabi xalqaro internet slanglari yoshlar nutqida faol ishlatilmoqda.

Uchinchidan, tadqiqot natijalari **gibrid so‘zlar** (o‘zbek va xorijiy tillar aralashmasi) shakllanayotganini ko‘rsatdi. Bu turdagi birliklar internet muloqotida tabiiy hodisa sifatida yuzaga kelmoqda va tilning moslashuvchanligini ifodalaydi.

To‘rtinchidan, internet leksikasida **neologizmlar** – ya’ni yangi yaratilgan so‘zlar va iboralar soni ortib bormoqda. Bu birliklar ko‘pincha yangi

texnologiyalar, platformalar va raqamli xizmatlar bilan bog‘liq holda paydo bo‘ladi.

Beshinchidan, zamonaviy kommunikatsiyada **emoji va grafik belgilar** ham leksik ma’noning ifodalanish vositasi sifatida muhim rol o‘ynaydi. Ular yozma nutqda emotsional ifodani kuchaytiradi va muloqotni boyitadi.

Umuman olganda, olingan natijalar internet leksikasining o‘zbek tili tizimida faol shakllanayotgan yangi qatlam ekanini tasdiqlaydi. Bu jarayon tilning boyishi, uning global kommunikatsiya tizimiga moslashuvi hamda sotsiolingvistik rivojlanishining muhim ko‘rsatkichi hisoblanadi.

Muhokama

Zamonaviy o‘zbek tilida internet leksikasining shakllanishi global axborotlashuv jarayoni bilan bevosita bog‘liq bo‘lib, u til tizimining dinamik rivojlanishini aks ettiradi. Internet muhiti nafaqat kommunikatsiya vositasi, balki yangi lingvistik birliklarning paydo bo‘lishiga sabab bo‘layotgan ijtimoiy makon sifatida ham qaraladi. Bu jarayon tilning ochiq tizim ekanini va tashqi omillar ta’sirida doimiy o‘zgarib borishini ko‘rsatadi.

Emile Benveniste til va jamiyat munosabatlarini tahlil qilib, tilni ijtimoiy hodisa sifatida izohlaydi. Uning fikricha, “til insonning jamiyatdagi fikr ifodalash va muloqot qilish ehtiyojini amalga oshiruvchi asosiy vositadir” (Benveniste, “Problems in General Linguistics”, 1971). Ushbu nazariy yondashuv internet leksikasining ham aynan ijtimoiy ehtiyojlar natijasida shakllanayotganini asoslaydi.

O‘zbek tilshunosligida A. Hojiyev so‘z yasalishi jarayonini tahlil qilib, tilning ichki imkoniyatlari hamda tashqi o‘zlashmalar orqali boyib borishini ta’kidlaydi (“O‘zbek tili so‘z yasalishi”, 2007). Internet muhitida yuzaga kelayotgan yangi so‘zlar, qisqartmalar va gibrid birliklar aynan shu jarayonning zamonaviy ko‘rinishidir.

N. Mahmudov esa til taraqqiyotini izohlar ekan, yangi leksik birliklarning kirib kelishini tabiiy va uzluksiz jarayon sifatida baholaydi (“Hozirgi o‘zbek

adabiy tili", 2010). Bu fikr internet leksikasining til tizimiga moslashib borayotganini ko‘rsatadi.

Tahlillar shuni ko‘rsatadiki, internet leksikasining shakllanishida bir necha asosiy omillar mavjud:

Birinchidan, **globalizatsiya jarayoni** natijasida ingliz tili asosiy donor til sifatida xizmat qilmoqda. "like", "follow", "online", "chat", "post" kabi birliklar o‘zbek tilida faol ishlatilmoqda.

Ikkinchidan, **ijtimoiy tarmoqlar va messenjerlar** (Telegram, Instagram, TikTok) tilning tez o‘zgarishiga sabab bo‘lmoqda. Bu platformalarda qisqartmalar va slang birliklar keng tarqalgan.

Uchinchidan, **yoshlar nutqi** internet leksikasining asosiy tarqatuvchisi hisoblanadi. Ular yangi so‘zlarni tez qabul qilib, muloqotda faol ishlatadi.

To‘rtinchidan, internet leksikasida **gibrid so‘zlar** (o‘zbek + ingliz aralash shakllar) ko‘payib bormoqda. Bu holat tilning moslashuvchanligini ko‘rsatadi.

Bundan tashqari, emoji va grafik belgilar ham zamonaviy internet kommunikatsiyasida muhim rol o‘ynaydi. Ular yozma nutqda emotsional ifodani kuchaytiradi va matnning mazmuniy ta'sirini oshiradi.

Umuman olganda, internet leksikasi til tizimida yangi sotsiolingvistik qatlam sifatida shakllanmoqda. U tilning boyishiga xizmat qilsa-da, bir vaqtning o‘zida me'yoriy til tizimi uchun yangi muammolarni ham yuzaga keltiradi. Shu sababli bu hodisa lingvistik, sotsiolingvistik va lingvokulturologik jihatdan chuqur ilmiy tadqiqotlarni talab etadi.

XULOSA

Xulosa qilib aytganda, zamonaviy o‘zbek tilida internet leksikasining shakllanishi til taraqqiyotining tabiiy bosqichi hisoblanadi. Internet va ijtimoiy tarmoqlar ta'sirida yangi leksik qatlam yuzaga kelib, u tilning boyishiga va kommunikativ imkoniyatlarining kengayishiga xizmat qilmoqda. Ushbu jarayon sotsiolingvistik jihatdan chuqur o‘rganishni talab etadi.

FOYDALANILGAN ADABIYOTLAR:

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O‘ZBEK VA VYETNAM TILLARIDA ZOONIM-KOMPONENTLI FRAZEOLOGIZMLARNI TARJIMA QILISHNING LINGVOKULTUROLOGIK MUAMMOLARI

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Annotatsiya. *Maqolada o‘zbek va vyetnam tillaridagi zoonim-komponentli frazeologizmlarni bir tildan ikkinchi tilga o‘girishda yuzaga keladigan lingvokulturologik muammolar tahlilga tortilgan. Tadqiqotda ikki tilning frazeologik fondidagi hayvon nomlari ishtirok etgan barqaror birikmalar qiyosiy o‘rganilib, ularning milliy-madaniy konnotatsiyalaridagi farqlar aniqlangan. Muallif tarjima jarayonida kuzatiladigan to‘liq ekvivalentlik, qisman ekvivalentlik va ekvivalentsizlik holatlarini misollar yordamida ko‘rsatib, mazkur birliklarni tarjima qilishning to‘rt asosiy usulini tavsiya etadi.*

Kalit so‘zlar: *zoonim, frazeologizm, lingvokulturologiya, qiyosiy tilshunoslik, tarjima, ekvivalentlik, milliy-madaniy konnotatsiya, o‘zbek tili, vyetnam tili.*

Abstract. *The article analyses the linguocultural problems that arise in the translation of zoonym-component phraseological units between Uzbek and Vietnamese. The study comparatively examines stable expressions containing animal names in the phraseological funds of both languages and identifies differences in their national-cultural connotations. Through illustrative examples, the author demonstrates cases of full equivalence, partial equivalence, and non-equivalence observed in the translation process, and proposes four principal methods for rendering such units: identifying a phraseological equivalent, selecting a functional analogue, calquing, and providing descriptive translation.*

Key words: *zoonym, phraseological unit, linguoculturology, comparative linguistics, translation, equivalence, national-cultural connotation, Uzbek language, Vietnamese language.*

KIRISH

Tilning frazeologik fondi har bir xalqning ko‘p asrlar davomida shakllangan dunyoqarashi, milliy-madaniy qadriyatlari va etnopsixologik xususiyatlarini o‘zida mujassamlashtirgan boy ma’naviy meros sifatida e’tirof etiladi. Frazeologizmlar tarkibida hayvon nomlari — zoonimlar — ishtirok etgan barqaror birikmalar lingvokulturologik tadqiqotlarning eng ahamiyatli ob’yektlaridan biri hisoblanadi, chunki ushbu birliklarda inson va tabiat o‘rtasidagi azaliy aloqa, hayvonot olamiga nisbatan shakllangan stereotiplar va ramziy obrazlar yaqqol aks etadi.

O‘zbek va vyetnam tillari turli til oilalariga (mos ravishda turkiy hamda austroaziatik) mansubdir. Bu ikki til geografik jihatdan ham, madaniy ta’sir doiralari bo‘yicha ham bir-biridan ancha uzoqdadir. Shu bilan birga, ikkala xalq ham qadimdan dehqonchilik va chorvachilik bilan shug‘ullanib kelgani sababli, ularning lug‘aviy fondida hayvon nomlari bilan bog‘liq juda boy frazeologik qatlam shakllangan. Mazkur til hodisalarini qiyosiy aspektda o‘rganish nafaqat nazariy tilshunoslik, balki amaliy tarjimashunoslik, leksikografiya va madaniyatlararo muloqot uchun ham muhim ahamiyat kasb etadi.

Tadqiqotning dolzarbligi shundaki, hozirgi kunda o‘zbek-vyetnam yo‘nalishidagi qiyosiy frazeologik tadqiqotlar yetarlicha o‘rganilmagan, ikki til o‘rtasida bevosita ikki tomonlama frazeologik lug‘atlar mavjud emas. Aynan shu sababli zoonim-komponentli frazeologizmlarni tarjima qilish jarayonida tarjimonlar jiddiy lingvokulturologik to‘siqlarga duch keladilar. Mazkur maqolaning maqsadi — ikki tildagi zoonimli frazeologik birliklarning tarjimasida uchraydigan asosiy muammolarni aniqlash va ularni hal etishning samarali usullarini taklif etishdir.

ASOSIY QISM

Frazeologizm — ma’no jihatdan butunligicha qabul qilinadigan, tarkibi turg‘unlik xususiyatiga ega bo‘lgan, nutqda tayyor holda ishlatiladigan til birligidir [1, 8-b.]. Zoonim esa hayvon, parranda, hashorot va boshqa jonzotlarni nomlovchi leksik birliklarni anglatuvchi atamadir. Zoonim-komponentli frazeologizm deganda, tarkibida hayvon nomi yoki uning hosilasi qatnashgan

barqaror so‘z birikmasi tushuniladi. Bunday birliklar har bir xalqning hayvonot olamiga nisbatan shakllangan ramziy tasavvurlarini, axloqiy baholarini va madaniy stereotiplarini namoyon etadi.

Qiyosiy tahlil shuni ko‘rsatadiki, o‘zbek va vyetnam tillari frazeologik birliklarini tarjima qilish jarayonida uch turdagi semantik munosabatni ajratib ko‘rsatish mumkin: to‘liq ekvivalentlik, qisman ekvivalentlik va ekvivalentsizlik.

Birinchi guruh — to‘liq ekvivalentlikka ega birliklar. Bu turdagi frazeologizmlarda har ikki tilda bir xil zoonim ishlatilib, bir xil ma’no anglashiladi. Masalan, o‘zbekcha *“it bilan mushukday”* iborasi vyetnamcha “*như chó với mèo”* (so‘zma-so‘z: “itu mushukdek”) frazeologik birligiga to‘g‘ri keladi. Ikkala tilda ham bu ibora doimiy janjal va kelishmovchilikda yashovchi munosabatlarni tasvirlaydi. Bunday hollar tarjima uchun eng oson holat bo‘lib, til vositasi to‘g‘ridan to‘g‘ri almashtiriladi.

Ikkinchi guruh — qisman ekvivalentlikka ega birliklar. Bu hodisada ma’no umumiy bo‘ladi, biroq frazeologizm tarkibidagi zoonim yoki obraz farqlanadi. Masalan, o‘zbek tilida jismoniy quvvatni ifodalash uchun *“ho‘kizday kuchli”* iborasi qo‘llaniladi, vyetnam tilida esa ayni shu ma’no *“khỏe như voi”* (filday kuchli) shaklida ifodalanadi. Bu farq ikki xalq turmush tarzidagi tafovut bilan izohlanadi: o‘zbek lingvomadaniyatida ho‘kiz an’anaviy dehqonchilik xo‘jaligidagi asosiy ish hayvoni sifatida e’tirof etilgan bo‘lsa, vyetnam madaniyatida fil tarixan kuch va salobatning timsoli sanalgan. Yana bir misol: o‘zbek tilidagi *“qo‘y ogʻzidan cho‘p olmagan”* iborasi (juda yumshoq, beozor inson) vyetnam tilida ko‘proq *“hiền như Bụt”* (Buddhadek mehribon) tarzida ifodalanadi — ya’ni ma’no bir xil bo‘lsa-da, vositachi obraz farqlanadi.

Uchinchi guruh — ekvivalentsiz birliklar. Bu turdagi frazeologizmlar tor milliy-madaniy konnotatsiyaga ega bo‘lib, boshqa tilda to‘g‘ridan to‘g‘ri muqobiliga ega emas. Bunga vyetnam tilidagi *“rồng bay phượng múa”* (ajdaho uchadi, qaqnus raqsga tushadi) iborasini misol qilib keltirish mumkin. Mazkur frazeologizm muhtasham va go‘zal manzarani tasvirlash uchun ishlatiladi va u

to‘g‘ridan to‘g‘ri Sharqiy Osiyoning ajdaho-qaqnus mifologik kompleksiga borib taqaladi. O‘zbek tilida bu obrazga to‘liq mos keluvchi zoonimli muqobil mavjud emas. Aksincha, o‘zbek tilidagi *“bulbulday sayrash”* iborasi forsiy-turkiy lirik an’ananing yorqin namunasi bo‘lib, bulbulning oshiqlik va nafis ovoz timsoli sifatidagi obrazi vyetnam frazeologiyasida bevosita aks etmagan.

Mazkur uch tipdagi semantik munosabat tarjima strategiyasini tanlashda hal qiluvchi ahamiyatga egadir. Tadqiqot davomida zoonim-komponentli frazeologizmlarni tarjima qilishning to‘rt asosiy usuli ajratib ko‘rsatildi: **frazeologik ekvivalentdan foydalanish** (ikki tilda obraz va ma’no jihatidan mos muqobil topilganda); **funksional analog tanlash** (maqsad tilda turlicha obrazli, ammo bir xil pragmatik vazifani bajaruvchi frazeologizm topish); **kalkalash** (so‘zma-so‘z tarjima — asliyatdagi madaniy obrazni saqlash zarur bo‘lganda qo‘llaniladi va odatda izohli sharh bilan to‘ldiriladi); **izohli (deskriptiv) tarjima** (frazeologizm ma’nosini erkin shaklda tushuntirib berish — ekvivalentsiz birliklar uchun maqbul). Strategiyani to‘g‘ri tanlash matn janri, kommunikativ vaziyat va o‘quvchi auditoriyasi bilan bevosita bog‘liqdir. V.N. Teliyaning ta’kidlashicha, frazeologizm — madaniyatning lingvistik koddagi ifodasi bo‘lib, uni boshqa tilga o‘tkazishda madaniy ma’lumot mukammal saqlanmasligi mumkin [4, s. 215].

XULOSA

Olib borilgan tahlil natijasida quyidagi xulosalarga kelindi. Birinchidan, o‘zbek va vyetnam tillaridagi zoonim-komponentli frazeologizmlar har ikki xalqning milliy dunyoqarashi, urf-odatlari va atrof-muhitga munosabatining til hodisalaridagi aksini namoyon etadi. Ikkinchidan, ushbu birliklar o‘rtasida to‘liq ekvivalentlik holati nisbatan kam uchraydi; ko‘p hollarda qisman ekvivalentlik yoki ekvivalentsizlik kuzatiladi, bu esa ikki tilning genetik va tipologik uzoqligi, shuningdek, madaniy o‘zgachaliklari bilan izohlanadi. Uchinchidan, tarjimon zoonim-komponentli frazeologizmlarni o‘girishda yagona universal usulga tayanmasligi, balki har bir aniq holatni semantik, pragmatik va madaniy jihatdan baholab, eng maqbul strategiyani tanlashi lozim. Tadqiqot natijalari qiyosiy

lingvokulturologiya, tarjimashunoslik nazariyasi hamda ikki tomonlama frazeologik lug‘atlarni tuzish ishlari uchun ilmiy-amaliy ahamiyatga egadir.

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O‘QUVCHILARNING O’ZBEK XALQ NAQQOSHCHILIGIDA MA’NAVIY-AXLOQIY MADANIYATINI SHAKLLANTIRISHNING BOSHLANG’ICH BILIMLARI

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Anottatsiya. *O‘quvchilarning ma’naviy-axloqiy madaniyatini o‘zbek xalq naqqoshchiligi orqali shakllantirish uchun boshlang‘ich bilimlar tizimini aniqlash va metodik tavsiyalar ishlab chiqishdir. Tadqiqotda adabiyot tahlili, pedagogik kuzatuv va sinov darslari usullari qo‘llanildi. Natijada naqqoshchilik elementlari asosida o‘quv mashg‘ulotlari, dars rejalari va tashabbuskorlik mashg‘ulotlari namunasi taklif etildi; ular estetika, milliy qiymatlar va axloqiy tushunchalarni birlashtirib, bolalar ongida milliy madaniyatga hurmatni rivojlantiradi. Maqola boshlang‘ich ta’limda amaliy tatbiq uchun konkret tavsiyalar beradi.*

Kalit so‘zlar: *o‘zbek xalq naqqoshchiligi, ma’naviy-axloqiy madaniyat, boshlang‘ich ta’lim, estetik tarbiya, milliy an’analar, dars rejalari, metodik tavsiyalar.*

Abstract. *The aim of the study is to identify the system of primary knowledge and develop methodological recommendations for the formation of students' spiritual and moral culture through Uzbek folk painting. The methods of literature analysis, pedagogical observation and test lessons were used in the study. As a result, a sample of educational activities, lesson plans and initiative activities based on elements of painting were proposed; they combine aesthetics, national values and moral concepts and develop respect for national culture in the minds of children. The article provides specific recommendations for practical application in primary education.*

Keywords: *Uzbek folk painting, spiritual and moral culture, primary education, aesthetic education, national traditions, lesson plans, methodological recommendations.*

Аннотация. *Цель исследования – выявление системы первичных знаний и разработка методических рекомендаций по формированию духовно-нравственной*

культуры учащихся посредством узбекской народной живописи. В исследовании использованы методы анализа литературы, педагогического наблюдения и экспериментальных уроков. В результате предложены образцы учебных мероприятий, планов уроков и инициативных мероприятий, основанных на элементах живописи, которые сочетают эстетику, национальные ценности и моральные концепции и развивают уважение к национальной культуре в сознании детей. В статье представлены конкретные рекомендации по практическому применению в начальном образовании.

Ключевые слова: *узбекская народная живопись, духовно-нравственная культура, начальное образование, эстетическое воспитание, национальные традиции, планы уроков, методические рекомендации.*

KIRISH

Rasm chizish bolani fikrlashga undaydi, qobiliyatlarini rivojlantiradi, vizual xotirani kuchaytiradi. Albatta, maktab yoshda bo’lgan bolaga rasm chizishni o’rgatish oson emas, lekin u qadar qiyin vazifani ham shunchalik qo’rqinchli va imkonsiz ko’rinmasligi uchun oddiy bosqichlarga bo’lish mumkin.

Maktab va maktab ta’lim muassasasida tasviriy faoliyat bo‘yicha ishlarni rejalashtirishda asosiy prinsip, bu tasviriy faoliyatni ta’lim tarbiyaviy ishning eng muhim bo‘limlaridan biri sifatida qarash hisoblanadi. Tasviriy faoliyat bo‘yicha ishni ma’lum bir vaqtga rejalashtirishda, shu davrda faoliyatning boshqa turlari bo‘yicha amalga oshiriladigan ta’lim-tarbiyaviy ishlarni ham nazarda tutmoq lozim. Tasviriy faoliyat bo‘yicha mashg‘ulotlarni rejalashtirishda, albatta tasviriy faoliyat mashg‘ulotlari o‘rtasida o‘zaro bog‘liqlikni ham hisobga olmoq zarurdir. Tasviriy faoliyatning har bir turi o‘ziga xos vazifalarni hal etadi, ammo qanday bo‘lsa-da, ularni bir yo‘nalish, maqsad bo‘yicha birlashadilar.

Tasviriy faoliyat turlari - rasm chizish, loy bilan ishlash, applikatsiya o‘ziga xos tasviriy texnikaga egadir. Tasviriy faoliyat bo‘yicha ishni rejalashtirishda o’qituvchi, albatta har bir turdagi mashg'ulotlar soniga qat’iy rioya qilishi lozim. Tasviriy faoliyat bo‘yicha mashg‘ulotlami rejalashtirish, yuqoridagilardan tashqari, mashg‘ulot qanday materiallar bilan o‘tkazilsa,

maqsadga muvofiq bo‘lishini ham o’qituvchi nazarda tutmog‘i lozim. Masalan, loy bilan ishlashda - loy yoki plastilin, rasm chizishda - guash, rangli qalam, ko‘mir tayoqchasi va hokazo. Shuningdek, o’qituvchi mashg‘ulotning dastur mazmunini tanlashda, bolalarga qanday predmetlarni chizdirish haqida emas, balki shu predmetni chizdirish yoki loydan yasattirish orqali qanday bilim va ko‘nikma berish yoki o‘rgatish haqida ko‘proq o‘ylashi lozim. Ixtiyoriy mashg‘ulotlarni rejalashtirishda esa o’qituvchi bolalarning mustaqilligini, ijodiy qobiliyatlarini rivojlantirishga yordam be rave hi o‘rgatish usullari to‘g‘risida o‘ylab olishi kerakdir. O’qituvchi ishlarni rejalashtirishda u yoki bu guruh bo‘yicha dastur qo‘ygan vazifalarning barchasini e’tiborda tutgan holda ish rejasini tuzadi. Shuningdek, tasviriy faoliyatlari bo‘yicha bir oyga mo‘ljallangan istiqlol reja tuzish ham maqsadga muvofiqdir. Bunda o’qituvchi tasviriy faoliyat mashg'ulotlari o‘rtasidagi o‘zaro bogianishni ham nazarda tutadi. Shunday qilgan taqdirdagina, bolalar ma’lum bilim, malaka va ko‘nikmaga ega bo‘lishlari mumkin bo‘ladi. Bundan tashqari, tasviriy faoliyat turlari o‘rtasidagi o‘zaro bog‘lanish natijasida tevarak-atrofni badiiy jihatdan o‘zlashtirishlarning yangi-yangi yo'Ilari vujudga keladi va bolalar tevarak-atrofni obrazli qilib tasvirlashning turli xil usullari bilan tanishadilar. Demak, tasviriy faoliyat turlari o‘rtasidagi o‘zaro aloqa ishlarni rejalashtirishda katta ahamiyatga ega ekan. Bu o‘zaro bog‘lanish qaysilar ekan?

1. Tasviriy faoliyatga ta’lim-tarbiya ishining muhim bo‘lagi, deb qarash hamda rasm chizish, loy bilan ishlash, applikatsiya mashg‘ulotlarini rejalashtirishda dasturning barcha bo‘limlari o‘rtasidagi o‘zaro aloqa, bog‘lanishni doimo diqqat-e’tiborda tutish lozim. Ya’ni tevarak-atrof bilan tanishtirish, musiqa mashg‘ulotlari va hokazo. Bular tasviriy faoliyat uchun qiziqarli hodisalar va voqealami tanlashga yordam beradi.

2. Tasviriy faoliyatning barcha turlari tevarak-a'rof, hayotni obrazlarda tasvirlaydi, ammo har biri o‘ziga xos xususiyatga ega ekanligini hisobga olmoq zarur. Ya’ni rasm chizish - predmet va voqealarni rangda tekis yuzada tasvirlaydi, loy hajmlarda, applikatsiya - rangda, siluet ravishda. Shuningdek,

har biri o‘ziga xos tasvir texnikasiga ega: rasm chizish chiziqli grafik ravishda, rangtasvir usulida, loy plastik ravishda, applikatsiya - qog‘ozdan qirqish va alohida qismlardan tuzish.

3. Dasturda tasviriy faoliyat turlari oldiga qo‘yilgan vazifalardan biri ularning o‘zaro aloqada ekanligidir. Masalan, bolalar rang bilan rasm chizish bilan bir vaqtda, applikatsiya bilan ham tanishib boradilar.

4. Tasviriy faoliyati turlari o'rtasidagi bog‘lanish o’qituvchiga rasm chizish, loy, applikatsiya bo‘yicha vazifalarni aniqlashga yordam beradi. Masalan, kichik guruhga doiraviy shakllami o‘rgatishda, oldin tayyor doira shakllarini applikatsiyada bergan ma’qul, so‘ng esa rasm chizish mashg‘ulotlarida bergan ma’qul.

5. Tasviriy faoliyat turlari o‘rtasidagi bog‘lanish ma’lum bir mavzudagi mashg'ulotlar asosida ham bo‘lishi mumkin. Masalan, rus xalq ertagi «Bo‘g‘irsoq»ni bolalar ham chizishi, ham applikatsiya, ham loydan yasashi mumkin. Bu turdagi takrorlanish bolalarning mavzuga nisbatan qiziqishlarini pasaytirmaydi, chunki har bir faoliyat turi jarayonida bolalar ertak qahramonlarining xilma-xil tasvirining yangi usul va yo‘llari bilan tanishadilar.

6. Tasviriy faoliyat mashg‘ulotlarini to‘g‘ri rejalashtirishda, mashg'ulotlar o‘rtasida ularning dastur vazifalari, mavzular o‘rtasida bog'Ianish vujudga keladiki, buning natijasida bolalarning yangi malaka va ko‘nikmalarini va bilimlami egallashlarida ma’lum ketma-ketlik va bogianish vujudga keladi. Masalan, «Qushlar» mavzusi asosida olib borilgan mashg‘ulotlar jarayonida bolalar don cho‘qiyotgan qushni loydan yasashni, shoxda o‘tirgan qushni rasmini chizishni, afsonaviy qushni qanday qilib qog‘ozdan qirqib olishni bilib oladilar.

7. Shuningdek, tasviriy faoliyati bo‘yicha ishni rejalashtirishda faqatgina ularning turlari o‘rtasidagi ketma-ketlikni nazarda tutmay, balki har bir turdagi mashg‘ulotlar o‘rtasida ham bog'Ianish o‘matish va ularni diqqatda tutish lozim. Masalan, predmetli rasm chizish loy ishlaridan keyin mazmunli ishlarni rejalashtirish lozim. Tasviriy faoliyat bo‘yicha ishni rejalashtirishda o’qituvchi

bolalar bilan ishlashda foydalanadigan metod va usullariga ham ahamiyat bermog‘imiz lozim. Bular ko‘rsatmali va og‘zaki metod hisoblanadi. Ko‘rsatmali va og‘zaki metod o‘zaro birgalikda olib borilishi lozim.

Demak, o’qituvchi tasviriy faoliyat bo‘yicha ishlarni rejalashtirishga juda katta ahamiyat bermog‘i lozim ekan. O’qituvchi ishni rejalashtirishga qanday ahamiyat bergan bo‘lsa, ishni hisobga olishga ham shunday e’tibor bermog‘i lozim bo‘ladi. Chunki bu narsa - o’qituvchiga tasviriy faoliyatga o‘rgatish bo‘yicha dastur vazifalari talablari qanday bajarilganligini aniqlashga va mashg‘ulotlarning sifatli chiqishi uchun qanday tayyorgarlik ishlarini ko‘proq olib borish lozimligi hamda o‘rgatishlarning yangi xilma-xil metod va usullari ustida ko‘proq ishlash lozimligini aniqlab olishga va keyinchalik ulardan bolalar bilan ishlashda foydalanish uchun yangi-yangi imkoniyat yaratib beradi.

FOYDALANILGAN ADABIYOTLAR RO’YXATI.

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RANG SEMALI LEKSEMALARDAN YASALGAN SO‘ZLARNING SEMANTIK TAHLILI

(“QORA” LEKSEMASI MISOLIDA)

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Annotatsiya*. Leksik ma'nolar avvalo bosh ma'no va hosila ma'no deb farq qilinadi. Boshqa bir leksik ma'noning yuzaga kelishi uchun asos bo‘lgan ma'no bosh ma'no deyiladi. Bosh ma'noning taraqqiyoti bilan yuzaga kelgan leksik ma'no hosila ma'no deyiladi. Bir leksemaning leksik ma'nolari tizimidagi birlamchi leksik ma'no to‘ng‘ich bosh ma'no deyiladi. O‘zidan keyingi ma'noning taraqqiy etib chiqishi uchun asos bo‘lgan hosila ma'no nisbiy bosh ma'no deyiladi. Leksemaning bosh ma’nosi ham, hosila ma’nosi ham yangi so‘z yasash uchun asos bo‘la oladi. Ushbu maqolada rang semali so‘zlarning bosh va hosila ma’nolaridan yasalgan yasama leksemalarning semantik tahlili beriladi.*

Kalit so‘zlar: *leksema, sema, bosh ma’no, hosila ma’no, so‘z yasalishi, sodda yasama so‘z, qo‘shma so‘z, affiksatsiya usuli, kompozitsiya usuli, semantik usulda so‘z yasash, yasama leksema*

Abstract. *Lexical meanings are primarily distinguished as main (primary) and derivative (secondary) meanings. The meaning that serves as the basis for the emergence of another lexical meaning is called the main meaning. A lexical meaning that develops from the main meaning is called a derivative meaning. The primary lexical meaning within the system of a lexeme's lexical meanings is called the absolute (original) main meaning. A derivative meaning that serves as the basis for the development of a subsequent meaning is called a relative main meaning. Both the main and derivative meanings of a lexeme can serve as a basis for word formation. This article provides a semantic analysis of derivative lexemes formed from the main and derivative meanings of color-semic words (color-related words).*

Keywords: *lexeme, seme, main meaning, derivative meaning, word formation, simple derivative word, compound word, affixation method, composition method, semantic method of word formation, derivative lexeme*

Аннотация. *Лексические значения прежде всего разделяются на основное и производное. Значение, служащее основой для возникновения другого лексического значения, называется основным значением. Лексическое значение, возникшее в процессе развития основного значения, называется производным значением. Первичное лексическое значение в системе значений одной лексемы называется главным основным значением. Производное значение, ставшее основой для развития последующего значения, называется относительным основным значением. Как основное, так и производное значение лексемы могут служить базой для словообразования. В данной статье представлен семантический анализ производных лексем, образованных от основных и производных значений слов с цветовой семой.*

Ключевые слова: *лексема, сема, основное значение, производное значение, словообразование, простое производное слово, сложное слово, метод аффиксации, метод композиции, семантический способ словообразования, производная лексема*

KIRISH

Hozirgi leksik ma'nolar bosh ma'no va hosila ma'no, to‘g‘ri ma'no va ko‘chma ma'no, nominativ ma'no va figural ma'no deb bir necha nuqtayi nazardan tasnif qilinadi. Bu tasniflar biri ikkinchisini istisno qilmaydi, balki ayni bir hodisaga har xil yondashishni aks ettiradi. Leksik ma'noning yuqoridagicha turlari ko‘pma'noli leksemalar asosida belgilanadi. {Sh.Rahmatullayev, 2006:63} Ko‘p ma’noli so‘zlar xalq tafakkur darajasini belgilashda muhim rol o‘ynaydi. Chunki inson bolasi ilk – tabiiy yaratilish va ikkilamchi – inson qo‘li bilan yaratilgan predmetlardagi shakl, joylashish o‘rni, belgi, holat, harakat va mohiyat o‘rtasidagi qiyosiy tahlil tufayli yangi ilmiy xulosalar chiqarsa-da, ba’zan natija yangi leksema bilan yakunlansa, ba’zan shakl, joylashish o‘rni, belgi, holat, harakat va mohiyat o‘rtasidagi o‘xshashlik tufayli bir necha sema bir leksema bilan nomlanib qolaveradi.

Bir leksemaning semalari esa semantik munosabatga ko‘ra turli so‘zlar bilan sinonimlik va antonimlik qatorini hosil qila oladi. Masalan, *qattiq* so‘zining semalariga diqqat qiladigan bo‘lsak, qattiq so‘zi, avvalo, shakl va hajm o‘zgarmasligini; 2) Tashqi ta’sirga qarshilik ko‘rsatish belgisini; 3) Badanga, qo‘lga botadigan; salga ezilmaydigan, bosilmaydigan; 4) Mahkam, mustahkam, pishiq; 5) Belgi darajasi yuqori (ortiq) bo‘lgan; kuchli, zo‘r, juda; 6) Qiyinchilik,

mashaqqat bilan bo‘ladigan, kuch, mehnat, mashaqqat talab etadigan; og‘ir, qiyin, mashaqqatli; Sarf-xarajat, umuman, chiqimga tobi yo‘q, unga chidamaydigan. {O‘TIL, IV, 2023: 92}. Bu o‘rinda qattiq so‘zi *qattiq modda* kabi birikmaning 1-ma’nosida *o‘zgarmas* so‘zi bilan sinonimlik hosil qilsa, *o‘zgaruvchan* so‘zi bilan antonimlik hosil qiladi; *qattiq yog‘och* birikmasida *toshday* so‘zi bilan sinonimlik hosil qilsa, *mo‘rt* so‘zi bilan antonimlik hosil qiladi; qattiq xamir birikmasida *toshday* so‘zi bilan sinonimlik hosil qilsa, *yumshoq* so‘zi bilan antonimlik hosil qiladi; qattiq bog‘lamoq birikmasida *mahkam* so‘zi bilan sinonimlik hosil qilsa, *bo‘sh* so‘zi bilan antonimlik hosil qiladi; qattiq tovush birikmasida *kuchli* so‘zi bilan sinonimlik hosil qilsa, *kuchsiz* so‘zi bilan antonimlik hosil qiladi; qattiq yumush birikmasida *qiyin* so‘zi bilan sinonimlik hosil qilsa, *oson* so‘zi bilan antonimlik hosil qiladi; *qattiq odam* birikmasida *xasis* so‘zi bilan sinonimlik hosil qilsa, *saxiy* so‘zi bilan antonimlik hosil qiladi. {O‘TIL, 2023:92}

Bir necha semaga ega so‘zlar har bir semasida sinonimlik va antonimlik hosil qilgani kabi so‘z yasalishida ham shunday ishtirok etishi mumkin. Hatto, rang semasini tashuvchi so‘zlarning barchasi ham bosh ma’nosi bilan sinonimlik va antonimlik qatorini hosil qila olmasa-da (bir qismida mavjud), ammo hosila ma’nosi orqali nutqiy sinonimlikni, nutqiy antonimlikni hosil qila oladi. Masalan, *qora* leksemasining o‘zbek tilida aynan sinonimi yo‘q, faqat fors-tojik tilidan o‘zlashgan ekvivalenti *siyo* so‘zi poetik matnlarda uchraydi. Ammo *qora* so‘zining hosila ma’nosi sinonimik va antonimik hosil qila oladi. Avvalo, 2023-yil qayta nashr etilgan olti jildli “O‘zbek tilining izohli lug‘ati”ning to‘rtinchi jildida keltirilgan ***qora*** leksemasining semalariga diqqat qilsak, bu polisemantik leksemaning o‘n uch xil ma’nosi izohlangan. **QORA** 1 Rang-tusi mavjud ranglarning barchasidan to‘q; qozonkuya, ko‘mir tusidagi; 2 Shu tusga moyil to‘q rangli; qoramtir. 3 Is, qurum bosgan, qoraygan yoki oqlanmagan, pardozlanmagan. 4 Qorong‘i; nursiz, ziyosiz; zid. yorug‘. 5 Shaxmat, shashka kabi o‘yinlarda oqqa zid donalar va shu donalar bilan o‘ynovchi tomon. 6 ot Qora yoki qoraga moyil narsa (kiyim, mato va sh.k.). 7 ot Biror narsaning

uzoqdan yoki qorong‘idan ko‘zga tashlanuvchi aksi, ifodasi; sharpa. 8 ot Mo‘ljalga olingan yoki olinadigan narsa, nishon; mo‘ljal. 9 ko‘chma Umuman, salbiy belgini, salbiy belgiga egalikni bildiradi; yomon. 10 ot ko‘chma Noto‘g‘ri, yomon, yaramas narsa, ish. 11 Ba’zi so‘zlar bilan qo‘llanib, ular anglatgan narsaga xos belgi-holatning kuchli darajasini bildiradi. 12 ko‘chma esk. Ma’lum miqdordagi yaxlit summa. 13 Qora (erkaklar ismi). {O‘TIL, 2023:222-223}

Qora leksemasining ayni rang ma’nosi siyoh so‘zi bilan sinonim, oq so‘zi bilan antonimlik hosil qilganda, qora ko‘ylak, qora non – 1) siyo ko‘ylak; 2) noni siyo (sinonim) – 1) oq ko‘ylak; 2) oq non (antonim) jumlalarida qo‘llanadi. 3) qora devor birikmasida *bo‘yalmagan* so‘zi bilan sinonimlik hosil qilsa, *oqlangan* so‘zi bilan antonimlik hosil qiladi. 4) *qora tun* birikmasida *qorong‘u* so‘zi bilan sinonimlik hosil qilsa, *yorug‘* so‘zi bilan antonimlik hosil qiladi va hokazo.

Xuddi shu kabi qora leksemasining bosh va hosila semalari alohida-alohida sema tashuvchi yangi so‘zlarga asos bo‘lib xizmat qiladi. “O‘zbek tilining izohli lug‘ati”da *qora* so‘zi asos qilib olingan yasama so‘zlarni struktur-semantik xususiyatiga ko‘ra quyidagicha ko‘rsatish mumkin:

Qora rang leksemasidan yasalgan qo‘shma otlar: qorachoy, qorachiroq, qorachirik (qoracherik), qorachakak, qorasho‘ra, qorashaqshaq, qorasuli, qorasuvoq, qoratarvuz, qoratol, qoratomoq, qorato‘r, qorasovuq, qorason, qorabotir, qoraqush I, qoraqush II, qoraqurt I, qoraqurt II, qoraqo‘tir, qoraquyruq, qoraqiz, qoraqobiq (qoraqovuq), qoraqosh I, qoraqosh II, qoraquloq I, qoraquloq II, qoraqarag‘ay, qoraqarg‘a, qoraqat, qoraqayin, qoraqiltiq, qoraqiyoq, qorapatak, qorapo‘choq, qoraqand I, qoraqand II, qoramug‘ (qoramiq), qoramashoq, qoramol, **qoramon**, qoramoy, qoramayiz, qoramaldoq, qorako‘za, qorako‘rpa, qorako‘l, qorakuya I, qorakuya II, qorakosov I, qorakosov II, qorakesak, qorakaltak I, qorakaltak II, qorajigar, qorajanjal, qoragul I, qoragul II, qoradori, qorabug‘doy, qorabura, qorabosh, qorabovur, qoraandiz, qoraarcha, qorabaliq, qorabarak, qorabayir. Jami 70 ta leksema.

Qora rang leksemasidan yasalgan qo‘shma sifatlar: qorashirg‘ay, qoraparang, qoramag‘iz. Jami 3 ta leksema.

Qora rang leksemasidan yasalgan ravishlar: Qorama-qora. Jami 1 ta leksema

Qora rang leksemasidan yasalgan sodda yasama so‘zlar: qorachiq, qoracha, qorash, qoraymoq, qorayish, qorayaloq, qoravoy, qoramtir, qoramolchilik, qoralovchi, qoralik, qoralamoq, qoralama, qorakash. Jami 14 ta leksema.

Qora rang leksemasidan yasalgan qo‘shma otlardan affiksatsiya usulida yasalgan otlar: Qorako‘lchi, qorako‘lchilik, qoramolchilik, qoradorifurushlik. Jami 5 ta leksema.

Ko‘rinib turibdiki, *qora* leksemasi serunum asos bo‘lib, yasalgan so‘zlar leksemaning bosh va hosila semalaridan yasalgan. Xususan, *qorachirik (qoracherik) (qora 9), qorasuvoq (qora 4), qoradori (qora 9), qorakaltak I (qora 7)* so‘zlari yasalayotganda *qora* leksemasining hosila semalari asos qilib olingan. Shuningdek, sodda yasama so‘zlar haqida so‘z ketganda ham shu fikrni aytish mumkin. *Qoraymoq* so‘zi asosdagi bosh ma’nodan hosil bo‘lgan bo‘lsa, *qoralama, qoralamoq, qoralovchi* kabi yasama leksemalarning asosida hosila sema ma’nosi tayanch omil vazifasini bajaradi. Masalan, **QORALOVCHI** 1 Qoralamoq fl. sfdsh. Ahmad Husayn... muharrir bilan uchrashuvning oqibatini... qoralovchi ifodalarda bayon qildi. Oybek, Nur qidirib. 2 huq. Sud oldida sudlanuvchining aybdor ekanligini quvvatlovchi; ayblovchi. Davlat qoralovchisi. Jamoat qoralovchisi. ▬ Qoralovchi gapirib, oqlovchi gapirib... Oliyaning o‘zi oxirgi so‘zdan voz kechib, sud hay’ati… qamoq muddatini e’lon qildi. M.M.Do‘st, Lolazor. {O‘TIL, IV, 2023: 223}

O‘zbek tilida rang semasini tashuvchi lisoniy birliklarning leksemalarning ko‘p ma’nolilik xususiyati leksik qatlamning sinonimik, antonimik, frazeologik qatlamlarinini qanchalik kengaytirsa, ichki manba asosida so‘z yasalishi va tuzilishini ham shunchalik boyishiga sabab bo‘ladi. Bu orqali o‘zbek tili leksik qatlamining hajmi ortishi ta’minlanadi.

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MAKTAB KUTUBXONALARIDA HUQUQIY MADANIYATNI SHAKLLANTIRISHNING ILMIY-NAZARIY ASOSLARI

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Ilmiy rahbar: O‘ktam Nosirov

“Kutubxona-axborot faoliyati” kafedrasi, professor.v.b., falsafa fanlari nomzodi

Annotatsiya: *Mazkur maqolada maktab kutubxonalarida o‘quvchilarning huquqiy madaniyatini shakllantirishning ilmiy-nazariy asoslari atroflicha tahlil qilingan. Tadqiqotda huquqiy madaniyat tushunchasining mazmun-mohiyati, uning tarkibiy komponentlari hamda shaxs rivojidagi o‘rni ilmiy nuqtai nazardan yoritilgan. Maqolada huquqiy madaniyatni shakllantirishda zamonaviy pedagogik yondashuvlar, jumladan, shaxsga yo‘naltirilgan, faoliyatli va innovatsion yondashuvlarni qo‘llashning ahamiyati asoslab berilgan. Shu bilan birga, kutubxona faoliyati orqali o‘quvchilarda huquqiy bilimlarni mustahkamlash, ularning huquqiy tafakkurini rivojlantirish va ijtimoiy faolligini oshirishga qaratilgan amaliy mexanizmlar tahlil qilingan. Tadqiqot natijalari maktab kutubxonalarida huquqiy tarbiyani samarali tashkil etish, o‘quvchilarning huquqiy madaniyatini yuksaltirish hamda jamiyatda huquqiy ong va qonun ustuvorligini ta’minlashga xizmat qiladi.*

Kalit so‘zlar*: Huquqiy madaniyat, huquqiy ong, kognitiv komponent, aksiologik yondashuv, maktab kutubxonasi, axborot-ta’lim muhiti, huquqiy tarbiya, pedagogik texnologiyalar, ijtimoiylashuv, huquqiy faollik****.***

Аннотация: *В данной статье всесторонне анализируются научно-теоретические основы формирования правовой культуры учащихся в школьных библиотеках. В исследовании раскрывается сущность и содержание понятия правовой культуры, а также освещаются её структурные компоненты и роль в развитии личности с научной точки зрения. В статье обосновывается важность применения современных педагогических подходов, включая личностно-ориентированный, деятельностный и инновационный подходы в процессе формирования правовой культуры.*

Ключевые слова: *правовая культура, школьная библиотека, правовое сознание, правовое воспитание, педагогический процесс, информационные ресурсы, формирование личности, правовые знания, библиотечная деятельность, образовательная среда*

Abstract: *This article provides a comprehensive analysis of the scientific and theoretical foundations for developing students' legal culture in school libraries. The study examines the essence and content of the concept of legal culture, its structural components, and its role in personal development from a scientific perspective. The article substantiates the importance of applying modern pedagogical approaches in the formation of legal culture, including learner-centered, activity-based, and innovative approaches. In addition, it analyzes practical mechanisms aimed at strengthening students' legal knowledge, developing their legal thinking, and increasing their social activity through library activities. The results of the research contribute to the effective organization of legal education in school libraries, enhancement of students' legal culture, and the promotion of legal awareness and the rule of law in society.*

Keywords: *Legal culture, legal awareness, cognitive component, axiological approach, school library, information and educational environment, legal education, pedagogical technologies, socialization, legal activity.*

KIRISH

Bugungi kunda huquqiy ong va huquqiy madaniyat fuqarolik jamiyatining poydevorini tashkil etadi. Yosh avlodda huquqiy madaniyatni erta shakllantirish ularning huquqiy xulqi, qoidaga rioya qilish va ijtimoiy mas'uliyatini rivojlantirishga yordam beradi. Shu nuqtai nazardan, maktab kutubxonalari o‘quvchilar uchun huquqiy bilimlarni chuqur o‘zlashtirish va amaliy ko‘nikmalarni shakllantirish markazi sifatida qaraladi.

Huquqiy madaniyat — shaxsning huquqiy bilimlar, qadriyatlar va xulq-atvorlar majmuasi bo‘lib, uch asosiy komponentdan iborat:

1. **Kognitiv komponent** — huquqiy tushunchalarni anglash va bilimlarni tizimli o‘zlashtirish;
2. **Aksiologik komponent** — huquqiy qadriyatlarni qadrlash va ijtimoiy me'yorlarga munosabat;
3. **Regulyativ komponent** — o‘rganilgan huquqiy bilimlarni amaliy xatti-harakatda qo‘llash.

Ushbu komponentlarning uyg‘unligi shaxsning huquqiy yetukligini belgilaydi va jamiyatda qonun ustuvorligini mustahkamlaydi.

Maktab kutubxonalari nafaqat axborot manbai, balki **pedagogik ta’lim muhitining muhim bo‘lagi** hisoblanadi. Ularning vazifalari quyidagilarni o‘z ichiga oladi:

- O‘quvchilarni huquqiy madaniyatini o‘rganishga rag‘batlantirish;
- Huquqiy mavzularda mustaqil tadqiqotlar va loyiha ishlari tashkil qilish;
- Faol va mustaqil fikrlash, tanqidiy tafakkur ko‘nikmalarini shakllantirish.

Kutubxona shuningdek, o‘quvchilarda huquqiy mas’uliyatni rivojlantirish va ijtimoiy faollikni oshirishga xizmat qiladi.

Huquqiy madaniyatni shakllantirish jarayoni – bu nafaqat o‘quvchilarga huquqiy bilimlarni berish, balki ularning huquqiy tafakkurini rivojlantirish, huquqiy qadriyatlarni qadrlash va shaxsiy mas’uliyatni mustahkamlashni o‘z ichiga oladi. Ilmiy tadqiqotlar shuni ko‘rsatadiki, samarali huquqiy tarbiya faqat **nazariy bilim va amaliy mashg‘ulotlarni uyg‘unlashtirish** orqali shakllanishi mumkin. Shu nuqtai nazardan, maktab kutubxonalarida huquqiy madaniyatni rivojlantirishda quyidagi yondashuvlar ilmiy asos sifatida qabul qilinadi:

1. Shaxsga yo‘naltirilgan yondashuv

Shaxsga yo‘naltirilgan yondashuv o‘quvchining individual xususiyatlarini, qiziqishlarini va bilim darajasini hisobga oladi.

- **Nazariy asos:** Psixologik tadqiqotlar shuni ko‘rsatadiki, o‘quvchining individual qobiliyati va qiziqishiga moslashtirilgan ta’lim samaraliroq bo‘ladi (Vygotsky, 1978).
- **Amaliyot:** Maktab kutubxonasida o‘quvchilarga huquqiy mavzular bo‘yicha **shaxsiy izlanish loyihalari**, masalan, “Mening huquqlarim va majburiyatlarim” mavzusida tadbirlar o`tkazish.
- **Natija:** O‘quvchilar o‘z qiziqishlariga mos mavzularni o‘rganadi, huquqiy ongini mustahkamlaydi va huquqiy qadriyatlarni o‘zlashtiradi.

2. Faoliyatga asoslangan yondashuv

Faoliyatga asoslangan yondashuv huquqiy bilimlarni amaliy mashg‘ulotlar orqali mustahkamlashga qaratilgan.

- **Nazariy asos:** Dewey (1916) ta’lim nazariyasiga ko‘ra, o‘rganilgan bilim faqat amaliy faoliyat orqali o‘zlashtiriladi.
- **Amaliyot:**
  - **Debatlar** – “Bolalar va maktabdagi huquqlar” mavzusida o‘tkaziladi;
  - **Vaziyat tahlili** – huquqiy vaziyatlarni tahlil qilib, o‘quvchilar qaror qabul qiladi;
  - **Rolli o‘yinlar** – o‘quvchilar sud ishini yoki huquqiy masalalarni dramatizatsiya qiladi.
- **Natija:** O‘quvchilar huquqiy bilimlarni amalda qo‘llashni o‘rganadi, qaror qabul qilish va muammolarni hal qilish ko‘nikmalarini rivojlantiradi.

3. Integrativ yondashuv

Integrativ yondashuv huquqiy mavzularni boshqa fanlar bilan uyg‘unlashtirishni o‘z ichiga oladi.

- **Nazariy asos:** Interdisiplinar yondashuv o‘quvchilarda kompleks tafakkur va bilimlarni birlashtirish imkonini beradi (Piaget, 1972).
- **Amaliyot:**
  - Tarix fani bilan bog‘liq: “O‘zbekiston Konstitutsiyasi tarixiy rivojlanishi” mavzusida tadqiqot;
  - Ona tili: huquqiy insho yozish;
  - Jamiyatshunoslik: ijtimoiy qoidalar va huquqiy institutlar tahlili.

O‘quvchilar huquqiy tushunchalarni turli fanlar bilan bog‘lab o‘rganadi, ularni amaliyotga tatbiq etadi va huquqiy madaniyatni kengroq kontekstda tushunadi.

4. Innovatsion yondashuv

Innovatsion yondashuv elektron resurslar, multimedia vositalari va raqamli platformalardan foydalanishga asoslanadi. Zamonaviy ta’lim texnologiyalari huquqiy bilimlarni tez va samarali o‘zlashtirishga yordam beradi.

Amaliyot:

- Elektron kutubxona resurslari: PDF kitoblar, ilmiy maqolalar, huquqiy qonunlar;
- Multimedia: video-lavhalar, interaktiv testlar, huquqiy viktorinalar;
- Raqamli platformalar: onlayn forumlar va virtual debatlar.

Natija: O‘quvchilar huquqiy bilimlarni raqamli formatda o‘zlashtiradi, mustaqil izlanish ko‘nikmalarini rivojlantiradi va amaliy faoliyat bilan shug‘ullanishga rag‘batlanadi.

Amaliy tavsiyalar

- Kutubxonada **huquqiy kitoblar fondini** yaratish;
- **Huquqiy bilimlar haftaligi** kabi tadbirlar tashkil etish;
- Huquqshunoslar va amaliyotchilar bilan **ma’rifiy uchrashuvlar** o‘tkazish;
- O‘quvchilarni **mustaqil izlanish va loyiha ishlari**ga jalb qilish;
- Raqamli resurslar va interaktiv platformalar orqali huquqiy bilimlarni kengaytirish.

Maktab kutubxonalari yosh avlodda huquqiy madaniyatni shakllantirishning muhim institutlaridan biri hisoblanadi. Tadqiqot natijalari shuni ko‘rsatadiki, huquqiy madaniyatni rivojlantirish nafaqat o‘quvchilarning huquqiy bilimlarini oshirish, balki ularning huquqiy tafakkurini chuqurlashtirish, ijtimoiy mas’uliyatini mustahkamlash va qonun ustuvorligini qadrlash ko‘nikmalarini shakllantirishga xizmat qiladi.

Shuningdek, maktab kutubxonalari zamonaviy pedagogik yondashuvlar, jumladan, shaxsga yo‘naltirilgan, faoliyatga asoslangan va innovatsion metodlarni qo‘llash orqali huquqiy madaniyatni yanada samarali rivojlantirish imkoniyatiga ega. Kutubxona faoliyati o‘quvchilarda huquqiy bilimlarni

mustahkamlash, huquqiy xulq-atrovni shakllantirish va ijtimoiy faollikni oshirishga xizmat qiladigan amaliy mexanizmlarni taqdim etadi.

Tadqiqot shuni ko‘rsatdiki, maktab kutubxonalarida huquqiy tarbiyaga yo‘naltirilgan strategik chora-tadbirlar amalga oshirilsa, bu nafaqat shaxsiy rivojlanish, balki jamiyatda qonun ustuvorligi va huquqiy ongni mustahkamlashga ham bevosita hissa qo‘shadi. Shu bois, maktab kutubxonalari faoliyatini tizimli va metodik jihatdan rivojlantirish, huquqiy bilimlarni o‘quvchilar orasida targ‘ib qilish va ularni amaliy mashg‘ulotlar bilan boyitish muhim ahamiyat kasb etadi.

Umuman olganda, maktab kutubxonalaridagi huquqiy madaniyatni shakllantirish — bu nafaqat ta’lim va tarbiya jarayonining ajralmas qismi, balki yosh avlodning fuqarolik ongini rivojlantirish, jamiyatda huquqiy madaniyatni kengaytirish va qonun ustuvorligini ta’minlashning samarali mexanizmidir.

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ZAMONAVIY O‘ZBEK ADABIYOTIDA YOSHLAR OBRAZINING TALQINI

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Annotatsiya: *Mazkur maqolada zamonaviy o‘zbek adabiyotida yoshlar obrazining talqini, uning badiiy va ijtimoiy xususiyatlari tahlil qilinadi. Tadqiqot davomida yosh qahramonlarning ichki dunyosi, ijtimoiy muammolari, hayotiy qarashlari va ma’naviy izlanishlari yoritiladi. Shuningdek, yoshlar obrazining an’anaviy va zamonaviy talqinlari o‘rtasidagi farqlar ochib berilib, ularning adabiyotdagi o‘rni ilmiy asosda baholanadi.*

Kalit so‘zlar: *zamonaviy adabiyot, yoshlar obrazi, badiiy tahlil, ijtimoiy muammolar, obraz talqini, o‘zbek adabiyoti, realizm.*

Annotation: *This article analyzes the interpretation of youth images in modern Uzbek literature and examines their artistic and social characteristics. The study highlights the inner world, social issues, life perspectives, and spiritual quests of young characters. It also reveals the differences between traditional and modern interpretations of youth images and evaluates their role in literature on a scientific basis.*

Keywords: *modern literature, youth image, literary analysis, social issues, image interpretation, Uzbek literature, realism.*

KIRISH

Zamonaviy o‘zbek adabiyoti jamiyatdagi ijtimoiy, madaniy va ma’naviy o‘zgarishlarni aks ettiruvchi muhim vosita sifatida alohida ahamiyat kasb etadi. Ayniqsa, yoshlar obrazi bugungi adabiyotda eng dolzarb va faol tasvirlanayotgan obrazlardan biri hisoblanadi. Chunki yoshlar jamiyatning kelajagini belgilovchi asosiy qatlam bo‘lib, ularning dunyoqarashi, muammolari, orzu-intilishlari va hayotiy pozitsiyasi adabiy asarlarda o‘z aksini topmoqda. Mustaqillikdan keyingi davrda o‘zbek adabiyotida yangicha

tafakkur, erkin fikrlash va individual yondashuv kuchayib, yoshlar obrazini yaratishda ham sezilarli o‘zgarishlar yuzaga keldi. Endilikda yosh qahramonlar faqat ijobiy namunaviy obraz sifatida emas, balki ichki ziddiyatlarga ega, hayotiy muammolar bilan yuzma-yuz kelayotgan real shaxs sifatida tasvirlanmoqda. Mazkur maqolaning maqsadi — zamonaviy o‘zbek adabiyotida yoshlar obrazining talqinini o‘rganish, uning o‘ziga xos jihatlarini tahlil qilish hamda bu obraz orqali jamiyatdagi muammolar va tendensiyalar qanday ifodalanayotganini aniqlashdan iborat.

Metodologiya

“Adabiy tahlil matnning ichki mazmuni va badiiy qatlamlarini ochib berishga xizmat qiladi” (Quronov D., 2010, 52-bet).

Mazkur tadqiqotda bir qator ilmiy-uslubiy yondashuvlardan foydalanildi. Jumladan:

Tahliliy metod – zamonaviy o‘zbek adabiyotidagi asarlarda yoshlar obrazini chuqur o‘rganish uchun;

Qiyosiy metod – an’anaviy va zamonaviy davrdagi yoshlar obrazlarini solishtirish uchun;

Tasniflash metodi – yoshlar obrazining asosiy turlarini ajratib ko‘rsatish uchun;

Matn tahlili (interpretatsiya) – adabiy asarlar mazmuni va badiiy xususiyatlarini ochib berish uchun tadqiqot obyekti sifatida zamonaviy o‘zbek yozuvchilari asarlaridagi yosh qahramonlar tanlab olindi. Tadqiqot jarayonida badiiy asarlardan misollar keltirish va ularni ilmiy asosda sharhlashga alohida e’tibor qaratildi.

Natijalar

Tadqiqot natijasida zamonaviy o‘zbek adabiyotida yoshlar obrazi turli badiiy ko‘rinishlarda namoyon bo‘lishi aniqlandi. Ushbu obrazlar aniq adabiy misollar asosida quyidagicha tasniflandi:

1. Izlanishdagi yoshlar obrazi

Zamonaviy asarlarda yosh qahramonlar ko‘pincha hayotda o‘z o‘rnini topishga intilayotgan shaxs sifatida tasvirlanadi. Masalan, Ulug‘bek Hamdamning “Muvozanat” romanida bosh qahramon o‘z hayotiy yo‘lini topish, ma’naviy muvozanatga erishish yo‘lida ichki izlanishlar olib boradi. Bu obraz orqali zamonaviy yoshlarning ruhiy kechinmalari va hayotiy qarorlar oldidagi ikkilanmalari ochib beriladi.

2. Ruhiy ziddiyatli obrazlar

Ichki qarama-qarshiliklar zamonaviy yoshlar obrazining muhim xususiyatlaridan biridir. Isajon Sultonning “Boqiy darbadar” asarida qahramonning ichki iztiroblari, hayot mazmunini anglashga bo‘lgan intilishi chuqur psixologik tahlil orqali yoritiladi. Bu esa yoshlar obrazining murakkab va ko‘p qirrali ekanini ko‘rsatadi.

3. Ijtimoiy muammolar aks etgan obrazlar

Zamonaviy adabiyotda yoshlar orqali jamiyatdagi muammolar ham ochib beriladi. Abduqayum Yo‘ldoshev hikoyalarida yoshlarning ijtimoiy muhit, ishsizlik, hayotdagi qiyinchiliklar bilan kurashi real tasvirlanadi. Bu orqali adabiyot jamiyat muammolarining aks-sadosi sifatida namoyon bo‘ladi.

4. Faol va tashabbuskor yoshlar obrazi

Ba’zi asarlarda yoshlar ijtimoiy hayotda faol, yangilikka intiluvchi shaxs sifatida tasvirlanadi. Xurshid Do‘stmuhammad asarlarida yosh qahramonlar tashabbuskor, mustaqil fikrlovchi va jamiyat taraqqiyotiga befarq bo‘lmagan obrazlar sifatida gavdalanadi.

5. Qadriyatlar to‘qnashuvi

An’anaviy va zamonaviy qadriyatlar o‘rtasidagi ziddiyat ham yoshlar obrazida muhim o‘rin tutadi. O‘tkir Hoshimovning asarlarida yoshlarning ota-onalar qarashlari bilan zamonaviy dunyoqarash o‘rtasida qolishi, ichki tanlov qilish jarayoni badiiy ifoda etiladi.

Muhokama

Olingan natijalar shuni ko‘rsatadiki, zamonaviy o‘zbek adabiyotida yoshlar obrazi tobora murakkablashib, chuqurlashib bormoqda. Zamonaviy

adabiyotda yoshlar obrazi murakkablashgan va realistik tus olgan. Quronov D. fikriga ko‘ra: “Realistik adabiyot insonning ichki dunyosini to‘liq ochib berishga intiladi” (2010, 61-bet). Bu holat yoshlar obrazining psixologik chuqurlashganini ko‘rsatadi.

Avvalgi davr adabiyotida yoshlar ko‘proq namunaviy, ideal qahramon sifatida tasvirlangan bo‘lsa, hozirgi davrda ular real hayotdagi kabi turli muammolar va qarama-qarshiliklar bilan ifodalanmoqda. Bu holat adabiyotning realizmga yaqinlashganini va inson psixologiyasiga chuqurroq kirib borayotganini ko‘rsatadi. Ayniqsa, yoshlar obrazida individualizm, mustaqil fikrlash va shaxsiy erkinlik masalalari muhim o‘rin egallamoqda.

Shuningdek, adabiyot orqali yoshlar muammolarini yoritish jamiyat uchun muhim signal vazifasini bajaradi. Yozuvchilar yoshlar hayotidagi muammolarni ko‘rsatish orqali ularni hal etishga e’tibor qaratmoqda.

XULOSA

Xulosa qilib aytganda, zamonaviy o‘zbek adabiyotida yoshlar obrazi muhim badiiy va ijtimoiy kategoriya sifatida shakllanmoqda. Ushbu obraz orqali jamiyatdagi dolzarb muammolar, ijtimoiy o‘zgarishlar va ma’naviy jarayonlar o‘z ifodasini topmoqda.

Yoshlar obrazi endilikda biryoqlama emas, balki ko‘p qirrali, murakkab va real hayotga yaqin tarzda tasvirlanmoqda. Bu esa zamonaviy adabiyotning yuksalib borayotganini va uning ijtimoiy ahamiyati ortib borayotganini ko‘rsatadi.

Kelgusida ushbu yo‘nalishda yanada chuqurroq ilmiy tadqiqotlar olib borish, ayniqsa, alohida yozuvchilar ijodida yoshlar obrazini o‘rganish muhim ilmiy ahamiyat kasb etadi.

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BO‘LAJAK AKTYORLAR TAYYORGARLIGIDA SAHNAVIY DIQQATNING ROLI VA PSIXOLOGIK ASOSLARI

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“Aktyorli mahorati” kafedrasi o’qituvchisi

Annotatsiya: *Mazkur maqolada sahnaviy diqqat tushunchasining nazariy va amaliy jihatlari tahlil qilinadi. Sahnaviy diqqatning aktyorlik mahoratini shakllantirishdagi o‘rni, uning psixologik asoslari hamda sahna faoliyatida namoyon bo‘lish xususiyatlari yoritiladi. Shuningdek, diqqatning turlari, uni boshqarish mexanizmlari va maxsus mashqlar orqali rivojlantirish usullari ko‘rib chiqiladi. Tadqiqot natijalari sahnaviy diqqat aktyorning obraz yaratish jarayonida muhim omil ekanligini ko‘rsatadi.*

Аннотация: *В данной статье анализируются теоретические и практические аспекты сценического внимания. Раскрывается роль сценического внимания в формировании актерского мастерства, его психологические основы и особенности проявления в сценической деятельности. Также рассматриваются виды внимания, механизмы его управления и методы развития с помощью специальных упражнений. Результаты исследования показывают, что сценическое внимание является важным фактором в процессе создания сценического образа.*

Abstract: *This article analyzes the theoretical and practical aspects of stage attention. It highlights the role of stage attention in the development of acting skills, its psychological foundations, and its manifestation in stage performance. The study also examines types of attention, mechanisms of its control, and methods of its development through specific exercises. The results show that stage attention is a crucial factor in the process of character creation.*

Kalit so‘zlar: *sahnaviy diqqat, aktyorlik mahorati, konsentratsiya, psixotexnika, ichki diqqat, tashqi diqqat, sahna harakati, obraz, teatr pedagogikasi*

Ключевые слова: *сценическое внимание, актерское мастерство, концентрация, психотехника, внутреннее внимание, внешнее внимание, сценическое движение, образ, театральная педагогика*

Keywords: *stage attention, acting skills, concentration, psychotechnics, internal attention, external attention, stage movement, character (role), theatre pedagogy*

KIRISH

Zamonaviy teatr san’atida aktyorning sahnadagi faoliyati ko‘p qirrali va murakkab jarayon hisoblanadi. U nafaqat matnni yodlab ijro etadi, balki shu matn orqali ma’lum bir obrazni yaratadi, sahna muhitiga moslashadi va tomoshabin bilan bevosita emotsional aloqa o‘rnatadi. Bunday ko‘p qatlamli faoliyat esa aktyordan yuqori darajadagi psixologik tayyorgarlikni talab etadi. Aynan shu jarayonda sahnaviy diqqat muhim o‘rin tutadi.

Sahnaviy diqqat — bu aktyorning sahna jarayonida o‘z ongini muayyan obyektlarga yo‘naltira olish, uni boshqarish va kerakli vaqt davomida barqaror ushlab turish qobiliyatidir. Bu faqat oddiy e’tibor emas, balki murakkab psixologik mexanizm bo‘lib, aktyorning ichki hissiyoti, tafakkuri va jismoniy harakatlari bilan uzviy bog‘liqdir. Bugungi kunda teatr pedagogikasida sahnaviy diqqatni rivojlantirish dolzarb masalalardan biri hisoblanadi. Chunki diqqatni boshqara olmagan aktyor sahnada o‘zini erkin tutolmaydi, obrazni to‘liq ochib bera olmaydi va ijrosi sun’iy ko‘rinishga ega bo‘ladi. Aksincha, diqqatni to‘g‘ri yo‘naltira olgan aktyor sahnada “yashaydi”, uning harakati tabiiy, ishonchli va ta’sirchan bo‘ladi.

Mazkur tadqiqotning asosiy maqsadi sahnaviy diqqatning mohiyatini chuqur o‘rganish, uning aktyorlik mahoratini shakllantirishdagi o‘rnini aniqlash hamda uni rivojlantirishning samarali usullarini ilmiy asoslashdan iborat.

METODOLOGIYA

Mazkur tadqiqotda quyidagi usullardan foydalanildi:

- nazariy tahlil (psixologik va teatrshunoslik adabiyotlarini o‘rganish);
- kuzatuv (talabalarning sahna mashg‘ulotlari jarayonini tahlil qilish);

- taqqoslash (diqqat darajasi yuqori va past aktyorlar faoliyatini solishtirish);
- amaliy mashqlar samaradorligini baholash.

Shuningdek, aktyorlik mashg‘ulotlarida qo‘llaniladigan diqqatni rivojlantiruvchi texnikalar (konsentratsiya mashqlari, tasavvur bilan ishlash, improvizatsiya) sinovdan o‘tkazildi. Aktyorlik yo‘nalishida tahsil olayotgan talabalar bilan olib borilgan mashg‘ulotlar asosida sahnaviy diqqatni rivojlantirishga qaratilgan usullar samaradorligi o‘rganildi.

NATIJALAR

Tadqiqot jarayonida olingan natijalar sahnaviy diqqatning aktyorlik faoliyatidagi hal qiluvchi ahamiyatini yaqqol namoyon etdi. Xususan, sahnaviy diqqat ustida muntazam ishlagan talabalar ijrosida sezilarli o‘zgarishlar kuzatildi.

Birinchidan, diqqatni boshqara olgan aktyorlarning sahnadagi harakatlari ancha ishonchli va mantiqiy bo‘ldi. Ular har bir harakatni ongli ravishda amalga oshirib, obrazning ichki mazmunini ochib bera oldilar. Bu esa tomoshabin tomonidan ijobiy qabul qilinishiga olib keldi.

Ikkinchidan, diqqat darajasi oshgan sari aktyorlarning obrazga kirish tezligi ham ortdi. Ular sahnaga chiqqan zahoti rolga mos ruhiy holatni egallashga muvaffaq bo‘ldilar. Bu esa ijroning yaxlitligini ta’minladi.

Uchinchidan, diqqat mashqlari bilan shug‘ullangan guruhda sahnaviy xatolar sezilarli darajada kamaydi. Xususan, matnni unutish, sahnadagi noaniq harakatlar yoki ortiqcha hayajon kabi muammolar kamroq uchradi.

To‘rtinchidan, ichki va tashqi diqqat uyg‘unligini shakllantirish aktyorlarning sahnadagi erkinligini oshirdi. Ular bir vaqtning o‘zida ham ichki hissiyotlarni boshqara oldilar, ham sahna muhitiga moslashdilar.

Umuman olganda, natijalar sahnaviy diqqatni rivojlantirish aktyorlik mahoratini oshirishning muhim vositalaridan biri ekanligini tasdiqladi.

MUHOKAMA

Olingan natijalar asosida aytish mumkinki, sahnaviy diqqat aktyorlik san’atining markaziy komponentlaridan biri hisoblanadi. U aktyorning

sahnadagi barcha faoliyatini bir butun tizimga birlashtiradi. Diqqat orqali aktyor o‘z harakatlarini nazorat qiladi, hissiyotlarini boshqaradi va sahna vaziyatiga mos ravishda javob qaytaradi. Psixologik nuqtai nazardan, diqqat ongning tanlab yo‘naltirilgan faoliyati bo‘lib, u sahna sharoitida yanada murakkablashadi. Chunki aktyor bir vaqtning o‘zida bir nechta obyektga e’tibor qaratishi kerak: sahnadagi sheriklar, rekvizitlar, matn, rejissor talablari va tomoshabin reaksiyasi. Bu esa diqqatning taqsimlanishi va barqarorligini yuqori darajada rivojlantirishni talab etadi.

Shuningdek, sahnaviy diqqat aktyorning ijodiy erkinligiga ham bevosita ta’sir ko‘rsatadi. Diqqatni yaxshi boshqara olgan aktyor sahnada o‘zini erkin his qiladi, improvizatsiya qilishdan qo‘rqmaydi va kutilmagan vaziyatlarga tez moslasha oladi. Bu esa uning professional darajasini oshiradi. Muhokama jarayonida yana bir muhim jihat aniqlandi: sahnaviy diqqatni rivojlantirish faqat nazariy bilimlar bilan cheklanmasligi kerak. U muntazam amaliy mashqlar orqali shakllanadi. Ayniqsa, konsentratsiya mashqlari, tasavvur bilan ishlash va jismoniy harakatga asoslangan mashg‘ulotlar bu borada samarali hisoblanadi. Shu sababli teatr ta’limi tizimida sahnaviy diqqatni rivojlantirishga qaratilgan maxsus mashg‘ulotlar alohida o‘rin egallashi lozim.

XULOSA

Yuqorida olib borilgan tahlillar shuni ko‘rsatadiki, sahnaviy diqqat aktyorlik mahoratini shakllantirishda eng muhim va ajralmas psixologik omillardan biri hisoblanadi. U aktyorning sahnadagi barcha faoliyatini yagona tizimga birlashtirib, uning ichki kechinmalari, tafakkuri va jismoniy harakatlari o‘rtasida uyg‘unlikni ta’minlaydi. Sahnaviy diqqat orqali aktyor o‘z e’tiborini aniq maqsadga yo‘naltira oladi, sahnadagi vaziyatni chuqur his qiladi va obrazni ishonchli tarzda namoyon etadi.

Tadqiqot natijalari shuni tasdiqlaydiki, diqqatni boshqara olgan aktyor sahnada erkin va tabiiy harakat qiladi, uning ijrosi sun’iylikdan xoli bo‘ladi. Bunday aktyor tomoshabin bilan mustahkam emotsional aloqa o‘rnatadi, sahnadagi har bir harakati mantiqan asoslangan va ichki mazmun bilan

boyitilgan bo‘ladi. Aksincha, sahnaviy diqqat yetarli darajada rivojlanmagan aktyor ijrosida uzilishlar, noaniqliklar va ishonchsizlik holatlari kuzatiladi, bu esa obrazning to‘liq ochilmasligiga olib keladi. Shuningdek, sahnaviy diqqat aktyorning ijodiy erkinligi va improvizatsiya qobiliyatiga ham bevosita ta’sir ko‘rsatadi. Diqqatni ongli ravishda boshqara olgan aktyor kutilmagan sahna vaziyatlarida ham o‘zini yo‘qotmaydi, tezkor qaror qabul qiladi va ijodiy yechim topa oladi. Bu esa uning professional darajasini sezilarli darajada oshiradi.

Shuni alohida ta’kidlash joizki, sahnaviy diqqat tug‘ma xususiyat emas, balki muntazam mashqlar va izchil pedagogik yondashuv orqali rivojlantiriladigan ko‘nikmadir. Konsentratsiya mashqlari, tasavvur bilan ishlash, improvizatsiya va jismoniy harakatga asoslangan mashg‘ulotlar bu jarayonda samarali vosita bo‘lib xizmat qiladi. Shu sababli teatr ta’limi tizimida sahnaviy diqqatni shakllantirishga alohida e’tibor qaratish, maxsus metodikalar ishlab chiqish va ularni amaliyotga joriy etish muhim ahamiyat kasb etadi.

XULOSA

Xulosa qilib aytganda, sahnaviy diqqat aktyorning sahnadagi muvaffaqiyatini belgilovchi asosiy omillardan biri bo‘lib, u obraz yaratish jarayonining sifatini, ijroning ta’sirchanligini va tomoshabin bilan o‘zaro aloqaning samaradorligini ta’minlaydi. Uni chuqur o‘rganish va tizimli ravishda rivojlantirish aktyorlik ta’limining ustuvor yo‘nalishlaridan biri bo‘lib qolishi zarur.

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O‘ZBEKISTONDA DEMOGRAFIK BARQARORLIK VA MILLATLARARO TOTUVLIKNI TA’MINLASHDA IJTIMOIY OMILLARNING AHAMIYATI

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Annotatsiya. *Mazkur maqolada O‘zbekistonda demografik barqarorlik va millatlararo totuvlikni ta’minlashda ijtimoiy omillarning o‘rni tahlil etiladi. Xususan, ta’lim, sog‘liqni saqlash, bandlik va urbanizatsiya jarayonlarining aholi tarkibi hamda jamiyatdagi hamjihatlikka ta’siri yoritilgan. Shuningdek, mamlakatda olib borilayotgan ijtimoiy siyosatning demografik rivojlanish va millatlararo bag‘rikenglikni mustahkamlashdagi ahamiyati asoslab berilgan.*

Kalit so‘zlar. *Etnodemografik jarayonlar, aholi o‘sishi, migratsiya, urbanizatsiya, bandlik, ta’lim tizimi, sog‘liqni saqlash, bag‘rikenglik, fuqarolik jamiyati, milliy siyosat.*

Abstract. *This article analyzes the role of social factors in ensuring demographic stability and interethnic harmony in Uzbekistan. In particular, the impact of education, healthcare, employment, and urbanization processes on the composition of the population and social cohesion is highlighted. The importance of the country's social policy in strengthening demographic development and interethnic tolerance is also substantiated.*

Keywords. *Ethnodemographic processes, population growth, migration, urbanization, employment, education system, healthcare, tolerance, civil society, national politics.*

KIRISH

Mustaqillik yillarida O‘zbekistonda jamiyat hayotining barcha sohalarida tub islohotlar amalga oshirildi. Ayniqsa, demografik jarayonlarning barqaror rivojlanishi hamda millatlararo totuvlikni mustahkamlash davlat siyosatining ustuvor yo‘nalishlaridan biriga aylandi. Bugungi kunda mamlakat aholisi sonining barqaror o‘sishi, uning yosh tarkibi va hududiy joylashuvi bilan bir qatorda, etnik tarkibining xilma-xilligi ham ijtimoiy rivojlanishning muhim omili sifatida namoyon bo‘lmoqda.

O‘zbekistonda demografik barqarorlik va millatlararo totuvlikni ta’minlashda ijtimoiy omillar (ta’lim, bandlik, sog‘liqni saqlash, urbanizatsiya) hal qiluvchi ahamiyatga ega. Ular orqali yosh tarkibiy muvozanati saqlanib, milliy-madaniy xilma-xillik qo‘llab-quvvatlanadi va fuqarolararo hamjihatlik mustahkamlanadi, bu esa davlatning barqaror rivojlanishiga va xalqaro nufuzining oshishiga xizmat qiladi.

O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoyev ta’kidlaganidek, mamlakatimizda hukm surayotgan millatlar va fuqarolar totuvligi, o‘zaro hurmat va mehr-oqibat muhitini asrab-avaylash va mustahkamlash ustuvor vazifalardan biri hisoblanadi. Shuningdek, yurtimizda vijdon va e’tiqod erkinligi ta’minlanib, turli millat vakillarining huquqlari keng kafolatlanayotgani hamda diniy bag‘rikenglik muhiti mustahkamlanib borayotgani alohida qayd etiladi. Bugungi kunda O‘zbekistonda 130 dan ortiq millat va elat vakillari hamjihat yashab, 16 ta konfessiyaga mansub diniy tashkilotlar erkin faoliyat yuritmoqda. Shu bilan birga, jamiyatda o‘zaro do‘stlik va hamjihatlikni yanada rivojlantirish, barcha fuqarolar uchun millati, dini va e’tiqodidan qat’i nazar teng huquqlarni ta’minlash davlat siyosatining ustuvor yo‘nalishlaridan biri sifatida belgilanadi[1].

Shuningdek, O‘zbekistonda ko‘p millatli jamiyat shakllangan bo‘lib, bugungi kunda 130 dan ortiq millat va elat vakillari tinch va hamjihat hayot kechirmoqda. Millatlararo totuvlik va diniy bag‘rikenglik muhitini ta’minlash esa ijtimoiy barqarorlikning muhim sharti hisoblanadi. Bu borada davlat tomonidan olib borilayotgan oqilona siyosat, milliy madaniy markazlar faoliyati

hamda fuqarolik jamiyati institutlarining rivojlanishi alohida ahamiyat kasb etadi.

ASOSIY QISM

Ma’lumki, jamiyatdagi demografik voqealar umumiy va muayyan individual tasodifiy sabablar ta’siri ostida amal qiladi. Bu jarayondagi ayrim voqeliklar vujudga kelishi ba’zi sabablarga ko‘ra individual va noyobdir, lekin demografik jarayonda ular ketma-ketlik voqealardan iborat bo‘lib, ular muntazam ravishda o‘zgarib turadi.

O‘zbekistonda demografik holatni baholashda har bir mintaqaning o‘ziga xos xususiyatlarini hisobga olish zarur. Chunki, davlat va uning ma’muriy hududlarini rivojlantirishda demografik jarayonlar muhim o‘rin tutadi.

Mustaqillik yillarida O‘zbekistonda etnodemografik jarayonlarning rivojlanishi keskin ijtimoiy-siyosiy, iqtisodiy va madaniy o‘zgarishlar bilan xarakterlanadi. Mustaqillik davrida O‘zbekiston aholisi tarkibida tub xalqlar ulushi ortib, etnik tarkib bir jinsliroq (gomogen) holatga keldi.

Mamlakatimizda aholi soni sezilarli darajada o‘sdi. 1991-yilda 20,6 million bo‘lgan aholi soni, 2026-yil 1-yanvar holatiga ko‘ra 38,2 milliondan oshdi[2].

O‘zbekistonda demografik barqarorlik va millatlararo totuvlikni ta’minlash jamiyat rivojining poydevori hisoblanadi. Aholi soni 38 milliondan oshgan va 130 dan ortiq millat vakillari istiqomat qiladigan mamlakatda ijtimoiy omillar (ta’lim, sog‘liqni saqlash, oila instituti, uy-joy va ish o‘rinlari) barqarorlikning asosiy drayveri bo‘lib xizmat qilmoqda.

2025-yilda tug‘ilishlar soni 879,6 ming nafarni tashkil etib, aholining tabiiy o‘sishi 702,5 ming kishiga yetdi. Bu aholining yosh tarkibini mustahkamlaydi va demografik dividend (mehnatga layoqatli aholining ko‘pligi) imkoniyatini yaratadi[3].

Dalatimizda olib borilayotgan **o**ila va xotin-qizlar siyosati juda ahamiyatlidir. Oilalarni ijtimoiy qo‘llab-quvvatlash, xotin-qizlarning bandligini

ta’minlash va ta’lim olishiga sharoit yaratish demografik jarayonlarni boshqarishning muhim ijtimoiy omili hisoblanadi.

2026-yil yanvar holatiga shahar (50,9%) va qishloq (49,1%) aholisi o‘rtasidagi farq kamayib, urbanizatsiya jarayoni faollashgan. Bu aholining sifatli ta’lim va tibbiyotga bo‘lgan talabini qondirishga xizmat qilmoqda[4].

O‘zbek xalqining bag‘rikengligi va mehmondo‘stligi millatlararo nizolarning oldini oluvchi asosiy ijtimoiy-psixologik omil hisoblanadi. 30-iyul — Xalqlar do‘stligi kuni deb belgilanishi hamjihatlikni kuchaytirmoqda.

Ko‘p millatli jamiyatda ta’lim muassasalarida turli tillarda o‘qitish va madaniy markazlar faoliyati orqali o‘zaro hurmat muhiti saqlanmoqda.

O‘tgan yillar mobaynida Respublika baynalmilal madaniyat markazi tomonidan ko‘plab ilmiy-amaliy konferensiyalar, davra suhbatlari va uchrashuvlar tashkil etildi. Respublikamizning barcha viloyatlari, qator shahar va tumanlari, shuningdek, Qoraqalpog‘iston Respublikasida o‘tkazilgan “Millatlararo totuvlik va diniy bag‘rikenglik - taraqqiyot omili“, “Milliy g‘oya - bizning g‘oya” shiori ostidagi doimiy harakatdagi ko‘chma seminarlar, “O‘zbekiston Konstitutsiyasi: huquq, burch va mas’uliyat“, “Milliy g‘oya va miliatlararo totuvlik masalalari“, “O‘zbekiston Konstitutsiyasi va demokratik taraqqiyot masalalari“, “Fuqarolararo va miliatlararo totuvlik - yurt obodligini ta’minlashning muhim omili” kabi mavzulardagi ilmiy-amaliy anjumanlar buning yorqin misolidir. Milliy-madaniy markazlar uchun ko‘plab yo‘riqnomalar, 20 ga yaqin ilmiy risola va to‘plamlar, shuningdek, mamlakatimizdagi miliatlararo totuvlik va bu borada istiqlol yillaridagi yutuqlarni aks ettiruvchi “O‘zbekiston - umumiy uyimiz” albom-kitobi, “O‘zbekiston - bag‘rikeng diyor“, “O‘zbekiston Konstitutsiyasi - buyuk kelajagimiz kafolati“, “Mustaqil O‘zbekistonda miliatlararo munosabatlar rivoji” nomli maqolalar to‘plamlari chop etildi[5].

Demografik barqarorlik har qanday mamalakat iqtisodiyotining mustahkam va uzliksiz rivojlanishi uchun asosiy omillardan biri hisoblanadi.

Aholi tarkibi va uning o‘sish dinamikasining barqarorligi mehnat resurslarini to‘g‘ri rejalashtirish, ta’lim va sog‘liqni saqlash tizimlarini samarali tashkil etish, ijtimoiy himoya va pensiyatizimlarini barqaror yuritishga zamin yaratadi.

XULOSA.

Yuqoridagi tahlillar shuni ko‘rsatadiki, O‘zbekistonda demografik barqarorlik va millatlararo totuvlik o‘zaro chambarchas bog‘liq jarayonlar bo‘lib, ularning samarali rivoji, avvalo, ijtimoiy omillarning izchil va muvozanatli rivojlanishiga bog‘liqdir. Ta’lim, sog‘liqni saqlash, bandlik, urbanizatsiya hamda oila institutini qo‘llab-quvvatlash kabi yo‘nalishlar aholining sifat tarkibini yaxshilash, yoshlar salohiyatidan oqilona foydalanish va ijtimoiy barqarorlikni ta’minlashda muhim ahamiyat kasb etmoqda.

O‘zbekistonda aholining ko‘p millatli bo‘lishiga ijtimoiy-iqtisodiy rivojlanishning qulay omili sifatida qaralmoqda. Ijtimoiy va iqtisodiy barqarorlikni saqlash, dinlararo va millatlararo munosabatlarni uyg‘unlashtirish hisobiga xalqaro maydonda O‘zbekistonning obro‘si oshib bormoqda.

Shuningdek, ko‘p millatli jamiyat sharoitida bag‘rikenglik muhitini mustahkamlash, barcha fuqarolar uchun teng imkoniyatlar yaratish hamda milliy-madaniy xilma-xillikni qo‘llab-quvvatlash davlat taraqqiyotining muhim omili hisoblanadi. Shu jihatdan, olib borilayotgan ijtimoiy siyosat nafaqat demografik o‘sish barqarorligini ta’minlaydi, balki jamiyatda o‘zaro ishonch va hamjihatlikni kuchaytirib, mamlakatning uzoq muddatli barqaror rivojlanishiga xizmat qiladi.

Bu borada yaxlit, chuqur o‘ylangan siyosat va uni amalga oshirishga qaratilgan amaliy chora-tadbirlar hayotga tatbiq etilib, millatlararo va dinlararo totuvlikni qo‘llab-quvvatlashga e’tibor qaratilmoqda. Bu islohot va o‘zgarishlarning negizida konstitutsion huquq va kafolatlar yotganini alohida qayd etish lozim.

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ABDULLA QODIRIYNING “O‘TKAN KUNLAR” ROMANIDA BADIIY TAHLIL

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Annotatsiya: *Mazkur maqolada Abdulla Qodiriyning “O‘tkan kunlar” romani badiiy-estetik jihatdan tahlil qilinadi. Asarning g‘oyaviy-badiiy ahamiyati ilmiy asosda baholanadi. Tadqiqotda asarning realizm tamoyillari, obrazlar tizimi, tarixiylik va badiiy to‘qima uyg‘unligi IMRAD modeli asosida o‘rganiladi.*

Kalit so‘zlar: *Abdulla Qodiriy, “O‘tkan kunlar”, tarixiy roman, realizm, badiiy tahlil, obrazlar tizimi, ijtimoiy muammo.*

Annotation: *This article analyzes the novel* “O‘tkan kunlar” *by Abdulla Qodiriy from an artistic and aesthetic perspective. The ideological and artistic significance of the work is evaluated on a scientific basis. The study examines the principles of realism, the system of characters, the harmony of historicity and artistic fiction based on the IMRAD model.*

Keywords: *Abdulla Qodiriy, “O‘tkan kunlar”, historical novel, realism, literary analysis, character system, social issues.*

KIRISH

Abdulla Qodiriy o‘zbek adabiyotida roman janrining asoschisi sifatida muhim o‘rin tutadi. Uning “O‘tkan kunlar” asari milliy adabiyotda ilk tarixiy roman bo‘lib, XX asr boshlaridagi Turkiston ijtimoiy hayotini badiiy va haqqoniy aks ettiradi. Romanda jamiyatdagi ijtimoiy tengsizlik, eskicha urf-odatlar va ma’naviy muammolar realizm asosida yoritilgan. Ayniqsa, obrazlar tizimi va qahramonlarning psixologik tasviri asarning badiiy qiymatini oshiradi.

Mazkur tadqiqotning maqsadi — romanning badiiy xususiyatlari, realizm tamoyillari va obrazlar tizimini IMRAD modeli asosida tahlil qilishdan iborat.

Metodologiya

Mazkur maqolada quyidagi usullardan foydalanildi:

- qiyosiy-tahliliy metod
- badiiy tahlil usuli
- tarixiylik tamoyili asosida o‘rganish

Asar matni hamda adabiyotshunoslik manbalari asosida ilmiy xulosalar chiqarildi.

Natijalar

Mazkur tadqiqot natijalari “O‘tkan kunlar” romanining badiiy tuzilishi, obrazlar tizimi va ijtimoiy mazmuni chuqur va ko‘p qatlamli ekanini ko‘rsatdi. Tahlillar asosida quyidagi ilmiy xulosalarga kelindi:

1. Realizmning ustuvorligi va badiiy tasvir aniqligi

Tadqiqot natijalari shuni ko‘rsatadiki, Abdulla Qodiriy romanida realizm asosiy badiiy metod sifatida namoyon bo‘ladi. Asarda voqealar hayotiylik asosida, bo‘rttirishsiz tasvirlangan bo‘lib, bu o‘quvchida ishonchlilik hissini uyg‘otadi. Toshkent va Marg‘ilon muhitining batafsil tasviri, savdo-iqtisodiy munosabatlar va mahalla hayoti elementlari orqali davr manzarasi aniq yoritilgan.

2. Obrazlar tizimining qarama-qarshilik asosida qurilishi

Natijalar romandagi obrazlar tizimi kontrast (qarama-qarshilik) tamoyiliga asoslanganini ko‘rsatdi. Xususan:

Otabek — yangilik va islohot timsoli

Kumush — sadoqat va ma’naviy poklik ramzi

Zaynab — rashk va ichki iztirob ifodasi

O‘zbek oyim — konservativ qarashlar vakili

Bu obrazlar orqali jamiyatdagi eski va yangi qarashlar o‘rtasidagi ziddiyat yoritilgan. “Qahramonlar o‘rtasidagi qarama-qarshilik ijtimoiy muhitni ochib berishga xizmat qiladi” (Qo‘shjonov M., 2017, 84-bet).

3. Psixologik tahlilning chuqurligi

Tadqiqot davomida aniqlanishicha, roman qahramonlari oddiy tasvir darajasidan chiqib, chuqur psixologik tahlil asosida yaratilgan. Har bir obrazning

ichki kechinmalari, ruhiy iztiroblari va qaror qabul qilish jarayonlari batafsil yoritilgan. Bu esa asarning badiiy qiymatini oshiradi.

4. Tarixiylik va badiiy to‘qimaning uyg‘unligi

Romanda tarixiy voqelik aniq faktlar orqali emas, balki davr ruhiyati orqali ifodalangan. Xonlik davridagi ijtimoiy muammolar — adolatsizlik, boshqaruvdagi nuqsonlar, ichki nizolar badiiy to‘qima bilan uyg‘un holda berilgan. “Asar tarixiylik va badiiylik uyg‘unligining yorqin namunasi hisoblanadi” (Karimov N., 2018, 119-bet).

5. Ijtimoiy muammolarning badiiy ifodasi

Tahlillar natijasida roman orqali quyidagi ijtimoiy muammolar ochib berilgani aniqlandi:

- ko‘p xotinlilik va uning salbiy oqibatlari
- ayollar huquqsizligi
- eskicha urf-odatlarning zararli ta’siri
- jamiyatdagi ijtimoiy tengsizlik

Bu muammolar obrazlar va voqealar orqali tabiiy va ta’sirchan ifodalangan.

Umuman olganda, olib borilgan tadqiqot natijalari “O‘tkan kunlar” romanining yuksak badiiylikka ega ekanini, unda realizm, psixologizm va tarixiylik uyg‘un holda namoyon bo‘lganini tasdiqlaydi. Asar nafaqat adabiy, balki muhim ijtimoiy ahamiyatga ega ilmiy manba sifatida ham baholanishi mumkin.

Muhokama

“O‘tkan kunlar” romani badiiy va ijtimoiy jihatdan ko‘p qatlamli asar bo‘lib, unda Abdulla Qodiriy o‘z davrining murakkab muammolarini obrazlar va voqealar tizimi orqali chuqur yoritadi. Tahlillar shuni ko‘rsatadiki, asarda realizm nafaqat tasvir vositasi, balki ijtimoiy tanqid quroli sifatida ham xizmat qiladi. Muallif jamiyatdagi adolatsizlik, eskicha qarashlar va ma’naviy tanazzulni ochib berishda badiiy vositalardan mahorat bilan foydalangan. Romanning markaziy qahramoni Otabek obrazi orqali yangi ijtimoiy ong,

yangicha fikrlash va islohotga intilish g‘oyalari ifodalanadi. Biroq uning ichki ziddiyatlari, ayniqsa, oilaviy muammolar qarshisida ojizligi, davr kishisining murakkab ruhiy holatini aks ettiradi. Bu holat shuni ko‘rsatadiki, jamiyatdagi yangilanish jarayoni faqat tashqi o‘zgarishlar bilan emas, balki inson ongidagi tub burilishlar bilan bog‘liq.

Kumush obrazi esa sharq ayolining ideal timsoli sifatida talqin qilinadi. Uning sabr-toqati, sadoqati va ma’naviy pokligi orqali muallif oila va jamiyat barqarorligida ayolning o‘rni beqiyos ekanini ko‘rsatadi. Shu bilan birga, Kumushning fojiali taqdiri orqali o‘sha davrdagi ijtimoiy muhitning ayollar hayotiga salbiy ta’siri ochib beriladi.

Zaynab obrazi psixologik jihatdan murakkab bo‘lib, unda rashk, hasad va ichki iztirob kuchli ifodalangan. Uning salbiy xatti-harakatlari faqat shaxsiy xususiyat emas, balki noto‘g‘ri tarbiya va ijtimoiy muhit mahsuli sifatida talqin qilinishi mumkin. Bu esa yozuvchining inson xarakterini ijtimoiy omillar bilan bog‘liq holda tasvirlashga intilganini ko‘rsatadi.

O‘zbek oyim obrazi orqali esa patriarxal jamiyatning qat’iy va o‘zgarmas qarashlari ifodalanadi. U oilada hukmron shaxs sifatida tasvirlanib, yoshlar hayotiga bevosita ta’sir ko‘rsatadi. Bu obraz orqali muallif eskicha dunyoqarashning jamiyat taraqqiyotiga to‘sqinlik qilayotganini ochib beradi.

Asarda tarixiylik va badiiy to‘qima uyg‘unligi ham muhim o‘rin tutadi. Muallif aniq tarixiy voqealarni emas, balki davr ruhiyatini, ijtimoiy muhitni va insoniy munosabatlarni tasvirlashga e’tibor qaratadi. Natijada asar o‘quvchida nafaqat estetik taassurot uyg‘otadi, balki uni chuqur mushohada qilishga undaydi.

Shuningdek, romanda eski va yangi qarashlar o‘rtasidagi ziddiyat markaziy g‘oyalardan biri sifatida namoyon bo‘ladi. Bu ziddiyat nafaqat individual obrazlar, balki butun jamiyat hayotida aks etadi. Muallif shu orqali ijtimoiy islohotlar zarurligini badiiy asosda ilgari suradi.

Umuman olganda, olib borilgan tahlillar “O‘tkan kunlar” romanining nafaqat o‘z davri uchun, balki bugungi kun uchun ham dolzarb ahamiyatga ega

ekanini ko‘rsatadi. Asarda ko‘tarilgan muammolar — ijtimoiy adolatsizlik, ayollar taqdiri, ma’naviy tanazzul va yangilanish zarurati — hozirgi jamiyat uchun ham muhim ilmiy va amaliy ahamiyat kasb etadi.

XULOSA

Xulosa qilib aytganda, “O‘tkan kunlar” romani o‘zbek adabiyotining yuksak namunasi hisoblanadi. Abdulla Qodiriy ushbu asar orqali milliy roman janrining rivojiga katta hissa qo‘shgan. Yozuvchining ushbu asari o‘zining badiiy mukammalligi, chuqur mazmuni va ijtimoiy ahamiyati bilan nafaqat o‘z davrida, balki bugungi kunda ham ilmiy-adabiy tadqiqotlar uchun dolzarb manba bo‘lib xizmat qiladi. Roman o‘zbek adabiy merosining bebaho durdonasi sifatida yuksak baholanishga loyiqdir.

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SURXON VOHASINING URUSH YILLARIDAGI JASORATI

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Annotatsiya: *Mazkur maqolada Ikkinchi jahon urushi yillarida Surxon vohasi aholisining jasorati, sabr-toqati va fidoyiligi yoritiladi. Unda voha ahlining frontga ko‘rsatgan yordami hamda front ortida ayollar, keksalar va yoshlarning og‘ir mehnat sharoitida mamlakat iqtisodiyotini qo‘llab-quvvatlashdagi hissasi tahlil qilinadi. Shuningdek, urush davridagi ijtimoiy hayot, ruhiy matonat va g‘alabaga bo‘lgan ishonch ochib berilib, Surxon vohasi xalqining umumiy g‘alabaga qo‘shgan hissasi yoritiladi.*

Kalit so‘zlar: *Ikkinchi jahon urushi, Surxon vohasi, front, front orti, jasorat, fidoyilik, mehnat safarbarligi, g‘alaba, tarixiy xotira.*

Abstract: *This article examines the courage, patience, and devotion of the people of the Surkhan oasis during the years of the Second World War. It analyzes the assistance provided by the local population to the front, as well as the contribution of women, the elderly, and youth in supporting the country’s economy under difficult labor conditions on the home front. The study also highlights the social life of the war period, spiritual endurance, and faith in victory, revealing the contribution of the people of the Surkhan oasis to the common victory.*

Keywords: *Second World War, Surkhan oasis, front, home front, courage, devotion, labor mobilization, victory, historical memory.*

KIRISH

Fashistlar Germaniyasining SSSR ga bostirib kirishi barcha tinchliksevar xalqlar qatorida surxondaryoliklarning ham qalbida fashizmga bo‘lgan nafrat alangasini avj oldirdi. Urushning birinchi kunidanoq Surxon elining azamatlari qo‘liga qurol olib fashizm bilan bo‘ladigan qonli janglarga otlandilar. Harbiy komissariatlarga o‘zlarining frontga yuborishlarini so‘rab yozilgan arizalar soni kundan kunga orta bordi. Urushning dastlabki kunlaridanoq yuzlabyangiariqlik va oqtoshlik yigitlar jangga kirdilar. Yangiariq va Oqtoshliklardan 400 dan ortiq

kolxozchi frontga otlandi. Bular qatorida Oktyabr 40-yilligi jamoa xo‘jaligi (kolxoz) raisi Abdurazzoq Musaev Kursk ostonalaridagi jangda besh marta yarador bo‘lib, fashistlarga zarba berishda jasurlik ko‘rsatdi. A.Musaev Jangovor Qizil Bayroq hamda “Vatan urushi” ordenlari bilan mukofotlandi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Smolensk va Belorussiya o‘rmonlarida, Ukraina va Moldova dalalarida Vohid Qilichev ham faol ishtirok etdi. Jumaqul Alimardonov, Juma Hasanov, Mo‘min To‘laganov va boshqa ko‘plab Yangiariqlik va Oqtoshlik jangchilar jangovor orden va medallar bilan taqdirlangan holda jamoa xo‘jalik (kolxoz) lariga qaytib kelishdi. Lekin 300 nafardan ortiq jangchilar fashist gazandalariga qarshi bo‘lgan janglarda qahramonlarcha halok bo‘lishdi. Urushning dastlabki oylarida viloyatdan ko‘ngilli bo‘lib frontga ketish istagini bildirgan vatanparvarlar soni ikki ming kishidan oshib ketdi. Yirtqich dushmanga qarshi cheksiz nafrat hissi bilan yongan ana shu ko‘ngilli vatanparvarlardan Termiz tumani “Qizil chegara” jamoa xo‘jaligida yashovchi Shomirbobo Mirzaev o‘z o‘g‘lini askarlikka kuzata turib “O‘g‘lim mard bo‘l, botirlik bilan kurash” degan bo‘lsa, Sherobod tumani “Sotsializm” jamoa xo‘jaligining G‘ambur qishlog‘ida yashayotgan Ochil Turdimurodovning onasi o‘g‘lini frontga kuzatar ekan: “O‘g‘lim, dushmanga omonlik berma, dushmanni bitta qoldirmay qirib, g‘alaba bilan qayt va uy joyimga egalik qil” deb oq fotiha berib frontga kuzatgan edi. 103 Nuroniy otaxonlar va mehribon onaxonlar nasihatini yuragining to‘riga jo qilgan va ularning bergan har bir o‘gitini muqaddas bilgan Surxonning azamat sher yigitlari dushman bilan mislsiz janglarda qaxramonlik namunalarini ko‘rsatdilar. Hayot-mamot janglarida Surxon vohasining 50365 nafar vatanparvar farzandlari qo‘llariga qurol olib dushmanga ayovsiz qirg‘in keltirdilar. Birgina 1941-yil 22-iyundan 1942-yil 30-oktabrgacha viloyatdan 20727 nafar kishi urushning oldingi saflariga jo‘natildi.

NATIJALAR

Frontda dushman bilan jon olib, jon berayotgan jangchilar hamda front ortida o‘zlarining mardonavor mehnati bilan dushman mag‘lubiyatiga zamin

hozirlayotgan mehnatkash xalq o‘rtasidagi bog‘lanish bir biriga madadkor bo‘lishlik jangchilarga ham front ortidagilarga ham moddiy va ma’naviy jihatdan madad bo‘ldi. Prezidentimiz Sh.M.Mirziyoev 2020-yil 24-yanvarida O‘zbekiston Oliy Majlisiga Murojaatnomasida shunday deydi: «2020-yilda Ikkinchi jahon urushida qozonilgan G‘alabaning 75 yilligi xalqaro miqyosda keng nishonlanadi. Bizning mard, yengilmas va olijanob xalqimiz buyuk G’alabani ta’minlashga beqiyos hissa qo‘shgani bilan barchamiz haqli ravishda faxrlanamiz. Bu qonli urushda jami 1.5 milliondan ziyod O‘zbekiston farzandlari tinchlik va ozodlik uchun mardona jang qilgani, ularning har uch nafaridan biri o‘z yaqinlari bag‘riga qaytmagani, el-yur timizning front ortida ko‘rsatgan jasoratini xalqimiz hech qachon unutmaydi. Biz urush va front orti faxriylarini faqatgina bayramlarda emas, balki doimo e’zozlab, ardoqlashimiz, ularning sog‘ligi haqida har kuni, har soatda o‘ylashimiz lozim. Joriy yilda ularga har tomonlama e’tibor yanada kuchaytiriladi. Jumladan, mamlakatimizning eng yaxshi sanatoriylarida ularning salomatligini mustahkamlash uchun qulay sharoitlar yaratamiz. Urush yillarida xalqimiz ko‘rsatgan haqiqiy jasorat va matonatni kino, teatr san’ati, badiiy-publitsis tik asarlar, ilmiy tadqiqotlar orqali ko‘rsatish, aholi, ayniqsa, yoshlarimizga ta’sirchan tarzda yetkazish bo‘yicha katta ishlar olib borilmoqda. Xususan, Toshkent shahrining Olmazor tumanida muhtasham «G’alaba bog‘i» bunyod etilmoqda. Bir so‘z bilan aytganda, Xotira va qadrlash kuni va G’alabaning 75 yilligini har tomonlama munosib va yuqori saviyada nishonlash uchun tayyorgarlik ishlarini puxta tashkil etishimiz kerak».

MUHOKAMA

Buning yaqqol isbotini Termiz tumani Paxtaobod qishloq xo‘jaligiga qarashli “Baynalmilal” jamoa xo‘jaligi a’zosi Rixsiboy Qosimov va jangchi o‘g‘li Jo‘ra o‘rtasida bir-biriga yozilgan maktublar orqali ham bilib olish mumkin. Jangchi o‘g‘li Jo‘ra Risqiev otasiga qarata yozgan maktubida “Otajon men shonli armiyamiz qatorida sog‘-salomat xizmat qilayapman. Boysunlik Umar Ramazonov dushmanga qarshi kurashlarda mardlik namunalarini

ko‘rsatib, dushmanning 2 ta pulemyotini, 40 dan oshiq askarini yakson qildi va polk komandirining 1943-yil 15-maydagi 016 11-raqamli buy rug‘i bilan «Jasurligi uchun» medali bilan taqdirlandi. Ramazonov Umar 1944-yil 18-aprelda bo‘lgan jangda qahra monlarcha halok bo‘ldi, uning jasadi Roven viloyatidagi Chervona qishlog‘ida dafn qilingan. Fashizmga qarshi kurashda jon fido qilgan yana bir qahramon jangchi denovlik Ollomurod Nazarovdir. U urushga Denov tumani Vaxshivor qishlog‘idan chaqirilgan, frontda 194-o‘qchi diviziya tarkibidagi 616-o‘qchi polkida o‘qchi sifatida olib borilgan jangda dushman qarorgohiga birinchi bo‘lib bostirib kirib, 12 gitlerchini yer tishlat di. 26-avgust kuni Bryansk shahri yo‘nalishida olib boril gan jangda va Mormal aholi punkti uchun bo‘lgan janglarda ketma-ket ikki marta yaralandi. 194-o‘qchi diviziya koman dirining 1944-yil 13-iyundagi 127 N rusumli buyrug‘iga binoan Ollomurod Nazarov III darajali «Shuhrat» ordeni bilan mukofotlandi. U 1945-yilning 15-fevral kuni dushman bilan olib borilgan janglardan birida qahramonlarcha halok bo‘ldi. Marhum jangchining jasadi Polshaning Usxanovsk uezdidagi Gortnik qishlog‘ida dafn qilingan.

Surxondaryolik mard jangchilar Rossiya, Ukraina, Belorussiya, Kavkaz va Boltiqbo‘yi yerlarini dushmandan ozod qilishda, qamalda qolgan Leningradni himoya qilishda, Yevropa xalqlariga yordam qo‘lini cho‘zishda hamda fashizmni o‘z uyasida tor-mor keltirishda o‘zlarining muqaddas burchlarini ado etdilar. Ular orasida hamyurtimiz Usmon Luqmonovich Nasibullinning jasorati bugungi yoshlar uchun ibrat bo‘larlik darajadadir. 1942-yilda dushman bilan bo‘lgan tengsiz olishuvda og‘ir yarador bo‘lgan Usmon Nasibullin asirlikka tushib qoladi. Uni Fransiyadagi konslagerga jo‘natishadi. Qulay fursat topib konslagerdan qochadi va fransuz Qarshilik harakati otryadiga qo‘shiladi. Bu otryad bilan birga fashistlarga qarshi kurashni davom ettiradi. G‘alabani Fransiyada kutib oladi. Fransiya xalqiga ko‘rsatgan xizmatlari uchun general Sharl de Goll shaxsan o‘z qo‘li bilan unga Fransiyaning oliy mukofoti – «Mardlik va jasorat» ordenini topshiradi.

XULOSA

Xulosa qilib aytganda, urushdan keyingi yillarda Usmon Nasibullin Termizda yashadi. Shahardagi ishchi yoshlarning 4-sonli kechki maktabida fizika fanidan dars berdi. Kamtarona hayot kechirdi. Yosh avlod tarbiyasi uchun bor kuch-g‘ayratini sarfladi. Xiyonatkor, bosqinchi, manfur dushmanni mamlakat hududidan haydab chiqarish va Yevropa tuproqlarini dush mandan ozod qilish hamda dushman uyasi bo‘lgan Reyxstagni zabt qilishdek sharafli kurashlarda minglab surxondaryolik jangchilar faol ishtirok etdilar. Dushmanni Berlingacha quvib borgan azamatlardan I.Murodov, A.Rah monov, A.Sharipov, S.Saidov, K.Ergashev, Q.Abdunazarov, B.Shoimov, T.Tursunaliev va shunga o‘xshash minglab g‘olib larning nomlarini keltirib o‘tish mumkin. Urush yillarida frontda ko‘rsatgan jasoratlari uchun o‘zbekistonliklardan 120000 jangchi hukumat orden va me dallari bilan taqdirlandi. Ulardan 280 kishi Qahramon unvoniga sazovor bo‘ldi, shundan 69 tasi o‘zbek edi. 32 kishi «Shuhrat» ordenining har uchala darajasi bilan muko fotlandi. Surxondaryoliklardan olti nafari Sovet It tifoqi Qahramoni, uch nafari esa «Shuhrat» ordenining to‘la nishondori bo‘ldi, 3769 kishi turli xil orden va me dallar bilan taqdirlandi.

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O‘QUVCHILARNING IJODKORLIK QOBILIYATLARINI RIVOJLANTIRISH USULLARI

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Annotasiya: *Mazkur maqolada o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirishning nazariy va amaliy asoslari tahlil qilinadi. Ijodkorlik zamonaviy ta’lim tizimining muhim kompetensiyalaridan biri sifatida qaralib, uning shakllanishiga ta’sir etuvchi pedagogik omillar yoritiladi. Tadqiqotda o‘quvchilarning kreativ fikrlashini rivojlantirishda innovatsion ta’lim texnologiyalari, interfaol metodlar hamda shaxsga yo‘naltirilgan yondashuvning ahamiyati asoslab berilgan.*

Kalit so‘zlar*: ijodkorlik qobiliyati, kreativ fikrlash, raqamli ta’lim, shaxsga yo‘naltirilgan ta’lim, STEAM ta’limi, blended learning (aralash ta’lim), lifelong learning (uzluksiz ta’lim), soft skills, tanqidiy fikrlash*

Abstract: *This article analyzes the theoretical and practical foundations of developing students’ creative abilities. Creativity is considered one of the key competencies of the modern education system, and the pedagogical factors influencing its formation are discussed. The study substantiates the importance of innovative educational technologies, interactive methods, and a learner-centered approach in fostering students’ creative thinking.*

Keywords: *creative ability, creative thinking, digital education, learner-centered education, STEAM education, blended learning, lifelong learning, soft skills, critical thinking*

KIRISH

Hozirgi globallashuv jarayoni va raqamli texnologiyalarning jadal rivojlanishi ta’lim tizimining mazmuni hamda metodik yondashuvlarini tubdan yangilashni talab qilmoqda. Zamonaviy ta’lim jarayonida o‘quvchilarga faqat nazariy bilimlarni berish yetarli emas, balki ularning ijodiy fikrlash qobiliyati, mustaqil qaror qabul qilish ko‘nikmalari hamda innovatsion yondashuv asosida muammolarni hal eta olish kompetensiyalarini shakllantirish muhim ahamiyat

kasb etadi. Shu nuqtai nazardan, ijodkorlikni rivojlantirish ta’lim tizimining asosiy ustuvor yo‘nalishlaridan biri sifatida e’tirof etilmoqda.

Xalqaro tajribalar shuni ko‘rsatadiki, kompetensiyaviy yondashuv asosida tashkil etilgan ta’lim jarayoni o‘quvchilarning kreativ fikrlash darajasini va amaliy faoliyatga oid ko‘nikmalarini sezilarli darajada rivojlantiradi. Xususan, Yevropa Komissiyasi tomonidan ishlab chiqilgan “Hayot davomida ta’lim uchun asosiy kompetensiyalar” konsepsiyasida ijodkorlik, tanqidiy fikrlash va muammolarni samarali hal etish eng muhim tayanch kompetensiyalar sifatida belgilangan [3]. Bu esa ta’lim jarayonida interfaol metodlar hamda zamonaviy pedagogik texnologiyalardan foydalanish zaruratini kuchaytiradi.

Shuningdek, UNESCO tomonidan e’lon qilingan ta’limga oid hisobotlarda raqamli ta’lim, shaxsga yo‘naltirilgan o‘qitish hamda uzluksiz ta’lim tamoyillari ta’lim sifatini oshirishning asosiy yo‘nalishlari sifatida ko‘rsatib o‘tilgan [4]. Ushbu yondashuvlar o‘quvchilarning individual imkoniyatlarini rivojlantirish, ijodiy salohiyatini ochib berish hamda ta’lim samaradorligini oshirishga xizmat qiladi.

Bugungi kunda STEAM ta’lim modeli, aralash ta’lim (blended learning) va innovatsion pedagogik texnologiyalar o‘quvchilarda ijodiy fikrlashni rivojlantirishda muhim vosita sifatida qo‘llanilmoqda. Bunday yondashuvlar fanlararo integratsiyani kuchaytiradi, o‘quvchilarning mustaqil fikrlashini rivojlantiradi hamda real hayotiy muammolarni hal qilish ko‘nikmalarini shakllantiradi.

Shu sababli, mazkur tadqiqotda o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish jarayoni zamonaviy ta’lim tendensiyalari bilan bog‘liq holda chuqur tahlil qilinadi hamda ushbu jarayonning amaliy va ilmiy natijalari asoslab beriladi.

Adabiyotlarning tahlili va metodologiyasi

Hozirgi globallashuv jarayoni hamda raqamli texnologiyalarning tez sur’atlarda rivojlanishi ta’lim tizimining mazmuni va uni tashkil etish

metodlarini zamonaviy talablarga mos ravishda yangilashni taqozo etmoqda. Bugungi ta’lim jarayonida asosiy e’tibor o‘quvchilarning bilim olishigina emas, balki ularning ijodiy fikrlashi, mustaqil qaror qabul qilish qobiliyati hamda innovatsion yondashuv asosida muammolarni hal etish ko‘nikmalarini shakllantirishga qaratilmoqda. Shu bois, ijodiy salohiyatni rivojlantirish ta’lim tizimining muhim strategik yo‘nalishlaridan biri sifatida qaralmoqda.

O‘zbekiston ta’lim tizimida ham ushbu yo‘nalishda izchil islohotlar amalga oshirilmoqda. Prezident farmonlarida ta’lim mazmunini modernizatsiya qilish, kompetensiyaviy yondashuvni keng joriy etish hamda o‘quvchilarning ijodiy va tanqidiy fikrlashini rivojlantirish asosiy vazifalar sifatida belgilab berilgan [1]. Shuningdek, so‘nggi yillardagi davlat strategiyalarida yoshlarning intellektual salohiyatini oshirish va ularni innovatsion faoliyatga jalb etish ustuvor yo‘nalishlardan biri sifatida e’tirof etilgan [2].

Mazkur hujjatlar ta’lim jarayonida kompetensiyaviy yondashuv, shaxsga yo‘naltirilgan ta’lim modeli hamda innovatsion pedagogik texnologiyalardan keng foydalanish zarurligini ko‘rsatadi. Ayniqsa, o‘quvchilarning o‘quv faoliyatini faollashtirish orqali ularning kreativ fikrlashini rivojlantirish muhim ahamiyat kasb etadi. Bu jarayonda interfaol ta’lim usullari, muammoli o‘qitish, loyiha asosida ta’lim va STEAM yondashuvi samarali vositalar sifatida namoyon bo‘ladi.

Raqamli ta’lim bugungi kunda o‘quvchilarning ijodiy imkoniyatlarini kengaytirishda muhim rol o‘ynamoqda. Elektron resurslar, virtual platformalar va multimedia vositalari o‘quvchilarga bilimlarni mustaqil o‘zlashtirish, o‘z fikrlarini erkin ifodalash hamda yangi g‘oyalar yaratish imkonini beradi. Shu bilan birga, aralash ta’lim (blended learning) modeli an’anaviy va zamonaviy ta’lim shakllarini uyg‘unlashtirib, o‘quv jarayonining samaradorligini oshirishga xizmat qiladi.

Shaxsga yo‘naltirilgan ta’lim yondashuvi har bir o‘quvchining individual xususiyatlarini hisobga olgan holda ularning ijodiy salohiyatini rivojlantirishga imkon yaratadi. Bu esa o‘quvchilarda mustaqil fikrlash, tashabbuskorlik va

innovatsion qarashlarning shakllanishiga ijobiy ta’sir ko‘rsatadi. Bundan tashqari, uzluksiz ta’lim konsepsiyasi asosida o‘quvchilarda doimiy ravishda bilim olishga bo‘lgan ehtiyoj kuchayadi, bu esa ularning shaxsiy va kasbiy rivojlanishini ta’minlaydi.

Ijodkorlikni rivojlantirish jarayonida yumshoq ko‘nikmalar, ya’ni muloqot qilish, jamoada ishlash, yetakchilik va moslashuvchanlik kabi kompetensiyalar ham muhim o‘rin tutadi. Ushbu ko‘nikmalar o‘quvchilarning nafaqat ta’lim jarayonida, balki kundalik hayot va kasbiy faoliyatda ham samarali harakat qilishiga yordam beradi. Shu jihatdan qaraganda, Yevropa Komissiyasi tomonidan ishlab chiqilgan kompetensiyalar tizimida kreativ fikrlash, tanqidiy yondashuv va muammolarni hal etish asosiy kompetensiyalar sifatida belgilangan [3].

Shuningdek, o‘qituvchining kreativ yondashuvi ham ta’lim sifati va samaradorligini oshirishda muhim ahamiyatga ega. O‘qituvchining ijodkorligi uning pedagogik faoliyatini samarali tashkil etishga, yangi g‘oyalarni ishlab chiqishga, an’anaviy fikrlashdan chiqib ketishga hamda ta’lim jarayonini yanada qiziqarli va samarali qilishga xizmat qiladi [5].

UNESCO tomonidan ilgari surilgan ta’lim konsepsiyalarida ham innovatsion pedagogik texnologiyalar va raqamli ta’lim muhitlari o‘quvchilarning ijodiy rivojlanishida asosiy omillar sifatida ko‘rsatib o‘tilgan [4]. Bu esa ta’lim tizimida pedagogik innovatsiyalarni keng joriy etish zarurligini yanada dolzarb qiladi.

Mazkur tadqiqotda o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish jarayoni kompleks yondashuv asosida o‘rganildi. Tadqiqotda pedagogika va psixologiya fanlariga oid ijodkorlik, kreativ fikrlash va shaxs rivojlanishi haqidagi ilmiy qarashlar nazariy asos sifatida qabul qilindi.

Tadqiqot jarayonida quyidagi metodlar qo‘llanildi:

- nazariy tahlil – ilmiy manbalar va hujjatlarni o‘rganish orqali mavjud yondashuvlarni tizimlashtirish;
- taqqoslash – turli ta’lim metodlarining samaradorligini solishtirish;

- kuzatish – o‘quvchilarning ta’lim jarayonidagi faoliyatini o‘rganish;
- pedagogik tajriba – innovatsion metodlarni amaliy sinovdan o‘tkazish;
- umumlashtirish – olingan natijalarni tahlil qilish va xulosalar chiqarish.

Bundan tashqari, raqamli texnologiyalar, individual yondashuv va faollashtiruvchi metodlardan foydalanish tadqiqotning samaradorligini yanada oshirdi.

Umumiy xulosa sifatida aytish mumkinki, o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish ta’lim sifatini oshirishga xizmat qiladi. Natijada o‘quvchilarda tanqidiy fikrlash, muammolarni tahlil qilish, mustaqil qaror qabul qilish va innovatsion g‘oyalar yaratish ko‘nikmalari shakllanadi. Bu esa ularni zamonaviy jamiyatda raqobatbardosh, ijodiy fikrlaydigan va amaliy faoliyatga tayyor yetuk mutaxassislar sifatida shakllantiradi.

Muhokama va natijalar

O‘quvchilarning ijodiy qobiliyatlarini rivojlantirishga yo‘naltirilgan pedagogik yondashuvlar tahlili shuni ko‘rsatadiki, zamonaviy ta’lim tamoyillari asosida tashkil etilgan o‘quv jarayoni sezilarli darajada yuqori natijalarga erishadi. Xususan, kompetensiyaviy yondashuv, shaxsga yo‘naltirilgan ta’lim modeli hamda innovatsion pedagogik texnologiyalarni qo‘llash o‘quvchilarning kreativ fikrlash va mustaqil qaror qabul qilish qobiliyatlarini rivojlantirishda samarali vosita bo‘lib xizmat qiladi.

Tadqiqot davomida qo‘llanilgan interfaol metodlar hamda muammoli o‘qitish elementlari o‘quvchilarning dars jarayonidagi faolligini oshirgani, ularning mustaqil fikrlash va muammolarni hal etish ko‘nikmalarini mustahkamlashga yordam bergani aniqlandi. Ayniqsa, loyiha asosida o‘qitish (project-based learning) va STEAM yondashuvi o‘quvchilarda fanlararo bog‘liqlikni tushunish, real hayotiy vaziyatlarga innovatsion yondashuvni shakllantirishga xizmat qilishi bilan ajralib turadi.

Raqamli ta’lim texnologiyalaridan foydalanish esa o‘quvchilarga bilimlarni mustaqil o‘zlashtirish, ijodiy fikrlarini erkin ifodalash va yangi g‘oyalar yaratish imkoniyatlarini kengaytirdi. Shuningdek, aralash ta’lim

(blended learning) modeli an’anaviy va onlayn ta’limni uyg‘unlashtirish orqali o‘quvchilarning individual o‘rganish ehtiyojlarini hisobga olish va ta’lim samaradorligini oshirishga xizmat qildi.

Tadqiqot natijalariga asoslanib, o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish bo‘yicha quyidagi amaliy yo‘nalishlar tavsiya etiladi:

1. Kompetensiyaviy yondashuvni ta’lim jarayoniga izchil joriy etish hamda kreativ fikrlashga yo‘naltirilgan o‘quv dasturlarini takomillashtirish.
2. Dars jarayonida interfaol metodlar, muammoli ta’lim va loyiha asosida o‘qitish texnologiyalaridan keng foydalanish.
3. Raqamli ta’lim vositalarini samarali qo‘llash orqali o‘quvchilarning mustaqil o‘rganish faoliyatini qo‘llab-quvvatlash.
4. STEAM ta’limi asosida fanlararo integratsiyani kuchaytirish hamda amaliy mashg‘ulotlar ulushini oshirish.
5. O‘qituvchilarning kasbiy mahoratini rivojlantirish va ularni zamonaviy pedagogik texnologiyalarni qo‘llashga tayyorlash.
6. O‘quv muhitini erkin, ijodiy va rag‘batlantiruvchi tarzda tashkil etish orqali o‘quvchilarning ijodiy faolligini oshirish.
7. Uzluksiz ta’lim (lifelong learning) tamoyili asosida o‘quvchilarda doimiy bilim olishga bo‘lgan ehtiyojni shakllantirish.

Ushbu tavsiyalar O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi PF-60-son Farmonida belgilangan ta’limni rivojlantirish strategik yo‘nalishlari bilan uyg‘un hisoblanadi [2].

Mazkur takliflarni amaliyotga tatbiq etish natijasida quyidagi ijobiy natijalarga erishish mumkin:

- o‘quvchilarda ijodkorlik va kreativ fikrlash darajasi sezilarli oshadi;
- tanqidiy fikrlash, tahlil qilish va mustaqil qaror qabul qilish ko‘nikmalari rivojlanadi;
- o‘quv jarayoniga qiziqish ortib, ta’lim samaradorligi yaxshilanadi;
- kommunikativlik, jamoada ishlash va liderlik kabi soft skills rivojlanadi;
- raqamli texnologiyalar orqali mustaqil o‘rganish imkoniyatlari kengayadi;

- innovatsion fikrlaydigan va raqobatbardosh kadrlar shakllanadi.

Umuman olganda, o‘quvchilarning ijodiy qobiliyatlarini rivojlantirishga qaratilgan bunday pedagogik yondashuvlar ta’lim tizimi sifatini oshirish, uning samaradorligini ta’minlash hamda kelajak avlodni zamonaviy talablar asosida yetuk shaxs sifatida shakllantirishda muhim ahamiyat kasb etadi.

XULOSA

O‘tkazilgan tahlillar va o‘rganilgan ilmiy manbalar shuni ko‘rsatadiki, zamonaviy ta’lim tizimida o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish dolzarb va strategik ahamiyatga ega yo‘nalishlardan biri hisoblanadi. Bugungi globallashuv va raqamli transformatsiya sharoitida ta’lim jarayoni nafaqat bilim berishga, balki shaxsning intellektual salohiyatini rivojlantirish, kreativ fikrlashini shakllantirish hamda mustaqil qaror qabul qilish ko‘nikmalarini mustahkamlashga xizmat qilishi lozim.

Tadqiqot natijalari shuni tasdiqlaydiki, kompetensiyaviy yondashuv asosida tashkil etilgan ta’lim jarayoni o‘quvchilarning ijodiy faolligini oshirishda samarali natija beradi. Interfaol metodlar, muammoli ta’lim, loyiha asosida o‘qitish hamda STEAM yondashuvi o‘quvchilarda nafaqat nazariy bilimlarni, balki amaliy fikrlash va real muammolarni hal etish ko‘nikmalarini ham rivojlantiradi. Shuningdek, raqamli ta’lim texnologiyalaridan foydalanish o‘quvchilarning mustaqil bilim olish jarayonini kengaytirib, ularning ijodiy salohiyatini namoyon etish uchun qulay sharoit yaratadi. Aralash ta’lim (blended learning) modeli esa an’anaviy va zamonaviy ta’lim shakllarini uyg‘unlashtirish orqali individual yondashuvni kuchaytiradi va ta’lim samaradorligini oshiradi.

Tadqiqot jarayonida shuningdek, o‘quv muhitining ahamiyati ham alohida e’tirof etildi. Erkin, qo‘llab-quvvatlovchi va rag‘batlantiruvchi muhit o‘quvchilarda ijodiy fikrlashni rivojlantirishga ijobiy ta’sir ko‘rsatadi. O‘qituvchining roli esa faqat bilim beruvchi emas, balki yo‘naltiruvchi, motivator va ijodiy jarayonni tashkil etuvchi shaxs sifatida muhim ahamiyat kasb etadi.

Umumiy xulosa sifatida aytish mumkinki, o‘quvchilarning ijodkorlik qobiliyatlarini rivojlantirish ko‘p omilli va tizimli jarayon bo‘lib, u ta’lim metodlari, raqamli texnologiyalar, pedagogik yondashuvlar hamda ijtimoiy muhit uyg‘unligiga bog‘liqdir. Ushbu yo‘nalishning samarali amalga oshirilishi ta’lim sifatini oshirishga, o‘quvchilarning kreativ fikrlashini rivojlantirishga hamda ularni zamonaviy jamiyat talablariga javob beradigan, innovatsion va raqobatbardosh shaxs sifatida shakllantirishga xizmat qiladi.

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TARIXIY ASARLARDA METAFORALARNING QO'LLANILISHI

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Annotatsiya. *Metaforaga oid qarashlar qadim zamonlardan to bugungi kungacha turli soha vakillari qatori tilshunoslar tomonidan ham keng o'rganib kelinayotgan dolzarb masalalardan biridir. Ushbu yo'nalishda olib borilgan keng qamrovli tadqiqotlar bilan tanishish uning mazmun-mohiyati hamda amaliy ahamiyatini yanada chuqurroq anglash imkonini beradi.*

Kalit so'zlar. *Metafora, o'xshashlik, til birliklari, ko'chim, so'zlardagi uslubiy bo'yoqdorlik*

Аннотация: *Взгляды на метафору являются одной из актуальных проблем, которые с древнейших времён до наших дней широко изучаются не только представителями различных наук, но и лингвистами. Ознакомление с обширными исследованиями, проведёнными в данном направлении, позволяет глубже понять её сущность и практическое значение.*

Ключевые слова: *метафора, сходство, языковые единицы, перенос значения, стилистическая окрашенность слов*

Abstract: *The study of metaphor is one of the актуal issues that has been extensively explored from ancient times to the present day by representatives of various fields, including linguists. Familiarity with comprehensive research conducted in this area allows for a deeper understanding of its essence and practical significance.*

Keywords: *metaphor, similarity, language units, semantic shift, stylistic coloring of words*

KIRISH VA DOLZARBLIGI

Tilshunoslikka metaforologik qarashlar asosan ritorika san’ati orqali kirib kelgan bo‘lib, ular qadimgi davrlardan hozirgi kungacha dolzarb ilmiy mavzulardan biri sifatida o‘rganib kelinmoqda. Til evolyutsiyasiga bag‘ishlangan tadqiqotlarda metafora masalasi dastlab Aristotel, Sitseron hamda Kvintilian kabi olimlar tomonidan izohlanganligi qayd etiladi. Ularning qarashlarida metaforaning psixolingvistik xususiyati, inson hissiyotlarining ifodalanishi, shuningdek, fiziologik omillar bilan bog‘liqligi, estetik va tasviriy nutq vositasi sifatidagi ahamiyati alohida ta’kidlanadi.

Metaforani ilmiy jihatdan ilk bor tahlil qilgan antik mutafakkirlardan biri bo‘lgan Aristotel o‘zining “Poetika” asarida bu hodisani nom ko‘chirishning alohida turi sifatida ko‘rsatib, unga “metafora” (ya’ni “ko‘chim”) atamasini bergan va uni nom ko‘chishning umumiy shakli sifatida talqin etgan. Uning ushbu fikrlari natijasida metafora ilmiy iste’molga kirib kelgan[10, 194].

Kvintilian esa metaforani metonimiyaga qarama-qarshi hodisa sifatida baholab, uning nutqdagi vazifasini nominativlik, baholash va bezakdorlik (dekorativlik) xususiyatlarini ta’minlash bilan izohlaydi. Sitseron esa metaforani til tizimidagi bo‘shliq va yetishmovchiliklarni to‘ldirish vositasi sifatida talqin qiladi.

Metaforaning fikriy jarayondagi ishtirokini birinchi bo’lib e’tirof etgan olim Germogen hisoblanadi. Falerskiy esa metafora va o’xshatishning o’quvchiga ikki xil ta’sirini qayd etgan.

METODLAR VA O‘RGANILISH DARAJASI

Keyingi davrlarda metaforologik nazariyaning noto‘g‘ri talqin qilinishi natijasida ushbu masalaga bo‘lgan qiziqish sezilarli darajada pasayib, XVIII asrgacha bu borada deyarli muhim ilmiy qarashlar ilgari surilmadi. Metaforani jiddiy va tizimli o‘rganish esa faqat XX asrga kelib, qadimgi Hind va Xitoy faylasuflari hamda tilshunoslari merosini tadqiq etish asosida qayta jonlandi.

Ayniqsa, o‘tgan asrning oxiri va yangi asr boshlaridagi izlanishlarda metafora mohiyatiga turli nuqtai nazardan yondashish natijasida bir qator ilmiy

yo‘nalishlar shakllandi. Birinchilardan bo’lib metaforani “ qiyosni ifoda etuvchi emas, yuzga keltiruvchi”[1, 310] sifatida ta’riflagan M. Blek hisoblanadi.

O’zbek tilshunosligida ham metaforani tadqiq etgan tadqiqotchilar mavjud. Tadqiqotchilar o’z tadqiqot ishlarida metafora haqida turli xil fikrlarini yoritib o’tganlar. Sh. Maxmaraimova “O’zbek tilshunosligida yangi leksik-semantik sath – metaforologiyani o’z tadqiq obyektiga ega mustaqil soha sifatida e’tirof etishga doir xulosalarni ilmiy nazariy dalillagan”[1, 180]. B. Umirqulov esa metafora haqida quyidagi fikrlarni bildiradi: Poetik metaforalar, ularning nutq ta’sirchanligini oshirishga xizmat qilishi. Metaforaning nutqda qo’llanilishiga ko’ra turlari tuzilishiga ko’ra turlari va ularning o’zbek poeziyasida qo’llanilishiga doir tahlillar[3, 150]. Metaforalarning badiiy samaradorligi borasidagi qarashlarni ilgari surgan[3, 150].

TADQIQOT NATIJALARI

Yuqorida metaforaning o’rganilish tarixi, tilshunoslarning metafora haqidagi fikrlari haqida misollar keltirildi. Metafora og’zaki nutqda va badiiy asarlarda tez-tez qo’llaniladi. Badiiy asarlarni o’qish jarayonida asarda qo’llanilgan so’zlarning jozibasi metafora, frazema va shunga o’xshash birliklar orqali namoyon bo’lishini ko’rish mumkin. Bu nafaqat zamonaviy asarlarda tarixiy asarlarda ham yaqqol ko’zga tashlanadi. Bunga misol tariqasida Alisher Navoiyning “Mahbub ul - qulub” asarida qo’llanilgan metaforalarni keltirish mumkin. Asarda qo’llanilgan metaforalar asarning estetik jozibasini va ma’no mukammalligini ta’minlagan. Har qanday badiiy asar tili tasviriy vositalarning nutqiy qimmati, nutqning jozibadorligini ta’minlash, shuningdek, badiiy ta’sirchanligini oshirishdagi imkoniyatlari til sohiblarining dunyoni o’zgacha his etishi bilan belgilanadi. Agar “til–yozuvchi uslubining qalbi”[4, 250] ekanini hisobga oladigan bo’lsak Alisher Navoiy asarlarida metaforalar tizimi asosida qurilgan badiiy nutq obrazli tafakkurni yuzaga keltiruvchi, shoirning nozik didi va yuksak badiiy mahoratini namoyon etuvchi muhim lisoniy vosita sifatida namoyon bo‘ladi. Ushbu metaforik birliklar orqali matnning ifodaviyligi ortib,

undagi ma’no qatlamlari chuqurlashadi hamda o‘quvchi ongida yorqin tasavvurlar hosil qiladi.

Masalan: *«Kizb al-munajjimun» mazmuni bila aning so‘zi yolg‘ondur va o‘z rostlig‘ kishvaridin yiroq qolg‘ondur va basirat ko‘ziga g‘aflat pardasin solg‘ondur.*

Bu misrada qo’llanilgan *basirat (ko’ngil) ko’zi* va *ga’flat pardasi* so’zi metafora vazifasida qo’llanilmoqda. *Ko’z* so’zi odatda tirik mavjudotning ko’rish a’zosi[80] ma’nosida qo’llaniladi. Bu asardagi misrada basirat(ko’ngil) ko’zi metafora vazifasida his, sezgi, qalb orqali anglashni ifodalagan. *“Ko‘ngil ko‘zi”* birligi o‘zbek tilida antropotsentrik metafora sifatida shakllanib, unda idrok jarayoni ko‘rish orqali ifodalanadi. Mazkur birlik insonning ruhiy, intuitiv va emotsional bilish qobiliyatini anglatadi. Barcha metaforalar antropotsentrikdir, metaforalar inson tomonidan kashf etiladi hamda so‘zlovchi realiyasini ifoda etadi. Har bir inson – alohida realiya: har bir ijodkor uslubi, ya’ni idiolektining, uslubiy bayonining namoyishchisi sifatida metafora obrazli ifoda, tasviriy vositalarda o‘z aksini topadi. Bunda metaforik ifodaning hosil bo‘lishida insonga xos qaysi belgi asos bo‘lganligini aniqlash muhim. Buni biz bazaviy metafora turi – antropomorf metafora (insonga xos belgilarning, somatik kodlarning predmetlarga ko‘chirilishi)ni tasniflash orqali tushuntiramiz[7,1035]. *Parda* so’zi xonani quyosh nuri, shamol hokazolardan to’sish yoki bezak uchun deraza yoki eshik shu kabilarga tutiladigan gazlama mato[81] ma’nosida qo’llaniladi. Bu misrada *parda* so’zi *g’aflat pardasi* shaklida metafora vazifasida qo’llanilgan va tasavvufiy ma’noda haqiqatni ko’rishga to’sqinlik qiluvchi ruhiy to’siq ma’nosini ifodalagan. *“G‘aflat pardasi”* birligi o‘zbek tilida kognitiv-metaforik vosita bo‘lib, unda bilmaslik va ruhiy loqaydlik “parda” obrazi orqali ifodalanadi. Ushbu metafora insonning haqiqatni idrok etishiga to‘sqinlik qiluvchi ichki holatni anglatadi.

Kishilikdin sekrimoqlar bila qochib, yaxshilig‘din masxaralig‘lar bila malomat eshigin yuzlariga ochib.

Bu misrada qo’llanilgan *malomat eshigi* birikmasi metafora vazifasida kelgan. Eshik so’zi o’z ma’nosida uy, xona bino yoki hovlining kiraverishida o’rnatiladigan ochib yopib turiladigan qurilish buyumi[7,843]. *Eshik* so’zi metafora vazifasida qo’llanilganda tanqid va o‘zini anglash jarayoniga kirish ma’nolarida qo’llaniladi. “Ma’lomat eshigi” metaforasi o‘zbek badiiy nutqida ruhiy-axloqiy jarayonni makon modeli orqali ifodalovchi kognitiv birlik bo‘lib, unda o‘zini tanqid qilish va ichki poklanish bosqichiga kirish “eshik” obrazi orqali konseptuallashtiriladi.

Yel agarchi lola tojin uchurg‘ay, ammo qiyo kamarig‘a neta olg‘ay. O‘t agarchi tog‘ etagin kuydurgan, ammo quyosh axgarig‘a nechuk yeta olg‘ay?

Asarda qo’llanilgan metaforalardan yana biri *lola toji* va *tog’ etagi* birikmalaridir.

Etak so’zi o’z ma’nosida kiyimning pastki, osilib tushib turadigan keng qismi sifatida qo’llaniladi. “Tog’ etagi” metafora ma’nosida qo’llanilganda esa o‘zbek badiiy nutqida yuksaklikka eltuvchi jarayonning boshlang‘ich bosqichini ifodalovchi kognitiv birlik bo‘lib, unda murakkab maqsad “tog‘”, uning boshlanish nuqtasi esa “etag” obrazi orqali konseptuallashtiriladi. Bu metaforik ma’no hozirgi kunda ham qo’llaniladi. Masalan: Toshkent shahri G'arbiy Tyanshan tizma tog‘ining etaklaridagi tekislikda joylashgan. “Fan va turmush”[7, 1035].

“Lola toji” so’zidagi toj so’zi o’z ma’nosida “Shohlaming hukmronlik ramzi bo‘lgan, qimmatbaho toshlar qadalgan ziynatli bosh kiyimi” ma’nosida qo’llaniladi. Ko’chma ma’noda ya’ni metafora vazifasida qo’llanilganda o‘zbek badiiy nutqida go‘zallik va nafislikning eng yuksak darajasini ifodalovchi kognitiv birlik bo‘lib, unda estetik qadriyat “lola” obrazi orqali, uning cho‘qqisi esa “toj” vositasida konseptuallashtiriladi.

XULOSA

Yuqorida keltirilgan tahlillar shuni ko‘rsatadiki, metafora tilning eng muhim va faol vositalaridan biri hisoblanadi. U nafaqat nutqni bezaydi, balki insonning fikrlash tarzini, dunyoni qabul qilishini ham aks ettiradi. Metaforalar orqali oddiy tushunchalar yanada jonli, ta’sirchan va obrazli shaklda ifodalanadi. Ayniqsa, badiiy matnlarda metafora muallifning ichki dunyosi, his-tuyg‘ulari va estetik qarashlarini ochib berishda muhim o‘rin tutadi.

Shuningdek, metaforalar til birliklarining uslubiy imkoniyatlarini kengaytirib, so‘zlarga qo‘shimcha ma’no va bo‘yoq beradi. Ular orqali insonning ruhiy holati, axloqiy qarashlari hamda milliy-madaniy xususiyatlari ham ifodalanadi. Shu jihatdan qaraganda, metaforani o‘rganish nafaqat tilshunoslik, balki madaniyat va tafakkur bilan bog‘liq muhim ilmiy yo‘nalishlardan biri ekanligi ayon bo‘ladi.

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JINOYAT PROTSESSINING TERGOVGA QADAR TEKSHIRUV, SURISHTIRUV VA DASTLABKI TERGOV BOSQICHLARIDA ADVOKATNING VAKOLATLARI VA UNING ISHTIROKINI TA'MINLASH MASALALARI

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Annotatsiya: *Mazkur tezis jinoyat protsessining sudga qadar bosqichlarida — tergovga qadar tekshiruv, surishtiruv va dastlabki tergov jarayonlarida advokatning vakolatlari hamda ishtirokini ta'minlash masalalariga bag'ishlangan. Unda advokatning shaxs huquq va erkinliklarini himoya qilishdagi o'rni, ayniqsa dastlabki bosqichlarda muhim huquqiy kafolat sifatida tahlil qilinadi. Tergovga qadar tekshiruvda protsessual maqom noaniqligi va himoya huquqining yetarli ta'minlanmasligi muammolari yoritiladi. Shuningdek, ushlash jarayonida himoya huquqining boshlanishi va advokatning ishtirok etish vaqti asoslab beriladi. Surishtiruv va dastlabki tergovda advokatning funksiyalari, dalillarni baholashdagi roli va protsessual tenglikni ta'minlashdagi ahamiyati ochib beriladi. Yakunda advokat faoliyatini samarali tashkil etish uchun qonunchilikni takomillashtirish zarurligi ta'kidlanadi.*

Kalit so'zlar: *jinoyat protsessi, advokat, himoya huquqi, tergovga qadar tekshiruv, surishtiruv, dastlabki tergov, protsessual maqom, yuridik yordam, dalillar, ushlash instituti, inson huquqlari, protsessual kafolatlar, advokat vakolatlari, adolatli sudlov.*

Abstract: *This thesis examines the powers of a defense lawyer and the issues of ensuring their participation at the pre-trial stages of criminal proceedings, including pre-investigation inquiry, inquiry, and preliminary investigation. It analyzes the lawyer's role in protecting individual rights and freedoms, particularly emphasizing their importance as a legal safeguard at early stages. The study highlights problems such as the ambiguity of procedural status and insufficient guarantees of the right to defense during the pre-investigation stage. It also substantiates the beginning of the right to defense in the detention process and the timing of a lawyer's involvement. Furthermore, the functions of the lawyer, their role in evaluating*

evidence, and their importance in ensuring procedural equality are discussed. The thesis concludes with the need to improve legislation to enhance the effectiveness of legal defense.

Keywords: *criminal procedure, defense lawyer, right to defense, pre-investigation inquiry, inquiry, preliminary investigation, procedural status, legal assistance, evidence, detention, human rights, procedural safeguards, lawyer's powers, fair trial.*

KIRISH

Jinoyat protsessi doirasida shaxsning huquq va erkinliklarini ta'minlash davlatning konstitutsiyaviy majburiyatlaridan biri sifatida e'tirof etiladi. Mazkur majburiyat ayniqsa sudga qadar bo‘lgan bosqichlarda – tergovga qadar tekshiruv, surishtiruv va dastlabki tergov jarayonlarida yanada muhim ahamiyat kasb etadi. Chunki aynan shu bosqichlarda shaxsning protsessual maqomi shakllanadi, dastlabki dalillar to‘planadi hamda keyingi sud muhokamasining yo‘nalishi belgilanadi. Shu sababli jinoyat protsessida advokatning ishtiroki nafaqat huquqiy kafolat, balki shaxsning adolatli sudlovga bo‘lgan konstitutsiyaviy huquqini ta'minlovchi asosiy institutlardan biri hisoblanadi. Advokatning erta bosqichdan ishtirok etishi esa protsessual xatolarning oldini olish, shaxs huquqlarini himoya qilish va dalillarni xolis baholash imkonini beradi.

So‘nggi yillarda amaliy statistik ma'lumotlar advokat ishtirokiga bo‘lgan ehtiyoj ortib borayotganini ko‘rsatmoqda. Ayniqsa tergovga qadar tekshiruv va dastlabki tergov bosqichlarida himoyachilar ishtirok etgan ishlar sonining sezilarli darajada oshishi fuqarolarning huquqiy himoyaga bo‘lgan talabining kuchayganini anglatadi. Bu esa jinoyat protsessida inson huquqlarini ta'minlashga qaratilgan institutsional yondashuvning mustahkamlanib borayotganidan dalolat beradi.

ASOSIY QISM

Tergovga qadar tekshiruv bosqichining huquqiy tabiati

Tergovga qadar tekshiruv bosqichi jinoyat haqidagi ariza yoki xabar kelib tushgan paytdan boshlanadi. Ushbu bosqichning asosiy maqsadi – jinoyat alomatlari mavjudligini yoki mavjud emasligini aniqlashdir. Bu jarayonda huquqni muhofaza qiluvchi organlar tomonidan turli tekshiruv harakatlari

amalga oshiriladi va dastlabki ma’lumotlar yig‘iladi. Biroq amaliyot shuni ko‘rsatadiki, mazkur bosqichda ayrim shaxslar rasmiy gumon qilinuvchi maqomiga ega bo‘lmagan holda tekshiruv harakatlariga jalb etiladi. Bu esa ularning huquqiy maqomini noaniq holatga olib keladi. Natijada shaxsning himoya huquqi to‘liq ta’minlanmasligi ehtimoli yuzaga keladi. Aynan shu nuqtai nazardan, tergovga qadar tekshiruv bosqichida advokat ishtirokining huquqiy asoslarini aniq belgilash muhim ahamiyatga ega. Chunki shaxsga nisbatan gumon paydo bo‘lishi bilanoq uning huquqiy himoyasi ta’minlanishi zarur bo‘ladi.

Shaxsni ushlash va himoya huquqining boshlanishi

Shaxsni ushlash instituti jinoyat protsessida eng muhim protsessual harakatlardan biri hisoblanadi. Ushlash jarayoni faktik ushlash va protsessual rasmiylashtirish bosqichlariga bo‘linadi. Faktik ushlash shaxsning erkin harakatlanishi cheklangan paytdan boshlansa, protsessual bosqich ushbu holatning hujjatlashtirilishi bilan bog‘liq.Ilmiy adabiyotlarda ham ushbu jarayon murakkab va bir necha bosqichli ekanligi ta’kidlanadi. Shu sababli advokatning qaysi paytdan boshlab ishga kirishishi masalasi alohida dolzarblik kasb etadi. Amaldagi qonunchilikka ko‘ra, himoyachi shaxs ushlangan paytdan boshlab ishtirok etishi mumkin, biroq amaliyotda bu norma har doim ham to‘liq ta’minlanmaydi.Xalqaro tajribada esa gumon qilinuvchi shaxsga uning huquqlari darhol tushuntirilishi, jumladan advokatdan foydalanish huquqi kafolatlanishi asosiy standart sifatida qaraladi. Bu esa shaxsning protsessual himoyasini dastlabki bosqichdayoq ta’minlashga xizmat qiladi.

Surishtiruv va dastlabki tergov bosqichlarida advokatning roli

Surishtiruv va dastlabki tergov bosqichlari jinoyat ishining eng muhim bosqichlari hisoblanadi. Chunki aynan shu bosqichlarda asosiy dalillar to‘planadi, gumon qilinuvchi yoki ayblanuvchining protsessual maqomi belgilanadi hamda ishning keyingi yo‘nalishi aniqlanadi.Advokat ushbu bosqichda bir qator muhim funksiyalarni bajaradi. U birinchi navbatda gumon qilinuvchi yoki ayblanuvchiga uning huquqlarini tushuntiradi, himoya

strategiyasini ishlab chiqadi hamda tergov harakatlarida ishtirok etadi. Bundan tashqari, u dalillarning qonuniyligi va ishonchliligini tahlil qiladi.Himoyachi ishtiroki tergov organlari tomonidan to‘plangan ma’lumotlarning xolis baholanishiga xizmat qiladi. Bu esa protsessda tenglik va tortishuv tamoyilining amalda ta’minlanishini kuchaytiradi.

Yuridik yordam tushunchasining ilmiy talqini

Ilmiy adabiyotlarda yuridik yordam tushunchasiga turlicha yondashuvlar mavjud. Birinchi yondashuvga ko‘ra, yuridik yordam shaxs huquqlarini himoya qilishga qaratilgan faol harakatlar majmuasidir. Ikkinchi yondashuv esa uni advokatlik faoliyatining barcha yo‘nalishlarini qamrab oluvchi keng tushuncha sifatida izohlaydi. Uchinchi yondashuvga ko‘ra esa bu professional bilim va ko‘nikmalarga asoslangan amaliy faoliyatdir.Ushbu yondashuvlarni umumlashtirganda, yuridik yordam shaxsning huquq va qonuniy manfaatlarini himoya qilishga qaratilgan kasbiy faoliyat ekanligi kelib chiqadi.

Advokat vakolatlarining amaliy ahamiyati

Advokat jinoyat protsessida faqat himoya qiluvchi emas, balki huquqiy kafolatlarni ta’minlovchi faol ishtirokchi sifatida namoyon bo‘ladi. U dalillarni yig‘ish, hujjatlarni tahlil qilish, tergov harakatlarida ishtirok etish va protsessual buzilishlarni aniqlash kabi vazifalarni bajaradi.Biroq amaliyotda advokatning ishga kirishishida ayrim tashkiliy va protsessual to‘siqlar mavjud. Masalan, hujjatlarni rasmiylashtirishdagi kechikishlar yoki organlar o‘rtasidagi protsessual nomuvofiqliklar himoya samaradorligiga salbiy ta’sir ko‘rsatishi mumkin. Shu sababli ushbu jarayonlarni soddalashtirish zarur.

XULOSA

Xulosa qilib aytganda, jinoyat protsessining tergovga qadar tekshiruv, surishtiruv va dastlabki tergov bosqichlarida advokat ishtiroki shaxs huquqlarini ta’minlashning eng muhim kafolatlaridan biridir. Ushbu bosqichlarda himoyachining erta ishtiroki adolatli sudlovni ta’minlash, protsessual xatolarni kamaytirish va dalillarni xolis baholash imkonini beradi. Shu bilan birga, amaldagi qonunchilikda ayrim bo‘shliqlar va tashkiliy muammolar mavjud

bo‘lib, ular advokatning samarali faoliyatiga to‘sqinlik qilishi mumkin. Shu sababli advokat vakolatlarini aniq belgilash, uning ishga kirishish tartibini soddalashtirish va protsessual huquqlarini kengaytirish zarur. Mazkur islohotlar jinoyat protsessida inson huquqlarini yanada mustahkamlash, adolat tamoyilini ta’minlash hamda tortishuv asosidagi sudlov tizimini rivojlantirishga xizmat qiladi.

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SHAHARSOZLIK TO‘G‘RISIDAGI QONUNCHILIKNI BUZGANLIK UCHUN JAVOBGARLIKNI TAKOMILLASHTIRISH MASALALARI

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Annotatsiya. *Mazkur tezis shaharsozlik to‘g‘risidagi qonunchilikni buzganlik uchun javobgarlik institutini takomillashtirish masalalari ilmiy jihatdan tahlil qilingan. Shaharsozlik sohasidagi huquqbuzarliklarning asosiy sabablari, mavjud huquqiy muammolar hamda ularni bartaraf etish yo‘llari yoritilgan. Tadqiqot natijalari shaharsozlik qonunchiligini kuchaytirish va barqaror shaharsozlik rivojlanishni ta’minlashga xizmat qiladi.*

Kalit so‘zlar: *shaharsozlik, shaharsozlik qonunchiligi, javobgarlik instituti, noqonuniy qurilish, davlat nazorati, raqamlashtirish, korrupsiya, barqaror rivojlanish*

Аннотация*. В данной тезис научно анализируются вопросы совершенствования института ответственности за нарушение законодательства в сфере градостроительства. Рассматриваются основные причины правонарушений в области градостроительства, существующие правовые проблемы и пути их устранения. Результаты исследования направлены на укрепление градостроительной дисциплины и обеспечение устойчивого городского развития.*

Ключевые слова: *градостроительство, градостроительное законодательство, институт ответственности, незаконное строительство, государственный контроль, цифровизация, коррупция, устойчивое развитие*

Abstract. *This thesis provides a scientific analysis of the issues related to improving the liability mechanism for violations of urban planning legislation. It examines the main causes of offenses in the field of urban development, existing legal problems, and ways to address them. The results of the research aim to strengthen urban planning discipline and ensure sustainable urban development.*

Keywords: *urban planning, urban planning legislation, liability institution, illegal construction, state control, digitalization, corruption, sustainable development*

KIRISH

Shaharsozlik — bu hududlarni kompleks rejalashtirish, ulardan oqilona foydalanish hamda aholi uchun xavfsiz, ekologik jihatdan barqaror va qulay yashash muhitini yaratishga qaratilgan huquqiy va tashkiliy jarayonlar tizimidir. Shaharsozlik sohasida huquqiy tartibga solish tizimini takomillashtirish masalasi bugungi kunda alohida ilmiy va amaliy ahamiyat kasb etmoqda. Urbanizatsiya jarayonlarining jadallashuvi, aholi sonining shahar hududlarida ortib borishi hamda qurilish hajmlarining keskin kengayishi shaharsozlik faoliyati ustidan samarali nazoratni ta’minlash zaruratini yanada kuchaytirmoqda. Ayniqsa, hududlarni kompleks rivojlantirish, infratuzilmani modernizatsiya qilish va qurilish jarayonlariga raqamli texnologiyalarni joriy etish sharoitida mazkur sohada qonunchilikning izchil va samarali amal qilishi muhim ahamiyatga ega. Shu bilan birga, mavjud islohotlarga qaramay, amaliyotda ruxsatsiz qurilishlar, bosh rejalarga zid obyektlar qurilishi, loyiha hujjatlarisiz ish olib borish hamda sanitariya, ekologiya va yong‘in xavfsizligi talablariga rioya etilmaslik holatlari saqlanib qolmoqda. So‘nggi yig‘ilishlarda qayd etilganidek, qurilish obyektlarida aniqlanayotgan ko‘plab kamchilik va qoidabuzarliklar mazkur sohada nazorat tizimi yetarli darajada samarali emasligini ko‘rsatadi. Bu esa, o‘z navbatida, shaharsozlik to‘g‘risidagi qonunchilik talablarini buzganlik uchun javobgarlik choralarini qayta ko‘rib chiqish va takomillashtirish zaruratini yuzaga keltiradi. Bundan tashqari, qurilish sohasida nazorat mexanizmlarining yetarlicha shaffof emasligi hamda ayrim hollarda korrupsion omillarning mavjudligi javobgarlik institutining amaldagi holatini chuqur ilmiy tahlil qilishni talab etadi. Javobgarlik choralarining yetarli darajada muqarrar emasligi yoki ularning samarali qo‘llanilmasligi huquqbuzarliklarning takrorlanishiga sabab bo‘lmoqda. Yuqoridagilardan kelib chiqib, shaharsozlik to‘g‘risidagi qonunchilikni buzganlik uchun javobgarlikni takomillashtirish masalasi dolzarb ilmiy muammo sifatida namoyon bo‘ladi. Ushbu yo‘nalishda samarali huquqiy mexanizmlarni ishlab chiqish, javobgarlik choralarini kuchaytirish va ularning

amaliy ijrosini ta’minlash orqali qurilish sohasida qonun ustuvorligini mustahkamlash, sifat va xavfsizlikni oshirish hamda korrupsion holatlarning oldini olish mumkin.

Amaldagi huquqiy tizim tahlili. Amaldagi huquqiy tizim tahlili shuni ko‘rsatadiki, shaharsozlik sohasida javobgarlik institutini takomillashtirish masalasi kompleks yondashuvni talab etuvchi dolzarb ilmiy-amaliy muammo hisoblanadi. Mazkur sohada ma’muriy va jinoiy javobgarlik choralarining mavjudligi huquqiy tartibga solishning asosiy elementlari sifatida namoyon bo‘lsada, ularning huquqbuzarliklarning oldini olishdagi real samaradorligi yetarli darajada emasligi kuzatilmoqda. Bu holat, eng avvalo, javobgarlik institutining preventiv va jazolovchi funksiyalarining to‘liq ishlamayotganligi bilan izohlanadi.

Birinchidan, ma’muriy javobgarlik choralarining, xususan jarimalarning iqtisodiy samaradorligi pastligi muhim tizimli kamchiliklardan biridir. Huquqni qo‘llash amaliyoti shuni ko‘rsatadiki, ayrim hollarda noqonuniy qurilish faoliyatidan olinadigan iqtisodiy manfaat qo‘llanilayotgan jarimalardan sezilarli darajada yuqori bo‘lib, bu esa huquqbuzarlikni sodir etishni iqtisodiy jihatdan “maqsadga muvofiq” holatga aylantirmoqda. Natijada javobgarlik choralarining muqarrarligi va ogohlantiruvchi ta’siri pasayib, ular kutilgan preventiv natijani bermayapti. Shu nuqtai nazardan, jarimalarni differensiallash, ularni huquqbuzarlikning og‘irligi, takroriyligi va yetkazilgan zarar miqdori bilan uzviy bog‘lash zarurati yuzaga kelmoqda.

Ikkinchidan, shaharsozlik sohasida davlat nazoratining institutsional va texnologik asoslari yetarli darajada rivojlanmagan. Xususan, nazorat jarayonlarining to‘liq raqamlashtirilmaganligi, yagona axborot tizimlarining yetishmasligi hamda real vaqt rejimida monitoring olib borish imkoniyatlarining cheklanganligi huquqbuzarliklarni erta bosqichda aniqlash va ularning oldini olishga to‘sqinlik qilmoqda. Natijada ko‘plab noqonuniy qurilishlar faqat yakuniy bosqichlarda aniqlanib, ularni bartaraf etish katta iqtisodiy va ijtimoiy

xarajatlarga olib kelmoqda. Bu esa raqamli nazorat, geoinformatsion tizimlar (GIS) va ochiq ma’lumotlar platformalarini keng joriy etish zaruratini asoslaydi.

Uchinchidan, vakolatlarning markaziy va mahalliy davlat boshqaruvi organlari o‘rtasida aniq chegaralanmaganligi hamda funksional takrorlanish holatlarining mavjudligi huquqni qo‘llash amaliyotida nomuvofiqliklarni keltirib chiqarmoqda. Bu esa ayrim hududlarda nazoratning sustlashuvi, boshqa hududlarda esa ortiqcha ma’muriy yuklama va byurokratik to‘siqlarning yuzaga kelishiga sabab bo‘lmoqda. Shu bois, institutsional islohotlar doirasida vakolatlarni aniq delimitatsiya qilish, mas’uliyatni individuallashtirish va hisobdorlik mexanizmlarini kuchaytirish muhim ahamiyat kasb etadi.

To‘rtinchidan, sud-huquqiy himoya mexanizmlarining murakkabligi va uzoq davom etuvchi protsessual tartib-taomillar fuqarolar hamda tadbirkorlik subyektlarining buzilgan huquqlarini tezkor va samarali tiklash imkoniyatlarini cheklamoqda. Bu esa huquqiy ishonchning pasayishiga, ayrim hollarda esa nizolarni norasmiy yo‘llar bilan hal qilishga moyillikni oshishiga olib keladi. Shu munosabat bilan, sud tizimida protsessual soddalashtirish, raqamli sudlov elementlarini joriy etish va nizolarni muqobil hal etish mexanizmlarini rivojlantirish dolzarb hisoblanadi.

Bundan tashqari, shaharsozlik sohasida korrupsion xavf omillarining mavjudligi ham javobgarlik institutining samaradorligiga salbiy ta’sir ko‘rsatmoqda. Nazorat organlari faoliyatida shaffoflikning yetarli emasligi, ayrim hollarda manfaatlar to‘qnashuvi va hisobdorlik mexanizmlarining sustligi huquqbuzarliklarning yashirin shakllarini yuzaga keltirishi mumkin. Shu sababli, ochiqlik va shaffoflikni ta’minlash, jamoatchilik nazoratini kuchaytirish hamda korrupsiyaga qarshi institutsional mexanizmlarni takomillashtirish muhim yo‘nalishlardan biri hisoblanadi.

XULOSA

Xulosa o‘rnida yuqorida olib borilgan tahlillar shuni ko‘rsatadiki, shaharsozlik to‘g‘risidagi qonunchilikni buzganlik uchun javobgarlik tizimi

hozirgi bosqichda yetarli darajada samarali ishlamayapti hamda uni kompleks ravishda takomillashtirish zarurati mavjud. Urbanizatsiya jarayonlarining jadallashuvi va qurilish hajmlarining ortib borishi sharoitida mazkur sohada huquqbuzarliklarning oldini olish, qurilish sifati va xavfsizligini ta’minlash hamda qonun ustuvorligini mustahkamlash ustuvor vazifalardan biri bo‘lib qolmoqda. O‘rganishlar natijasida aniqlanishicha, amaldagi javobgarlik choralarining, xususan ma’muriy jarimalarning ta’sirchan emasligi, nazorat tizimlarining raqamlashtirilmaganligi, institutsional mexanizmlarning nomukammalligi hamda sud-huquqiy himoya vositalarining murakkabligi ushbu sohada huquqbuzarliklarning saqlanib qolishiga sabab bo‘lmoqda. Bu esa javobgarlik institutining preventiv funksiyasi to‘liq ishlamayotganligini ko‘rsatadi. Shu munosabat bilan, shaharsozlik sohasida javobgarlik tizimini takomillashtirish quyidagi asosiy yo‘nalishlarda amalga oshirilishi lozim: javobgarlik choralarining iqtisodiy samaradorligini oshirish, nazorat va monitoring jarayonlarini to‘liq raqamlashtirish, vakolatli organlar o‘rtasida funksiyalarni aniq taqsimlash, sud-huquqiy himoya mexanizmlarini soddalashtirish hamda korrupsiyaga qarshi samarali institutsional choralarni kuchaytirish. Umuman olganda, shaharsozlik qonunchiligini buzganlik uchun javobgarlikni takomillashtirishga qaratilgan ilmiy asoslangan yondashuvlarni ishlab chiqish va amaliyotga joriy etish orqali mazkur sohada huquqbuzarliklarning oldini olish, shaffoflikni ta’minlash va barqaror shahar rivojlanishiga erishish mumkin.

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BOSHLANG‘ICH SINF O‘QISH SAVODXONLIGI DARSLARIDA ZAMONAVIY PEDAGOGIK METODLARDAN FOYDALANISH

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Annotatsiya: *ushbu maqolada boshlang‘ich sinf o‘quvchilarining o‘qish savodxonligini rivojlantirishda zamonaviy pedagogik metodlardan foydalanish masalasi tahlil qilinadi. Tadqiqotda ta’lim jarayonining samaradorligi o‘qituvchining pedagogik mahorati, metodlarni to‘g‘ri tanlash hamda ularni amaliyotga joriy etish bilan bog‘liqligi asoslab beriladi. Xususan, “O‘yla–juft bo‘lib ishla–baham ko‘r”, “Mikrofon” va “Kognitiv xarita” metodlarining o‘quvchilarning mustaqil fikrlash, tahlil qilish va xulosa chiqarish ko‘nikmalarini rivojlantirishdagi o‘rni yoritiladi. Mazkur metodlar o‘qish jarayonini faollashtiradi, o‘quvchilarning bilish faoliyatini oshiradi hamda o‘qish savodxonligini rivojlantirishda samarali vosita sifatida xizmat qiladi va ta’lim jarayonining sifatini oshirishga yordam berib o‘quvchilarda mustaqil fikrlashni shakllantiradi.*

Kalit so‘zlar: *o‘qish savodxonligi, zamonaviy pedagogik metodlar, o‘yla–juftlash–baham ko‘r, mikrofon metodi, kognitiv xarita, boshlang‘ich ta’lim.*

Abstract: *this article analyzes the use of modern pedagogical methods in developing reading literacy of primary school students. The study highlights that the effectiveness of the educational process depends on the teacher’s professional competence, appropriate selection of methods, and their implementation in practice. In particular, the role of Think–Pair–Share, Microphone, and cognitive mapping methods in developing students’ independent thinking, analytical skills, and ability to draw conclusions is discussed. These methods activate the learning process, enhance students’ cognitive engagement, and serve as effective tools for improving reading literacy. Consequently, they contribute to improving the quality of education and foster independent and critical thinking skills.*

Keywords: *reading literacy, modern pedagogical methods, think pair share, microphone method, cognitive mapping, primary education*

KIRISH

Jamiyat hayotining jadal rivojlanishi, ta’lim tizimi oldiga qo‘yilayotgan zamonaviy talablar va axborot oqimining tezlashishi o‘qituvchidan doimiy ravishda pedagogik mahoratini oshirishni, dars jarayonida ilg‘or metod va texnologiyalardan samarali foydalanishni taqozo etadi. O‘zbekiston Respublikasining “Ta’lim to‘g‘risida”gi Qonunida boshlang‘ich ta’limga quyidagicha ta’rif berilgan: “Boshlang‘ich ta’lim – ta’lim oluvchilarda umumiy o‘rta ta’limni davom ettirish uchun zarur bo‘lgan savodxonlik, bilim, malaka va ko‘nikmalar asoslarini shakllantirishga qaratilgan ta’lim turi” *(O‘RQ-637-son, 2020).* Bu esa boshlang‘ich sinf o‘quvchilarining o‘qish savodxonligini rivojlantirish, ularni matn bilan ishlashga, tahlil qilishga va xulosa chiqarishga o‘rgatish zaruratini yanada kuchaytiradi.

ASOSIY QISM

Pedagogik faoliyatning muvaffaqiyatli amalga oshishida esa o‘qituvchi mahoratiga ko‘p narsa bog‘liq. Shu sababli, uning pedagogik tizimda tutgan o‘rni haqida batafsil to‘xtalish zarurati tug‘iladi. Bugungi zamon o‘qituvchisi quyidagi uch muhim talabga javob berishi kerak *(Omonov, Xattabov, 2016)*:

1. O‘qituvchi davlat buyurtmasiga mos keladigan ta’lim-tarbiya maqsadini aniq va ravshan belgilashi kerakki, natijada, ma’lum vaqt ichida unga erishishni ta’minlaydigan didaktik jarayonni tuzish va joriy etish to‘g‘risida xulosa qilish mumkin bo‘lsin.

2. O‘qituvchi pedagogik tizimda belgilangan maqsadga to‘g‘ri keladigan o‘quv-tarbiyaviy jarayon mazmunini o‘quv dasturi bo‘yicha chuqur egallashi, muntazam ravishda o‘z pedagogik mahoratini ilmiy-texnikaviy taraqqiyot talablariga mos holda mustaqil ravishda kengaytirib borishi zarur.

3. O‘qituvchi pedagogik tizimning tarkibiy elementi sifatida didaktik jarayonni amalga oshirish bilan tanish bo‘lishi kerak. Bunda ikki muhim talab alohida e’tiborga loyiqdir:

- *Birinchidan,* jadallashtirish – didaktik masalalarni ma’lum vaqt doirasida birmuncha tez va yuqori saviyada hal eta oladigan didaktik jarayonni

qo‘llashni talab etadi. Ta’lim va tarbiyaga bu talabni aniqlab beruvchi omil – o‘quvchilarning ma’lum faoliyatni o‘zlashtirish tezligi hisoblanadi.

- *Ikkinchidan*, tabiatan monandlik – o‘quv-tarbiyaviy jarayonni shunday tashkil etish lozimki, bunda mumkin qadar o‘quvchilarning keng doirada tajriba egallashiga imkon tug‘diradigan va ularning aqliy malakasini rivojlantira oladigan mexanizm vujudga kelsin. Bu talabni aniqlab beruvchi omillar: o‘quvchilarning o‘qishga bo‘lgan xohishi, o‘quv mehnatiga munosabati va sog‘lom psixo-fiziologik faoliyati kabilardir.

O‘qituvchi didaktik jarayonni amalga oshirishda o‘qitishning samarali shakllaridan foydalana olishi kerak. O‘qitishning tashkiliy shakllari to‘g‘ri tanlanishi pedagogik tizim elementlarining ma’lum qonuniyat asosida bir-birlari bilan bog‘liq ekanligini bildiradi. Bu bog‘lanishlardan foydalanish va eng maqbul bo‘lgan tashkiliy shakllarni topish – ta’limda rasmiyatchilikni yo‘qotishga yo‘l ochadi.

Dialogik o‘qish, savol-javob va munozara metodlari o‘quvchi larning kommunikativ ko‘nikmalarini rivojlantirishda muhim rol o‘ynadi. O‘quvchilar matn asosida savollar tuzish, o‘z fikrini izohlash va boshqalarning fikriga munosabat bildirishda faol ishtirok etdilar. Dars jarayonida o‘quvchilarning og‘zaki nutqi ravonlashgani, gaplarni mantiqiy izchillikda bayon etish darslarni yanada samaradorligini ta’minlaydi *(Farsaxonova, 2026)*. Eng jiddiy didaktik muammolardan biri ta’lim metodlarini tanlash bilan bog‘liq. Didaktikaga oid adabiyotlarda o‘qitish metodlarining quyidagi bog‘liqliklari qayd qilinadi *(Azizxo‘jayeva, 2006):*

✓ birinchidan, o‘quv mashg‘ulotlarining didaktik maqsadlari va vazifalariga bog‘liq;

✓ ikkinchidan, bayon qilinadigan materialning xarakteriga bog‘liq;

✓ uchinchidan, ta’lim oluvchilarning bilimi va rivojlanish darajasiga bog‘liq;

✓ to‘rtinchidan, o‘quv jarayonida o‘zganilayotgan fan asoslarining muayyan davrdagi metodlariga bog‘liq;

✓ beshinchidan, oliy o‘quv yurti yoki kafedraning sharoitlariga bog‘liq;

✓ oltinchidan, o‘quv jarayonining moddiy-texnik ta’minoti bilan bog‘liq;

✓ yettinchidan, o‘qituvchining pedagogik mahorati, uning tayyorgarligi va o‘quv jarayonini tashkil etish darajasi hamda o‘qituvchining hozirgi zamon metodlari bo‘yicha bilimlariga bog‘liq.

Shunday qilib, o‘quv jarayoni o‘qitishning shakl va metodlarida tashkil etiladigan ko‘p qirrali yaxlit tizim doirasida amalga oshiriladi. Bunda har bir shakl o‘z oldiga qo‘ygan vazifalarni bajaradi, lekin shakl va metodlar to‘plami yagona didaktik majmuani (kompleksni) hosil qiladi.

O‘qitish metodlari tasnifi – bu muayyan belgilar asosida tartibga solingan tizimdir. Didaktik tadqiqotlar o‘qitishni dialektik jarayon sifatida o‘rganadi. Bunga ko‘ra o‘qitish metodlari tizimi dinamikada, harakatda, ta’lim mazmunida yuz berayotgan barcha o‘zgarishlarni hisobga olgan holda qaraladi.

Boshlang‘ich sinf o‘quvchilarining o‘qish savodxonligini rivojlantirishda badiiy matnlar asosida interaktiv metodlardan foydalanish muhim ahamiyat kasb etadi. Quyida “Sholg‘om” va “Bo‘g‘irsoq’ ertagi misolida uchta samarali metodning qo‘llanilishi keltiriladi.

“O‘yla-juft bo‘lib ishla-baham ko‘r” metodining maqsadi: mustaqil fikrlashni rivojlantirish, fikrni og‘zaki ifodalash va matndan asosiy g‘oyani aniqlash hisoblanadi.

Metodning darsda qo‘llanilishi: o‘qituvchi savol beradi, o‘quvchilar avval mustaqil, so‘ng juftlikda va oxirida jamoa bilan muhokama qiladi.

Savol: *Nima sababdan sholg‘omni bir kishi emas, balki barcha birgalikda torta oldi?*

Bosqich	Amal	O‘quvchi faoliyati	Natija
O‘yla	Mustaqil fikrlash	Har bir o‘quvchi javob yozadi	Individual fikr
Juft bo‘lib ishla	Fikr almashish	Juftlikda muhokama qiladi	Tahlil
Baham ko‘r	Taqdimot	Sinfga aytadi	Umumiy xulosa

“Mikrofon” metodi. Ushbu metod o‘quvchilarning tezkor fikrlash va o‘z nuqtayi nazarini qisqa, aniq ifodalash ko‘nikmasini rivojlantirishga xizmat qiladi.

Metodning darsda qo‘llanilishi:

✓ O‘qituvchi savol yoki muammoni beradi

✓ O‘quvchilar navbatma-navbat “mikrofondan” (qo‘lidagi predmet) foydalanib, o‘z fikrini 1-2 daqiqada aytadi

✓ Bir fikr takrorlanmaydi, har bir o‘quvchi yangi g‘oya kiritishi kerak

Ertak misoli (“Bo‘g‘irsoq”): s*avol: “Bo‘g‘irsoqning eng katta xatosi nima edi?”*. O‘quvchilar: “Tulkiga ishondi”, “O‘z kuchini oshirib yubordi”, “Kimdan qochish kerakligini bilmadi” kabi javoblar aytadi.

“Kognitiv xarita” metodi. Ushbu metod sabab-oqibat bog‘lanishlarini aniqlash, voqealar ketma-ketligini tushunish, matnni tizimli fikrlash orqali tahlil qilishga yordam beradi..

Metodning darsda qo‘llanilishi:

✓ Asosiy voqea markazga joylashtiriladi

✓ Qahramonlar va harakatlar ketma-ketligi o‘qlar bilan bog‘lanadi

✓ “Sabab → voqea → oqibat” sxemasi tuziladi

Masalan, O‘qituvchi tomonidan topshiriq beriladi: “Sholg‘om” ertagi asosida sabab-oqibat zanjirini tuzing va har bir bosqichni izohlang.

O‘quvchi: voqealarni ketma-ket yozadi, ular orasidagi bog‘lanishni tushuntiradi, xulosa chiqaradi

“Sholg‘om” ertagi bo‘yicha kognitiv xarita

Sholg‘om katta bo‘lib o‘sdi (sabab)

↓

bobo uni torta olmadi (muammo)

↓

boshqalar yordamga chaqirildi (jarayon)

↓

hamma birgalikda tortdi (harakat)

↓

sholg‘om sug‘urib olindi (natija)

Zamonaviy pedagogik texnologiyalar va innovatsion yondashuvlar ta’lim sifatini oshirishda muhim omildir. Ularning samarali qo‘llanilishi o‘quvchilarning bilim darajasini chuqurlashtirish, ijodkorlik va mustaqil fikrlash qobiliyatini rivojlantirish, eng asosiysi – ta’lim jarayonini zamon talablariga moslashtirish imkonini beradi *(Xasanova, 2025).*

XULOSA

O‘qituvchining pedagogik mahorati va metodlarni to‘g‘ri tanlay olish qobiliyati bevosita o‘quv jarayonining samaradorligini belgilaydi. Agar o‘qituvchi yuqorida qayd etilgan metodlarni tanlash mezonlariga (didaktik maqsad, material xarakteri, o‘quvchilarning darajasi va boshqalar) amal qilsa hamda “O‘yla-juft bo‘lib ishla-baham ko‘r”, “Mikrofon”, “Kognitiv xarita” kabi metodlarni badiiy matnlar misolida qo‘llay olsa, u holda ta’lim jarayonining natijalari yuqori bo‘ladi. Bu esa, o‘z navbatida, fan, ishlab chiqarish, madaniyat, iqtisod hamda jamiyat hayotining barcha sohalarini rivojlantirishga xizmat qiladi.

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THE EFFECT OF TOURISM DEVELOPMENT ON THE REAL ESTATE MARKET OF SAMARKAND

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Abstract: *This article examines the effects of tourism development on the Samarkand housing market. The direct influence of the increase in tourist arrivals, infrastructure and reconstruction works, and investments on the prices of residential and commercial real estate was investigated according to scientific literature. The results of the study showed that tourism is beneficial for the development of Samarkand's real estate market but, on occasions, it can also lead to significant price spikes and social conflicts.*

Keywords: *Samarkand, tourism, real estate, urban economy, investment, prices, infrastructure, Airbnb, gentrification, tourism flow.*

INTRODUCTION

Samarkand is one of the oldest and largest tourist destinations in Central Asia and tourism is of particular importance for the development of the city. Over the past few years, due to the policy of the state in the development of tourism in Uzbekistan, the tourist flow to Samarkand has grown considerably. This has a significant effect on the development of the services sector and also on the real estate market. The link between tourism and the real estate market is reflected in the scientific literature in the form of the "tourism-led urban development" model, that is, the growth of tourism contributes to the development of urban economy and leads to an increase in real estate prices.

MAIN PART

In Samarkand, this process is even more extensive. The old part of the city, Registan Square, the Amir Temur complex and other historical monuments are the focal points of tourism in the city. An increased tourist flow leads to an increased demand for hotels, rental and service industries. This, in turn, drives up property values. In particular, in the main regions, the growth in land and housing prices increase the attractiveness of the region and the construction of new buildings.

Research has demonstrated that tourism infrastructure development has a strong multiplier effect on the real estate market. Samarkand's new airport, construction of a new railway line and development of the hotel industry make the region more economically attractive. This is known as the "accessibility effect", or in other words, the region becomes more valuable due to its accessibility. This in turn has made Samarkand an attractive property market for investment.

Moreover, the growth of the short-term rental industry (Airbnb type and local services) also affects the real estate market. In popular tourist destinations, housing stock is primarily used for rental purposes, and as a consequence, a deficit of housing for permanent living may emerge. Thus, rents in the city centre are rising sharply, which may lead to the occurrence of the "housing affordability" problem.

Tourism in Samarkand is also encouraging investment. As Glaeser and other urban economists explain, cities with a high tourist attractiveness are considered by investors to be a safe location with good return on investment. Thus, more money is being spent on tourism hotels, serviced apartments and retail outlets in Samarkand. This may also lead to an increase in speculative demand.

At the same time, the link between tourism and the real estate market has social implications. Over-development of tourism can cause gentrification in some areas and the displacement of local residents from the city centre. This is

a problem we see in Barcelona and Venice, and something that should be planned for in the future in Samarkand.

CONCLUSION

Overall, the tourism industry in the city of Samarkand is one of the key factors influencing the real estate market, which in turn has a direct impact on housing prices, due to increased demand, investment and infrastructure. At the same time, it is important to maintain a balance between the tourism and real estate sectors as the disproportionate growth of tourism can lead to social and economic tensions. It is therefore necessary that state policy is directed towards the balance between the tourism and real estate markets.

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THEORETICAL FOUNDATIONS OF DISCOURSE AND PERSUASION

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Annotation: *This article explores the theoretical foundations of discourse and persuasion, focusing on how language functions as a tool for influencing attitudes, beliefs, and behaviors. It examines key approaches from discourse analysis, rhetoric, pragmatics, and critical theory to understand how meaning is constructed and communicated in various contexts. The study highlights the role of linguistic strategies such as framing, argumentation, metaphor, and narrative in shaping persuasive messages.Particular attention is given to the interaction between speaker intention, audience perception, and socio-cultural context, demonstrating that persuasion is not only a linguistic process but also a social and cognitive phenomenon. The article also considers the impact of modern communication environments, especially digital media, on the transformation of persuasive discourse. By analyzing different forms of discourse, the research provides insights into how persuasive power operates in both traditional and contemporary settings.*

Keywords: *discourse, persuasion, rhetoric, communication, language and power, pragmatics, discourse analysis, argumentation, framing, digital communication*

INTRODUCTION

This issue of the *Russian Journal of Linguistics* continues its focus on Discourse Analysis, building on the earlier special issue dedicated to this topic. The primary goal of the publication is to encourage scholarly dialogue and the exchange of ideas within the international community of discourse researchers. The previous volume introduced a range of theoretical perspectives, including developments in discourse pragmatics, stylistics, and speech genre studies, reflecting both Russian and Western traditions. These contributions once again

confirmed that a unified theory of discourse has yet to be established. Nevertheless, interest in discourse studies continues to grow steadily, supporting the view that discourse represents the most authentic object of linguistic inquiry, as communication naturally occurs in extended discourse rather than isolated linguistic units.

The current issue brings together contributions in both Russian and English, covering a wide range of topics. Some chapters are primarily theoretical, while others focus on applying discourse-analytical methods to real-life social contexts, examining how linguistic elements at different levels contribute to the formation of specific types of discourse. The first section is devoted to discourse semantics and pragmatics, followed by studies on discursive practices and political communication.

Research in discourse semantics and pragmatics remains a central concern for scholars worldwide, as it addresses how meaning is constructed and how language units function in interaction between speakers and listeners. The volume opens with a contribution by J.R. Martin, a leading figure in Systemic Functional Linguistics, a framework originally developed by M.A.K. Halliday. This approach has significantly influenced various areas of linguistic research, including Critical Discourse Analysis. Martin is particularly known for developing the Appraisal Framework, which categorizes semantic and interpersonal resources in language. In his chapter, he explores new directions in appraisal theory, emphasizing that meaning arises from a network of choices available to speakers and is realized in interaction. From this perspective, words do not possess fixed meanings but perform functions within communicative contexts.

Martin also discusses the theoretical development of the Appraisal Framework, explaining how semantic categories were derived and organized. He highlights challenges in extending lexical analysis from individual words to larger texts, particularly the difficulty of obtaining sufficiently large datasets to support linguistic interpretations. To address this, he proposes a distinction

between typological and topological approaches, suggesting that the latter may offer promising directions for future research.

Another key area of discourse research explored in the volume is metaphor. Metaphor serves as an essential tool for conceptualizing reality and plays a significant role in different types of discourse. Andrew Goatly examines metaphor alongside grammatical structures within an ecological framework. He argues that, given the urgency of environmental issues, discourse studies should prioritize ecological perspectives. His analysis demonstrates that language often reflects a traditional, human-centered worldview, which contrasts with contemporary ecological thinking. By comparing scientific texts with nature poetry, he shows how different genres represent nature either as a passive object or as an active entity with its own agency. This contrast is evident in both grammatical structures and metaphorical expressions.

The volume also includes a study of judicial discourse by Tatyana Dubrovskaya, who investigates metapragmatic features in courtroom communication in English and Russian contexts. Her analysis identifies three main functions of such discourse: regulating courtroom procedures, constructing the narrative of the crime, and interpreting legal norms. While these functions are similar across both languages, differences arise due to cultural norms, particularly in politeness strategies. English courtroom discourse tends to employ more indirect and mitigated forms, whereas Russian discourse is generally more direct.

Finally, Ekaterina Khrisonopulo examines how speakers express stance and perspective in English discourse. Her study focuses on the distinction between subjective and objective expressions of certainty, showing how different linguistic forms reflect varying degrees of speaker involvement. Drawing on a corpus of literary texts, she demonstrates that these choices are influenced by cognitive factors and play an important role in shaping narrative style and character development.

Lucia Abbamonte and Flavia Cavaliere contribute a chapter titled "Shopping as 'Best Practice': Analyzing Walmart's Debated Sustainability Policies." Similar to Goatly's work, their study adopts an ecological perspective, emphasizing the growing relevance of this approach within linguistic research. The authors examine how the American retail corporation Walmart promotes its commitment to sustainability through a series of promotional videos that highlight themes such as energy use, waste reduction, product responsibility, and ethical sourcing.

Using a Critical Discourse Analysis framework, the chapter explores the subtle strategies underlying Walmart's branding and marketing efforts. The analysis shows that the company employs a variety of multimodal elements to create appealing images that connect its brand with environmental responsibility and broader social concerns, including poverty. These messages suggest that consumer activity—specifically shopping—can itself be seen as environmentally responsible, particularly when associated with Walmart.

While the authors acknowledge certain positive aspects of Walmart's business practices and do not explicitly accuse the company of deception, they stress the importance of critically evaluating such promotional narratives. In particular, they argue that corporate claims about sustainability should be carefully compared with actual practices to determine their authenticity and social impact.

CONCLUSION

In conclusion, the study of discourse and persuasion demonstrates that language plays a central role in shaping perceptions, influencing attitudes, and constructing social realities. Through various theoretical approaches such as discourse analysis, pragmatics, and critical theory, it becomes evident that persuasive communication is not limited to the transmission of information but involves strategic use of linguistic and rhetorical resources. Elements such as framing, metaphor, modality, and narrative structure contribute significantly to how messages are interpreted and accepted by audiences.

The analysis also highlights the importance of context, including cultural, social, and technological factors, in determining the effectiveness of persuasive discourse. In contemporary digital environments, persuasion has become increasingly multimodal and dynamic, integrating visual, textual, and interactive elements. This expansion of communicative forms introduces both opportunities and challenges, particularly in terms of ethical responsibility, authenticity, and the potential manipulation of information.

Overall, understanding the theoretical foundations of discourse and persuasion is essential for critically engaging with modern communication. It enables individuals to better interpret persuasive messages, recognize underlying intentions, and participate more effectively in various communicative contexts.

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SEMANTIC FEATURES OF LEXICAL UNITS IN TOGAY MUROD'S LITERARY WORKS: A LINGUOCULTURAL APPROACH

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Abstract. *Language serves as a mirror of a nation's culture, traditions, and worldview. Every word carries its own history and semantic layers. This paper examines the semantic characteristics of lexical units in the works of the prominent Uzbek writer Togay Murod through a linguocultural lens. The study analyzes how lexical choices — including dialectisms, phraseological units, metaphors, and symbols — reflect national mentality, Surkhandarya regional identity, and the author's individual style. Drawing on cognitive and linguocultural methodologies, the research reveals the interplay between language and culture in literary texts. The findings demonstrate that Togay Murod skillfully employs lexical units not only for realistic depiction but also to convey deeper philosophical ideas about life, memory, nature, and human destiny. This study contributes to Uzbek literary linguistics and intercultural communication studies.*

Keywords: *Togay Murod, lexical units, semantic features, linguoculturology, literary language, national mentality, metaphor, dialectisms.*

INTRODUCTION

Any language in the world reflects the culture, traditions, and mentality of its people. The concept of "mentality" allows deeper understanding of a nation's cultural values. Language is one of the most important categories of culture. Human thought, worldview, and communication are formed and expressed through language. The relationship between language and culture has long been the object of research in philosophy, anthropology, psychology, cultural studies, and various branches of linguistics (psycholinguistics, ethnolinguistics, linguoculturology, etc.).

Prominent scholars such as I. Herder, W. von Humboldt, E. Sapir, and B.L. Whorf have significantly contributed to the study of language-culture relations. In the late 20th and early 21st centuries, the anthropocentric paradigm shifted focus from the object to the subject — the human being and their role in language. This led to the development of concepts such as "linguistic personality" and "linguistic picture of the world".

Theoretical Background and Literature Review

The theoretical foundations of this study are rooted in the long-standing scholarly tradition exploring the intricate relationship between language and culture. Scholars such as Johann Gottfried Herder, Wilhelm von Humboldt, Edward Sapir, and Benjamin Lee Whorf laid the groundwork by emphasizing that language is not merely a tool for communication but a reflection of a people's worldview, mentality, and cultural identity. Sapir famously noted that "language and our thought are inextricably interwoven" and that they are, in a sense, one and the same.

In modern linguistics, the anthropocentric paradigm has shifted the focus toward the human subject, leading to the emergence of key concepts such as *linguistic personality*, *linguistic picture of the world*, and *linguacultural*. Linguacultural, as developed by scholars like V.A. Maslova, examines language as a cultural phenomenon, where lexical units serve as carriers of national-cultural information, stereotypes, and values.

In Uzbek linguistics and literary studies, this approach has gained prominence in recent decades. Researchers such as N. Mahmudov, Sh. Safarov, Sh. Usmonova, and others have applied cognitive and linguocultural methods to analyze literary texts. These methodologies allow for the identification of both universal conceptual structures and culture-specific semantic layers in lexical units.

Togay Murod's literary heritage provides a rich field for such analysis. His major works — *Otamdan qolgan dalalar* (Fields Left by My Father), *Bu dunyoda o'lib bo'lmaydi* (One Cannot Die in This World), *Yulduzlar mangu*

yonadi (Stars Burn Forever), and *Oydinda yurgan odamlar* (People Walking in the Moonlight) — are deeply embedded in the Surkhandarya regional culture while addressing universal philosophical themes. Previous studies have highlighted his skillful use of artistic language, including metaphors, dialectisms, and folkloric elements.

MAIN PART

Semantic Analysis of Lexical Units in Togay Murod's Works

Togay Murod's prose is characterized by a rich and multilayered lexical system that performs nominative, aesthetic, emotional, symbolic, and linguocultural functions. His lexical choices are not accidental but serve as powerful tools for creating authentic character speech, conveying national mentality, and expressing deep philosophical ideas.

Dialectisms and Regional Lexicon The writer extensively employs dialectal vocabulary from the Surkhandarya region to achieve linguistic authenticity and local color. Words and expressions specific to southern Uzbek dialects appear frequently in the speech of his characters, reflecting their social status, education, and cultural background. For instance, specific terms related to traditional clothing (such as various types of *belkars* or embroidered belts), agricultural tools, and daily rural life add vividness and realism to the narrative. These dialectisms function as markers of identity and help overcome the gap between literary language and living folk speech.

Phraseological Units and Proverbs Phraseological expressions and folk proverbs occupy a significant place in Togay Murod's idiolect. They transmit traditional wisdom, moral values, and the collective experience of the nation. By integrating these units, the author not only enriches the text stylistically but also connects contemporary issues with historical and cultural memory. The semantic expansion of such units in specific contexts often creates additional connotative meanings that deepen the philosophical layer of the work.

Metaphors and Synesthetic Imagery One of the most distinctive features of Togay Murod's style is his abundant and original use of metaphors,

particularly synesthetic metaphors that transfer human qualities to nature, objects, and abstract concepts. Metaphors in his works often carry a gestalt character, representing holistic conceptual structures. For example, images of nature (fields, stars, moonlight) are frequently personified and intertwined with human destiny, memory, and inner psychological states. This technique allows the writer to convey complex emotions and philosophical ideas through concrete, culturally grounded imagery.

Onomastic Units and Cultural Symbols Proper names (anthroponyms, toponyms) and cultural symbols in Togay Murod's texts also possess rich semantic potential. Names often reflect character traits, family traditions, or regional identity. Their linguocultural analysis reveals deeper layers of meaning related to national values, historical memory, and social relations.

Cognitive and Linguocultural Dimensions From a cognitive perspective, lexical units in Togay Murod's works reveal conceptual oppositions such as life/death, memory/forgetfulness, tradition/modernity, and man/nature. Linguoculturologically, these units embed specific Uzbek cultural codes — hospitality, respect for elders, love of land, and spiritual resilience. The interplay between cognitive universals and national specifics makes his prose a valuable object for intercultural studies.

Overall, the semantic features of lexical units in Togay Murod's literary works demonstrate the author's mastery in transforming ordinary language into a powerful artistic instrument. His idiolect successfully bridges regional folk traditions with universal humanistic values, creating a unique literary style that continues to influence Uzbek literature and linguistics.

Challenges and Prospects Despite growing interest in national literature, comprehensive linguocultural studies of Togay Murod's lexical-semantic system remain insufficient. Modern methodologies (contextual, component, and corpus analysis) can further enrich such research. Integrating authentic texts, folklore, and visual materials enhances cultural competence.

CONCLUSION

The semantic features of lexical units in Togay Murod's works demonstrate the deep interconnection between language, culture, and individual artistic style. His prose serves as a valuable source for studying Uzbek national mentality and contributes significantly to world literary linguistics. Further research in this direction will support both literary studies and intercultural dialogue.

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USMON AZIM HIKOYALARIDA IJODKOR FALSAFASI

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Annotatsiya: *Ushbu maqolada Usmon Azim hikoyalarida ijodkor falsafasining badiiy talqini tahlil qilinadi. Tadqiqotda ijodkor obrazi ruhiy-estetik va falsafiy kategoriya sifatida talqin etilib, uning haqiqat izlashga intilishi, ichki yolg‘izligi va ma’naviy iztiroblari yoritiladi.*

Kalit so‘zlar: *Usmon Azim, hikoya, ijodkor falsafasi, ijodkor obrazi, ruhiy yolg‘izlik, haqiqat izlash, ichki monolog, ong oqimi, badiiy tafakkur, falsafiy mushohada.*

Abstract: *This article analyzes the artistic interpretation of the philosophy of the creator in the short stories of Usmon Azim. In the study, the image of the creator is interpreted as a spiritual-aesthetic and philosophical category, highlighting his pursuit of truth, inner loneliness, and spiritual suffering.*

Keywords: *Usmon Azim, short story, philosophy of the creator, image of the creator, spiritual loneliness, search for truth, inner monologue, stream of consciousness, artistic thinking, philosophical reflection.*

KIRISH

Zamonaviy o‘zbek adabiyotida inson ruhiyati, ma’naviy olami va ichki kechinmalar tasviriga alohida e’tibor qaratgan ijodkorlar orasida Usmon Azim alohida o‘rin tutadi. U, avvalo, she’riyatdagi betakror badiiy tafakkuri, obrazli mushohada usuli va falsafiy mushohadaga moyil poetik dunyoqarashi bilan tanilgan bo‘lsa-da, adibning nasriy asarlari, xususan hikoyalari ham o‘zining ruhiy-falsafiy qatlamdorligi, inson ichki olamini nozik tasvirlash mahorati va badiiy tafakkur teranligi bilan ajralib turadi. Usmon Azim hikoyalarida voqelikni tashqi hodisalar orqali emas, balki inson qalbi, ruhiy iztiroblari, ichki sezimlari va ma’naviy kechinmalari vositasida anglashga intilish kuchlidir. Shu jihatdan yozuvchi nasrida inson va borliq munosabati, ruhiyat va haqiqat, tafakkur va dard masalalari yetakchi badiiy-estetik tamoyil sifatida namoyon bo‘ladi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Fikrimiz izohi sifatida Usmon Azimning “G‘oz” hikoyasini tahlil etar ekanmiz, “hikoyadagi kampir obrazi asarning eng teran va ta’sirchan obrazlaridan biri hisoblanadi. Hikoyada kampir oddiy ona sifatida emas, balki yuksak ma’naviy qudrat, xalqona donishmandlik va fidoyilik timsoli sifatida gavdalanadi” [1,b.52.] Muallif voqealar markaziga aynan kampirning ruhiy holatini olib chiqadi va shu orqali asarning asosiy falsafiy yukini ham uning zimmasiga yuklaydi. Kampirning butun “yuki” shundaki, u bir tomondan o‘z farzandining taqdirini o‘ylagan mushtipar ona, ikkinchi tomondan esa el taqdiri va xalq omonligini his qila oladigan ulkan qalb egasidir. Ana shu ikki tuyg‘u – onalik mehri va el oldidagi ma’naviy mas’uliyat kampir qalbida keskin ichki ziddiyatni yuzaga keltiradi. Kampirning g‘ozni “hay-hay”lab uchirib yuborishi hikoyadagi eng muhim ma’naviy nuqtadir. Bu oddiy harakat emas, balki kampirning shaxsiy darddan yuksalib, umum manfaatini tanlay olganini ko‘rsatuvchi ramziy holatdir. U o‘g‘lining baloga qolishini sezadi, lekin g‘ozning oddiy qush emas, el taqdiri bilan bog‘liq muqaddas elchi ekanini qalban anglaydi. Shu bois kampir shaxsiy baxtini emas, xalq manfaatini tanlaydi. Bu esa uni oddiy maishiy obraz darajasidan yuksak ma’naviy timsol darajasiga ko‘taradi. Kampir shu qarori bilan nafaqat ona, balki vijdon va fidoyilik timsoliga aylanadi. Asarda kampir obrazi orqali Usmon Azim onalikni faqat mehr va iztirob bilan emas, balki matonat va ma’naviy jasorat bilan ham talqin qiladi.

Hikoyada Kampir yig‘lovchi, ojiz va musibatga sinuvchi ayol emas; aksincha, dardni sukut bilan yenga oladigan, iztirobni ichiga yuta oladigan va eng og‘ir qarorni qabul qila oladigan ruhiy qudrat egasi sifatida tasvirlanadi. Uning kuchi tashqi harakatida emas, ichki matonatida namoyon bo‘ladi. Shu jihatdan kampir obrazi xalqona ayol donishmandligining yuksak badiiy ifodasidir. “Kampirning yana bir muhim jihati shundaki, u hikoyadagi eng teran axloqiy tafakkur egasidir. U sodda kampir bo‘lsa-da, voqelik mohiyatini boshqalardan chuqurroq anglaydi” [2. b.32]. G‘ozni otish oddiy ov emasligini,

uning ortida xalq taqdiri turganini qalban sezadi. Shu sabab kampir voqealarni tashqi shaklda emas, ichki mohiyatida idrok etadi. Bu esa uni hikoyadagi eng yuksak ruhiy va axloqiy darajadagi qahramonga aylantiradi.

NATIJALAR

Qolaversa, hikoyada Kampir obrazining fojiaviyligi shundaki, u to‘g‘ri yo‘lni tanlaydi, ammo bu tanlov uni baxtga emas, iztirobga olib boradi. U elni omon saqlaydi, lekin o‘z farzandi dardga ro‘baro‘ bo‘ladi. Shu bois kampir obrazi fojiaviy ulug‘lik kasb etadi. U haq, dono va fidoyi, ammo baribir azob chekadi. Ana shu jihat kampirni oddiy ona obrazidan fojiaviy qahramon darajasiga ko‘taradi. Umuman olganda, “G‘oz” hikoyasidagi kampir obrazi Usmon Azim nasridagi eng yuksak ma’naviy timsollardan biridir. U asarda onalik, vijdon, fidoyilik, xalqona donishmandlik va ma’naviy jasoratning mujassam ifodasi sifatida namoyon bo‘ladi. Kampir timsolida yozuvchi insonning eng yuksak fazilatlari – dard, sabr, mas’uliyat va ruhiy buyuklikni chuqur badiiy-falsafiy asosda ochib beradi.

Shuningdek, Usmon Azimning “Sevgi” hikoyasidagi “Abdurahmon obrazi esa murakkab ruhiy kechinmalar, ichki iztirob va yo‘qotilgan o‘zlik fojiasi orqali ochilgan teran psixologik obrazlardan biridir” [3.b.43]. Abdurahmon hikoyada oddiy inson, mehribon ota, sadoqatli er va mehnatkash kishi sifatida ko‘rinadi. Tashqi tomondan qaraganda u o‘z hayotini topgan, oilali, ishli, o‘z o‘rniga ega odam. U xotini Masha va qizi Lyusyani chin dildan sevadi, uyiga mehr bilan qaytadi, oilaviy hayotidan taskin topadi. Biroq yozuvchi ana shu tashqi osoyishtalik ortida katta ichki bo‘shliq, ruhiy yetimlik va unutilgan o‘zlik dardini yashirib kelayotgan inson qismatini ochadi. Abdurahmon obrazi, avvalo, ildizidan uzilgan inson fojiasi sifatida e’tiborni tortadi. U bolalar uyida ulg‘aygan, nasl-nasabidan, tug‘ilgan makonidan, milliy va ma’naviy ildizlaridan ajralgan inson. Shu bois uning butun hayoti tashqi jihatdan tartibli va osoyishta ko‘rinsa-da, ichki olamida nimadir yetishmaydi. U bu bo‘shliqni avval anglamaydi, chunki kundalik turmush, mehnat va oilaviy osoyishtalik bu dardni vaqtincha berkitib turadi. Ammo inson o‘z ildizidan butunlay uzilib yashay

olmaydi. Hikoyada Abdurahmonning eng katta fojiaviy jihati ham shunda – u uzoq yillar o‘zini to‘liq anglamay yashaydi.

MUHOKAMA

Abdurahmon obrazining eng muhim qatlamlaridan biri uning ichki ruhiy uyg‘onishidir. Bu uyg‘onish birdan emas, balki asta-sekin sodir bo‘ladi. Qizining maktubi, undagi “men baribir o‘zbek qiziman” [4.b.65] degan ruhiy yaqinlik, “O‘tgan kunlar” filmi, Salima xotirasi – bularning barchasi Abdurahmon qalbida yillar davomida bosilib yotgan milliy xotira va ruhiy o‘zlikni uyg‘otadi. Shu nuqtadan boshlab Abdurahmon oddiy maishiy insondan o‘z ruhiy ildizlarini izlay boshlagan murakkab qahramonga aylanadi. Uning qiziga nisbatan “qoniga tortibdi” degan hayajonli e’tirofi shunchaki otalik quvonchi emas, balki o‘zligini kechikib bo‘lsa-da anglagan insonning ichki kashfiyotidir. Hikoyada Abdurahmon obrazi sevgi timsoli bilan ham chuqurlashadi. Salima uning hayotidagi oddiy bir ayol emas. U Abdurahmonning ilk pok tuyg‘usi, yo‘qotilgan ma’naviy yaqinligi, ruhiy sog‘inchi va armoni timsolidir. Salima obrazi orqali “Abdurahmon o‘zining yo‘qolgan ichki dunyosi bilan qayta yuzlashadi. Salima uning qalbida unutilgan mehrni, dardni, xotirani va eng muhimi, o‘zlikni uyg‘otadi. Shu sabab hikoyadagi sevgi oddiy hissiy kechinma emas, balki inson ruhiyatini uyg‘otuvchi ma’naviy kuch sifatida talqin qilinadi” [5.b.45]. Abdurahmon uchun Salima nafaqat sevgan inson, balki uning qalbida yo‘qolib qolgan haqiqatning timsolidir.

Abdurahmonning fojiaviyligi shundaki, u hayot haqiqatini juda kech anglaydi. U o‘zining kimligini, nimani yo‘qotganini, qalbida qanday bo‘shliq yashayotganini kech tushunadi. Uning iztirobi ham shundan kelib chiqadi. Tashqaridan qaraganda u baxtli, ammo ich-ichidan ruhiy chala qolgan inson. U sevadi, yashaydi, kuladi, ammo qalbining eng chuqur qatlamida tugallanmagan armon yashaydi. Shu jihatdan Abdurahmon obrazi Usmon Azim nasridagi eng fojiaviy va eng insoniy obrazlardan biridir

XULOSA

Xulosa qilib aytganda, “Usmon Azim hikoyalarida ijodkor falsafasi inson ruhiyatining eng nozik va murakkab qatlamlari orqali badiiy talqin etiladi” [6.b.34]. Shu bois adib nasrida qahramon oddiy qahramon emas, balki haqiqatni izlovchi, o‘zligini anglashga intiluvchi va voqelik mohiyatini qalb orqali idrok etuvchi falsafiy shaxs sifatida namoyon bo‘ladi. Shuningdek, Usmon Azim hikoyalarida ijodkor obrazi ko‘pincha ruhiy yolg‘izlik, xotira, dard, sukut va ichki ziddiyatlar orqali ochiladi. Bu esa yozuvchi talqinidagi ijodkorning tashqi harakatdan ko‘ra ichki tafakkur va ruhiy mushohada bilan yashovchi murakkab ma’naviy fenomen ekanini ko‘rsatadi. “G‘oz” hikoyasidagi kampir obrazi orqali yozuvchi ma’naviy jasorat, fidoyilik va xalqona donishmandlikni yuksak badiiy-falsafiy darajada umumlashtiradi. Kampir timsolida shaxsiy dard va umumiy manfaat o‘rtasidagi murakkab tanlov, onalik iztirobi va vijdon mas’uliyati chuqur ochiladi. “Sevgi” hikoyasidagi Abdurahmon obrazi esa insonning yo‘qotilgan o‘zligi, ruhiy yetimligi va kechikkan ma’naviy uyg‘onishini ifodalovchi teran psixologik timsol sifatida gavdalanadi. Bu obraz orqali yozuvchi insonning eng katta fojiasi tashqi yo‘qotish emas, balki o‘zligini yo‘qotish ekanini badiiy asoslaydi.

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Buxoro davalat universiteti tayanch doktoranti

Annotatsiya: *Ushbu maqolada Muhammd Sharif Jurjoniyning mantiqqa oid falsafiy qarashlari bayon etilgan bo'lib, muallifning ilmiy faoliyati atroflicha yoritilgan.*

Kalit so'zlar: *Mantiq, Beruniy, Umar Xayyom, Alisher Navoiy, Bedil, tasavvur va tasdiq, Markaziy Osiyo, kalom, falsafa, tafsir.*

Annotation: *This article describes the philosophical views of Muhammad Sharif Jurjani on logic and provides a detailed overview of the author's scientific work.*

Keywords: *Logic, Beruni, Omar Khayyam, Alisher Navoi, Bedil, imagination and affirmation, Central Asia, kalam, philosophy, interpretation.*

KIRISH

Mantiq — to‘g‘ri tafakkur qilishning asosiy qonunlari va shakllari haqidagi fan hisoblanadi. Mantiq o‘zining shakllanish va rivojlanish tarixiga ega. Mantiqga oid dastlabki qarashlar Qadimgi Sharq mamlakatlarida, xususan, Hindiston va Xitoyda vujudga keldi. Qadim-qadimdan mantiq falsafa tarkibida bo‘lgan, mustaqil fan sifatida shakllanmagan bo'lgan. Yunon falsafasida mantiq masalalari dastlab Parmenidning „Tabiat to‘g‘risida“ asarida, Eleylik Zenonning aporiyalarida, Geraklit ta'limotida u yoki bu darajada mantiq tushunchasi ko‘rib chiqilgan. Aristotelgacha bo‘lgan mantiqiy ta'limotlar ichida Demokritning mantiqiy ta'limoti, Suqrotning induktiv metodi va Platon dialektikasi diqqatga sazovor. Mantiq ilmining alohida fan sifatida shakllanishi Aristotel nomi bilan bog‘liqdir. U birinchi bo‘lib mantiq o‘rganadigan masalalar doirasini aniqlab berdi. Uning „Kategoriyalar“, „Talqin haqida“, „Birinchi analitika“, „Ikkinchi analitika“, „Sofistik raddiyalar haqida“, „Topika“ nomli asarlari mantiq masalalariga bag‘ishlangan. Keyinchalik Yaqin va O‘rta Sharq mamlakatlarida ham mantiq ilmi shakllandi. O‘rta Osiyoda ham falsafa va mantiq mustaqil fan

sifatida taraqqiy etdi. Bunda Farobiy, Ibn Sino, Beruniy, Umar Xayyom, Alisher Navoiy, Bedil kabi buyuk mutafakkirlarning xizmati katta bo‘ldi. Farobiy o‘zining „Mantiqqa kirish“, „Ilmlarning kelib chiqishi va tasnifi“ asarlarida mantiq masalalariga ilmiy bilish metodlari deb qaragan. Forobiy fikricha, mantiq insonlarni bilish jarayonidagi turli xato va adashishlardan saqlaydi. Forobiy tushuncha, hukm va ularning turlari, xulosa chiqarish, sillogizm va uning figuralari, moduslarini tahlil qildi. Sillogizm va isbotlash usuli eng to‘g‘ri, haqiqatga olib keluvchi usul deb hisobladi. Ibn Sinoning „Kitob ashshifo“, „Kitob annajot“, „Donishnoma“ asarlarida mantiqga doir fikrlari bayon etilgan. „Mantiq bilingan (bilimlar) yordamida bilinmaganlarni qanday qilib aniqlashni ko‘rsatadigan, haqiqat va haqiqatsifat bilim va yolg‘on nima ekanligini hamda ular qanday turlarga ega ekanligini aniqlab beradigan ilmdir“, degan edi Ibn Sino. U mantiq ilmini barcha ilmlarning muqaddimasi, ularni egallashning zarur sharti sifatida talqin etdi. Aristotelning mantiqga oid ta’limoti Forobiy, Ibn Sino, Ibn Rushdlarning mantiqga oid asarlari orqali Yevropaga kirib keldi.

Asosiy qism. Muhammad Sharif Jurjoniy Markaziy Osiyo va islom falsafasi tarixida muhim o‘rin egallagan olim bo‘lib, u mantiq, falsafa, kalom va tilshunoslik sohalarida ko‘plab asarlar yozgan. Uning mantiqiy qarashlari asosan ilmiy tafakkur, tushuncha, hukm va qiyos masalalarini chuqur tahlil qilishga qaratilgan. Jurjoniy mantiq ilmiga o’zining salmoqli hissasini qo'shadi. U Markaziy Osiyo, Yaqin Sharq mamlakatlari mantiqiy merosining barcha oqimlarini tahlil etib, ularni yanada rivojlantirdi. Mohiyat jihatidan mantiq ilmining falsafa va tabobatdan ajralishi uning huquq, til va ilohiyot sohasidagi tadqiqotlarda ishlatilish jarayoni ko'paydi. Jurjoniy o'z ijodida mantiqni falsafadan ajratmagan holda, uni ko'proq huquq va til sohalarida qo'llanilishini ta ’minladi. Uning barakali ijodi tufayli shu davrdan boshlab, islom madrasalarida mantiqni o'qitish huquq va til fanlari bilan bog'liq

holda olib borildi.Natijada, mantiq ilmiga islom aqidalariga xos bo'lgan“begona ta’limot” deb g'araz bilan qarash asta-sekin barham topa boshladi.[82]

Jurjoniyning ilmiy faoliyatiga to’xtaladigan bo’lsak, alloma o’z davridagi barcha fanlar ya’ni kalom ilmi (xususan, *Sharh ul-Mavoqif asari*), mantiq (*Al-Usul ul-mantiqiyya*), tafsir (*Tarjumon al-Qur’on*, *Hoshiya a'la-l-Kashshof*), fiqh (fiqhga oid ko'plab sharhlar) va arab tili (nahvga oid risolar) bo'yicha yirik asarlar yozgan muallifdir. Asarlarining aksariyati sharh va hoshiyalardan iborat bo'lib, Sakkokiy, Zamaxshariy kabi allomalarning risolalariga sharhlar yozgan. Faylasufning ilmiy merosi O'rta Osiyo va musulmon dunyosida kalom, falsafa va mantiq ilmlarining rivojlanishiga katta ta'sir ko'rsatgan.

Muallif shunday masalani ko‘taradi: inson mantiqni biladi yoki bilmaydi. Bu ikki holat o‘z-o‘zidan ikki savolni yuzaga keltiradi: agar bilsa, nima uchun o‘rganishi kerak? Agar bilmasa, qanday qilib o‘rganishni xohlashi mumkin? Agar noma’lumning ichki tuzilishi — tasavvur va tasdiqqa bo‘linishi — inobatga olinmasa, ushbu savollar paradoksal holga aylanadi.

1. Birinchi paradoks: “Mavjud narsani mavjudlikka olib kelish (tah~īl al-hā~īl) imkonsizdir” degan hukm orqali paydo bo‘ladi. Agar kimdir mantiqni allaqachon bilsa, uni yana o‘rgatish mantiqan imkonsiz ko‘rinadi.
2. Ikkinchi paradoks: “Mutlaq noma’lumni bilishni xohlash imkonsizdir” degan hukm bilan yuzaga keladi. Agar kimdir mantiq haqida umuman bilmasa, u uni o‘rganishni xohlamaydi. Natijada, o‘rganish va o‘rgatish jarayoni ikki holatda ham imkonsiz bo‘lib qoladi.[83]

Bu paradokslar, bilimning tasavvur va tasdiqga bo‘linishi orqali hal qilinadi.

Olimning asarlaridagi mantiqiy tizim, bilim va ma’naviyatni uyg‘unlashtirishga bo‘lgan yondashuvi, inson tafakkurining rivojlanish

[82] Ma’naviyat yulduzlari (To‘plovchi va mas’ul muharrir M. Xayrullayev). – Toshkent: Abdulla Qodiriy nomidagi xalq merosi nashriyoti, 2001;
[83] Özturan, Mehmet, On Sayyid Sharıf al-Jurjanı’s Risala fı taqsım al-‘ilm: Analysis and Critical Edition, Nazariyat Journal for the History of Islamic Philosophy and Sciences 1/2 (May 2015): 95-124

jarayonida etika va axloqiy qadriyatlarning o‘rni, shuningdek, Jurjoniy merosining zamonaviy falsafiy va psixopedagogik tadqiqotlarga qo‘shgan hissasi tahlil qilinadi. Shu bilan birga, maqolada Samarqand ilmiy muhiti va uning Jurjoniy faoliyatiga ta’siri, uning merosining falsafiy ahamiyati va dolzarbligi keng kontekstda ko‘rib chiqiladi.

Sayyid Sharif Jurjoniy Qohirada to‘rt yil davomida mashhur mantiqshunos Muborakshoh va Akmaliddin al-Bobartiylar huzurida o‘z bilimini oshirgach, 1374-yilda Istambulga qaytib, ilmiy izlanishlarini davom ettirdi. Olim taxminan 1374-yillarda Sheroz shahriga kelgan, shahar 1387-yilda Amir Temur tomonidan egallangach, Samarqandga kelib, 20 yilga yaqin sohibqiron Amir Temur saroyida ijod qilgan. Jurjoniy fikricha, nazariy bilimlar hayotiy tajribada hosil qilingan boshlang'ich bilimlar va ular to'g'risida fikrlash yo'li bilan shakllanadi. Bunday fikrlash jarayonini u xulosa deb ataydi. U xulosaning uch turini ko‘rsatib o ‘tadi. Bular: qiyos(sillogizm), isteqro (induksiya — bo’lakdan butunga tomon hukm yuritish) va hads(analogiya - o'xshash). Bulardan qiyos (sillogizm) xulosaning bosh turi hisoblanib, nazariy bilimlar hosil qilishning asosiy vositasi bo‘lib maydonga chiqadi. Isteqro (induksiya) tushunchasi ostida Jurjoniy shunday xulosani nazarda tutadiki, unda dastlabki xususiy shartlar asosida umumiy natija chiqariladi. U ikki xil isteqroni, ya’ni to‘la va to'la bo'lmagan isteqroni ko'rsatib o'tadi. To'la isteqroda har bir bo'lakdagi biror-bir sifat mavjudligiga asoslanib, ana shunday sifatiy xususiyati umumiy butunlikda ham bor ekanligiga ishonch hosil qilinadi.[84] Jurjoniy XIV asr faylasufi Eziddin Abdurahmon al-Ijiy (1300–1356)ning “Muvoqif fi ilm al-kalom” (“Kalom ilmidagi manzillar”) asariga yozgan “Sharhe mavoqif fi ilm al-kalom” sharhi uning zamondoshlari va undan keyingi avlod olimlari uchun falsafa va mantiq ilmida o‘ziga xos qomus maqomida edi.[85]

[84] Ma’naviyat yulduzlari (To‘plovchi va mas’ul muharrir M. Xayrullayev). – Toshkent: Abdulla Qodiriy nomidagi xalq merosi nashriyoti, 2001;
[85] Ma’naviyat yulduzlari (To‘plovchi va mas’ul muharrir M. Xayrullayev). – Toshkent: Abdulla Qodiriy nomidagi xalq merosi nashriyoti, 2001;

Xususan, u yashagan davrda mantiq ilmi juda rivojlangan. Jurjoniy bu ilmda “Hoshiya a’la lavami’ al-asror sharh matole’ al-anvor”, “Risolatu-l-kubro fi-l-mantiq”, “Risolai sug’ro”, “al-Usul al-mantiqiyya”, “Hoshiya ala sharh ash-Shamsiyya”, “Hoshiya ala tavole li-l-Asbihoniy”, “Hoshiya ala-l-Matole”, “Mir Isag’uji”, “Risola fi-l-alaqo”, “Risola fi-l-mantiq”, “Risola fi-n-nafsi-n-natiqo al-insaniyya”, “Risolai volidiyya”, “Risola fi tardidi-l-infisol”, “Sharh ala qismayi-t-tasavvurot va-t-tasdiqot”, “Tahqiqu-l-ashyo”, “Tahqiqu-l-kulliyot”, “al-Usul al-mantiqiyya”, “Risola fi-l-mizan”,“ Risola fi ahkami-t-ta’rif”, “Jome’atu-l-muqaddima”, “Risola fi bayani muqqaddimati-sh-shuru fi-l-ilm”, “Taqosim al-ulum” nomli yigirmadan ortiq asar yozgan. Bugunga qadar mantiq ilmida asosiy manbalardan hisoblangan “Hoshiya ala sharh ash-Shamsiyya” asari Najmiddin Qazviniyning “Shamsiya” nomli asariga Qutbiddin Roziy Tahtoniy yozgan sharhning hoshiyasi sanaladi. Ma’lumotlarga ko’ra, Jurjoniyning ushbu asari Taftazoniyning “Sharx ash-Shamsiya” nomli asaridan ko’proq e’tibor va e’tirofga sazovor bo’lgan. Qachon va qayerda yozilgani aniq bo’lmagan ushbu asar bugunga qadar bir necha bor nashr etilgan va unga bir qancha hoshiyalar yozilgan.

XULOSA

Olimning ilmiy faoliyati tufayli mantiq temuriylar davrida inson bilimlarining barchasiga qo‘llaniladigan qoida va mezon qonuniga aylandi. U har bir yuritilayotgan hukmning to‘g‘riligini tortuvchi fanlarning toshu tarozisi sifatida namoyon bo‘ldi. Natijada, tez orada vujudga kelgan Ulug‘bek rasadxonasining ilmiy tadqiqotlarida keng qo‘llanildi. mantiqni tizimli ilm sifatida boyitib,Mantiqiy tushuncha, hukm va xulosa nazariyasini izchil tarzda bayon etgan.

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O‘ZBEK VA QORAQALPOQ FRAZEOLOGIYASIDA “IT”, “OT”, “BO‘RI” OBRAZLARINING IFODAVIY XUSUSIYATLARI

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Annotatsiya*.Ushbu maqolada o‘zbek va qoraqalpoq tillari frazeologiyasida hayvon nomlari, xususan, “it”, “ot” va “bo‘ri” obrazlarining ifodalanishi qiyosiy tahlil qilingan. Tadqiqot davomida mazkur zoonimlar ishtirok etgan iboralarning semantik ma’nolari, xalqlarning madaniy va dunyoqarashidagi o‘xshashlik hamda farqli jihatlari yoritilgan. Maqolada frazeologizmlarning emotsional-ekspressiv bo‘yoqdori va ularning badiiy nutqdagi o‘rni tahlil etilgan.*

Kalit so'zlar: *frazeologiya, zoonim, o‘zbek tili, qoraqalpoq tili, it, ot, bo‘ri, lingvokulturologiya, qiyosiy tahlil.*

Abstract*.This article provides a comparative analysis of animal images, specifically "dog," "horse," and "wolf," in Uzbek and Karakalpak phraseology. The study explores the semantic meanings of idioms containing these zoonyms, highlighting similarities and differences in the cultural worldviews of both nations. The article examines the emotional-expressive nuances of phraseological units and their role in artistic discourse.*

Keywords: *phraseology, zoonym, Uzbek language, Karakalpak language, dog, horse, wolf, linguoculturology, comparative analysis.*

KIRISH

Tilshunoslikning eng boy va jozibador sohalaridan biri bo‘lgan frazeologiya xalqning ko‘p asrlik hayotiy tajribasi, ijtimoiy qarashlari, urf-odatlari va milliy tafakkur tarzini o‘zida mujassam etadi. Frazeologik birliklar shunchaki so‘zlar yig‘indisi emas, balki tilning ichki imkoniyatlarini namoyon etuvchi "ko‘zgusi" hisoblanadi. Ayniqsa, tarkibida hayvon nomlari qatnashgan zoonimik frazeologizmlar inson xarakteri, jamiyatdagi ijtimoiy munosabatlar va

axloqiy me’yorlarni badiiy bo‘yoqdorlik bilan ifodalashda yetakchi o‘rin egallaydi.

O‘zbek va qoraqalpoq xalqlari uzoq asrlik tarixiy, madaniy va genetik ildizlarga ega bo‘lib, har ikki til ham turkiy tillar oilasining qipchoq-qarluq guruhlariga mansubdir. Ushbu yaqinlik ularning frazeologik tizimida ham yaqqol namoyon bo‘ladi. Xalqlarning ko‘chmanchi va o‘troq turmush tarzi, chorvachilik bilan bog‘liq kundalik hayoti tilda hayvonlar olamiga oid obrazlarning chuqur ildiz otishiga sabab bo‘lgan.

Xususan, “ot” – turkiy xalqlar uchun nafaqat transport vositasi, balki mardlik, erkinlik va sadoqat timsoli bo‘lib kelgan. “It” obrazi esa insonning eng yaqin hamrohi sifatidagi sadoqatdan tortib, eng past insoniy illatlargacha bo‘lgan keng semantik diapazonni qamrab oladi. “Bo‘ri” esa dasht xalqlari dunyoqarashida ham qo‘rqituvchi kuch, ham yengilmaslik va tajribakorlik ramzi sifatida gavdalanadi.

Mazkur tadqiqotning dolzarbligi shundaki, bugungi kunda lingvokulturologik yondashuv asosida o‘zbek va qoraqalpoq tillarini qiyosiy o‘rganish, tillardagi mushtarak va farqli jihatlarni aniqlash turkiy tillarning umumiy taraqqiyot qonuniyatlarini tushunishga xizmat qiladi. Ushbu maqolada aynan "it", "ot" va "bo‘ri" obrazlari misolida ikki xalqning olamni lisoniy anglash xususiyatlari va ularning ifodaviy imkoniyatlari ilmiy tahlil etiladi.

ASOSIY QISM

O‘zbek va qoraqalpoq tillari o‘rtasidagi leksik-semantik yaqinlik zoonimik frazeologizmlar tizimida yaqqol namoyon bo‘ladi. Hayvonlar dunyosiga oid obrazlar nafaqat tashqi ko‘rinishni, balki insonning ichki kechinmalari, ijtimoiy xulq-atvori va jamiyatdagi mavqeini ifodalash uchun ham xizmat qiladi.

1. “Ot” obrazi: Kuch, Martaba va Sadoqat timsoli

Turkiy xalqlar, jumladan, o‘zbek va qoraqalpoqlar hayotida ot (at) shunchaki ulov emas, balki "er qanoti" sanalgan. Shuning uchun ham bu obraz bilan bog‘liq iboralar ko‘p hollarda ijobiy konnotatsiyaga ega.

• O‘zbek tilida: “Oti chopmoq” iborasi insonning omadi kelishi, ishlari yurishib ketishini anglatsa, “Ot qo‘ymoq” harakatni boshlash yoki hujumga o‘tish ma’nosida qo‘llaniladi. “Ot aylansa qozig‘ini topar” maqol-frazeologizmi esa insonning o‘z asliga, vataniga qaytishini ifodalaydi.

• Qoraqalpoq tilida: “Atı shıqqan” iborasi insonning mashhurligini, elga tanilganini bildiradi. Shuningdek, qoraqalpoq frazeologiyasida “At tuyagın tay basar” (Ot tuyog‘ini toy bosar) iborasi avlodlar davomiyligi va farzandning otaga munosib voris bo‘lishini ifodalash uchun ishlatiladi.

Qiyosiy tahlil shuni ko‘rsatadiki, har ikki tilda ham ot obrazi olijanoblik, tezkorlik va ijtimoiy muvaffaqiyat ramzi bo‘lib qolmoqda.

2. “It” obrazi: Sadoqat va Salbiy xususiyatlar qarama-qarshiligi

"It" (it/iyt) zoonimi ishtirokidagi frazeologizmlar semantik jihatdan juda rang-barang bo‘lib, ko‘pincha insonning past sifatlarini yoki o‘ta og‘ir hayotiy holatlarni tavsiflaydi.

• O‘zbek tilida: “Itday horimoq” (juda qattiq charchash), “It yotish, mirza turish” (nochor, tartibsiz hayot), “Iti ham ichmaydi” (o‘ta sifatsiz yoki yoqimsiz narsa) kabi iboralarda salbiy bo‘yoq kuchli. Biroq, sadoqat ma’nosida “It sadoqat – xotinga g‘ayrat” kabi xalq naqllari ham mavjud.

• Qoraqalpoq tilida: “Iyt penen pıshıqtay” (it bilan mushukdek — doimiy janjal), “Iyt murın tırpıq etpeytug‘ın” (it burnini suqmaydigan — o‘ta uzoq yoki kimsasiz joy) kabi iboralar faol qo‘llaniladi.

Har ikki tilda ham it obrazi orqali insonning ijtimoiy qiyofasidagi nuqsonlar kinoya va piching bilan mahoratli tarzda yoritiladi.

3. “Bo‘ri” obrazi: Epchillik, Yovvoyilik va Xavf

Bo‘ri (bóri) obrazi o‘zbek va qoraqalpoq xalqlari dunyoqarashida o‘ziga xos o‘ringa ega. U ham qo‘rquv, ham hurmat uyg‘otuvchi kuch sifatida talqin etiladi.

• O‘zbek tilida: “Eski bo‘ri” iborasi ko‘pni ko‘rgan, tajribali, ayyor insonga nisbatan ishlatiladi. “Bo‘ri bilsa ham, bo‘rdoqi bilmas” iborasi esa sirlarni saqlash yoki yashirin ishlarga ishora qiladi.

• Qoraqalpoq tilida: “Bóri jetkenshe qasqır jeter” (Bo‘ri yetguncha qashqir yetar) iborasi o‘zbek tilidagi "Yomondan qutulib, badtarga yo‘liqish" ma’nosiga yaqin. Shuningdek, “Bóri auzın ashsa, bóri ekenin bildirer” (Bo‘ri og‘zini ochsa, bo‘riligini bildirar) iborasi insonning o‘z tabiatini yashira olmasligini ko‘rsatadi.

Tahlillar shuni ko‘rsatadiki, qoraqalpoq tilida bo‘ri obrazi dasht ekologiyasi va chorvachilik bilan bog‘liq holda o‘zbek tiliga nisbatan birmuncha ko‘proq realistik-maishiy xususiyatlarga ega.

XULOSA

O‘zbek va qoraqalpoq tillari frazeologizmlarini qiyosiy-tipologik jihatdan o‘rganish natijasida har ikki tildagi zoonimik birliklarning asosiy qismi umumturkiy ildizga ega ekanligi va ularning semantik qurilishida ulkan mushtaraklik mavjudligi aniqlandi. Bu o‘xshashliklar ikki xalqning uzoq asrlar davomida o‘xshash geografik kengliklarda istiqomat qilgani hamda chorvachilik va dasht hayoti bilan bog‘liq bir xil ijtimoiy-iqtisodiy sharoitlarda shakllangani bilan bevosita bog‘liqdir.

Obrazlar talqiniga to‘xtaladigan bo‘lsak, "ot" har ikki xalq tafakkurida hamisha yuksak qadriyatlar — mardlik, omad va sadoqat timsoli bo‘lib qolmoqda. "It" obrazi asosan inson xarakteridagi salbiy xususiyatlarni kinoyaviy ifodalashga xizmat qilsa-da, qoraqalpoq frazeologiyasida bu obraz hududiy-lokal xususiyatlarni, xususan, kimsasiz va uzoq manzillarni tasvirlashda o‘ziga xos tarzda namoyon bo‘ladi. "Bo‘ri" obrazi esa ham epchillik, ham hayotiy tajriba ramzi bo‘lish bilan birga, har ikki tilda ham xavf-xatardan ogohlantiruvchi o‘tkir metafora sifatida faol qo‘llaniladi.

Lisoniy tahlillar shuni ko‘rsatadiki, qoraqalpoq tili frazeologiyasida tabiat va chorvachilik bilan bog‘liq realistik tasvirlar birmuncha barqaror saqlangan bo‘lsa, o‘zbek tilida bu obrazlarning ko‘chma ma’nolari vaqt o‘tishi bilan ko‘proq abstraktlashgan. Umuman olganda, ushbu zoonimik frazeologizmlar o‘zbek va qoraqalpoq tillarining leksik-frazeologik tizimini boyitibgina qolmay, xalqlarning olamni lisoniy anglash va obrazli tasvirlashdagi o‘zaro yaqinligini isbotlovchi muhim manba bo‘lib xizmat qiladi.

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КРИТЕРИИ ОЦЕНКИ УСПЕШНОСТИ ЭКСПЕРИМЕНТАЛЬНОГО ПРАВОВОГО РЕЖИМА: ТЕОРЕТИКО-ПРАВОВОЙ АНАЛИЗ

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Аннотация: *В статье исследуется проблема отсутствия нормативно закреплённых критериев оценки успешности экспериментального правового режима как системный дефект современного дизайна регуляторных песочниц. Обосновывается, что без заранее согласованных маркеров успеха нормотворческая обратная связь, являющаяся одним из основополагающих признаков классического экспериментального правового режима, становится практически невозможной. На основе опыта Великобритании и Сингапура предлагается трехфазная методология установления критериев успешности.*

Ключевые слова: *экспериментальный правовой режим, регуляторная песочница, критерии успешности, нормотворческая обратная связь, FCA, MAS.*

Abstract: *The article examines the absence of legally established success criteria for experimental legal regimes as a systemic defect of contemporary regulatory design. It is argued that without pre-agreed success markers, regulatory feedback, a constitutive feature of a genuine experimental legal regimes, becomes practically impossible. Drawing on the experience of the United Kingdom and Singapore, a three-phase methodology for establishing success criteria is proposed.*

Keywords: *experimental legal regime, regulatory sandbox, success criteria, regulatory feedback, FCA, MAS.*

ВВЕДЕНИЕ

Стремительное распространение экспериментальных правовых режимов в мире поставило перед правовой наукой вопрос, который долгое время оставался в тени практических задач, то есть как определить, был ли правовой эксперимент успешным. Регуляторная песочница, будучи наиболее концентрированной формой экспериментальных правовых

режимов, предполагает не просто временное изъятие из общего правового режима, но и получение нормотворческого результата по его итогам. Именно нормотворческая обратная связь, предопределяющая трансляцию накопленных в ходе эксперимента знаний в законодательство, отличает классический экспериментальный правовой режим от квазиэкспериментального режима.

Между тем в мировой науке фиксируется устойчивый пробел, который показывает, что лишь немногие исследования напрямую связывают характеристики дизайна регуляторной песочницы с его реальными результатами . Понятие «успешности» эксперимента не имеет единообразного нормативного содержания и принципиально различается для регуляторов, участвующих компаний и потребителей. Данная неопределенность порождает практическую проблему, так как без заранее согласованных маркеров успеха нормотворческое решение по итогам эксперимента лишается верифицируемой эмпирической основы.

ОСНОВНАЯ ЧАСТЬ

В доктрине сложилось понимание экспериментальных правовых режимов, которое объединяет различные формы его реализации, а именно пилотные проекты, инновационные хабы, законодательство с истекающим сроком действия, режимы на основе изъятий. Однако, указанные категории не полностью отражают суть конструкции экспериментальных правовых режимов, в отличии от регуляторной песочницы. Регуляторная песочница занимает особое место в данной типологии, так как она предусматривает контролируемое тестирование инновационного продукта в условиях частичного изъятия из общего правового режима при сохранении надзора со стороны регулятора и обязательной нормотворческой реакцией по его завершении.

Исходя из изложенного указанная гипотеза, о необходимости введения обязательной системы критериев успешности регуляторной песочницы, находит свое подтверждение в исследовании, где указано, что

оценка и авторизации должна быть сосредоточена на установлении заранее определенных показателей успешности и оценке способности и готовности компаний к участию в «песочнице» (Chen и Taeihagh 2026). Уже в рамках другой работы автор указывает на необходимость разработать и реализовать механизм мониторинга и оценки внутри регуляторной песочницы. Важным в этой деятельности является установление четких аспектов, таких как показатели успеха стартапа, возможности финансирования после прохождения «песочницы» и результаты защиты прав потребителей. Указанное обеспечит эмпирическую базу для оценки долгосрочной эффективности «песочницы» и корректировки регуляторных подходов (Kálmán, 2025).

При этом, система критериев успешности должна строиться на двухблочной архитектуре, в которой первый блок представляет собой прогнозируемые критерии и риски, совместно фиксируемые на входе в режим и не подлежащие пересмотру. А второй блок включает в себя механизм фиксации латентных рисков, выявленных в ходе эксперимента, которые квалифицируются регулятором, но не влекут автоматического изменения базовых показателей. Такая конструкция обеспечивает баланс между правовой определённостью для участника и регуляторной гибкостью.

Обратимся к международному опыту, финансовое управление по надзору и регулированию (FCA) создало первую в мире регуляторную песочницу в 2016 году. Дизайн FCA sandbox предусматривает обязательное согласование Testing Plan до начала эксперимента, включающего конкретные цели тестирования, метрики оценки результата и условия досрочного прекращения. Участник обязан в установленные сроки отчитываться перед FCA о ходе тестирования и по завершении эксперимента предоставить итоговый отчёт с оценкой достижения согласованных показателей (Financial Conduct Authority, 2022). Примечательно, что FCA сохраняет за собой право досрочно прекратить

эксперимент в случае, если промежуточные результаты свидетельствуют о недостижимости заявленных целей или возникновении непредвиденных рисков для потребителей

Принципиально важным аспектом британской модели является то, что критерии успеха формируются совместно регулятором и участником на этапе отбора заявок, однако окончательное слово остаётся за FCA. Данный подход обеспечивает баланс между знаниями участника об инновационном продукте и регуляторной экспертизой FCA в оценке правовых рисков.

В Сингапуре (MAS) разработало одну из наиболее детально регламентированных моделей регуляторной песочницы. Руководство MAS по регуляторной песочнице в сфере финансовых технологий в приложении А прямо закрепляет заранее определяемые условия успеха, а именно перечень ключевых показателей эффективности (KPI), временные рамки их достижения и механизм документирования результатов (Monetary Authority of Singapore, 2022). Показательно, что MAS устанавливает двухуровневую систему критериев, которая включает в себя абсолютный минимум, от соблюдения которого не может быть предоставлено изъятие ни при каких обстоятельствах (ответственность участника, требования по защите прав потребителей), и договорные критерии, формируемые индивидуально для каждого участника.

Сравнение двух моделей выявляет общий принцип, то есть и FCA, и MAS рассматривают заранее согласованные маркеры успеха не как технический элемент документооборота, а как конститутивный компонент самого правового режима. Без таких маркеров ни одна из этих систем не допускает участника к тестированию. Данный подход принципиально отличается от практики многих юрисдикций, где критерии успеха либо не определяются вовсе, либо формируются участником самостоятельно по завершении эксперимента.

ЗАКЛЮЧЕНИЕ

Отсутствие нормативно закрепленных критериев оценки успешности регуляторной песочницы представляет собой системный дефект современного регуляторного дизайна. Без заранее согласованных маркеров успеха нормотворческая обратная связь лишается своего практического содержания, а экспериментальный характер становится режимом привилегированного доступа.

В этой связи представляется методологически правильным рассматривать систему критериев успешности как существенный элемент экспериментального правового режима наряду с другими признаками. Отсутствие нормативно закреплённых критериев успешности должно квалифицироваться не как производственный недостаток, а как признак, свидетельствующий об отсутствии или искажении экспериментального характера режима. Указанное означает, что перед нами форма специального регулирования, лишь внешне воспроизводящая логику эксперимента, но не реализующая её по существу.

Опыт Великобритании (FCA) и Сингапура (MAS) убедительно демонстрирует, что заранее согласованные маркеры успеха являются не техническим элементом документооборота, а конститутивным компонентом самого правового режима.

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ПРОФЕССИОНАЛЬНЫЕ И СОЦИАЛЬНЫЕ АСПЕКТЫ РАЗВИТИЯ ВОСПРИЯТИЯ

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Аннотация. *В статье рассматриваются две основные теории восприятия, объясняющие профессиональные и социальные особенности развития восприятия – теория обогащения и теория специфичности. Подчёркивается, что в профессиональном и социальном плане развитие восприятия происходит под влиянием той или иной профессии и от того, в какие системы отношений включён человек.*

Ключевые слова. *Восприятие, развитие восприятия, профессиональные навыки, социализация, теория обогащения, теория специфичности.*

Annotation. *This article examines two main theories of perception that explain the professional and social characteristics of perception development: enrichment theory and specificity theory. It emphasizes that, professionally and socially, perception development is influenced by a particular profession and the relationships a person is embedded in.*

Key words. *Perception, development of perception, professional skills, socialization, enrichment theory, specificity theory.*

ВВЕДЕНИЕ

Восприятие особо активно развивается в первые годы жизни ребёнка в основном в силу естественного развития и богатой перцептивной среды [2]; в то время как в школьном возрасте (в силу учебной деятельности как ведущей) восприятие больше развивается под влиянием воспитания и обучения [4]. В связи с этим, в значительной мере развиваются другие познавательные процессы (мышление, речь, внимание, память, воображение). После окончания обучения в школе процесс социализации продолжается в русле овладения профессиональными навыками, и развития восприятия продолжается в специфических условиях труда по

той или иной специальности. В связи с этим имеет смысл рассмотреть проблему развития восприятия во взрослом возрасте, которая представлена в психологической литературе преимущественно в теории обогащения и в теории дифференциации (специфичности). Согласно данным теориям, восприятие продолжает развиваться на протяжении всей жизни человека и зависит от условий его жизнедеятельности (места жительства, места работы, социальной среды, профессии и т.д.) [1].

ОСНОВНАЯ ЧАСТЬ

Разберём первую теорию из упомянутых выше. Исходя из теории обогащения, человек учится воспринимать путём присоединения следов прошлых воздействий по законам ассоциаций к текущей сенсорной основе, постепенно изменяя вид, форму, структуру образов восприятия. На основе этого формируются отношения, умозаключения, гипотезы и т.д. Соответственно, развитие восприятия сводится к обогащению сенсорного опыта через представления, предположения и умозаключения. Зависимость восприятия от научения противопоставляется принципу зависимости восприятия от стимуляции [1].

В профессиональном и социальном плане развитие восприятия происходит под влиянием той или иной профессии и от того, в какие системы отношений включён индивид. При ознакомлении с азами профессии в учебном заведении (средне-специальном или высшем) в процессе социализации перцептивный опыт обогащается при выполнении задач по дисциплинам, относящихся к выбранной специальности. В связи с этим специализируются и меняются под социальным влиянием другие познавательные процессы – мышление начинает оперировать специализированной терминологией, становится ещё более опосредованным, расширяется словарный запас (развивается богатство, содержательность речи), внимание быстрее переключается и сосредотачивается на изучаемых объектах, становясь ещё более произвольным, развивается наблюдательность в отношении именно тех

объектов, которые необходимо проанализировать для выполнения текущих задач. Когда молодой специалист начинает свою профессиональную карьеру, познавательные процессы помогают не только накопить приобретённые знания, умения и навыки, но и применить их при решении определённых задач, которые моделируют разные ситуации. Решение поставленных рабочих задач в разных ситуациях позволяет также обогатить как профессиональный, социальный и познавательный опыт.

Переходим ко второй теории. Согласно теории специфичности, развитие восприятия (перцептивное научение) осуществляется через постепенное уточнение качеств, свойств и типов перемещений, что приводит к изменению образов, предметы воспринимаются более правильно, полно, отчётливо. Если научение прошло успешно, то воспринимаемые свойства в полной мере соответствуют физическим. Соответственно, восприятие обогащается через различение, а не через дополнение образов. Оно не насыщается образами прошлого, а становится более дифференцированным. Перцептивное научение в этом случае состоит в выделении переменных физической стимуляции, которые прежде не вызвали ответа. Научение должно рассматриваться с точки зрения приспособления, в данном случае – как установление более тесного контакта с окружающей средой [1].

Аргументируя свою точку зрения, Дж. Гибсон описывает эксперимент, в котором испытуемые должны были из набора внешне похожих, но разных объектов выбрать предъявленный ранее эталон. Объектами являлись контурные рисунки спиралей, отличавшихся количеством витков, направлением и плотностью намотки. При просмотре тестовых объектов с целью опознания эталона испытуемые не получали подкрепления и сообщения о правильности/неправильности сделанного выбора. После некоторого количества просмотров тестовых стимулов у испытуемых появлялась способность безошибочно опознавать эталонный

объект. Но результаты эксперимента не опровергают допущение о возможности перцептивного научения как увеличения числа ассоциативных связей [1], [3].

Помимо экспериментальных данных, Дж.Гибсон приводит факты, состоящие в том, что многие сенсорные функции при развитии всё больше дифференциируются; при этом эти факты также не опровергают теорию обогащения. Так, представители народностей крайнего севера различают оттенки белого лучше, чем жители средних широт, поскольку цвет и другие характеристики снежного покрова позволяют предсказывать события, имеющие для них жизненно важное значение. В силу особенностей профессиональной деятельности сталевары более тонко по сравнению с непрофессионалами различают оттенки красного, а текстильщики – чёрного цветов. По мере занятий музыкой происходит развитие звуковысотного слуха. Профессиональные дегустаторы, знатоки вин, различают вкусовые нюансы гораздо тоньше по сравнению со среднестатистическим потребителем вин [1], [3].

Действительно, при овладении азами определённой профессии, человеку сначала необходимо выработать определённый спектр действий (в том числе перцептивных), сформировать навыки взаимодействия с определёнными предметами и орудиями (или, как говорят, в житейском плане «набить руку»). По мере совершенствования практических действий эти навыки будут дифференцироваться, специалисту станут заметны различные нюансы, на которые раньше он не обращал внимания. Не зря так говорят про профессионала: «У него глаз – алмаз», подчёркивая, что у него большой перцептивный опыт, благодаря которому становится возможным тонкое различение едва заметных свойств предмета, на которые непрофессионалы зачастую не обращают внимания, а также он знает, на каких свойствах стоит сконцентрировать внимание.

ЗАКЛЮЧЕНИЕ

Таким образом, восприятие может развиваться не только в силу естественных причин, но и под влиянием воспитания в семье, обучения в школе, а также при овладении профессиональными и социальными навыками, что происходит как в средне-специальном или высшем учебном заведении, так и при выполнении профессиональных обязанностей по определённой специальности.

ИСПОЛЬЗУЕМАЯ ЛИТЕРАТУРА

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“АДАБИЁТШУНОСЛИКДА “БОЛА” ОБРАЗИНИНГ ПАЙДО БЎЛИШ БОСҚИЧЛАРИ”

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Abstract: *This thesis examines the formation and development of the child image in 19th-century Russian children's literature. The study highlights the idealization of childhood within the traditions of sentimentalism and romanticism, as well as the increasing attention to the psychological complexity of the child’s personality under the influence of realism. It is demonstrated that literary works of this period reflect the child’s inner world, its interaction with the social environment, the problem of “difficult childhood,” and the impact of the adult world on the child’s psyche. In addition, the role of family environment, upbringing, and social inequality in shaping the child’s image is analyzed. The research substantiates that the image of the child evolves into an independent and multifaceted phenomenon within literary discourse.*

Keywords:*child image, children's literature, 19th century, romanticism, realism, sentimentalism, psychologism, difficult childhood, upbringing, family environment, social inequality*

Аннотация: *Мазкур тезисда XIX аср рус болалар адабиётида бола образининг шаклланиши ва тараққиёти таҳлил қилинади. Тадқиқотда сентиментализм ва романтизм анъаналарида болаликнинг идеаллаштирилиши, шунингдек, реализм таъсирида бола шахсининг психологик мураккаблигига эътибор кучайгани кўрсатилади. Асарларда боланинг ички дунёси, ижтимоий муҳит билан муносабати, «қийин болалик» муаммоси ҳамда катталар дунёсининг бола руҳиятига таъсири бадиий жиҳатдан ёритилгани аниқланади. Шу билан бирга, болалар адабиётида оила муҳити, тарбия масалалари ва ижтимоий тенгсизликнинг акс этиши тадқиқ этилган. Таҳлил натижасида бола образи бадиий тафаккурда мустақил ва кўп қиррали феномен сифатида шаклангани асосланади.*

Калит сўзлар: *бола образи, болалар адабиёти, XIX аср, романтизм, реализм, сентиментализм, психологизм, қийин болалик, тарбия, оила муҳити, ижтимоий тенгсизлик.*

KIRISH

Инсоният тафаккурида болаликни мустақил қадрият ва алоҳида маънавий-ижтимоий феномен сифатида англаш жараёни узоқ тарихий тараққиёт маҳсулидир. Фалсафа, психология, педагогика ҳамда социология каби фан соҳаларининг ривожланиши натижасида болаликни баҳолаш ва тадқиқ этишнинг назарий-методологик асослари шаклланди. Айнан шу илмий ёндашувлар болани фақат биологик вояга етиш босқичидаги мавжудот сифатида эмас, балки ўзига хос ички олам, индивидуал психология ва ижтимоий тажрибага эга бўлган бетакрор шахс сифатида талқин этиш имконини берди. Шу нуқтаи назардан, болалик инсон ҳаётининг муайян ёш даврини ифодаловчи тушунча бўлиш билан бирга, адабий тафаккурда ҳам мураккаб ижтимоий-психологик ва эстетик категория сифатида намоён бўлади. Бу эса насрий асарларда бола образининг шаклланиши, унинг поэтик вазифаси ва маънавий юкламасини қиёсий ўрганиш учун муҳим назарий замин яратади. Болалик феномени инсон ҳаётининг биологик босқичигина эмас, балки психологик ва маданий жиҳатдан муҳим даври сифатида турли фан соҳаларида кенг ўрганилган. Ушбу масалага оид назарий қарашлар орасида ёш даврларини тизимлаштиришга қаратилган илмий ёндашувлар алоҳида аҳамиятга эга. Луғат ва илмий манбаларда «болалик» тушунчасига турлича, аммо мазмунан ўзаро уйғун таърифлар берилган. Хусусан, мазкур атама инсон ҳаётининг катталик давридан олдинги босқичини ифодаловчи ёш даври сифатида талқин қилиниб, организмнинг жадал ўсиши, олий психик функцияларнинг шаклланиши ва шахс ривожининг асосий пойдевори қўйиладиган даврни қамраб олади. Изоҳли луғатларда болалик, аввало, эрта ёш даври ва ўсмирликкача бўлган ҳаёт босқичи сифатида

белгиланади[86]. Психология соҳасига оид фундаментал манбаларда эса мазкур феномен онтогенезнинг дастлабки босқичларини қамраб олувчи мураккаб ривожланиш даври сифатида кўрсатилиб, у чақалоқлик, илк болалик, мактабгача ёш ҳамда кичик мактаб ёши каби бир неча босқичларга ажратилади[87].Хусусан, боланинг руҳий шаклланиш босқичларини муайян ёш даврларига ажратиш ғояси илк бор антик давр мутафаккирлари томонидан илгари сурилган. Аристотель болалик даврини уч асосий босқичга бўлиб қараган: 7 ёшгача, 7–14 ёш ва 14–21 ёш. Унинг фикрича, ҳар бир босқичга мос равишда алоҳида тарбия тизими шакллантирилиши лозим[88]. Кейинчалик Ж.-Ж. Руссо бола шахсининг табиий ривожланиш назариясини ишлаб чиқиб, болаликни бир неча босқичларга ажратди. У илк даврда жисмоний ривожланиш, кейинги босқичда ҳиссий ва идрокий тараққиёт, кейин эса ахлоқий ҳамда интеллектуал камолотга эътибор қаратишни муҳим деб ҳисоблайди[89]. Рус адабий ва педагогик тафаккурида ҳам болаликни даврийлаштиришга оид қарашлар учрайди. Масалан, В.Н. Татищев болалик ва ўсмирлик даврларини ёш чегаралари асосида фарқлаган бўлса, В.И. Даль ўзининг “Изоҳли луғати”да халқ анъаналарига таяниб, болаликни тахминан 14–15 ёшгача бўлган давр сифатида белгилайди[90]. XX аср бошларига келиб, бола психологиясини ўрганишда янги ёндашувлар юзага келди. Америкалик психолог Г.С. Холл бола психикасининг онтогенетик ривожланишини инсон тафаккурининг тарихий тараққиёти билан боғлаб тушунтиришга ҳаракат қилди[91]. Кейинчалик Э. Мейман, Э. Клапаред, Ж. Пиаже, Л. Кольберг ва Дж. Брунер каби олимлар боланинг фикрлаш жараёнлари ва когнитив ўсиш босқичларини илмий жиҳатдан асослаб бердилар[92]. Мазкур

[86] Ожегов С. И. Толковый словарь русского языка. — Москва: Мир и образование, 2012. — С. 163.
[87] Мещеряков Б. Г., Зинченко В. П. Большой психологический словарь. — Москва: Прайм-Еврознак, 2003. — С. 119.
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[89] Руссо Ж.-Ж. Эмиль, ёки тарбия ҳақида. — Париж, 1762.
[90] Даль В.И. Толковый словарь живого великорусского языка. — М., 1880.
[91] Hall G.S. Adolescence. — New York, 1904.
[92] Piaget J. The Psychology of the Child. — New York, 1969.

назарий қарашлар болалик концепциясини нафақат психология, балки адабиётшунослик нуқтаи назаридан ҳам англашга замин яратди. Зеро, бола образи адабий матнда муайян ёш хусусиятлари, дунёқараш, ҳис-туйғу ва маънавий шаклланиш жараёнлари орқали намоён бўлади. Болалик концепциясини назарий жиҳатдан асослашда Л.С. Выготскийнинг ёш даврлари ҳақидаги таълимоти алоҳида ўрин тутади. Олим бола ривожланишини икки асосий мезон — динамик ва мазмуний тамойиллар асосида талқин қилади. Унга кўра, ҳар бир ёш босқичи муайян психик ва ижтимоий янгиланишлар билан белгиланади. Выготский болаликни инқирозли ва барқарор даврлар ўзаро алмашиниб борувчи жараён сифатида тушунтиради[93]. Мазкур назарияда “ижтимоий ривожланиш вазияти” ва “ёшга хос янгиланиш” тушунчалари марказий аҳамиятга эга. Боланинг ташқи муҳит билан муносабати унинг шахсий шаклланиш жараёнини белгилайди. Ўзбек адабиётшунос олими Р.Умурзоқов, ўзининг монографиясида шарқ мутаффакирларидан Абу Наср Форобий, Абу Райхон Беруний, Ибн Синоларнинг таълим-тарбия, педагогика, табобатга оид рисолаларида бола шахсияти ва унинг рухиятига оид қимматли фикрларини келтириб ўтганини изохлаб беради ва шу билан биргаликда улар инсон умрини тўрт фаслга қиёслаю , унинг ёш даврларини аниқ чегаралаш Алишер Навоийнинг “Хазойин-ул-маоний”нинг куллиётида амалга оширилганини таъкидлаб ўтади. Биринчи девон “Ғаройиб-ус-сиғар”да болалик ёши 7-8-20 ёш, иккинчи девон “Наводир уш-шабоб”да йигитлик ёши 20-30 ёш қилиб белгиланади[94]. Шу жиҳатдан қараганда, болалик нафақат ёш даври, балки шахснинг маънавий ва ижтимоий камолотига асос солувчи муҳим маданий босқич сифатида намоён бўлади[95]. И.Г. Минералова болаликни инсон руҳиятининг энг мусаффо ва сирли даври сифатида баҳолайди. Унинг таъкидлашича, болалик инсоннинг келгуси ҳаёти учун пойдевор вазифасини бажаради, чунки бу

[93] Выготский Л.С. Психология развития ребенка. — М., 1984.
[94] Р.Умирзоқов “XX аср ўзбек қиссаларида болп образидавр ва рухият: Фарғона-2024. 24-бет”
[95] Минералова И.Г. Детство как культурный феномен. — М., 1998

даврда ахлоқий ҳислар, ҳиссий қабул қилиш ва дунёқарашнинг илк шакллари юзага келади[96]. Шу нуқтаи назардан болалик концепцияси адабий матнда ҳам муҳим семантик қатлам ҳосил қилади.

Тарихий-адабий жараёнга назар ташланганда, ўрта аср маданиятида болалик мустақил қадрият сифатида етарлича англанмагани кузатилади. Фақат XVII–XVIII асрларга келиб бола шахсининг автономлиги, унинг психологик ва ижтимоий қиймати ҳақидаги қарашлар шакллана бошлайди[97]. Бу жараён, айниқса, XVIII аср адабиётида яққол намоён бўлиб, бола образи тарбиявий ғоялар марказига чиқади. XVIII аср адабиётида бола образи кўп ҳолларда тарбиявий ва ахлоқий мақсадларда тасвирланган. Бу даврда болалар учун ёзилган асарларда “ижобий” ва “салбий” бола типлари шаклланиб, улар орқали жамият ахлоқий идеаллари ифода этилган. Тарихчи олимлар таъкидлашича, болалик тушунчаси фақат боланинг биологик жиҳатдан вояга етмаган ҳолати билан эмас, балки унинг муайян ижтимоий мақоми билан чамбарчас боғлиқдир. Ушбу тушунча боланинг мазкур ҳаёт босқичида эгаллайдиган ҳуқуқ ва мажбуриятлари, шунингдек, унга хос бўлган фаолият турлари ва ижтимоий тажриба шакллари мажмуаси орқали белгиланади. Демак, болаликни англашда ижтимоий-тарихий ёндашув устувор аҳамият касб этади[98].

ХУЛОСА

Хулоса қилиб айтиш мумкинки, XIX аср рус болалар адабиётида бола образи оддий дидактик объектдан мустақил бадиий-эстетик феноменга айланди. Сентиментализм ва романтизм даврида болалик идеаллаштирилган ҳолда тасвирланган бўлса, реализм босқичида бола шахсининг ички дунёси, психологик мураккаблиги ва ижтимоий шарт-шароитлар билан боғлиқ муаммолар чуқурроқ ёритила бошлади. Айниқса, «қийин болалик» мавзусининг кириб келиши болалар адабиётида

[96] Aries P. L’enfant et la vie familiale sous l’Ancien Régime. — Paris, 1960.
[97] Костюхина М.С. Типология образов ребенка в литературе XVIII века. — М., 2001.
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инсонпарварлик ғояларини кучайтирди. Шу билан бирга, оила муҳити ва тарбия масалалари бола камолотида ҳал қилувчи омил сифатида талқин этилди. Умуман олганда, мазкур давр болалар адабиётида бола образи кўп қиррали, психологик жиҳатдан асосланган ва ижтимоий мазмунга эга бадиий категория сифатида шаклланди.

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10. Минералова И.Г. Детство как культурный феномен. — М., 1998

11. Aries P. L’enfant et la vie familiale sous l’Ancien Régime. — Paris, 1960.

12. Костюхина М.С. Типология образов ребенка в литературе XVIII века. — М., 2001.

13.Болалик тушунчасининг ижтимоий-тарихий талқини ҳақида қаранг: Демакова И. Д. Педагогика детства. — Москва, 2000. — Б. 14.

КОНФОРМИЗМ КАК ФАКТОР ФОРМИРОВАНИЯ АРГУМЕНТАТИВНОЙ КОМПЕТЕНТНОСТИ СТУДЕНТОВ В ПОВСЕДНЕВНОЙ КОММУНИКАЦИИ

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Аннотация. *В данном исследовании рассматривается конформизм как один из социально-психологических факторов, влияющих на формирование аргументативной компетентности студентов в повседневной коммуникации. Раскрывается сущность конформного поведения, его проявление в межличностном общении, учебной среде, семье, дружеских группах и социальных сетях. Особое внимание уделяется тому, как стремление студента соответствовать мнению большинства может ограничивать самостоятельность мышления, снижать критичность суждений и препятствовать открытому выражению собственной позиции.*

Ключевые слова*: конформизм, аргументативная компетентность, студенты, повседневная коммуникация, социальное влияние, семейные ценности, критическое мышление, культура спора.*

Abstract. *This study examines conformity as one of the socio-psychological factors influencing the formation of students' argumentative competence in everyday communication. The essence of conformist behavior is revealed, along with its manifestation in interpersonal communication, the educational environment, the family, peer groups, and social networks.*

Particular attention is paid to how a student's desire to conform to the opinion of the majority can limit independent thinking, reduce critical judgment, and hinder the open expression of one's own position.

Keywords: *conformity, argumentative competence, students, everyday communication, social influence, family values, critical thinking, culture of debate.*

ВВЕДЕНИЕ

В условиях стремительного развития общества всё большую значимость приобретает способность человека самостоятельно мыслить, критически воспринимать информацию, аргументированно выражать собственную позицию и вступать в осмысленный диалог. Для студенческой молодежи это особенно важно. Именно в период обучения в высшем учебном заведении активно формируются социальные установки, коммуникативные навыки, ценностные ориентиры и поведенческие модели, которые впоследствии влияют как на профессиональную, так и на личностную самореализацию.

Одним из существенных социально-психологических факторов, воздействующих на поведение студентов в процессе общения, выступает конформизм. Он проявляется в стремлении личности соглашаться с мнением большинства, принимать групповые нормы и, порой незаметно для себя, менять собственную позицию под влиянием окружающих. На первый взгляд, подобное поведение может казаться естественным: разве не каждый человек в той или иной ситуации ориентируется на мнение группы? Однако в повседневной коммуникации конформизм проявляется по-разному - в учебной группе, семье, дружеском окружении, социальных сетях и других формах межличностного взаимодействия. В этой связи особую роль приобретает аргументативная компетентность студентов. Она включает способность ясно формулировать мысль, логически обосновывать свою позицию, приводить убедительные доводы, воспринимать альтернативные мнения, корректно участвовать в споре и приходить к обоснованным выводам. Такая компетентность необходима не только в учебно-научной деятельности. Она нужна и в обычной жизни, где

студент постоянно сталкивается с выбором, оценкой информации, принятием решений и общением с разными социальными группами. Исследование проблемы конформизма во взаимосвязи с аргументативной компетентностью студентов имеет важное теоретическое и практическое значение. Оно дает возможность выявить, как социальное влияние отражается на способности студентов аргументировать свои взгляды в повседневной коммуникации, и обозначить педагогические и социально-психологические условия, способствующие формированию зрелой, самостоятельной и ответственной коммуникативной личности.[6]

ОСНОВНАЯ ЧАСТЬ

Конформизм в студенческой среде нельзя рассматривать только как пассивное подчинение мнению большинства. Это более сложное явление. В повседневной коммуникации студент постоянно оказывается между двумя потребностями: быть принятым группой и сохранить собственную позицию. На первый взгляд, это обычная жизненная ситуация. Но именно в таких, казалось бы, простых разговорах - с одногруппниками, друзьями, членами семьи, преподавателями - постепенно формируется способность человека спорить, доказывать, сомневаться и защищать свою точку зрения.

Классические исследования конформизма связаны прежде всего с именами Музафера Шерифа и Соломона Аша. Музафер Шериф в исследованиях автокинетического эффекта показал, что в условиях неопределённости человек склонен ориентироваться на мнение группы и постепенно принимать общую норму суждения. Иначе говоря, когда ситуация неясна, чужая позиция начинает восприниматься как опора. Это важно для понимания студенческой коммуникации: если студент не уверен в собственных знаниях или не умеет аргументировать позицию, он чаще присоединяется к мнению большинства, даже не проверяя его обоснованность.

Соломон Аш, напротив, исследовал конформизм в ситуации, где правильный ответ был очевиден. Его эксперименты с оценкой длины

линий показали, что давление большинства может влиять на индивидуальное суждение даже тогда, когда человек видит ошибочность групповой позиции. Разве это не напоминает многие ситуации из студенческой жизни, когда обучающийся внутренне не согласен, но предпочитает промолчать? Здесь конформизм проявляется уже не как поиск истины, а как желание избежать конфликта, неодобрения или социальной изоляции. [1]

Примечательно, что Мортон Дойч и Гарольд Джерард в 1955 году предложили различать два вида социального влияния: нормативное и информационное. Нормативное влияние связано со стремлением быть принятым группой, не выделяться, не вступать в открытое противоречие с большинством. Информационное влияние возникает тогда, когда человек считает мнение группы более компетентным и поэтому принимает его как правильное. Для студентов оба механизма имеют большое значение: первый ограничивает смелость высказывания, второй — снижает самостоятельность анализа, если позиция большинства воспринимается без критической проверки.

В повседневной коммуникации конформизм может проявляться мягко, почти незаметно. Студент соглашается с мнением группы, хотя имеет сомнения. Повторяет популярную точку зрения, не проверяя её. Избегает спора, потому что боится показаться «неудобным» собеседником. Иногда он заранее подстраивает свою речь под ожидания окружающих. Это не всегда связано со слабостью характера. Часто причина глубже: недостаточный опыт аргументированного общения, страх ошибки, неуверенность в знаниях, зависимость от внешней оценки. [7]

Важный вклад в понимание развития аргументации внесла Дина Кун. В работе *The Skills of Argument* она рассматривала аргументацию как форму неформального рассуждения, связанную с обсуждением реальных социальных проблем. Её исследования показывают, что умение аргументировать не возникает само по себе; оно развивается через

практику обсуждения, столкновение разных точек зрения и необходимость обосновывать собственную позицию. Для студентов это особенно существенно, поскольку повседневная коммуникация часто становится первой площадкой, где проверяется зрелость их мышления.

Позднее Дина Кун и Вадия Уделл исследовали развитие аргументативных навыков и показали значимость специально организованной практики аргументации. Их работа подчёркивает: способность к аргументированному рассуждению усиливается тогда, когда обучающиеся не просто получают информацию, а обсуждают её, сравнивают позиции, выдвигают контраргументы и учатся оценивать силу доказательств. Это положение напрямую связано с проблемой конформизма. Чем меньше у студента опыта самостоятельного обоснования, тем легче он принимает готовое мнение.

Существенное значение имеет и социокультурный подход Льва Выготского. В его теории социальное взаимодействие и язык рассматриваются как важнейшие условия развития мышления. Эта идея позволяет понять, почему повседневная коммуникация студентов не является чем-то второстепенным. Напротив, именно в общении формируются способы рассуждения, самооценки, понимания чужой позиции и выражения собственной мысли. Если среда поощряет только согласие, развивается приспособление. Если же она допускает вопрос, сомнение и спор, появляется пространство для аргументации. Нил Мерсер и Карен Литлтон также подчёркивали значение диалога для развития мышления. Их исследования показывают, что учебное и повседневное общение может становиться средством интеллектуального роста, если оно строится как совместное обсуждение, а не как простое воспроизведение готовых мнений. Для студента это означает одно: он учится мыслить не только внутри себя, но и в разговоре с другими. Иногда - в споре. Иногда - через сопротивление чужой позиции. Особую роль в формировании аргументативной компетентности играет семейная и ближайшая

социальная среда. Если в семье преобладает авторитарный стиль общения, где мнение старших не обсуждается, студент может переносить эту модель и в учебную коммуникацию. Он будет избегать возражений, даже если обладает знаниями. Если же в семье допускаются вопросы, объяснения, обсуждение решений, то у молодого человека постепенно формируется опыт аргументированного высказывания. Конечно, семья не является единственным фактором. Но её влияние часто становится первичным.

В повседневной жизни студента аргументативная компетентность проявляется не только на семинарах или научных конференциях. Она нужна при обсуждении учебных заданий, выборе профессиональной траектории, оценке информации из социальных сетей, решении личных конфликтов, общении с родителями и сверстниками. Именно здесь становится заметно, способен ли студент отличать аргумент от давления, мнение - от доказательства, групповое согласие - от обоснованной позиции.

Можно сказать, что конформизм влияет на аргументативную компетентность студентов двояко. В умеренной форме он помогает усваивать нормы культурного общения и учитывать позицию других людей. В чрезмерной форме он подавляет самостоятельность, снижает критичность и превращает коммуникацию в согласие без анализа. Поэтому задача образования состоит не в том, чтобы полностью устранить социальное влияние. Это невозможно. Важно научить студента осознанно относиться к нему: понимать, где мнение группы действительно помогает, а где оно подменяет собственное мышление.[5]

Для развития аргументативной компетентности студентов необходима такая коммуникативная среда, где спор не воспринимается как конфликт ради конфликта. Спор должен выступать способом уточнения позиции, проверки доводов и поиска более убедительного решения. Только тогда студент постепенно выходит из пассивного согласия и учится говорить от собственного имени. Не громко. Но обоснованно.

Обобщение результатов. Проведённый анализ показывает, что конформизм выступает значимым социально-психологическим фактором, влияющим на формирование аргументативной компетентности студентов в повседневной коммуникации. Он проявляется не только в учебной среде, но и в семье, дружеском окружении, социальных сетях, а также в различных ситуациях межличностного общения, где студент сталкивается с мнением большинства и необходимостью занять собственную позицию. С другой стороны, чрезмерный конформизм ослабляет самостоятельность мышления. Студент начинает чаще соглашаться с большинством, избегать открытого выражения собственной точки зрения, повторять готовые мнения и уходить от спора. На первый взгляд, такое поведение может казаться удобным и даже безопасным. Но разве можно говорить о полноценной аргументативной компетентности там, где человек боится высказать собственное суждение? Именно здесь проявляется главная проблема: конформизм снижает критичность мышления и препятствует развитию способности к обоснованному доказательству своей позиции.

Результаты исследования позволяют выделить несколько основных проявлений влияния конформизма на аргументативную компетентность студентов. Во-первых, конформное поведение ограничивает инициативность в общении: студент чаще занимает позицию наблюдателя, чем активного участника обсуждения. Во-вторых, оно снижает готовность к аргументированному спору, поскольку любое несогласие воспринимается как риск быть непонятым или отвергнутым группой. В-третьих, конформизм способствует некритическому принятию чужих взглядов, особенно если эти взгляды поддерживаются большинством или авторитетными лицами. Коротко говоря, мнение группы нередко подменяет собственное рассуждение.

Обобщая полученные результаты, можно отметить, что формирование аргументативной компетентности студентов требует не только передачи знаний, но и создания коммуникативной среды, в которой

студент получает право на собственное мнение. Важно, чтобы спор воспринимался не как проявление непослушания или конфликта, а как способ проверки мысли, уточнения позиции и поиска более обоснованного вывода. Это особенно важно для студенческой молодежи, поскольку именно в этот период формируется способность к самостоятельному социальному и профессиональному выбору. Следовательно, конформизм оказывает неоднозначное влияние на аргументативную компетентность студентов. В умеренной форме он помогает усваивать социальные нормы и культуру общения, а в чрезмерной - подавляет критичность, снижает самостоятельность и ограничивает готовность к аргументированному спору. Поэтому развитие аргументативной компетентности должно быть направлено на формирование у студентов интеллектуальной самостоятельности, критического мышления, уважения к чужой позиции и способности уверенно, но корректно защищать собственное мнение.

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ФОРМИРОВАНИЕ НАВЫКОВ РАЗГОВОРНОЙ РЕЧИ УЧАЩИХСЯ УЗБЕКСКИХ ШКОЛ НА ОСНОВЕ СОПОСТАВЛЕНИЯ НОРМ РУССКОГО И УЗБЕКСКОГО РЕЧЕВОГО ЭТИКЕТА

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Аннотация (на русском языке): *В статье рассматривается формирование навыков разговорной речи учащихся узбекских школ на основе сопоставления норм русского и узбекского речевого этикета. Особое внимание уделяется анализу этикетных формул (приветствие, обращение, просьба, благодарность, извинение, прощание), отражающих национально-культурную специфику общения. Установлено, что сопоставительный подход способствует предупреждению прагматических ошибок, развитию коммуникативной компетенции и формированию культуры речевого поведения учащихся.*

Ключевые слова: *разговорная речь, речевой этикет, русский язык, узбекский язык, сопоставительный подход, коммуникативная компетенция, культура общения.*

Annotatsiya: *Maqolada o‘zbek maktablari o‘quvchilarida og‘zaki nutq ko‘nikmalarini rus va o‘zbek nutqiy etiket me’yorlarini qiyoslash asosida shakllantirish masalasi ko‘rib chiqiladi. Asosiy e’tibor salomlashish, murojaat qilish, iltimos bildirish, minnatdorchilik bildirish, uzr so‘rash va xayrlashish kabi nutqiy formulalarga qaratiladi. Tadqiqot natijalari qiyosiy yondashuv o‘quvchilarda pragmatik xatolarning oldini olishga, kommunikativ kompetensiyani rivojlantirishga va nutq madaniyatini shakllantirishga xizmat qilishini ko‘rsatdi.*

Kalit so‘zlar: *og‘zaki nutq, nutqiy etiket, rus tili, o‘zbek tili, qiyosiy yondashuv, kommunikativ kompetensiya, muloqot madaniyati.*

Annotation: *This paper examines the formation of speaking skills in students of Uzbek schools through a comparative analysis of Russian and Uzbek speech etiquette norms. Special attention is paid to key etiquette formulas such as greetings, forms of address, requests,*

expressions of gratitude, apologies, and farewells, reflecting cultural specifics of communication. The study shows that a comparative approach helps prevent pragmatic errors, develop communicative competence, and improve students' speech culture.

Keywords: *speaking skills, speech etiquette, Russian language, Uzbek language, comparative approach, communicative competence, communication culture.*

ВВЕДЕНИЕ

В условиях многоязычного образовательного пространства Узбекистана формирование навыков разговорной речи учащихся является одной из актуальных задач современной лингводидактики. Эффективное владение речью предполагает не только знание языковых средств, но и умение использовать их с учетом норм речевого этикета и конкретной коммуникативной ситуации [2; 4].

Речевой этикет рассматривается как важнейший компонент коммуникативной культуры личности и играет ключевую роль в процессе общения [1; 3].

МЕТОДЫ ИССЛЕДОВАНИЯ

В работе использован сопоставительный метод анализа норм русского и узбекского речевого этикета. Материалом исследования послужили типичные ситуации школьного общения, включающие основные речевые формулы: приветствие, обращение, просьбу, благодарность, извинение и прощание. Применялись также методы наблюдения и анализа речевых ошибок учащихся.

Теоретическую основу исследования составили труды по культуре речи и речевому этикету как в русской, так и в узбекской лингвистике [1; 5; 6; 7].

РЕЗУЛЬТАТЫ

Результаты исследования показали, что учащиеся узбекских школ испытывают трудности при использовании русских этикетных формул. Ошибки носят преимущественно прагматический характер и связаны с выбором неадекватных речевых средств в конкретных коммуникативных ситуациях.

Выявлены различия между русским и узбекским речевым этикетом. В русском языке широко используются формы «здравствуйте», «добрый день», «спасибо», «извините», «до свидания», а также обращения по имени и отчеству [1; 4]. В узбекском языке значимую роль играют формулы «assalomu alaykum», «rahmat», «iltimos», «kechirasiz», а также обращения «aka», «opa», «ustoz», отражающие социально-культурные особенности общения [5; 6; 7].

ОБСУЖДЕНИЕ И ВЫВОДЫ

Сопоставительный анализ показал, что учет национально-культурной специфики речевого этикета способствует более эффективному обучению разговорной речи. Использование данного подхода позволяет предупреждать прагматические ошибки и формировать коммуникативную компетенцию учащихся [2; 4].

Таким образом, включение элементов сопоставительного анализа в процесс обучения русскому языку повышает уровень речевой культуры учащихся и способствует адекватному использованию языковых средств в различных ситуациях общения [1; 3].

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ELEKTORAL MADANIYATNI SHAKLLANTIRISHDA YOSHLARNI O‘RNI

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Annotatsiya: *Ushbu maqolada yoshlarning elektoral jarayonlardagi ishtiroki, ularning siyosiy ijtimoiylashuvi va elektoral madaniyatning shakllanishidagi o‘rni ilmiy asosda tahlil etilgan. Elektoral madaniyatning mazmun-mohiyati, uning jamiyat siyosiy hayotiga ta’siri hamda yoshlarning siyosiy ongi, rag‘bati va faolligini oshirishda raqamli savodxonlikning ahamiyati yoritilgan. Shuningdek, yoshlar siyosiy partiyalar orqali jamiyat siyosiy tizimiga integratsiyalashuvi, davlat siyosati doirasida yoshlarga yaratilgan imkoniyatlar va ularning fuqarolik madaniyatini rivojlantirishdagi roli ochib berilgan.*

Kalit so‘zlar: *Elektoral madaniyat, elektoral faoliyat, siyosiy ijtimoiylashuv, yoshlar, raqamli savodxonlik, siyosiy partiyalar, demokratik jamiyat, saylov, fuqarolik madaniyati, siyosiy plyuralizm.*

Annotation: *This article provides a scientific analysis of youth participation in electoral processes, their political socialization, and their role in shaping electoral culture. It highlights the essence of electoral culture, its impact on the political life of society, and the importance of digital literacy in increasing the political awareness, motivation, and activity of young people. Additionally, the article explores the integration of youth into the political system through political parties, the opportunities created for youth within state policy, and their role in the development of civic culture.*

Key words: *Electoral culture, electoral activity, political socialization, youth, digital literacy, political parties, democratic society, elections, civic culture, political pluralism.*

KIRISH

Har qanday demokratik jamiyatda elektoral jarayonlar siyosiy tizimning uzviy qismi hisoblanib, uning mazmun-mohiyatini belgilab beruvchi asosiy omillardan biri elektoral madaniyatdir. Elektoral madaniyat – saylov jarayonlari haqidagi bilimlar, meyorlar, qadriyatlar, munosabatlar va ularning amaldagi ifodasini qamrab oladi. Mazkur jarayonda faol ishtirok etuvchi subyektlar

qatorida yoshlar alohida o‘rin tutadi. Yoshlar ijtimoiy-siyosiy jarayonlarda ishtirok etish qobiliyati bilan ajralib, jamiyatda demokratiya, siyosiy plyuralizm va fuqarolik madaniyatini rivojlantirishga hissa qo‘shadi.

ASOSIY QISM

Har qanday jamiyatda elektoral faoliyat saylov jarayonlarining mazmun-mohiyatini belgilab beruvchi asosiy omillardan biri hisoblanadi. Elektoral madaniyat - elektoral xulq-atvor, elektoral munosabatlar va umuman saylov jarayoni haqidagi bilim, baho va meyorlarning nisbatan turg‘un tizimidir. Elektoral madaniyatni saylovchilarning mas’uliyati va kompetentlik belgilab beradi[1; 48-b].

Demak sodda qilib aytganda elektorat madaniyat bu - shaxs yoki ijtimoiy guruhning siyosiy bilim, e’tiqod, qadriyat va manfaatlarni anglash hamda ularni ongli ravishda baholash darajasi, shuningdek, saylov jarayonida, saylovoldi va saylovdan keyingi davrlarda mazkur asoslardan kelib chiqib amalga oshiradigan faoliyatining uyg‘un birligini ifodalovchi siyosiy madaniyat ko‘rinishidir.

Ushbu jarayonda faol ishtirok etuvchi subyektlar qatorida yoshlar alohida o‘rin tutadi. Ma’lumki, jamiyatning eng tashabbuskor qatlami sifatida yoshlar ijtimoiy-siyosiy jarayonlarda qatnashish qobiliyati bilan ajralib turadi. Shu munosabat bilan ularning siyosiy ong va madaniyatini oshirish, davlat boshqaruvi hamda saylovlardagi ishtirokiga sharoit yaratish nafaqat davlat manfaatlariga, balki jamiyatda demokratik tamoyillarning rivojlanishi, qonun ustuvorligi va huquqiy madaniyatning mustahkamlanishiga xizmat qiladi.

Yoshlarning elektoral jarayonlardagi ishtiroki nafaqat saylov natijalarining shakllanishiga ta’sir ko‘rsatadi, balki jamiyatda siyosiy plyuralizmning kengayishi, fikrlar raqobati va siyosiy madaniyatning yuksalishiga xizmat qiladi. Zamonaviy sharoitda yoshlar elektoral jarayonlarda faol ishtirok etishi, avvalo, axborot-kommunikatsiya texnologiyalaridan foydalanish ko‘nikmalari bilan bevosita bog‘liqdir. Xususan, internet, ijtimoiy tarmoqlar va raqamli platformalar yosh avlodning siyosiy jarayonlarga tezkor,

xolis va shaffof tarzda kirib borishini ta’minlab, ularning siyosiy faolligini oshirmoqda.

Shu nuqtai nazardan, elektoral madaniyatni shakllantirishda raqamli savodxonlik muhim ijtimoiy omil sifatida namoyon bo‘ladi. Chunki raqamli muhit orqali foydali va ishonchli ma’lumotlarni olish imkoniyati bilan bir qatorda, buzg‘unchi g‘oyalar, axborot xurujlari va yoshlar ongiga salbiy ta’sir ko‘rsatuvchi turli dezinformatsiya materiallarining tarqalishi ham mumkin. Shu bois raqamli savodxonlikni oshirish, axborotni tahlil qilish, manbalarni tanlab qabul qilish va mediamadaniyatni rivojlantirish – yoshlarning siyosiy jarayonlarda ongli, mustaqil va mas’uliyatli ishtirokini ta’minlaydigan muhim shartlardan biri hisoblanadi. Yoshlarimizning jamiyatda o‘z o‘rnini topishi va siyosiy madaniyatini rivojlantirish borasida yurtimizda keng qamrovli islohotlar amalga oshirilmoqda. Jumladan, yoshlarning siyosiy jarayonlardagi ishtiroki uchun huquqiy, institutsional va ma’rifiy asoslar yaratilmoqda, ularning davlat boshqaruvi va jamoatchilik faoliyatida ishtirokini rag‘batlantiruvchi mexanizmlar takomillashtirilmoqda. Xususan, davlatimiz rahbari tomonidan 2017 yil 5 iyuldagi “Yoshlarga oid davlat siyosati to‘g‘risida”gi, «Yoshlarga oid davlat siyosati samaradorligini oshirish va O‘zbekiston yoshlar ittifoqi faoliyatini qo‘llab-quvvatlash to‘g‘risida”gi qonunni qabul qilinishi mamlakatimizda yoshlar masalasiga davlat miqyosida yuqori e’tibor qaratilayotganligining amaliy ifodasidir. Bugun yoshlarimizni xar-xil yod g‘oyalar ta’siridan saqlash maqsadida davlatimiz rahbari tomonidan BMT Bosh Assambleyasining 72-sessiyasida “Sayyoramizning ertangi kuni, farovonligi farzandlarimiz qanday inson bo‘lib kamolga yetishi bilan bog‘liq. Bizning asosiy vazifamiz – yoshlarning o‘z salohiyatini namoyon qilishi uchun zarur sharoitlar yaratish, zo‘ravonlik g‘oyasi "virusi" tarqalishining oldini olishdir. Buning uchun yosh avlodni ijtimoiy qo‘llab-quvvatlash, uning huquq va manfaatlarini himoya qilish borasidagi ko‘p tomonlama hamkorlikni rivojlantirish lozim, deb hisoblaymiz. Shu munosabat bilan O‘zbekiston globallashuv va axborot-kommunikatsiya texnologiyalari jadal rivojlanib borayotgan bugungi sharoitda

yoshlarga oid siyosatni shakllantirish va amalga oshirishga qaratilgan umumlashtirilgan xalqaro huquqiy hujjat – BMTning Yoshlar huquqlari to‘g‘risidagi xalqaro konvensiyasini ishlab chiqishni taklif etadi”[6] deb aytgan gaplari mamlakatimizda yoshlar masalasiga davlat miqyosida yuqori e’tibor qaratilayotganligining amaliy ifodasi hisoblanadi.

O‘zi yoshlar jamiyatga moslashish jarayonida bir qator ijtimoiylashuv bosqichlarini bosib o‘tadi. Ushbu bosqichlar qatoriga, avvalo, oila muhitidagi ijtimoiy moslashuv, ta’lim muassasalari orqali ijtimoiy normalarni o‘zlashtirish, jamoat va mehnat munosabatlariga kirishuv hamda siyosiy-huquqiy ong shakllanishi kabi moslashish davrlarini aytishimiz mumkin.

Siyosiy ijtimoiylashuvning agentlari sifatida esa ota-ona, o‘qituvchi, tengdoshlar va ommaviy axborot vositalarini olishimiz mumkin. Birlamchi siyosiy ijtimoiylashuv oiladan boshlanadi, ota-ona tomonidan qo‘llaniladigan rag‘batlantirish yoki jazolash tizimi bolada nazorat va sanksiyalar tizimi haqidagi ilk tasavvurlarni shakllantiradi. Shuningdek, aynan oilada axloq-odob, sotsial, diniy qadriyatlar bilan tanishish ro‘y beradi. Va nihoyat, ota-ona va ta’lim tizimida bolaga partiyaviy mansublik, saylovlar va siyosiy liderlar haqidagi ilk ma’lumotlar beriladi.

«Partiyaviy identliklik nazariyasi» vakillaridan A. Kembell va P. Konverslar siyosiy ijtimoiylashuvning eng asosiy agenti sifatida oila – siyosatchilar, partiyalar va jamoatchilik guruhlariga taalluqli axborotni o‘tkazib beruvchi filtr ekanligiga urg‘u beradilar. Ularning fikriga ko‘ra, u yoki bu partiyani qo‘llab-quvvatlashga moyillik ijtimoiylashuvning ilk bosqichlarida shakllanadi[2; 128-b].

Shuni alohida ta’kidlash lozimki, yoshlarning saylov jarayonlarida bevosita ishtirok etish orqali namoyon bo‘ladigan elektoral xulq-atvorlari ularning siyosiy ijtimoiylashuv jarayoniga muhim ta’sir ko‘rsatadi. Boshqacha qilib aytganda, yoshlar 18 yoshdan boshlab siyosiy ijtimoiylashuvning yangi bosqichiga qadam qo‘yadilar. Saylovlarda faol ishtirok eta boshlagan yosh saylovchilar mazkur jarayonni ichki mexanizmlari, tartib-qoidalari bilan amaliy

tanishish imkoniyatiga ega bo‘la boshlaydi. Bu esa ularda har bir saylov va referendum davomida yangi bilim va ko‘nikmalarning shakllanishiga xizmat qiladi.

Natijada, ular ijtimoiylashuv davrida o‘zlashtirgan nazariy bilimlarini amaliy tajriba asosida boyitadilar, shaxsiy siyosiy pozitsiyalarining shakllanishiga erishadi. Shuningdek, yoshlarning mazkur jarayonda katta yoshlilarga nisbatan ustuvorligi shundaki, ular o‘z siyosiy pozitsiyalarini kelgusida keskin o‘zgartirish imkoniyatiga ega bo‘ladilar, bu esa jamiyatdagi siyosiy dinamikani ta’minlovchi omillardan biri sifatida namoyon bo‘ladi.

Yoshlar ijtimoiy-demografik guruh sifatida bugungi kun siyosiy jarayonlarini baholashda o‘ziga xos qiziqishni namoyon etadi. Yoshlar “hamisha serg‘ayrat, yangilik va adolat tarafdori bo‘lib kelgan, shuning uchun ham ular mamlakatni demokratlashtirish va modernizatsiya qilishda asosiy kuch bo‘lib hisoblanadi”[3; 3-b].

Davlatimiz misolida tahlil qilib qaraydigan bo‘lsak, bugun yurtimiz aholining 60 foizini yoshlardan tashkil etadi. Bugungi kun yoshlari – O‘zbekistonning siyosiy kelajagini belgilovchi kuchdir. Yaqin kelajakda ular nafaqat mamlakatimizning qiyofasini, balki undagi saylovlarning maqomini aniqlab beradi. Hokimiyatni demokratik jihatdan tashkillashtirishda saylovlar jarayonining samarali texnologiyaga aylanishi bevosita yoshlarning hayotiy qadriyatlari va xulq-atvor namunalari bilan uzviy bog‘liqdir.

Biz yuqorida qayd etganimizdek, yoshlar saylov jarayonlariga jamiyat siyosiy hayotining muhim ishtirokchilari sifatida siyosiy partiyalar orqali integratsiyalashadi. Zero, siyosiy partiyalar ularning siyosiy ongi va elektoral faolligini shakllantiruvchi, siyosiy qarorlar qabul qilish jarayonida ishtirok etish imkoniyatini yaratib beruvchi asosiy institutlardan biri hisoblanadi.

Siyosiy partiya – jamiyatdagi ma’lum bir sotsial guruh manfaatlari va mafkurasini ifodalovchi, ushbu manfaatlarni qondirish yuzasidan hokimiyatga intiluvchi siyosiy institutdir[4; 207-b]. Siyosatshunos olim J.Sartori siyosiy

partiyalarga jamiyat va davlat o‘rtasidagi eng asosiy vositachi sifatida ta’rif bergan.

Prezident Sh.M.Mirziyoyev “Qachonki, siyosiy partiyalarning faolligi oshib, parlament faoliyati doirasida ular o‘rtasida sog‘lom raqobat va bahs-munozara muhiti shakllansa, shundagina vakillik hokimiyati organlari ham samarali faoliyat ko‘rsatadi”[5].- deb ta’kidlagan edi. Bu o‘z navbatida yoshlarning siyosiy ijtimoiylashuviga ijobiy ta’sir ko‘rsatib, ularni ijtimoiy-siyosiy faolligini oshiradi.

XULOSA

Xulosa qilib aytadigan bo‘lsak, yoshlar elektoral jarayonlarning muhim subyektlari sifatida jamiyatda demokratiyani rivojlantirish, siyosiy plyuralizmni mustahkamlash va fuqarolik madaniyatini oshirishda katta o‘rin tutadi. Elektoral madaniyatning mazmun-mohiyati yoshlarning siyosiy ongi, bilim va qadriyatlarini shakllantirish orqali namoyon bo‘lib, ularning saylovlarda ongli va mas’uliyatli ishtirokini ta’minlaydi. Raqamli savodxonlikning ortishi, axborotni tahlil qilish ko‘nikmalari va media madaniyatning rivojlanishi esa yoshlarning siyosiy qaror qabul qilish jarayonlarida faol va mustaqil ishtirokini ta’minlaydi. Davlat siyosatida yoshlarga keng imkoniyatlar yaratilishi, ularning siyosiy ijtimoiylashuvi va partiyalar orqali integratsiyasi demokratik jamiyat qurishda muhim ahamiyatga ega. Shuning uchun ham yurt ravnaqini ta’minlovchi siyosiy jarayonlarda yoshlarning faolligi jamiyat taraqqiyotining asosiy kafolatlaridan biri hisoblanadi.

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FEMINIZM VA MIZANDRIYA: O‘ZARO BOG‘LIQLIK YOKI IJTIMOIY STEREOTIP?

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Annotatsiya: *Mazkur tezisda feminizm tushunchasining asl mohiyati, uning jamiyatdagi noto’g’ri talqinlari hamda erkaklardan nafratlanish bilan bog’liq noto‘g‘ri stereotiplar ilmiy asosda tahlil qilinadi. Shuningdek, feminizmning gender tengligi, ayollar huquqlarini himoya qilishdagi o’rni va uning milliy hamda diniy qadriyatlar bilan uyg’un jihatlari yoritiladi.*

Annotation*: This thesis analyzes the true nature of the concept of feminism, its misinterpretations in society, and streotypes related to misogyny on a scientific basis. It also highlights the role of feminism in gender equality, the protection of women’s rights, and its compatibility with national and religious values.*

Аннотатsiя: *В данной работе на научной основе анализируется истинная природа концепции феминизма, её неверное толкование в обществе и стереотипы, связанные с мизогинией. Также освещается роль феминизма в обеспечении гендерного равенства, защите прав женщин и его совместимость с natsiональными и религиозными ценностями.*

Kalit so’zlar: *feminizm, gender tengligi, misandriya, patriarxat, ayollar huquqlari, ijtimoiy tenglik.*

Keywords: *feminism, gender equality, misandryt, patriarchy, women’s rights, social equality.*

Ключевые слова: *феминизм, гендерное равенство, мизандрия, патриархат, права женщин, социальное равенство.*

KIRISH

So’nggi paytarda feminizm omma tomonidan nafaqat ayollar huquqlarini himoya qilish, balki erkaklardan nafratlanish, ayollarni erkaklardan ustunligi haqidagi ta’limot sifatida qabul qilinayotgan holatlar ham uchramoqda. Ammo, aslidachi, feministlar haqiqatdan ham ommaviy erkaklardan nafratlanishga bo’lgan chaqiriqlarni ilgari suradimi?

Yurtimizga “feminizm” mafkurasi kirib kelgandan buyon, jamoatchilik tomonidan ham ijobiy, ham salbiy va milliy shuurimizga qarshi targ’ibot sifatida anchayin nizoli muhokamalarga asos bo’ldi va bo’lmoqda. Ehtimol, siz ham bir tushunchaga nisbatan bo’lyotgan ikki xil, ziddiyatli munosabatni ko’rib ikkilanayotgandirsiz? Keling, avvalo, feminizm nimaligini tahlil qilshdan boshlaylik. Feminizmning asl ma’nosi nima? U qachon va qayerda, qanday shakllanishni boshlagan? Bu targ’ibotlarning mazmuni nimada va nima uchun ko’pchilik tomonidan qo’llab-quvvatlanmoqda? Feminizm so’zi lotincha “femina” so’zidan olingan bo’lib, “ayol” ma’nosini bildiradi. Feminizm ayollarning haq-huquqlarini, ularning o’zini himoyalash, ayollarni ijtimoiy tengligi va qadr-qimmatini saqlashni targ’ib qiladi. Feminizm − har ikki jins vakillarining siyosiy, iqtisodiy, shaxsiy va ijtimoiy tengligini bir xil darajada ta’minlashga qaratilgan mafkura. Zamonaviy jamiyatni patriarxat, ya’ni erkaklarning huquqlari va nuqtai nazari ayollarnikidan ustun qo’yilishi kabi adolatsizliklarga qarshi siyosiy-ijtimoiy g’oyalarni ilgari suradi.

Bugungi kunda ijtimoiy tarmoqlarda uchrayotgan shu mavzuga aloqador bahslardan ko’rishimiz mumkin-ki, ko’pchilik feminizm haqida tushunchaga ega emas, yoki noto’g’ri xulosalarga kelishgan. Afsuslanarlisi, ushbu mafkura haqida noto’g’ri tasavvurlar nafaqat erkaklar, balki ayollarning o’zida ham salbiy munosabat uyg’otmoqda. Jumladan, feminizm, gender tengligi va misandrizm kabi turli tushunchalarni adashtirish va ular haqida yetarli ma’lumotga ega emaslik asosiy muammo bo’lmoqda. Umuman olganda, gender tengligi va feminizm o’zaro yaqin tushunchalar, lekin ular aynan bir narsa emas. Gender tengligi barcha jins vakillarining ijtimoiy-huquqiy tengligi haqida bo’lsa, feminizm ayollarning huquqlarini himoya qilish haqidagi mafkuradir.

Ya’ni feminizmning erkaklarga umuman aloqasi yo’q bo’lib, mavzu markaziga faqat ayollar va ularning huquqlarini himoya qilish chiqariladi. Feminizm o’z ichiga erkaklarga qaratilgan hech qanday g’oyalarni olmaydi. Misandrizm esa, ochiq erkaklardan nafratlanishga qaratilgan mafkura bo’lib, erkaklarni kamsitish, ularni ijtimoiy cheklash, ularga nisbatan tazyiq o’tkazishni o’z ichiga oluvchi jinsiy ajratmachilikdir. Misandrizm odatda, mizoginiya (ayollarga nisbatan nafrat)ga qarama-qarshi tushuncha sifatida qaraladi. Ko’rib turganingizdek, feminizm erkaklarga bo’lgan nafratlanishdan keskin farq qilib, faqat xotin-qizlarning himoyasi bilan shug’ullanadi. Bundan tashqari, feminizmni turmush qurish va farzand ko’rishga qarshiligi haqidagi turli noto’g’ri xulosa va fikrlar quruq yolg’on bo’lib, feminizm hech qachon oilaga qarshi chiqmaydi. Agar biror qiz turmush qurishni o’zi xohlasa va o’zini shu bilan baxtli his etsa, feminizm uni qo’llab-quvvatlaydi. Yoki, u oila qurishni o’rniga o’qish, ishlash, karyera qilishni tanlasa, unda ham feminizm uni to’liq qo’llab-quvvatlaydi. Agar oilali ayol farzandli bo’lishni istasa ham, buni istamasa ham feministlar uni mutlaqo yoqlashadi. Agar ayol kishi ro’mol o’rashni istasa feminizm uni to’g’ri deb biladi, xuddi kostum-shim yo ko’ylak, yo zamonaviy uslubda kiyingan birini to’g’ri deb bilganidek. Asosiy e’tibor esa, ayol kishini o’zini qulay, xavfsiz va baxtli his etayaptimi yo’qmi, shunga qaratiladi. Yuqorida aytib o’tilgan huquqlar azal-azaldan erkaklarda mavjud bo’lib, ularga bu imtiyozlar qaysidir din yoki e’tiqod tomonidan emas, aynan patriarxat tizimi bilan bog’liq ta’limotlar orqali berilgan. Dunyo bo’ylab ayollarda erkaklarda mavjud bo’lgan huquqlarning 64%i bor xolos. 54% mamlakatlarda esa hamon zo’rlash qonuniy “rozilik” asosida ta’riflanmagan[99]. Yana bir bor aytib o’tish joizki, aslida feminizm erkaklardan nafratlanish yoki ayollarni erkaklardan ustun qo’yish kabi g’oyalarni ilgari surmaydi. Feministlar ayollarga nisbatan adolatsizliklar bo’lishini istashmaydi xolos. Feminizm shunchaki yer yuzidagi barcha ayollar xavfsiz va baxtli bo’lishi uchun kurashuvchi mafkuradir. Jamiyatimizda feminizmni tushunib-tushunmay “Agar

[99] UN Women, "The Gender Snapshot 2022/2023"

ayol bilan erkak teng bo'lsa unda nega ayollar ham harbiy xizmat o'tashmaydi?", yoki, "Ayollardan erkaklar biologik jihatdan kuchli, ular teng emas" degan e'tirozlar ko'paymoqda. Shu o'rinda, 2018-yilda Dubayda o'tkazilgan "Global Education & Skills Forum"da mashhur Bollivud aktrisasi va feminist hisoblangan Priyanka Chopraga ham shu ma'noda savol beriladi. U esa shunday javob beradi: "Biologik jihatdan ayollar va erkaklar har xil, bu haqida hech qanday bahs yo'q. Biz tenglik va imkoniyatlar deganda, biz intellektual imkoniyatlar haqida gapiramiz. Biz 90 kgli erkakdan bo'lib olib kimnidir do'pposlamoqchimiz demayapmiz. Biz ishga kirishdagi, qayerdadir direktor bo'lishdagi, hayot yo'lini o'zi tanlashdagi kabi bir xil imkoniyatlarni xohlashimiz haqida gapiryapmiz"[100]. Feministlar hech qachon biologik jihatdan ayollar va erkaklar tengligini da'vo qilishmagan. Yuqoridagi holatlar esa, mavzu yuzasidan yetarlicha ma'lumotga ega emaslik va noto'g'ri manbalardan o'rganishdir. Unda feministlar nima uchun bahslashadilar?

Bir haqiqatni ochiqlaylik, feminizm hech qanaqasiga qoralanuvchi g'oya emas. Chunki, feministik g'oyalar adolat va insoniylik haqidadir. Buning isboti sifatida, Islom dini o'z ichiga ko'plab feministik qarashlarni jamlashini keltirishimiz ham mumkin. Chunki Islom dini ayollarga mulkka egalik qilish, ilm olish, merosga egalik qilish kabi huquqlarni, shuningdek nikohda ayollarning roziligini ham mustahkamlab qo'ygan bo'lib, Islomda ayollarga turmush o'rtoqlaridan mahr so'rash imkoniyati ham berilgan. Bundan tashqari, Islomda ayollarning ishlashi, tijorat qilishi va topgan pulini o'zida saqlab qolishi mumkin bo'lib, uning puli mutlaqo o'zinikidir. Oilani boqish to'liq erkaklarning zimmasidadir. Islom dini Arabistonda qiz farzandlarni tiriklayin ko'mish harakatlarni to'xtashiga sabab bo'lgani ham hech birimizga sir emas. Qur'oni Karimda ham insonlar jinsiga qarab emas, balki ularning taqvosi va amallari bilan farqlanishi bir necha bor ta'kidlangan: "Erkakmi yo ayolmi – kimda-kim mo'min bo'lgan holida yaxshi amallarni qilsa, Biz unga, albatta, pokiza hayot

[100] Global Education & Skills Forum, Dubai, 2018.

baxsh eturmiz…”[101]. Ko‘rinadiki, Islom dini hamisha ayol-qizlarni ardoqlovchi va hurmat qiluvchi dindir. Ma’lumki, tarixda Oisha binti Abu Bakr (r.a.) yuksak bilimli olima bo’lganlar va ko’plab o’zlaridek olimalar bilan erkaklarga ta’lim berganlar, yoki payg’ambarimizning birinchi rafiqalari Hadicha (r.a.) tijorat bilan shug’illanganlar va o’sha davrdagi muvaffaqiyatli tadbirkor ayollardan biri bo’lganlar. Biroq, hozirda, ba’zi-bir hududlarda patriarxat mafkuralari aralashuvi natijasida Islom dinini niqob qilib, ayollarni qadrsizlash va ularga zo’ravonlik qilish, ularning huquqlarini toptash kabi holatlar uchramoqda. Aynan shu kabi holatlarga qarshi kurashish − feminizmning oldiga qo’ygan bosh masalasidir.

Afsuski, ayollarga nisbatan zo’ravonlik kabi holatlar dunyo bo’ylab pandemiya darajasidagi muammo sifatida ko’riladi. Dunyo bo’ylab har uchta ayoldan bittasi hayoti davomida biror shakldagi zo’ravonlikka uchrar ekan. Albatta, “butun dunyo” deyilganda, bundan mamlakatimiz ham mustasno emas, afsuski. Shundan kelib chiqib aytish mumkinki, feminizmni to’g’ri va keng targ’ib qilishga ehtiyoj bor. Bundan tashqari, oiladagi zo’ravonlik, ayollarning erlari tomonidan do’pposlanishi va shu kabi tazyiqlarga uchrashi ham sir emas. Shuningdek, ko’cha-ko’yda ayol-qizlarga nisbatan uchrash mumkin bo’lgan shilqimliklar ham asosiy muammolardan biri hisoblanadi. Albatta, jamiyatimizda “uydagi gapni ko’chaga chiqarish kerak emas”ligi yoki “er uradi-er suyadi” kabi keraksiz streoteplar hali-hanuz saqlanib qolmoqda. Biz, bu bilan milliyligimiz, qadriyat va an’analarimizni yo’q qilish kerak demayapmiz, ammo ayollarning o’z turmush o’rtoqlari tomonidan jiddiy tazyiq va zo’ravonliklarga uchrashlari ancha jiddiy va ustida ishlashilishi lozim bo’lgan muammodir. Shu o’rinda ta’kidlash joizki, biz faqat qizlarimizning kiyim-kechaklari, yurish-turushi-yu so’zlashlarini tanqid qilamiz, yigitlarning tarbiya-madaniyatiga e’tibor qaratmaymiz. Oramizda, hatto, jinsiy zo’ravonlikka uchragan qizlarni

[101] Shayx Muhammad Sodiq Muhammad Yusuf. “Tafsiri Hilol”. Nahl surasi, 97-oyat. −Toshkent, 2024- yil. «HILOL NASHR» Nashriyot-matbaasi. −3-jild, 256-bet.

ko’chada tungi paytda yurganligi yoki o’zining qaysidir noto’g’ri harakati tufayli o’sha tajovuzni amalga oshirgan shaxsni e’tiborini tortganlikda ayblovchilar ham topiladi. Ammo qachon aybni faqatgina qizlar kiygan kiyimlarning etaklari uzun-kaltaligidan qidirishni to’xtatamiz? Ammo kim o’sha etakka qaraganlarni tarbiyasini ham tanqid qiladi?

XULOSA

Xulosa o’rnida shuni aytish mumkinki, feminizm bizning qadriyatlarimizga Mutlaq yot − G’arb davlatlaridan kelib qolgan tushuncha emas. Bizning millatimizda azal-azaldan ayollarni hurmat qilish azaliy qadriyat bo‘lib kelgan, ammo bugun unga teskari bo’lgan holatlar ham yo’q emas. Feminizm esa, aynan shu holatlarga qarshi va zamonga moslashgan mafkuradir. Demak feminizm milliy qadriyatlar va oila qurishga qarshilik yoki erkaklardan nafratlanishni emas, faqatgina ayollarning huquqlarini himoya qilish, jamiyatda ularning munosib o‘rnini egallashiga yordam berish bilan shug’ullanadi.

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IMPROVING PUBLIC SPEAKING AMONG SCHOOL STUDENTS

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Abstract: *This research investigates ways to improve public speaking skills among school students, particularly those in grades 7–8. Public speaking is an essential skill for communication, academic success, and future careers. However, many students experience fear and lack confidence when speaking in front of an audience.This study was conducted with 40 students from School No. 92 in Davlatobod district, Namangan Region. Various speaking activities such as presentations, group discussions, and storytelling were used during a four-week period. The findings show that regular practice and teacher support significantly improve students' confidence and speaking abilities.*

Keywords: *public speaking, school students, communication skills, confidence, education, Uzbekistan*

INTRODUCTION

Public speaking is one of the most important skills in modern education. It allows students to express ideas clearly, participate in discussions, and succeed in both academic and social environments. Despite its importance, many students feel nervous or shy when speaking in front of others.In schools located in Namangan Region, students often have limited opportunities to practice speaking skills. As a result, they may struggle with confidence and communication.This study aims to explore effective strategies to improve public speaking skills among school students, especially at the middle school level.

Literature Review

Previous studies highlight the importance of speaking skills in education. According to Harmer, Jeremy, speaking is a key part of language learning and requires regular practice. Similarly, Thornbury, Scott emphasizes that students improve speaking through interaction and real communication tasks.

Research by Brown, H. Douglas shows that confidence plays a major role in language learning. Students who feel supported are more likely to participate actively.

Organizations like British Council and UNESCO also highlight that communication skills should be developed from an early age.

These studies suggest that practice, interaction, and a supportive environment are essential for improving public speaking.

Research Questions

1. How can structured speaking activities improve public speaking skills among grade 7–8 students?
2. What is the effect of regular practice on students' confidence?
3. How does teacher feedback influence students' speaking performance?

Research Objectives

- To identify common problems students face in public speaking
- To test effective classroom activities for improving speaking skills
- To measure changes in students' confidence and fluency.

Methods

This study was conducted at School No. 92 in Davlatabad district, Namangan Region. A total of 40 students from grades 7–8 participated. This research was conducted at School No. 92 in Davlatabad district, Namangan Region. The participants of the study were 40 students from grades 7–8. The students were between 13 and 15 years old and included both boys and girls. The

participants were selected randomly in order to ensure equal participation and reliable results.The study lasted for four weeks and focused on improving students' public speaking skills through different classroom speaking activities. Before the research began, many students felt nervous and lacked confidence when speaking in front of their classmates. Some students were afraid of making pronunciation mistakes, while others had difficulty expressing their ideas clearly.During the research period, students participated in several structured speaking activities. These activities were organized two times a week during English lessons. The activities included:

- short oral presentations
- pair and group discussions
- storytelling tasks
- role plays
- question-and-answer sessions
- classroom debates

At the beginning of the study, students were asked to introduce themselves and speak on simple topics for one or two minutes. This helped the teacher evaluate their speaking level, confidence, pronunciation, fluency, and body language.

After the initial assessment, students received regular practice and guidance. Teachers encouraged students to speak English as much as possible during classroom activities. Positive feedback was provided after each activity to motivate students and reduce their fear of public speaking.In group discussions, students worked together and shared opinions on different topics.Storytelling activities helped them organize ideas and improve fluency. Presentations allowed students to practice speaking in front of an audience, while role plays improved creativity and communication skills.Several methods were used to collect data during the study. These methods included:

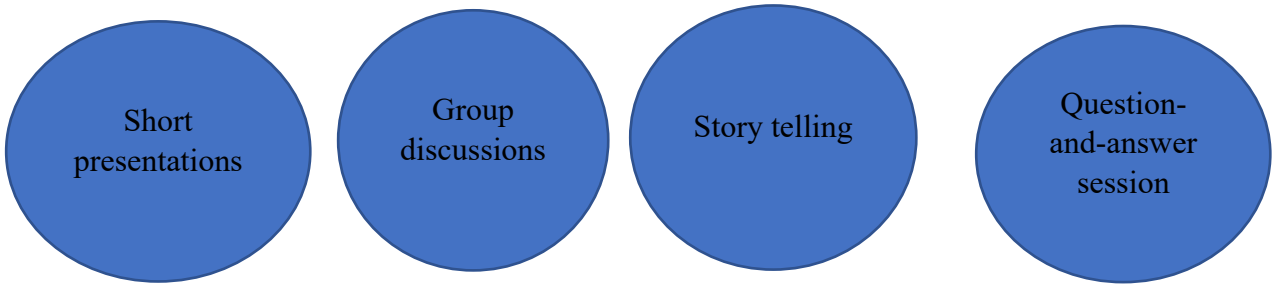
- classroom observation
- questionnaires

- interviews with students
- self-assessment forms

The questionnaires were given before and after the research in order to compare students' progress. Students answered questions about their confidence, speaking difficulties, and classroom participation.Classroom observations were also important in this study. The teacher observed students' behavior, participation, pronunciation, eye contact, and fluency during activities. Notes were taken regularly to monitor improvement.At the end of the four-week period, students completed a final speaking task. Their performance was compared with the results from the beginning of the study. The comparison helped identify improvements in confidence, fluency, pronunciation, and overall speaking ability.The collected data showed that regular speaking practice and supportive classroom environments had a positive effect on students' public speaking skills. Most students became more active, confident, and comfortable while speaking in front of others.

Procedure

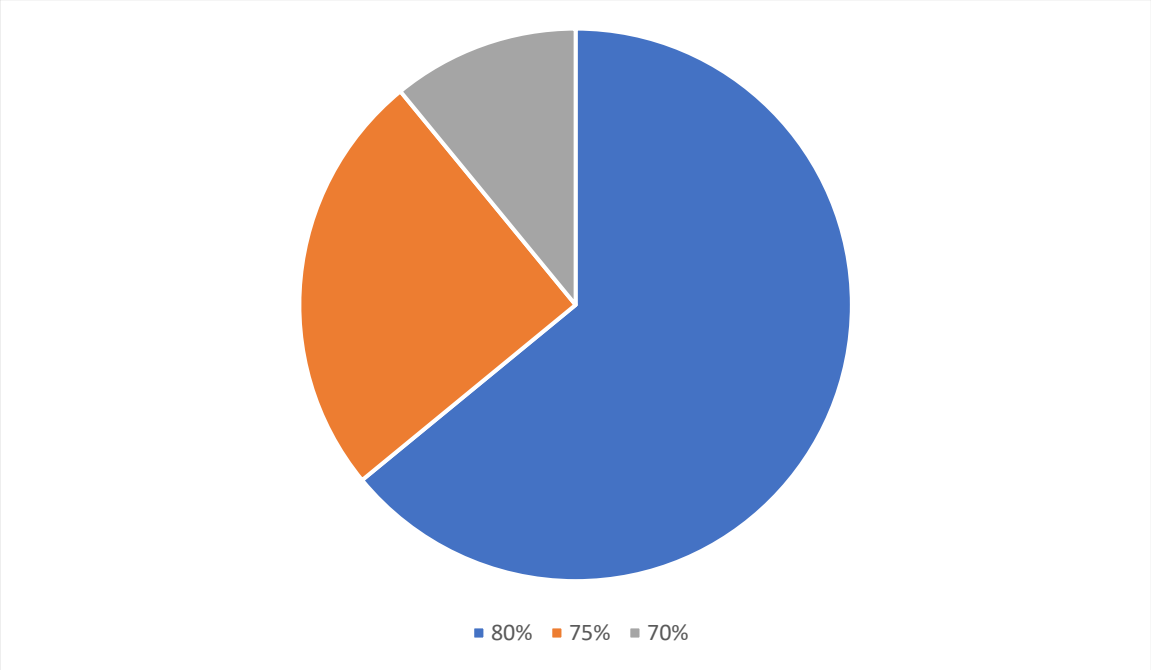
The research lasted for four weeks. Students participated in the following activities:



Data Collection

Data was collected through:

- classroom observation
- questionnaires
- student self-assessment
- Teachers provided regular feedback to support students



Results

The study showed clear improvement:

- 80% of students became more confident
- 75% reported less anxiety
- 70% improved fluency and pronunciation
- Most students participated more actively
- Students who practiced regularly showed better results than others.

DISCUSSION

The results confirm that practice and support are key factors in improving public speaking skills. Speaking activities help students feel more comfortable and reduce fear.

Teacher feedback also plays an important role. Positive encouragement increases motivation and participation. However, some students still experience anxiety, which means more long-term practice is needed.These findings are similar to previous research in this field.ConclusionIn conclusion, public speaking skills among school students can be improved through regular practice, interactive activities, and supportive teaching methods.The case of School No. 92 in Namangan Region shows that even simple classroom strategies can lead to

significant improvement.Schools should include more speaking activities to help students become confidencommunicators in the future.

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