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- Ijtimoiy va gumanitar fanlar
- Iqtisodiyot, boshqaruv va biznes tadqiqotlari
- Ta'lim, pedagogika va psixologiya
- Qishloq xo'jaligi, ekologiya va atrof-muhit tadqiqotlari



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“INNOVATIVE PUBLICATION” MAS'ULIYATI CHEKLANGAN JAMIYATI



**STATE POLICY FOR SUPPORTING SMALL BUSINESS AND
ENTREPRENEURSHIP: MODERN TRENDS AND DEVELOPMENT
STRATEGIES**

Khujamurodov Diyorbek

Abstract

This article comprehensively analyzes the current state of the government policy for supporting small business and private entrepreneurship in the Republic of Uzbekistan, focusing on its legal and institutional framework, as well as financial and tax mechanisms. It examines the role of small business in the national economy, its contribution to employment generation, and the quantitative outcomes of ongoing government reforms based on statistical data. In addition, a comparative analysis of the relevant experiences of developed countries is presented to identify effective approaches for fostering entrepreneurship and sustainable economic development.

Keywords

small business, private entrepreneurship, financial instruments, preferential lending, tax policy, digital transformation, economic growth.

**KICHIK BIZNES VA TADBIRKORLIKNI DAVLAT TOMONIDAN
QO‘LLAB-QUVVATLASH SIYOSATI: ZAMONAVIY TENDENSIYALAR VA
RIVOJLANTIRISH YO‘LLARI**

Xo‘jamurodov Diyorbek Ulug‘bek o‘g‘li

Annotatsiya. Mazkur maqolada O‘zbekiston Respublikasida kichik biznes va xususiy tadbirkorlikni davlat tomonidan qo‘llab-quvvatlash siyosatining hozirgi holati, huquqiy-institutsional asoslari, moliyaviy va soliq mexanizmlari kompleks tarzda tahlil qilingan. Kichik biznesning milliy iqtisodiyotdagi o‘rni, aholi bandligini ta‘minlashdagi ahamiyati, davlat tomonidan amalga oshirilayotgan islohotlarning miqdoriy natijalari statistik ma‘lumotlar asosida yoritilgan, shuningdek rivojlangan mamlakatlarning tegishli tajribasi qiyosiy tahlil qilingan.



Kalit soʻzlar: kichik biznes, xususiy tadbirkorlik, moliyaviy instrumentlar, imtiyozli kreditlash, soliq siyosati, raqamli transformatsiya, iqtisodiy oʻsish.

Kirish. Kichik biznes va xususiy tadbirkorlik istalgan mamlakat iqtisodiyotining eng dinamik va ijtimoiy ahamiyatga ega tarmogʻi hisoblanadi. U aholi bandligini taʼminlash, isteʼmol bozorini xilma-xil tovar va xizmatlar bilan toʻyintirish, raqobat muhitini shakllantirish hamda hududlarning muvozanatli rivojlanishiga xizmat qiladi. Oʻzbekiston Respublikasida soʻnggi yillarda amalga oshirilayotgan tub islohotlar natijasida kichik biznesni qoʻllab-quvvatlash davlat siyosatining ustuvor yoʻnalishlaridan biriga aylandi. Prezidentimiz Shavkat Mirziyoyev tomonidan tadbirkorlik faoliyatini rivojlantirish “strategik yoʻl” sifatida belgilangani bu sohaning milliy iqtisodiyot taraqqiyotidagi oʻrnini yanada oshirmoqda.¹

Tarixiy jihatdan yondashilganda, Oʻzbekistonda kichik biznesni qoʻllab-quvvatlash siyosati bir necha bosqichni bosib oʻtdi: dastlabki bosqichda (1990-yillar) tadbirkorlik faoliyatining huquqiy asoslari shakllantirildi; ikkinchi bosqichda (2000-yillar) soliq va litsenziyalash tizimi soddalashtirildi; uchinchi, hozirgi bosqichda esa (2017-yildan buyon) tizimli institutsional islohotlar, raqamli xizmatlar va yirik moliyaviy dasturlar joriy etilmoqda. Ushbu evolyutsion yondashuv sohaning barqaror rivojlanishi uchun zarur institutsional muhitni bosqichma-bosqich shakllantirishga xizmat qildi. Mavzuning dolzarbligi shundaki, kichik biznesning barqaror rivojlanishi koʻp jihatdan davlat tomonidan yaratilayotgan moliyaviy, huquqiy va infratuzilmaviy shart-sharoitlarga bogʻliq. Shu sababli mavjud qoʻllab-quvvatlash mexanizmlarining samaradorligini ilmiy jihatdan tahlil qilish, ularning kuchli va zaif tomonlarini aniqlash hamda sohani yanada rivojlantirish boʻyicha asoslangan takliflar ishlab chiqish muhim ilmiy-amaliy ahamiyat kasb etadi.

Tadqiqotning maqsadi — Oʻzbekistonda kichik biznes va tadbirkorlikni davlat tomonidan qoʻllab-quvvatlash siyosatining hozirgi holatini tahlil qilish, mavjud

¹Oʻzbekiston Respublikasi Prezidenti Sh.M.Mirziyoyev — Tadbirkorlikni qoʻllab-quvvatlash — strategik yoʻlimiz. — dunyo.info, 2025-yil 19-mart.



muammolarni aniqlash va sohani rivojlantirish bo'yicha ilmiy asoslangan tavsiyalar ishlab chiqishdan iborat. Tadqiqotning vazifalari quyidagilardan iborat: kichik biznesning milliy iqtisodiyotdagi o'rnini baholash; huquqiy-institutsional bazani tahlil qilish; moliyaviy va soliq instrumentlarining samaradorligini o'rganish; xorijiy tajribani qiyosiy tahlil qilish; sohani rivojlantirish bo'yicha takliflar ishlab chiqish.

Adabiyotlar tahlili. Kichik biznesni davlat tomonidan qo'llab-quvvatlash masalalari jahon iqtisodiy fikri tarixida uzoq davrdan buyon o'rganib kelinmoqda. A. Smit o'zining klassik asarida erkin bozor va tadbirkorlik erkinligining boylik yaratishdagi rolini asoslab bergan bo'lsa, D. Nort institutsional o'zgarishlarning iqtisodiy faoliyatga ta'sirini tahlil qilgan. J. Shumpeter esa tadbirkorni innovatsion jarayonning markaziy sub'ekti sifatida talqin qilib, «ijodiy vayronagarchilik» kontsepsiyasi orqali kichik biznesning iqtisodiy dinamikadagi o'rnini ilmiy asoslab bergan. Iqtisodiy hamkorlik va taraqqiyot tashkiloti (OECD) tomonidan ishlab chiqilgan kichik va o'rta biznesni qo'llab-quvvatlash bo'yicha uslubiy yondashuvlar ham jahon amaliyotida keng qo'llanilmoqda.

Mustaqil davlatlar iqtisodiyoti misolida esa O'zbekiston olimlaridan Sh.D. Ergashxodjaeva² innovatsion marketing va tadbirkorlik faoliyatini rag'batlantirish masalalarini, O.A. Aripov³ kichik biznesni rivojlantirish hamda ishbilarmonlik muhitini yaratish yo'llarini, Sh.Sh. Boltayev va A.A. Raxmatov⁴ esa tadbirkorlikni innovatsion rivojlantirishning institutsional jihatlarini tadqiq etishgan. Bu tadqiqotlar kichik biznesni qo'llab-quvvatlashning nazariy-uslubiy asoslarini boyitgan bo'lsada, so'nggi yillarda joriy etilgan yangi moliyaviy instrumentlar, soliq islohotlari va institutsional o'zgarishlarni kompleks tahlil qiluvchi tadqiqotlarga bo'lgan ehtiyoj hamon saqlanib qolmoqda — mazkur maqola aynan shu bo'shliqni to'ldirishga qaratilgan.

² Ergashxodjaeva, Sh.D. (2014). Innovatsion marketing. — Toshkent: TDIU, 180 b.

³ Aripov, O.A. (2019). Kichik biznes va xususiy tadbirkorlikni rivojlantirish hamda ishbilarmonlik muhitini yaratish. — Iqtisodiyot va innovatsion texnologiyalar, №2, 12–18 b.

⁴ Boltayev, Sh.Sh., Raxmatov, A.A. (2019). Tadbirkorlikni innovatsion rivojlantirishning ayrim jihatlar. — Xalqaro moliya va hisob, №5, 45–52 b.



Tadqiqot metodologiyasi. Tadqiqotda umumilmiy tadqiqot usullaridan — tizimli tahlil, qiyosiy tahlil, statistik ma'lumotlarni guruhlash, mantiqiy umumlashtirish va induktiv-deduktiv usullardan foydalanildi. Tahlil bazasi sifatida O'zbekiston Respublikasi Prezidenti farmonlari va qarorlari, Milliy statistika qo'mitasining rasmiy ma'lumotlari, tijorat banklari va "Tadbirkorlikni rivojlantirish kompaniyasi" AJning ochiq axborotlari, soliq siyosatiga oid rasmiy hujjatlar hamda ilmiy nashrlar qo'llanildi. Tadqiqot 2020–2027-yillar davrini, jumladan 2026–2027-yillarga mo'ljallangan yangi dastur ko'rsatkichlarini qamrab oladi, bu esa siyosatning dinamikasini va istiqbolli yo'nalishlarini baholash imkonini beradi.

Tahlil va natijalar. Milliy statistika qo'mitasi ma'lumotlariga ko'ra, 2025-yil 1-sentabr holatiga respublikada faoliyat yuritayotgan korxona va tashkilotlar soni 465,6 mingtani tashkil etib, ularning 395,6 mingtasi, ya'ni 85 foizi kichik korxona va mikrofirmalar hissasiga to'g'ri kelgan.⁵ Bu ko'rsatkich kichik biznesning O'zbekiston iqtisodiyotidagi ustuvor o'rnini yaqqol tasdiqlaydi. Davlat rahbari tomonidan 2025-yilda kichik biznesning yalpi ichki mahsulotdagi ulushini 55 foizga yetkazish va soha orqali 70 milliard dollarlik qo'shilgan qiymat yaratish, shuningdek, kichik biznes eksportini 9 milliard dollardan 12 milliard dollarga oshirish vazifalari belgilangan.⁶

Bundan tashqari, kichik biznesning ijtimoiy ahamiyati ham katta: davlat dasturlarida 1,5 million doimiy ish o'rni yaratish va sohada band aholi ulushini 75 foizga yetkazish maqsad qilib qo'yilgan. Bu ko'rsatkichlar kichik biznesni nafaqat iqtisodiy o'sish, balki ijtimoiy barqarorlikni ta'minlashning ham muhim omili sifatida belgilaydi.

Kichik biznesni qo'llab-quvvatlashning huquqiy poydevorini O'zbekiston Respublikasi Prezidentining 2025-yil 19-martdagi PF-50-son "Kichik va o'rta biznesning iqtisodiyotdagi o'rnini oshirish chora-tadbirlari to'g'risida"gi farmoni,

⁵O'zbekiston Respublikasi Milliy statistika qo'mitasi ma'lumotlari, 2025-yil 1-sentabr holatiga; keltirilgan: interspp.com, "O'zbekistonda kichik biznes va tadbirkorlikni qo'llab-quvvatlash mexanizmlari".

⁶Prezident Shavkat Mirziyoyev — Tadbirkorlikni qo'llab-quvvatlash — strategik yo'limiz. — dunyo.info, 2025-yil 19-mart.



⁷shuningdek, 2022-yildagi PF-60-son “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi farmoni tashkil etadi⁸. Bundan tashqari, tadbirkorlar bilan bo‘lib o‘tgan navbatdagi ochiq muloqot natijalari bo‘yicha 2026–2027-yillarga mo‘ljallangan yangi chora-tadbirlar dasturi qabul qilindi, unga ko‘ra ushbu davrda tadbirkorlik faoliyatini qo‘llab-quvvatlash va zarur infratuzilmaviy sharoitlarni yaratish uchun jami 270 trillion so‘m mablag‘ yo‘naltirilishi belgilangan.⁹

Huquqiy bazaning muhim jihatlaridan biri — tartibga solishning bashorat qilinuvchanligini oshirish maqsadida joriy etilgan “yagona sanadan yangi qoidalar” tamoyili bo‘lib, unga ko‘ra tadbirkorlik faoliyatiga yangi talablar faqat 1-yanvar yoki 1-iyuldan kuchga kiradi. Shuningdek, 2028-yil 1-yanvargacha “Birinchi imkoniyat” tamoyili joriy etilib, faoliyatining birinchi yilida ilk bor ma‘muriy huquqbuzarlik sodir etgan kichik tadbirkorlik subyektlari ma‘muriy javobgarlikdan ozod etiladi. Bu choralar tadbirkorlik muhitining bashorat qilinuvchanligi va ishonchliligini sezilarli darajada oshiradi. So‘nggi yillarda kichik biznesni moliyalashtirish tizimi sezilarli darajada takomillashtirildi. 2025-yilda kichik va o‘rta biznesni moliyaviy qo‘llab-quvvatlash uchun 120 trillion so‘m mablag‘ ajratilishi rejalashtirilgan bo‘lib, shundan 22 trillion so‘mi to‘g‘ridan-to‘g‘ri kredit mablag‘lari sifatida ko‘zda tutilgan; kichik biznes subyektlariga 150 million so‘mgacha garovsiz kreditlar berish imkoniyati yaratilgan.¹⁰ 270 trillion so‘mlik yangi dastur doirasida esa tijorat banklari orqali kichik va o‘rta biznesga 250 trillion so‘m, shu jumladan tadbirkorlik dasturlari doirasida 30 trillion so‘m, “Tadbirkorlikni rivojlantirish kompaniyasi” AJ orqali kamida 5 mingta loyihani moliyalashtirish uchun 4 trillion so‘m yo‘naltirilishi rejalashtirilgan.

⁷O‘zbekiston Respublikasi Prezidentining 2025-yil 19-martdagi PF-50-son Farmoni. “Kichik va o‘rta biznesning iqtisodiyotdagi o‘rni oshirish chora-tadbirlari to‘g‘risida”.

⁸O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi PF-60-son Farmoni. “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”.

⁹O‘zbekiston Respublikasi Prezidenti — tadbirkorlar bilan V ochiq muloqotida belgilangan vazifalarni amalga oshirish chora-tadbirlari to‘g‘risida, 2026–2027-yillar dasturi. — president.uz, 2025-yil.

¹⁰Kichik biznesni rivojlantirishda davlat qo‘llab-quvvatlash mexanizmlari. — innoist.uz, ilmiy maqola, 2025-yil ma‘lumotlari.



Quyidagi 1-jadvalda 2025-yil va 2026–2027-yillarga mo‘ljallangan dastur ko‘rsatkichlari qiyosiy tarzda keltirilgan:

1-jadval

2026–2027-yillarga mo‘ljallangan dastur ko‘rsatkichlari

Yo‘nalish	2025-yil ko‘rsatkichi	2026–2027-y. dasturi
Jami moliyaviy qo‘llab-quvvatlash	120 trln so‘m	270 trln so‘m
Bevosita kredit mablag‘lari	22 trln so‘m	250 trln so‘m (banklar orqali)
Garovsiz kreditlar chegarasi	150 mln so‘mgacha	500 mln so‘mgacha (mikroloyihalar)
Soddalashtirilgan soliq chegarasi	1 mlrd so‘mgacha	5 mlrd so‘mgacha (2026-y. 1-iyundan)
Qo‘llab-quvvatlanadigan loyihalar soni	—	kamida 5 000 ta

Institutsional jihatdan muhim yangilik sifatida “Tadbirkorlikni rivojlantirish kompaniyasi” AJ negizida “Biznesni kafolatlash milliy kompaniyasi” tashkil etilishi ko‘rsatilishi mumkin, u tadbirkorlarga kafolat va kafillik xizmatlarini kengaytirilgan shartlarda taqdim etadi. Xususan, ishlab chiqarish, xizmat ko‘rsatish va “yashil” iqtisodiyot yo‘nalishidagi mikroloyihalar uchun ajratilgan 500 million so‘mgacha kreditlarni qayta moliyalashtirish, foiz stavkasini pasaytirish va yangi ish o‘rinlari yaratishga yo‘naltirilgan loyihalarni rag‘batlantirish mexanizmlari joriy etilmoqda.¹¹

Kichik biznesni qo‘llab-quvvatlashning muhim yo‘nalishlaridan biri soliq yukini yengillashtirish va soliq ma‘muriyatchiligini soddalashtirishdir. 2019-yildan amalda

¹¹O‘zbekistonda 2026–2027-yillarda 5 mingta tadbirkorlik loyihalari amalga oshiriladi. — gazeta.uz, 2025-yil 29-sentabr.



bo'lgan soddalashtirilgan soliq rejimining 1 milliard so'mlik chegarasi narxlar o'sishi sharoitida ayrim tadbirkorlarni aylanmani yashirish yoki biznesni bir nechta subyektga bo'lishga undagan.¹² Ushbu muammoni bartaraf etish maqsadida 2026-yil 1-iyundan boshlab umumbelgilangan soliq tartibiga o'tish chegarasi bazaviy hisoblash miqdorining 12 ming baravariga, ya'ni taxminan 5 milliard so'mga oshirilishi belgilandi.¹³ Bu chora kichik biznesning tabiiy o'sishiga to'sqinlik qiluvchi omillarni bartaraf etib, tadbirkorlarni rasmiy faoliyat yuritishga rag'batlantiradi.

Raqamli transformatsiya yo'nalishida ham sezilarli ilg'or o'zgarishlar amalga oshirilmoqda: soliq hisobotlari va elektron hisob-fakturalarni birlashtirgan yagona raqamli platformalar joriy etilmoqda, IT Park rezidentlari uchun korporativ soliqlardan to'liq ozod qilish va jismoniy shaxslar daromad solig'ini pasaytirilgan stavkada belgilash kabi imtiyozlar amal qilmoqda.¹⁴ Davlat xizmatlarini yagona interaktiv platformalar orqali ko'rsatish amaliyoti ro'yxatdan o'tkazish, litsenziyalash va ruxsatnomalar olish muddatlarini qisqartirib, korrupsiya xavfini kamaytirishga xizmat qilmoqda. Erishilgan yutuqlarga qaramasdan, sohada bir qator muammolar saqlanib qolmoqda: kredit resurslariga, ayniqsa uzoq muddatli va arzon moliyaviy vositalarga barcha hududlarda bir xilda teng kirish imkoniyatining yo'qligi; tadbirkorlarning moliyaviy savodxonlik darajasi pastligi sababli imtiyozli dasturlardan to'liq foydalana olmasligi; kafolat va kafillik institutlarining yosh tadbirkorlar va startaplar uchun hali yetarlicha ommalashmaganligi; hududlararo va tarmoqlararo notekis rivojlanish.¹⁵

Bundan tashqari, soliq chegaralarining uzoq vaqt o'zgarmasligi natijasida yuzaga kelgan «chegaraga yopishib qolish» hodisasi, ya'ni tadbirkorlarning aylanmani sun'iy ravishda cheklashi yoki bir nechta yuridik shaxsga bo'linib ishlashi, byudjet

¹²Kichik biznes o'sishi uchun qulay sharoitlar yaratish bo'yicha takliflar ko'rib chiqildi. — president.uz, 2026-yil.

¹³Kichik va o'rta biznes subyektlarining o'sishi uchun yanada qulay shart-sharoitlar yaratish to'g'risida (soliq islohoti hujjati). — president.uz, 2026-yil 29-may.

¹⁴O'zbekistonda kichik biznes uchun soliq imtiyozlari 2026. — azma.uz.

¹⁵Kichik biznesni rivojlantirishda davlat qo'llab-quvvatlash mexanizmlari. — innoist.uz, ilmiy maqola, 2025-yil ma'lumotlari.



daromadlariga ham, sohaning tabiiy o'sishiga ham salbiy ta'sir ko'rsatadi. Eksportga yo'naltirilgan kichik korxonalar uchun sertifikatlash, transport-logistika va xalqaro standartlarga moslashish xarajatlari yuqoriligicha qolmoqda. Davlat qo'llab-quvvatlash choralarining amaliy natijadorligini uzluksiz monitoring qilish va baholash tizimi ham yanada takomillashtirishni talab etadi.

Rivojlangan mamlakatlar tajribasi kichik biznesni qo'llab-quvvatlashning turli institutsional modellarini namoyish etadi. Germaniyada davlat taraqqiyot banki orqali kichik va o'rta korxonalarga arzon uzoq muddatli kredit liniyalari taqdim etiladi, bu esa tijorat banklari bilan hamkorlikda amalga oshiriladi. Janubiy Koreyada Kichik va o'rta biznes vazirligi texnoparklar va biznes-inkubatorlar tarmog'i orqali innovatsion startaplarni maqsadli moliyalashtiradi. Singapurda esa "Enterprise Singapore" agentligi grantlar, soliq imtiyozlari va eksportni qo'llab-quvvatlash dasturlari orqali kichik korxonalarning xalqaro bozorlarga chiqishiga ko'maklashadi. Yevropa Ittifoqining "Kichik biznes to'g'risidagi akt" (Small Business Act) tamoyillari esa «avvalo kichiklar haqida o'ylash» (think small first) g'oyasiga asoslanib, barcha me'yoriy-huquqiy hujjatlarni ishlab chiqishda kichik biznes manfaatlarini ustuvor hisobga olishni nazarda tutadi. Ushbu tajribalarning umumiy jihat — davlat qo'llab-quvvatlashining nafaqat moliyaviy, balki institutsional (ixtisoslashgan agentliklar), huquqiy (soddalashtirilgan tartibga solish) va bilim-konsalting (inkubatorlar, texnoparklar) yo'nalishlarini uyg'un tarzda birlashtirishidadir. Ushbu tajribani milliy shart-sharoitlarga moslashtirgan holda joriy etish O'zbekiston uchun ham dolzarb ahamiyat kasb etadi.

XULOSA

O'tkazilgan tahlil shuni ko'rsatadiki, O'zbekistonda kichik biznes va tadbirkorlikni davlat tomonidan qo'llab-quvvatlash siyosati izchil va kompleks tus olmoqda: huquqiy baza takomillashtirilmoqda, moliyaviy instrumentlar kengaytirilmoqda, soliq yuki yengillashtirilmoqda, yangi institutlar tashkil etilmoqda va raqamli xizmatlar joriy etilmoqda.



FOYDALANILGAN ADABIYOTLAR RO'YXATI

1. O'zbekiston Respublikasi Prezidentining 2025-yil 19-martdagi PF-50-son Farmoni. "Kichik va o'rta biznesning iqtisodiyotdagi o'rnini oshirish chora-tadbirlari to'g'risida".

2. O'zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi PF-60-son Farmoni. "2022–2026-yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida".

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**ADAPTING THE EDUCATION SYSTEM TO THE
REQUIREMENTS OF THE DIGITAL GENERATION AND THE
MODERN ERA**

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Abstract

This article analyzes the distinctive characteristics of the digital generation, their level of use of information and communication technologies, and the issues of adapting the modern education system to the needs of the new generation and the demands of the contemporary era. Digitalization has significantly influenced the content, methods, and tools of education, necessitating the implementation of innovative pedagogical approaches. The paper also highlights the importance of developing digital competencies, effectively utilizing distance and blended learning opportunities, and integrating artificial intelligence and modern educational technologies into the teaching and learning process. Furthermore, it substantiates the role of digital transformation in improving the quality of education and preparing competitive professionals.

Keywords

digital generation, digital education, education system, digitalization, information and communication technologies, artificial intelligence, innovative pedagogy, digital competence, distance learning, blended learning, educational transformation, modern educational technologies.

**RAQAMLI AVLODI VA TA'LIM TIZIMINI ZAMON TALABLARIGA
MOSLASHTIRISH**

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Profiuniversitety Axborot tizimlari va texnologiyalari kafedrasida katta o'qituvchilari

Annotatsiya: Ushbu maqolada raqamli avlodning o'ziga xos xususiyatlari, ularning axborot-kommunikatsiya texnologiyalaridan foydalanish darajasi hamda zamonaviy ta'lim tizimini yangi avlod ehtiyojlari va zamon talablariga moslashtirish masalalari tahlil qilinadi. Raqamlashtirish jarayonlari ta'lim mazmuni, metodlari va vositalariga sezilarli ta'sir ko'rsatib, innovatsion pedagogik yondashuvlarni joriy etishni taqozo etmoqda. Shuningdek, maqolada raqamli kompetensiyalarni rivojlantirish, masofaviy va aralash ta'lim imkoniyatlaridan samarali foydalanish, sun'iy intellekt hamda zamonaviy ta'lim texnologiyalarining o'quv jarayonidagi ahamiyati yoritilgan. Ta'lim sifatini oshirish va raqobatbardosh kadrlarni tayyorlashda raqamli transformatsiyaning o'rni asoslab berilgan.

Kalit so'zlar: Raqamli avlod, raqamli ta'lim, ta'lim tizimi, raqamlashtirish, axborot-kommunikatsiya texnologiyalari, sun'iy intellekt, innovatsion pedagogika, raqamli kompetensiya, masofaviy ta'lim, aralash ta'lim, ta'lim transformatsiyasi, zamonaviy ta'lim texnologiyalari.

Bugungi kunda yoshlar bir vaqtning o'zida ikki muhitda — real va virtual muhitda yashamoqda. Ularning kundalik hayoti internet, mobil qurilmalar, ijtimoiy tarmoqlar va raqamli texnologiyalar bilan chambarchas bog'liq. Shu sababli zamonaviy avlodning axborotni qabul qilish, qayta ishlash va o'rganish usullari avvalgi avlodlardan sezilarli darajada farq qiladi.

Ta'lim berayotgan pedagoglarning katta qismi XX asrda shakllangan ta'lim tizimi, ilmiy yondashuv va metodikalar asosida tahsil olgan. Hatto XXI asrda ta'lim olgan yosh pedagoglar ham o'z bilimlarini ko'p jihatdan XX asr pedagogik an'analari asosida faoliyat yuritgan ustozlardan olganlar. Bu holatni tanqid qilish yoki kamchilik sifatida ko'rsatish maqsad qilinmayapti. Aksincha, o'sha davr pedagoglari zamonaviy texnologiyalar mavjud bo'lmagan sharoitda ham jamiyatga yuksak bilim va tarbiya berishga muvaffaq bo'lganlar. Mazkur fikrlar hech qanday qoralash yoki tanqid ruhida



emas, balki ta'limni zamon talablariga mos ravishda rivojlantirish zaruratini asoslashga qaratilgan.

Bugungi kunda insoniyat sun'iy intellekt va raqamli texnologiyalar jadal rivojlanayotgan davrda yashamoqda. Bu esa ta'lim tizimi oldiga yangi vazifalarni qo'yimoqda. Zamonaviy yoshlar bolalik davridanoq internet, mobil ilovalar, kompyuter o'yinlari va ijtimoiy tarmoqlar bilan muntazam muloqotda bo'lib ulg'aymoqda. Natijada ular axborotni qabul qilishda ko'proq vizual va interaktiv usullarga moyillik namoyon etadilar. Ya'ni, ular ma'lumotni uzoq matnlarni o'qish orqali emas, balki ko'rish, kuzatish, tajriba qilish va interaktiv faoliyat orqali tezroq o'zlashtiradilar.

Shu nuqtai nazardan, ta'lim jarayonini tashkil etishda zamonaviy avlodning psixologik va kognitiv xususiyatlarini hisobga olish muhim ahamiyat kasb etadi. Biroq amaliyotda ko'plab dars mashg'ulotlari hamon XX asr metodikasi asosida olib borilayotgani kuzatiladi. Jumladan, taqdimotlar va slaydlarda matn hajmining ortiqcha ko'pligi, vizual materiallar, infografikalar, animatsiyalar va interaktiv elementlarning yetarli darajada qo'llanilmasligi ta'lim samaradorligiga salbiy ta'sir ko'rsatishi mumkin.

Ko'pincha pedagoglar katta mehnat sarflab hajman katta matnli taqdimotlar tayyorlaydilar. Biroq bunday materiallar raqamli avlodning o'rganish ehtiyojlariga to'liq mos kelmasligi mumkin. Natijada o'qituvchining mehnati yuqori bo'lishiga qaramay, kutilgan ta'limiy natija har doim ham yuzaga kelmaydi.

Xuddi shunday holat mustaqil ta'lim topshiriqlarida ham kuzatiladi. Talabalardan mavzu bo'yicha taqdimot tayyorlash talab qilinadi, ammo baholash mezonlari ko'pincha an'anaviy yondashuvlarga asoslanadi. Natijada raqamli avlod vakillaridan ham XX asr ta'lim modeli talablariga moslashish kutiladi. Ayrim hollarda esa ularning ishlash uslubi, fikrlash tarzi yoki taqdimot shakli keskin tanqid qilinadi.

Masalan, taqdimot slaydlarini tayyorlash bo'yicha ilmiy-uslubiy tavsiyalarda har bir slaydda o'rtacha 30–50 ta so'zdan iborat qisqa va mazmunli axborot berilishi tavsiya etiladi. Biroq amaliyotda ko'pincha slaydlar katta hajmdagi matnlar bilan to'ldiriladi.



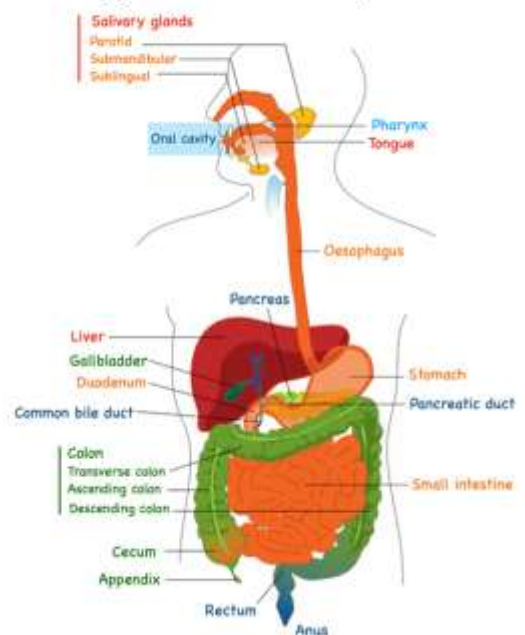
Zamonaviy raqamli avlod esa bunday axborotni o'qib o'zlashtirishdan ko'ra, grafik tasvirlar, diagrammalar, infografikalar, videolar va animatsiyalar orqali tezroq qabul qiladi. Bu ularning shaxsiy tanlovi emas, balki raqamli texnologiyalar ta'sirida shakllangan kognitiv xususiyatlaridir.

Shu sababli bugungi kunda ta'lim jarayonlarini zamon talablariga moslashtirish, dars mashg'ulotlarida vizual va interaktiv metodlardan keng foydalanish, sun'iy intellekt, multimedia vositalari hamda raqamli texnologiyalar imkoniyatlarini ta'limga integratsiya qilish muhim vazifa hisoblanadi. Bunday yondashuv nafaqat talabalarning qiziqishini oshiradi, balki bilimlarni samarali o'zlashtirishga ham xizmat qiladi.

Mazkur yondashuvni deyarli barcha fan va yo'nalishlarda qo'llash mumkin. Hatto murakkab hisoblangan tibbiyot, muhandislik yoki texnika yo'nalishlarida ham murakkab jarayonlar va tushunchalarni 3D modellar, simulyatsiyalar, animatsiyalar, virtual laboratoriyalar hamda sun'iy intellekt vositalari orqali tushuntirish imkoniyati mavjud. Bu esa zamonaviy ta'limning samaradorligini oshirish va raqamli avlod ehtiyojlariga mos ta'lim muhitini yaratishning muhim omillaridan biri hisoblanadi

HAZM TIZIMI (Systema digestorium)

- Og'iz bo'shlig'i (cavitas oris)
- Quloq oldi so'lak bezi – (glandula parotidean)
- Jag' osti so'lak bezi – (glandula submandibularis)
- Til osti so'lak bezi – (glandula sublingualis)
- Halqum (pharynx)
- Ozilo'ngach (oesophagus)
- Me'da (gaster)
- O'n ikki barmoqli ichak (duodenum)
- Jigar (hepar) va o't yo'llari (vesica fellea)
- Me'da osti bezi (pancreas)
- Och ichak (jejunum)
- Yonbosh ichak (Ileum)
- Ko'r ichak (caecum)
- Ko'tariluvchi chambar ichak (colon ascendens)
- Ko'ndalang chambar ichak (colon transversum)
- Tushuvchi chambar ichak (colon descendens)
- Sigmoid ichak (colon sigmoideum)
- To'g'ri ichak (rectum)
- Anal kanali (canalis analis)



Raqamli avlod uchun slayd (sun'iy intellek asosida yaratilgan bunda jarayon infografik ko'rinishi va uning video holati)

Talabalar uchun albatta bunday infografikalar berilayotgan materiallarni fiklash, diqqatini jalb qilish, materialni aniqliligi, tushunarliklik, dizaynerlik, katta hajimdagi axborotlarni olish va boshqa ko'plab imkoniyatlarni ochib beradi.



Bulardan tashqari interaktiv ta'lim platformalari va gamifikatsiya texnologiyalaridan foydalanish imkoniyatlarini ham ko'rib chiqsak:

Ta'lim jarayonida o'qituvchi tomonidan taqdim etilayotgan vizual materiallar, grafik tasvirlar va multimedia vositalari bilan bir qatorda talabalar motivatsiyasini oshirish, ularning o'quv faolligini kuchaytirish hamda mustaqil fikrlash ko'nikmalarini rivojlantirish muhim ahamiyat kasb etadi. Shu nuqtai nazardan, zamonaviy ta'lim texnologiyalaridan samarali foydalanish, xususan, gamifikatsiya (o'yinlashtirish) elementlarini o'quv jarayoniga integratsiya qilish ta'lim samaradorligini sezilarli darajada oshiradi.

Bugungi kunda taqdimotlar, elektron darsliklar va o'quv materiallariga gipermurojaatlar (hyperlinks) orqali interaktiv ta'lim platformalarini integratsiya qilish imkoniyati mavjud. Bunday yondashuv talabalarning dars jarayonidagi ishtirokini faollashtiradi, ularni bilim olishga qiziqtiradi hamda tanqidiy va kreativ fikrlash kompetensiyalarini rivojlantirishga xizmat qiladi.



Xususan, quyidagi zamonaviy ta'lim platformalaridan foydalanish tavsiya etiladi:

- Kahoot (<https://kahoot.com>) – real vaqt rejimida viktorina va testlar tashkil etish imkonini beruvchi platforma;
- Wordwall (<https://wordwall.net>) – interaktiv mashqlar, didaktik o'yinlar va topshiriqlar yaratish vositasi;
- Blooket (<https://www.blooket.com>) – o'yinlashtirilgan baholash va bilimlarni mustahkamlash platformasi;
- Quizizz (<https://quizizz.com>) – individual va guruhli testlarni tashkil etish imkonini beruvchi interaktiv tizim;
- Mentimeter (<https://www.mentimeter.com>) – real vaqt rejimida so'rovnomalar, fikr-mulohazalar va taqdimotlar yaratish platformasi;
- Nearpod (<https://nearpod.com>) – virtual va an'anaviy ta'lim uchun interaktiv darslarni tashkil etish muhiti;
- Padlet (<https://padlet.com>) – hamkorlikda ishlash, loyiha faoliyatini tashkil etish va g'oyalar almashish platformasi;
- Genially (<https://genially.com>) – interaktiv taqdimotlar, infografikalar va o'quv kontentlarini yaratish vositasi.

Mazkur platformalarni taqdimotlar va elektron ta'lim resurslariga gipermurojaatlar orqali bog'lash, o'qituvchidagi uzliksiz ma'lumot davomiyligini, talabalarning o'quv materiallarini chuqurroq o'zlashtirishiga, dars jarayonida faol ishtirok etishiga hamda bilimlarni mustaqil ravishda mustahkamlashiga xizmat qiladi. Bundan tashqari, gamifikatsiya elementlari talabalarda sog'lom raqobat muhitini shakllantirib, o'quv motivatsiyasini oshiradi va ta'lim jarayonining interaktivligini ta'minlaydi.

Sun'iy intellekt texnologiyalari bilan integratsiyalashgan zamonaviy ta'lim platformalari talabalar faoliyatini tahlil qilish, o'quv natijalarini monitoring qilish, bilimlarni baholash va shaxsiylashtirilgan ta'lim trayektoriyalarini shakllantirish imkoniyatlarini sezilarli darajada kengaytirmoqda. Bunday tizimlar yordamida har bir



talabanning bilim darajasi, o'zlashtirish sur'ati va o'quv ehtiyojlari aniqlanib, individual yondashuv asosida ta'lim jarayonini tashkil etish imkoniyati yaratiladi. Natijada, ta'lim jarayoni yanada moslashuvchan, samarali va talaba markazli modelga o'tmoqda.

Sun'iy intellektga asoslangan ta'lim texnologiyalaridan foydalanish o'qituvchilarning ma'muriy va takrorlanuvchi vazifalarini avtomatlashtirishga xizmat qiladi. Jumladan, testlarni tekshirish, o'quv natijalarini tahlil qilish, elektron topshiriqlarni baholash hamda o'quv materiallarini tayyorlash jarayonlari avtomatlashtirilishi natijasida pedagoglarning vaqt resurslari tejaladi. Bu esa o'qituvchilarga talabalarning ijodiy fikrlashini rivojlantirish, ilmiy tadqiqot faoliyatini tashkil etish va ta'lim sifatini oshirishga ko'proq e'tibor qaratish imkonini beradi.

Hozirgi kunda ko'plab ta'lim muassasalari zamonaviy interaktiv panellar, aqlli doskalar (Smart Board), sensorli monitorlar va internet tarmog'iga ulangan multimedia qurilmalari bilan jihozlanmoqda. Ushbu texnologiyalar yordamida virtual laboratoriyalar, masofaviy ta'lim, videokonferensiyalar va interaktiv taqdimotlarni tashkil etish imkoniyati kengaymoqda. Xususan, Google Classroom, Microsoft Teams for Education, Moodle, Canvas LMS va Schoology kabi raqamli ta'lim platformalari o'quv jarayonini samarali boshqarish va nazorat qilish imkoniyatini taqdim etadi.

Shuningdek, bulutli texnologiyalar (Cloud Computing) ta'lim jarayonini raqamlashtirishning muhim vositalaridan biri hisoblanadi. Google Drive, Microsoft OneDrive, Dropbox va Google Workspace for Education kabi xizmatlar yordamida didaktik materiallar, elektron topshiriqlar, taqdimotlar va baholash natijalarini saqlash, almashish hamda tahlil qilish mumkin. Bu esa qog'oz hujjatlar aylanishini kamaytirib, elektron hujjat almashinuvi tizimini rivojlantiradi, vaqt va moliyaviy xarajatlarni qisqartiradi hamda ekologik barqarorlikni ta'minlashga xizmat qiladi.

Zamonaviy ta'limda generativ sun'iy intellekt vositalaridan foydalanish ham tobora ommalashib bormoqda. Jumladan, ChatGPT, Gemini, Microsoft Copilot, Claude va Perplexity AI kabi platformalar o'quv materiallarini yaratish, murakkab mavzularni



tushuntirish, ilmiy axborotlarni tahlil qilish va individual maslahatlar berishda samarali yordamchi vosita sifatida qo'llanilmoqda. Mazkur texnologiyalar o'quvchilarning mustaqil ta'lim olish kompetensiyalarini rivojlantirish, tanqidiy fikrlash ko'nikmalarini shakllantirish va raqamli savodxonlik darajasini oshirishga xizmat qiladi.

Shunday qilib, sun'iy intellekt, bulutli texnologiyalar va interaktiv ta'lim platformalarining integratsiyasi natijasida ta'lim tizimida innovatsion o'quv muhiti shakllanmoqda. Ushbu yondashuv ta'lim sifati va samaradorligini oshirish, resurslardan oqilona foydalanish hamda raqamli transformatsiya sharoitida raqobatbardosh kadrlarni tayyorlashning muhim omili hisoblanadi.

Xulosa: Xulosa qilib aytganda, raqamli avlodning shakllanishi ta'lim tizimi oldiga yangi vazifalar va talablarni qo'ymoqda. Bugungi kunda an'anaviy ta'lim usullarini zamonaviy raqamli texnologiyalar bilan uyg'unlashtirish, o'quvchilarning mustaqil fikrlashi, ijodkorligi va raqamli savodxonligini rivojlantirish muhim ahamiyat kasb etadi. Ta'lim muassasalari zamon talablariga mos ravishda innovatsion metodlarni joriy etishi, pedagoglarning raqamli kompetensiyalarini muntazam oshirib borishi hamda ta'lim jarayonida sun'iy intellekt va boshqa ilg'or texnologiyalardan samarali foydalanishi zarur. Shu orqali ta'lim sifati yuksaladi, yoshlarning global axborot makonida muvaffaqiyatli faoliyat yuritishi va mehnat bozorida raqobatbardosh mutaxassis bo'lib yetishishi ta'minlanadi.

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**HYDROGEOLOGICAL DYNAMICS AND SPATIAL DISTRIBUTION OF
GROUNDWATER IN THE KITOB-SHAXRISABZ DEPOSIT UNDER
CLIMATE CHANGE CONDITIONS**

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Abstract

This paper evaluates the hydrodynamic trends and spatial distribution of the Kitob-Shaxrisabz groundwater deposit in Uzbekistan under changing climatic conditions from 2020 to 2025. Utilizing systematic data from 133 optimized high-precision observation wells, the study establishes a direct correlation between volatile regional precipitation regimes and fluctuating water table levels. Structural lithofacies analysis reveals that the deposit is divided into three distinct operational hydrogeological zones: a peripheral foothill recharge belt, a central high-yielding transit core, and a western discharge margin prone to localized soil salinization. The climate-hydrodynamic trend model highlights extreme vulnerability to drought, with the static water table plunging to a depth of 5.2 meters during the severe 2023 dry cycle. This depletion is heavily exacerbated by intensive agricultural abstraction and unmanaged regional drilling. To preserve freshwater security and mitigate saline front encroachment, this study proposes critical management strategies, including the implementation of subsurface drip irrigation, managed aquifer recharge (MAR) structures, and a digital telemetric early warning monitoring model.

Keywords

Kitob-Shaxrisabz deposit, Groundwater hydrodynamics, Climate change impact, Aquifer zonation, Water table fluctuations, Managed aquifer recharge (MAR), Telemetric monitoring, Water resource sustainability.



1.Introduction

The Kitob-Shaxrisabz groundwater deposit, situated within the eastern intermontane depression of the Qashqadaryo region in Uzbekistan, constitutes a crucial hydrogeological repository. It serves as the primary freshwater asset for municipal drinking water supplies, intensive agricultural irrigation, and industrial applications across the dynamic districts of Kitob and Shaxrisabz. However, ongoing global and regional climate variations, characterized by rising mean annual temperatures and erratic localized precipitation regimes, have significantly altered the recharge rates and spatial stability of these aquifers. Since approximately 59.20% (909.99 thousand m³/day) of the total extracted groundwater volume is rapidly deployed for agricultural irrigation, understanding the direct impact of climate change on water table levels is vital for sustainable water security. This paper examines the hydrodynamic trends of the Kitob-Shaxrisabz aquifers between 2020 and 2025, providing an integrated assessment of structural distribution and climatic correlation.

2. Material and Methods

The research utilizes systematic long-term monitoring data obtained from the state hydrogeological network managed by the Qashqadaryo Hydrogeological Station under the State Geological Monitoring Service of 'O'zbekgidrogeologiya' State Institution. Following an intensive network optimization process executed between 2023 and 2024, a total of 133 high-precision observation wells ranging in deep profiles from 10 to 500 meters were continuously monitored. Hydrodynamic parameters, specifically the static water table depth levels, were logged monthly. Meteorological datasets including mean annual precipitation and atmospheric temperature ranges were cross-referenced from regional meteorology stations in Shaxrisabz and Kitob. Spatial analysis and hydrogeological zonation were conducted based on litofacies analyses of the Quaternary (Q) alluvial-proluvial coarse-grained strata, grouping sediment thicknesses, hydraulic conductivities, and boundary parameters into three discrete conceptual operational zones.



3. Results

The spatial configuration of the Kitob-Shaxrisabz deposit is highly influenced by the structural architecture of the intermontane basin. Longitudinal hydrogeological profiles reveal that groundwater distribution falls into three well-defined operational zones. Zone I represents the peripheral foothill recharge belt adjacent to the Zarafshon and Hisor mountain blocks, dominated by highly permeable gravels where direct riverbed infiltration from the Qashqadaryo River occurs. Zone II comprises the central transit and heavy extraction core where the unconfined aquifer converts partially into semi-confined high-yielding layers. Zone III forms the western discharge and evaporation margin, where the water table rises close to the topographic surface (0.5 to 2.0 meters), leading to localized soil salinization and mineralized upwelling. The schematic zonation map illustrating these zones and specific active tracking wells is detailed below in Figure 1.

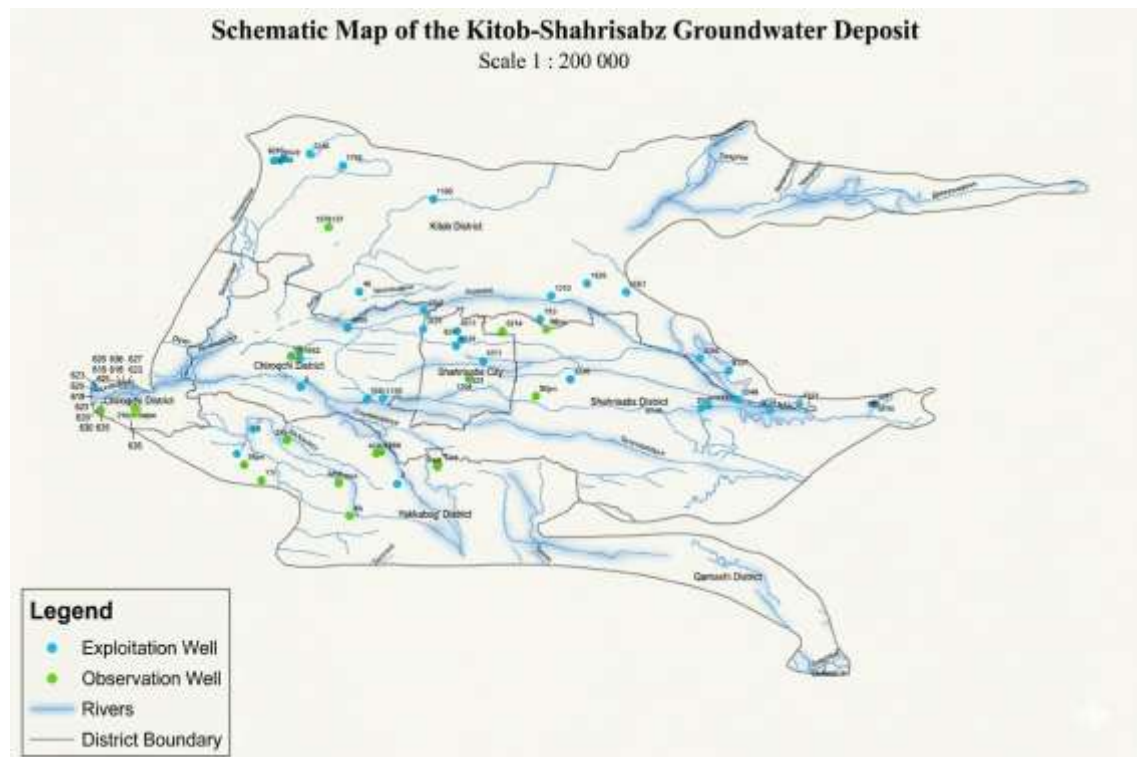


Fig. 1. Schematic hydrogeological zonation and monitoring well layout of the Kitob-Shaxrisabz deposit

The quantitative relationship between atmospheric moisture inputs and water table movements demonstrates an immediate and high-magnitude correlation. Table 1 outlines the measured variables extracted from the monitoring network over the 2020–2025 assessment sequence.

Observation Year	Annual Precipitation (mm)	Mean Static Groundwater Depth (m)
2020	545.2	3.80
2021	412.8	4.60
2022	589.4	3.40
2023	395.1	5.20
2024	462.3	4.80
2025	510.5	4.10

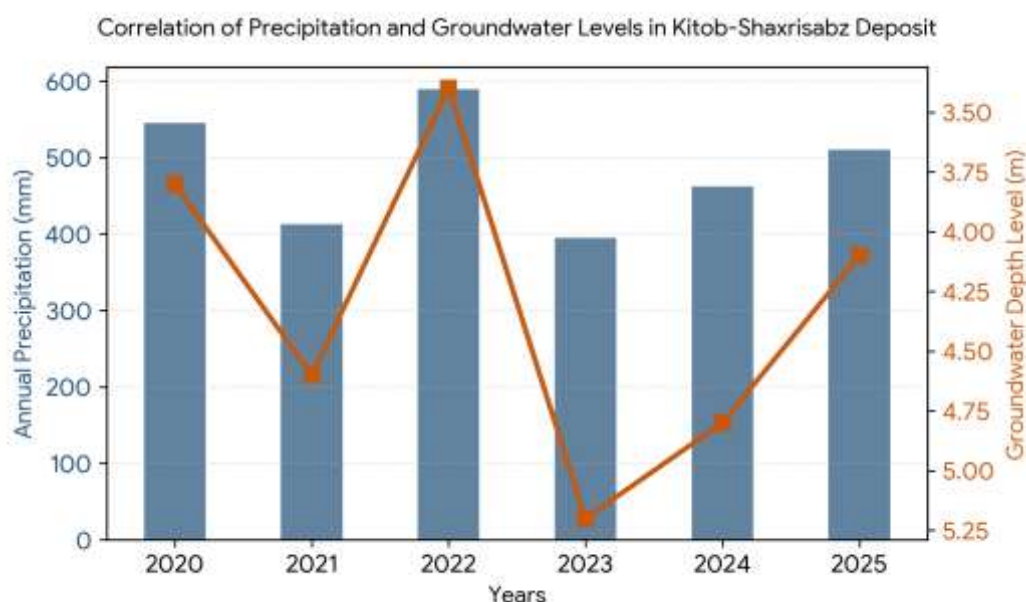


Fig. 2. Climate-hydrodynamic trend interaction model showing water table fluctuations relative to precipitation

4. Discussion

The empirical findings visualised in Figure 2 expose a synchronous pattern matching precipitation cycles with groundwater depletion trends. During the high-rainfall epoch of 2022, where annual precipitation peaked at 589.4 mm, the intense hydraulic recharge caused the water table to bounce back significantly, reaching an average depth of 3.4 meters below ground surface. Conversely, the severe drought cycle of 2023, which recorded a low of only 395.1 mm of precipitation, led to an aggressive downward trend in water levels, plunging the regional static water table to 5.2 meters deep. This rapid drop indicates a short response lag, highlighting the vulnerability of shallow unconfined Quaternary aquifers to immediate atmospheric drought. Compounding this climatic threat, extensive unmanaged private drilling in the nearby Chiroqchi and Koson districts targets Neogene aquifers to depth ranges of 150-250 meters, pulling lateral groundwater flows from the central Kitob-Shaxrisabz basin. Furthermore, the verified eastward migration of saline frontlines threatens to contaminate adjacent fresh groundwater lenses if depletion trends persist unchecked.

5. Conclusion

The detailed investigation into the Kitob-Shaxrisabz groundwater deposit verifies that climate variations represent a primary threat to aquifer sustainability in the Qashqadaryo region. To mitigate accelerated depletion and preserve water quality against saline encroachment, three engineering strategies are proposed: (1) The immediate replacement of standard open flood irrigation with automated subsurface drip irrigation technologies across the agricultural zones to minimize the 59.20% abstraction load; (2) The construction of managed aquifer recharge (MAR) structures in foothill Zone I to capture seasonal flash floods and maximize deep infiltration; and (3) The integration of digital telemetric sensors across the 133 active state observation wells to establish an early warning automation model forecasting groundwater depletion patterns.

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A GENERAL OVERVIEW OF SLEEP DISORDERS IN PSYCHOLOGY

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Abstract

Sleep is an integral part of human life and a necessary process for the body's restoration, the accumulation of energy for physical and mental states, and the maintenance of mental and physical health. Recurrent insomnia and irregular sleep patterns during a person's life primarily led to decreased concentration, physical illnesses, depression, and psychophysiological disorders. This article discusses the analysis of key information regarding the natural cyclical nature of sleep, its beneficial functions, the causes and consequences of its disorders, as well as methods for sleep restoration and treatment.

Keywords

Sleep, insomnia, stress, poor nutrition, insomnia, hypersomnia, somnolence.

PSIXOLOGIYADA UYQU BUZILISH HOLATLARINING UMUMIY TAVSIFI

Annotatsiya. *Uyqu inson hayotining ajralmas qismi bo'lib, inson organizmining tiklanishi, jismoniy va ruhiy holatlarda energiya to'planish holati, ruhiy va jismoniy salomatlikni o'z moromida saqlashi uchun zarur jarayon hisoblanadi. Insonning hayoti davomida uyqusizlik va noto'g'ri uyqu tartibi rejmi ko'p takrorlanishi asosan konsentratsiya pasayishi, jismoniy kasalliklar, ruhiy tushkunlik va psixofiziologik buzilishlarga olib keladi. Ushbu maqolada uyquning tabiiy siklli tabiati, uning foydali funksiyalari, buzilish sabab va natijalari, shuningdek, uyquni tiklash va davolash usullari haqidagi asosiy ma'lumotlar tahlili muhokama qilinadi.*

Kalit sozlar: *Uyqu, uyqusizlik, stress, noto'g'ri ovqatlanish, insomniya, gipersomniya, somnelensiya.*



ОБЩАЯ ХАРАКТЕРИСТИКА НАРУШЕНИЙ СНА В ПСИХОЛОГИИ

Аннотация: Сон — неотъемлемая часть жизни человека, необходимый процесс для восстановления организма, накопления энергии, поддержания психического и физического здоровья в норме. Часто повторяющиеся в течение жизни бессонница и неправильный режим сна приводят в основном к снижению концентрации внимания, соматическим заболеваниям, депрессии и психофизиологическим расстройствам. В данной статье рассматривается анализ основной информации о естественной циклической природе сна, его полезных функциях, причинах и последствиях нарушений, а также о методах восстановления и лечения сна.

Ключевые слова: Сон, бессонница, стресс, неправильное питание, инсомния, гиперсомния, сомноленция.

KIRISH

Olimlarimiz tasdiqlagan faktlarga ko'rsa inson hayotining uchdan biri uyquda o'tadi. Uyqu organizm uchun tabiiy va siklli jarayon bo'lib, unda jismoniy a'zolar va miya faoliyati vaqtincha sekinlashadi, ammo to'liq o'chmaydi. Uyqu davomida organizm tiklanadi, energiya to'planadi va ruhiy barqarorlik saqlanadi. Tadqiqotlar shuni ko'rsatadiki, uyqusiz odamlar psixologik kasalliklarga ko'proq moyil bo'ladi. Oddiy uyqu taxminan 7–8 soatni tashkil qiladi va 4–5 sikldan iborat. Har bir sikl tez uyqu va asta-sekin uyqu fazasidan boshlanadi. Uyquning buzilishi organizmning tiklanishini sekinlashtiradi, immunitetni pasaytiradi va ruhiy holatga salbiy ta'sir qiladi. Psixologik nuqtayi nazardan uyqu insonning psixik va fiziologik resurslarini tiklashga xizmat qiluvchi tabiiy holatdir. Normal uyqu vaqtida insonning tashqi muhitga bo'lgan faol javob reaksiyalari pasayadi, organizmning tiklanish jarayonlari kuchayadi va miyaning turli funksional tizimlari o'ziga xos faoliyat rejimiga o'tadi. Uyquning me'yoriy kechishi insonning uyg'oqlik davridagi psixik faoliyatiga bevosita ta'sir ko'rsatadi. Shuning uchun uyqu va psixologik holat o'rtasidagi munosabat ikki



tomonlama xarakterga ega: bir tomondan, stress va emotsional zo‘riqish uyquni buzishi mumkin, ikkinchi tomondan, uzoq davom etgan uyqu yetishmovchiligi insonning stressga chidamliligini pasaytiradi. Uyqu buzilishlarining eng ko‘p uchraydigan ko‘rinishlaridan biri uyqusizlik, ya’ni insonning uxlab qolishi qiyinlashishi, kechasi tez-tez uyg‘onishi yoki ertalab kutilganidan oldin uyg‘onib ketishi bilan tavsiflanadigan holatdir. Psixologik amaliyotda uyqusizlik ko‘pincha haddan tashqari fikrlash, xavotir, kelajak haqida tashvishlanish, muammoli vaziyatlarni qayta-qayta xayolda tahlil qilish va emotsional zo‘riqish bilan bog‘liq holda kuzatiladi. Ayrim insonlarda yotish vaqti kelganda kunduzgi muammolar haqida o‘ylash kuchayadi. Natijada organizm dam olishga tayyorlanayotgan bo‘lsa-da, psixik faollik yuqori darajada saqlanib qoladi. Bunday vaziyat uxlab qolish jarayonini murakkablashtiradi. Uyqusizlikning psixologik mexanizmlaridan biri uyquga nisbatan ortiqcha e’tiborning shakllanishidir. Masalan, inson bir necha kun davomida yaxshi uxlay olmaganidan keyin keyingi kechada ham uxlay olmaslikdan qo‘rqishi mumkin. Ushbu xavotir uyquga ketish jarayonida ichki zo‘riqishni kuchaytiradi va natijada kutilgan uyqu yana yuzaga kelmaydi. Shu tariqa “uxlay olmayman” degan fikr uyqu bilan bog‘liq salbiy kutishlarni kuchaytirib, muammoning davomiyligiga sabab bo‘lishi mumkin. Bunday holatlarda insonning uyqu haqidagi qarashlari va odatlarini o‘rganish psixologik yordamning muhim yo‘nalishlaridan biri hisoblanadi. Uyqu buzilishlarining yana bir ko‘rinishi kunduzgi haddan tashqari uyquchanlik holatidir. Bunda inson yetarli vaqt dam olgan deb hisoblagan taqdirda ham kun davomida uyquga kuchli ehtiyoj sezishi mumkin. Psixologik jihatdan bunday holat diqqat va kognitiv faoliyatning pasayishi, motivatsiyaning susayishi hamda kundalik vazifalarni bajarishga qiziqishning kamayishi bilan birga kechishi mumkin. Biroq haddan tashqari uyquchanlikning sabablarini faqat psixologik omillar bilan izohlash to‘g‘ri emas. Uning ortida turli tibbiy va fiziologik sabablar ham bo‘lishi mumkin. Shu sababli uzoq davom etuvchi yoki kuchli uyqu buzilishlari holatida mutaxassis ko‘rigidan o‘tish muhimdir. Uyqu-



uygʻoqlik ritmining buzilishi ham zamonaviy hayot sharoitida koʻp uchraydigan muammolardan biridir. Inson organizmida uyqu va uygʻoqlikning maʼlum biologik ritmi mavjud boʻlib, uning muntazamligi kundalik faoliyatning samarali tashkil etilishiga yordam beradi. Kechasi uzoq vaqt uygʻoq yurish, kunduz kuni uzoq uxlash, ish yoki oʻqish jadvalining tez-tez oʻzgarishi ushbu ritmning izdan chiqishiga sabab boʻlishi mumkin. Ayniqsa, kechasi elektron qurilmalardan foydalanish uyquga tayyorgarlik jarayonini qiyinlashtirishi mumkin. Telefon, planshet va kompyuter bilan bogʻliq faoliyatning uzoq davom etishi insonning diqqatini yuqori darajada ushlab turadi, ijtimoiy tarmoqlar va axborot oqimi esa psixik faollikni kuchaytiradi.

Agar uyqu sifatli boʻlmasa:

- Diqqat va konsentratsiya pasayadi.
- Yurak-qon tomir kasalliklari xavfi orta
- Ruhiy tushkunlik, stress va xavotirlar kuchayadi

Uyqusizlik va notoʻgʻri uyquning oqibatlar

-Agar uyqu sifatli boʻlmasa:

- Diqqat va konsentratsiya pasayadi.
- Yurak-qon tomir kasalliklari xavfi ortadi.
- Ruhiy tushkunlik, stress va xavotirlar kuchayadi.

Uyqu buzilishlari turlari. Insomniya (uyqusizlik) sabablari: stress, depressiya, surunkali kasalliklar, notoʻgʻri kun tartibi, gormonlar buzilishi. Belgilar: koʻp uygʻonish, kech uxlash, kunduz charchash, diqqat pasayishi. Psixofiziologik insomniya: stress, nevrasteniya, uzoq safar, tungi ishlar sabab paydo boʻladi va odatda qisqa muddatli. Idiopatik insomniya: sabablari nomaʼlum boʻlib, inson bolalikdan uyquni bilmaydi, ammo kunduz faoliyatini yoʻqotmaydi. Gipersomniya (ortiqcha uyqu) Nevrologik, ruhiy va somatik kasalliklar natijasida yuzaga keladi. Idiopatik gipersomniya: kunduzgi uyqu ortib ketadi, kechasi normal uyqu davom etadi. Narkolepsiya: kunduz toʻsatdan uyquga ketish, mushak tonusi pasayishi (katapleksiya),



gipnogogik holatlar, kuchli emosional reaksiyalar bilan namoyon bo‘ladi. Uyqu apnoesi (UPA) Uyqu davomida nafas olish to‘xtashi. Belgilar: chuqur nafas olish, tez-tez uyg‘onish, kunduz bosh og‘riqlari.

Davolash: yuqori nafas yo‘llari kasalliklarini davolash, spirtli ichimliklarni cheklash, ortiqcha vaznni kamaytirish, yurak-qon tomir kasalliklarini davolash.

Parasomniya. Uyqu vaqtida psixomotor harakatlar: oyoq-qol qimirlamas, tish qichishishi, tungi qo‘rquv, lunatik uyqu. Sog‘lom odamda ham uchraydi, ko‘pincha davolash talab qilinmaydi.

Somnolensiya. Uyqu va uyg‘oq holat o‘rtasidagi chegaraviy holat. Belgilar: diqqatni jamlash qiyin, qisqa muddatli tushlar va uyg‘onish.

Letargik uyqu. To‘satdan chuqur uyquga ketish, ba‘zan soat, kun yoki oylar davomida. Sabablari: nerv sistemasining qattiq tarangligi, haddan tashqari charchash, bosh miyaga zarar yetishi, stress va chuqur qayg‘u.

Uyqu buzilishini bartaraf etish dastlab bemor bilan psixoterapevtik suhbatlar o‘tkazishdan boshlanadi. Masalan, psixofiziologik tipdagi uyqu buzilishida (odatiy uyqu buzilishi) uyquni normal holatga qaytarish uchun sog‘lom turmush tarziga rioya qilish tavsiya etiladi. Bular – vaqtida uxlash va turish, kechasi yengil hazm bo‘luvchi ovqatlar tanovul qilish, chekish va ichkilikdan voz kechish, qo‘rqinchli va hayajonli filmlar ko‘rmaslik (ayniqsa, bolalar), uyquga yotishdan oldin ko‘chada biroz sayr qilish, qahva va achchiq choy iste‘mol qilmaslik, issiq dush qabul qilish yoki ikkala oyoqni iliq suvga solib o‘tirish va h.k. Ushbu qoidalarga amal qilinsa, uyquning biologik ritmi izga tushadi va uyqu qayta tiklanadi. Ba‘zi odamlarda 3-4 kun uyqu qochsa, ular darrov vahimaga tushishadi, endi kasal bo‘lib qolaman, deb qo‘rqishadi. Buning natijasida uyqusizlik yana davom etadi. Bunday bemor bilan suhbatlashib, uni tinchlantirish va uxlamaslikning odamga ziyoni yo‘qligini aytish kerak. Siz hozir uxlamayotgan ekansiz, demak, miya shuni xohlayapti, vaqti kelib uyqungiz yana tiklanadi va siz uxlay boshlaysiz, kabi iboralar bilan bemor tinchlantiriladi. Unga darrov uxlatuvchi dorilar



tavsiya etish shart emas. Masalan, bemorni quyidagi iboralar bilan tinchlantirish mumkin: "Uyqu go'yoki yoningizda turgan qush. U sizniki va uzoqqa uchib ketmaydi. Unga qancha yaqinlashsangiz, u ham sizdan shuncha uzoqlashaveradi. Ushbu qushga ega bo'lishni istasangiz, kaftingizni ochib indamay turing. Vaqti kelib uning o'zi sizning qo'lingizga kelib qo'nadi". Albatta, bu iboralar uyqusi qochgan odamga katta ijobiy ta'sir ko'rsatadi va uning uyqusi tez kunda tiklanadi. O'rta yoshdagi insonlar uchun 6-8 soatlik (yoz oylarida 4-6 soat) tungi uyqu yetarlidir. Yosh bolalar esa ko'p uxlashadi. Keksalik davrida uxlash davri ancha qisqaradi. Agar qariya kam uyqudan shikoyat qilsa, unga buning tabiiy hol ekanligi tushuntiriladi. Aksincha, uqay beradigan qariyalarni tibbiy ko'rikdan o'tkazish lozim. Yosh bolada kam uxlash biror bir kasallik alomati bo'lsa, qariyada ko'p uxlash qandaydir bir kasallik sababli bo'lishi mumkin.

Uyqu - bu oddiy dam olish emas. Bu organizmning o'zini tiklash, asab tizimini muvozanatga keltirish va miya faoliyatini mustahkamlash jarayonidir. Kundalik quvvat, yaxshi kayfiyat va samarali faoliyat aynan sifatli uyqudan boshlanadi. "Yaxshi uyqu - muvaffaqiyatli kunning asosi!" Uyqu - bu organizmning tabiiy fiziologik holati bo'lib, bu vaqtda tana dam oladi, lekin miya faol ishlashini davom ettiradi.

Uyqu vaqtida:

Nerv sistemasi tiklanadi, Xotira mustahkamlanadi. O'sish gormonlari ajraladi. Organizm energiya to'playdi.

Qiziqarli faktlar:

Inson umrining taxminan 1/3 qismini uyquda o'tkazadi.

- ✓ Kattalar uchun 7-9 soat uyqu me'yor hisoblanadi.
- ✓ Uyqu xotirani mustahkamlaydi
- ✓ Yetarli uyqu immunitetni kuchaytiradi
- ✓ 24 soat uxlamaslik diqqatni keskin pasaytiradi.

Men bu bo'ycha yoshlar orasida taqdiqot ishlarini olib borganman. Uyqi buzlishi bo'ycha so'rovnoma. R.V.Buzunov tamonidan ishlab chiqilgan. Rossiyada uyqu

muammolariga ilmiy qiziqish XX asr oxirida kuchaydi. 1990-yillarga kelib somnologiya alohida tibbiy va psixofiziologik yo'nalish sifatida shakllana boshladi. R.V. Buzunov (1965-yil 8-mart) uyqu buzilishlarini erta aniqlash uchun maxsus so'rovnoma ishlab chiqdi.

Uyqu buzilishlari nafaqat nevrologiya, balki klinik psixologiyada ham muhim masala sifatida qaraldi. So'rovnomaning 10 va 20 ta so'rovnoma variantlari mavjud hisoblanadi.

METODIKANING MAQSADI

1. Insomniyani aniqlash — bu uyquga ketish, uyquni saqlash yoki erta uyg'onish bilan bog'liq bo'lgan uyqu buzilishi bo'lib, inson uyqudan qoniqmaslik hissini boshdan kechiradi.

2. Uyqu sifatini baholash.
3. Kunduzgi uyquchanlikni aniqlash.
4. Tungi uyg'onishlarni aniqlash.
5. Uyqu samaradorligini baholash.

KO'RSATMALAR

So'nggi 1 oy davomida uyqu holatingizni baholang. Har bir savolga 0–3 ball qo'ying:

0 ball — hech qachon, 1 ball — kam hollarda, 2 ball — tez-tez, 3 ball — doimiy

SAVOLLAR

1. Uyquga ketish qiyinmi?
2. 30 daqiqadan ortiq vaqt davomida uxlay olmaysizmi?
3. Tunda tez-tez uyg'onib ketasizmi?
4. Erta uyg'onib, qayta uxlay olmaysizmi?
5. Uyquingiz chuqur emasmi?
6. Ertalab charchoq bilan uyg'onasizmi?
7. Kunduzgi uyquchanlik mavjudmi?



8. Bosh og‘rig‘i yoki asabiylashish kuzatiladimi?

9. Stress uyquingizga ta’sir qiladimi?

10. Uyquga yordam beruvchi dori-darmonlarni qabul qilasizmi?

NATIJANI BAHOLASH

Barcha ballar qo‘shiladi.

Jami: 0–30 ball.

0–7 ball — norma, 8–14 ball — yengil darajadagi buzilish, 15–21 ball — o‘rtacha darajadagi buzilish, 22 va undan yuqori — yaqqol uyqu buzilishi

Ball qancha yuqori bo‘lsa, uyqu buzilishi ehtimoli shuncha yuqori bo‘ladi. Klinik tekshiruvdan o‘tish tavsiya etiladi.

XULOSA

Xulosa qilib aytishimiz mumkinki, uyqu inson organizmi uchun muhim fiziologik va psixologik jarayondir. Uning sifati va davomiyligi ruhiy barqarorlik, immunitet, xotira, diqqat, konsentratsiya va jismoniy salomatlik uchun katta ahamiyatga ega. Uyqusizlik va ortiqcha uyqu turli sabablarga ko‘ra yuzaga kelishi hamda ayrim kasalliklar bilan bog‘liq bo‘lishi mumkin. Uyquni tiklashda sog‘lom turmush tarzi, zarur hollarda dori-darmonlar va psixologik usullardan samarali foydalanish mumkin.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON EDUCATION

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Abstract

Artificial Intelligence (AI) has become one of the most significant technological developments of the twenty-first century. Its rapid development is influencing different areas of human life including education. AI-based technologies provide students and teachers with new opportunities to improve the quality accessibility and efficiency of the learning process. AI can support personalized learning provide immediate feedback assist teachers in preparing educational materials and help students access information more quickly. At the same time the integration of AI into education creates several challenges including academic dishonesty excessive dependence on technology privacy concerns inaccurate information and the possible reduction of students' critical-thinking skills. This article examines the role of artificial intelligence in modern education its major advantages and disadvantages and its potential influence on the future of teaching and learning. Particular attention is given to personalized learning, teacher support academic integrity ethical issues, data privacy, and the responsible use of generative AI. The article argues that artificial intelligence should not replace teachers or students. Instead, it should be used as a supportive educational technology that complements human knowledge, creativity communication, and critical thinking. A balanced and human-centred approach can help educational institutions benefit from AI while minimizing its potential risks.

Keywords

artificial intelligence, education, generative AI, digital learning, students, teachers, personalized learning, educational technology, critical thinking, academic integrity.



Introduction

The rapid development of digital technologies has changed many aspects of modern society. Communication employment business healthcare and education are increasingly influenced by digital tools. Among these developments Artificial Intelligence (AI) has attracted particular attention because of its ability to perform tasks that traditionally require human intelligence. These tasks include processing information, recognizing patterns, generating text solving problems translating languages and providing recommendations.

Education is one of the areas in which artificial intelligence has considerable potential. AI technologies can be used by students teachers researchers schools universities and educational organizations. Students can use AI-powered tools to receive explanations of difficult concepts practice foreign languages generate ideas receive feedback and find educational resources. Teachers can use AI to prepare lesson materials develop exercises organize information and provide additional support to learners.

The development of generative artificial intelligence has made this issue particularly important. Generative AI systems are capable of producing new text images audio video and other forms of content. According to the OECD the emergence of generative AI has created new possibilities for autonomous learning but has also challenged traditional approaches to homework assessment and skill development.

UNESCO has also emphasized the importance of a human-centred approach to generative AI in education. Its guidance highlights issues such as data privacy, ethical use regulation age-appropriate interaction and the need to develop human capacities alongside technological development.

The purpose of this article is to examine the impact of artificial intelligence on education identify its main benefits and disadvantages and discuss how AI can be used responsibly to improve modern teaching and learning.

The Role of Artificial Intelligence in Modern Education.



Artificial intelligence can perform a variety of functions within educational environments. One of its most important roles is supporting students during the learning process. Traditional education often follows a common curriculum and timetable for a group of students. However, students have different levels of knowledge learning speeds interests and educational needs.

AI can contribute to personalized learning by analyzing students' performance and adapting educational content to their individual needs. For example, if a student has difficulty understanding a particular mathematical concept an AI-powered learning system may provide additional explanations simpler examples or practice exercises. A student who demonstrates a high level of understanding can receive more challenging tasks. This approach can help make education more flexible. Instead of requiring every student to learn in exactly the same way technology can provide different forms of support according to individual circumstances.

The OECD notes that digital technology, including AI has the potential to improve the effectiveness and quality of education through personalization and greater inclusion. At the same time the organization emphasizes that these benefits depend on appropriate infrastructure governance, digital competencies and risk management. AI can also be used as a learning assistant. Students can ask questions request explanations practice vocabulary receive language corrections or obtain examples related to a particular subject. Such tools can provide immediate assistance which can be especially useful when a teacher is not immediately available.

However, AI should not become a substitute for learning. The purpose of education is not simply to obtain answers. Students also need to develop the ability to analyze information solve problems communicate effectively make decisions and think independently.

Benefits of Artificial Intelligence in Education.



One of the most important advantages of AI is its ability to support personalized education. Students differ in their abilities and learning styles and a single teaching method may not be equally effective for everyone.

AI-powered systems can analyze students' responses and identify areas in which they need additional support. They can then recommend appropriate exercises or learning materials. This can help students focus on their weaknesses while continuing to develop their strengths.

Personalized learning can also increase students' motivation. When educational content is appropriate to a learner's level students may feel less frustrated and more confident. They can progress at a suitable pace instead of feeling pressured to follow the same pace as the entire class.

Immediate Feedback.

Another important advantage of AI is the ability to provide rapid feedback. In traditional education students may have to wait until a teacher checks their work before they understand their mistakes. AI tools can sometimes provide immediate explanations or corrections. For language learners for example, AI can identify grammatical mistakes suggest alternative expressions and provide opportunities for conversation practice. In other subjects AI can help explain why a particular answer is incorrect. Immediate feedback can make the learning process more interactive. Students can identify their mistakes earlier and have more opportunities to correct them.

Support for Teachers.

AI can also provide support to teachers. Educators spend considerable time preparing lessons creating exercises, developing tests organizing information and performing administrative tasks. Some AI tools can assist with these activities.

For example a teacher can use AI to generate ideas for classroom activities or create different versions of exercises for students with different levels of knowledge. This can reduce the amount of time spent on routine preparation. The OECD emphasizes that

digital technologies and AI can potentially free up teachers' time and provide new routes to learning, provided that teachers and learners have the appropriate conditions and competencies to use them effectively. However, teachers remain essential. AI cannot fully replace the human relationship between teacher and student. Teachers understand students' emotions social needs motivation and individual circumstances in ways that technological systems cannot completely reproduce.

Increased Access to Educational Resources.

AI can also make educational resources more accessible. Students can use digital tools from different locations and at different times. This can be particularly valuable for learners who have limited access to traditional educational resources. AI-based translation and language-learning tools can also help students access information in languages that they do not yet understand well. As a result, technology can contribute to broader access to knowledge. Nevertheless, equal access to technology remains an important issue. Students who do not have reliable internet connections, modern devices, or sufficient digital skills may not receive the same benefits as other learners. Therefore, educational institutions and governments need to consider digital inequality when implementing AI.

The Impact of Generative AI on Students.

Generative AI has created a new situation for students. Unlike traditional educational software, generative AI can produce original-looking answers and texts based on user instructions. This can be useful for brainstorming, explaining difficult topics practicing writing, and exploring new ideas.

For example, a student writing an essay can ask an AI system to explain a complicated concept or suggest possible arguments. The student can then evaluate these ideas conduct additional research, and develop an original response.

However, there is a significant difference between using AI as a learning assistant and using it to complete an assignment without learning the material. If students simply



copy AI-generated answers they may receive a completed assignment but fail to develop the knowledge and skills that the assignment was intended to teach.

The OECD identifies cheating, plagiarism, skills attrition privacy data security intellectual property and algorithmic bias among the challenges associated with generative AI in education. Therefore, educational institutions need to reconsider how students are assessed. If an assignment can easily be completed by an AI system teachers may need to place greater emphasis on students' ability to explain their ideas demonstrate their reasoning participate in discussions complete practical tasks and reflect on their learning.

Challenges and Disadvantages of AI in Education

Despite its many benefits artificial intelligence also creates significant challenges.

Academic Integrity

One of the most widely discussed problems is academic dishonesty. Students may use AI to write essays answer examination questions, or complete homework without making their own intellectual contribution. This creates difficulties for teachers because it can become challenging to determine whether a student has genuinely understood the material. More importantly excessive use of AI can undermine the educational purpose of assignments. Academic integrity therefore needs to remain an important principle. Students should understand that AI can support their learning but should not replace their own intellectual work.

Dependence on Technology.

Another possible disadvantage is excessive dependence on AI. If students use AI for every question or problem, they may gradually become less willing to think independently.

Critical thinking is one of the central goals of education. Students should learn to compare sources identify errors question assumptions develop arguments and make decisions. If AI always provides the answer, students may have fewer opportunities to

practice these skills. For this reason, teachers should encourage students to use AI critically rather than passively. Students should ask questions such as: Is this information correct? What evidence supports it? Are there alternative explanations? Can I verify this information using reliable sources?

Incorrect Information.

AI systems can sometimes produce inaccurate or misleading information. Even when an answer appears confident and well-written it may contain factual errors.

This is particularly important in academic research. Students should not automatically accept AI-generated information as reliable. They should verify important claims using books, academic publications, official websites, and other trustworthy sources. The development of information literacy is therefore becoming increasingly important in the age of AI.

Privacy and Data Protection.

Privacy is another major concern. AI systems may process information provided by users, including educational data and personal information. If such data are not properly protected students and teachers may face privacy risks.

UNESCO's guidance emphasizes the importance of protecting data privacy and establishing appropriate policies for the safe and ethical use of generative AI in education and research.

Educational institutions should therefore establish clear rules about what information students and teachers can enter into AI systems. Sensitive personal information should not be shared without appropriate protection and authorization.

Digital Inequality.

Not all students have equal access to technology. Some learners may have modern computers smartphones fast internet and access to advanced AI tools while others may have limited resources. If educational systems rely too heavily on AI without addressing this inequality technological development could increase rather than reduce educational

differences. The OECD also identifies unequal access to technology and differences in the ability of educators and learners to use AI effectively as important risks that need to be addressed.

The Role of Teachers in the Age of AI.

The development of artificial intelligence does not mean that teachers will become unnecessary. On the contrary the role of teachers may become even more important.

Teachers are responsible not only for delivering information but also for guiding students, motivating them developing their social skills encouraging critical thinking and creating a positive learning environment. These human functions cannot be completely replaced by AI.

The OECD argues that teachers should remain a guiding force in the learning process while educational systems develop responsible approaches to AI.

Teachers also have an important role in teaching students how to use AI responsibly. Students need to understand both the possibilities and limitations of AI. They should learn how to formulate effective questions, evaluate AI-generated information, identify possible bias verify sources and use AI without violating academic integrity.

Consequently teacher training is an essential part of AI integration. Teachers need sufficient digital and AI-related competencies to use new technologies effectively.

Ethical Use of Artificial Intelligence in Education.

The successful integration of AI requires ethical principles. Technology should serve educational goals rather than become an objective in itself.

First AI should be used in a way that respects human dignity and autonomy. Students should remain active participants in their own learning.

Second, educational institutions should protect privacy and personal data. Students and teachers should understand what information is collected and how it is used.



Third, AI systems should be evaluated for accuracy and potential bias. AI-generated content may reflect limitations in the data or models on which the system was developed. Fourth AI should be accessible and inclusive. Educational institutions should attempt to ensure that technological development does not create greater inequalities between students. UNESCO promotes a human-centred approach to generative AI and emphasizes the need for safe, ethical, equitable, and meaningful use of these technologies in education. Artificial Intelligence and the Future of Education. The future of education will probably involve a combination of traditional teaching and advanced digital technologies. AI may become a regular component of learning platforms educational research assessment and student support.

The OECD's work on digital education suggests that countries should move beyond simply digitizing existing educational processes and work toward genuine digital transformation. Such transformation requires not only technology but also appropriate infrastructure governance human competencies, and educational policies.

In the future, students may have access to AI learning assistants that provide personalized explanations and exercises. Teachers may use AI to analyze learning patterns and identify students who need additional support. Universities may develop new approaches to assessment that focus more strongly on creativity problem-solving communication and practical skills.

At the same time, human skills will remain important. As AI becomes more capable of processing information and generating content skills such as creativity critical thinking collaboration communication, ethical reasoning and emotional intelligence may become even more valuable. Therefore, the future of education should not be understood as a competition between humans and machines. Instead, it should focus on effective cooperation between human intelligence and artificial intelligence.

Recommendations for the Responsible Use of AI.



To maximize the benefits of AI and reduce its risks several measures can be recommended. First educational institutions should develop clear policies regarding the use of AI. Students and teachers need to understand when and how AI can be used for academic activities. Second AI literacy should become an important part of education. Students should learn how AI systems work at a basic level, what their limitations are, and how to evaluate their outputs. Third teachers should receive professional training in AI and digital technologies. Effective implementation depends not only on the availability of technology but also on the ability of educators to use it appropriately. Fourth students should be encouraged to use AI as a learning assistant rather than a replacement for independent work. They should verify information, cite appropriate sources, and demonstrate their own understanding.

Fifth, educational institutions should pay attention to data privacy and cybersecurity. Personal and sensitive information should be protected. Finally, governments and educational organizations should cooperate in developing ethical and evidence-based policies for AI in education. UNESCO recommends comprehensive policy frameworks that address ethical safe equitable, and meaningful use of generative AI.

Conclusion.

Artificial Intelligence is transforming modern education and creating new possibilities for students' teachers, and educational institutions. AI can personalize learning provide immediate feedback support teachers increase access to educational resources and make some educational processes more efficient.

However, the integration of AI also creates serious challenges. Academic dishonesty, excessive dependence on technology inaccurate information privacy risks algorithmic bias and digital inequality must be considered carefully. The existence of these risks does not mean that AI should be rejected. Instead, it demonstrates the need for responsible and informed use.



The most effective approach is to view artificial intelligence as a tool that supports human learning rather than replaces it. Teachers should continue to play a central role in education while students should remain active and responsible participants in the learning process. The future of education will depend not simply on how advanced AI technology becomes but on how wisely society chooses to use it. A human-centred approach that combines artificial intelligence with teachers' experience students' creativity critical thinking and ethical responsibility can help create a more effective inclusive and innovative educational system.

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THE DIDACTIC POTENTIAL OF INTEGRATING CORPUS TECHNOLOGIES AND GENERATIVE ARTIFICIAL INTELLIGENCE IN ACADEMIC WRITING EDUCATION

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Abstract

This article examines, from a theoretical and methodological perspective, the possibilities of teaching academic writing through the integration of corpus technologies and generative artificial intelligence tools. Based on the views of Hyland, Coffin and co-authors, Bailey, and Lea and Street, the importance of using authentic language materials, examples of academic discourse, and real contexts of language use in developing academic writing is substantiated. Generative AI, in turn, makes it possible to process, explain, compare, and apply this linguistic information to the academic writing process according to students' individual needs. The integration of corpora and GenAI provides opportunities for teaching academic vocabulary, collocations, discourse markers, typical syntactic constructions, and the genre-specific features of academic texts. Within this approach, the corpus serves as an evidence-based linguistic resource, while generative artificial intelligence functions as an interactive tool that presents this information in an adaptive manner. As a result, the didactic principles of a corpus-based GenAI model for teaching academic writing are identified.

Keywords

corpus technologies, generative artificial intelligence, academic writing, corpus-based learning, academic discourse, linguodidactics, authentic text, collocation, discourse markers, adaptive learning.

**KORPUS TEXNOLOGIYALARI VA GENERATIV SUN'IIY INTELLEKT
INTEGRATSIYASINING AKADEMIK YOZUV TA'LIMIDAGI DIDAKTIK
SALOHIYATI**



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Annotatsiya. Mazkur maqolada korpus texnologiyalari va generativ sun‘iy intellekt vositalarini integratsiyalash orqali akademik yozuvni o‘qitish imkoniyatlari nazariy-metodik nuqtai nazardan yoritiladi. Akademik yozuvni shakllantirishda autentik til materiallari, akademik diskurs namunalari va real qo‘llanish kontekstlaridan foydalanish muhim ekanligi Hyland, Coffin va hammualliflar, Bailey hamda Lea va Street qarashlari asosida asoslanadi. Generativ AI esa ushbu lingvistik ma‘lumotlarni talabani individual ehtiyojlariga mos ravishda qayta ishlash, izohlash, taqqoslash va akademik matn yaratish jarayoniga tatbiq etish imkoniyatini beradi. Korpus va GenAI integratsiyasi orqali akademik leksika, kollokatsiyalar, diskurs markerlari, tipik sintaktik konstruksiyalar hamda ilmiy matnning janriy xususiyatlarini o‘rgatish imkoniyatlari ko‘rsatib beriladi. Ushbu yondashuvda korpus dalillarga asoslangan lingvistik manba vazifasini, generativ sun‘iy intellekt esa ushbu ma‘lumotlarni adaptiv tarzda taqdim etuvchi interaktiv vosita vazifasini bajaradi. Natijada akademik yozuvni o‘qitishda korpusga tayangan GenAI modelining didaktik tamoyillari belgilab beriladi.

Kalit so‘zlar: korpus texnologiyalari, generativ sun‘iy intellekt, akademik yozuv, korpusga tayangan ta‘lim, akademik diskurs, lingvodidaktika, autentik matn, kollokatsiya, diskurs markerlari, adaptiv ta‘lim.

Kirish. Akademik yozuvni rivojlantirishda talabani autentik ilmiy matnlar, real til birliklari va akademik diskurs namunalari murojaat qilishi muhim ahamiyatga ega. Korpus texnologiyalari akademik leksika, terminologik birliklar, kollokatsiyalar, sintaktik konstruksiyalar va diskurs markerlarining real qo‘llanishini kuzatish imkonini beradi. Biroq korpus ma‘lumotlarini mustaqil tahlil qilish talaba uchun murakkab bo‘lishi mumkin. Generativ sun‘iy intellekt ushbu jarayonda korpus ma‘lumotlarini tushuntiruvchi, saralovchi va foydalanuvchi ehtiyojiga moslashtiruvchi intellektual



vositachi sifatida xizmat qilishi mumkin. Korpus dalillarga asoslangan lingvistik resurs vazifasini bajarsa, GenAI ushbu ma'lumotni interaktiv va adaptiv shaklda taqdim etadi. Bunday integratsiya, ayniqsa, o'zbek tilidagi akademik yozuvni o'qitishda katta imkoniyatlarga ega bo'lib, milliy akademik diskurs xususiyatlarini hisobga olishga yordam beradi. Mazkur maqolaning maqsadi korpus texnologiyalari va generativ sun'iy intellekt integratsiyasining didaktik salohiyatini aniqlash hamda ularni yagona akademik yozuv ta'limi tizimida qo'llash imkoniyatlarini asoslashdan iborat.

Asosiy qism

Akademik yozuvni o'qitishda talabaning tayyor grammatik qoidalarini o'zlashtirishi yoki alohida leksik birliklarni yod olishi yetarli emas. Akademik matn yaratish muayyan fan sohasi uchun xos bo'lgan til birliklari, terminologik birikmalar, argumentatsiya shakllari va diskursiv modellarni real kommunikativ vaziyatda qo'llashni talab qiladi. K. Hyland akademik diskursni muayyan ilmiy hamjamiyat doirasida shakllangan kommunikativ amaliyot sifatida izohlaydi va turli fan sohalarida bilimni ifodalash usullari hamda muallif-o'quvchi munosabatlarining farqlanishini ko'rsatadi [3, 1–18-b.]. Shu jihatdan akademik yozuv ta'limida autentik ilmiy matnlarga tayangan holda til birliklarining real qo'llanishini kuzatish alohida didaktik ahamiyat kasb etadi.

Korpus texnologiyalari mazkur vazifani amalga oshirishning samarali vositalaridan biri bo'lib, katta hajmdagi real matnlar asosida akademik tilning xususiyatlarini aniqlash imkonini beradi. Korpusdan foydalanish jarayonida talaba muayyan so'z yoki terminning chastotasi bilan cheklanib qolmay, uning kollokatsion imkoniyatlari, grammatik qurshovi, kontekstual ma'nosi va muayyan akademik janrdagi funksiyasini ham kuzatishi mumkin. Bu esa til haqidagi tayyor qoidani qabul qilishdan real misollar asosida lingvistik qonuniyatni mustaqil aniqlashga o'tishni ta'minlaydi. Lea va Streetning akademik savodxonlik konsepsiyasida ham yozuv muayyan institutsional va diskursiv amaliyotni o'zlashtirish jarayoni sifatida talqin qilinadi [4,



157–172-b.]. Demak, korpus talabani akademik diskursni abstrakt qoidalar orqali emas, real ilmiy matnlar orqali o'rganishiga xizmat qiladi.

Akademik yozuvning amaliy bosqichlarini tashkil etishda ham korpus imkoniyatlaridan foydalanish mumkin. S. Bailey akademik yozuvni rejalashtirish, manba izlash, tanqidiy o'qish, parafrazlash, umumlashtirish, akademik lug'atdan foydalanish va matnni tahrirlash kabi o'zaro bog'liq jarayonlar sifatida ko'rsatadi [1, 1–45-b.]. Ushbu faoliyatlarning aksariyatida korpus ma'lumotlari talaba uchun empirik til materialini vazifasini bajarishi mumkin. Masalan, muayyan ilmiy tushunchani ifodalovchi fe'lining qaysi otlar bilan ko'proq birikishi, ilmiy fikrni ehtiyotkorlik bilan ifodalashda qanday birliklardan foydalanilishi yoki xulosaga o'tishda qaysi diskurs markerlari tipik ekanligi korpus misollari orqali aniqlanadi. Biroq korpus texnologiyasining o'zi talabani barcha ehtiyojlarini avtomatik ravishda qondirmaydi. Konkordans qatorlari, chastota ko'rsatkichlari va kollokatsion ma'lumotlarni to'g'ri talqin qilish uchun muayyan lingvistik va raqamli savodxonlik talab etiladi. Aynan shu nuqtada generativ sun'iy intellekt bilan integratsiya korpusning didaktik imkoniyatlarini kengaytirishi mumkin. GenAI katta hajmdagi korpus ma'lumotlarini talabani aniq yozuv vazifasiga moslab saralash, misollarni tushuntirish, til variantlarini qiyoslash va individual tavsiyalar shaklida taqdim etish imkoniyatiga ega. Shunday modelda korpus ishonchli lingvistik dalil manbai, generativ AI esa ushbu dalilni talaba uchun qayta ishlovchi intellektual didaktik vositachi vazifasini bajaradi.

Generativ AI bilan ishlash bo'yicha O'zbekiston kontekstidagi tadqiqotlar ham texnologiyani tayyor matn yaratish vositasidan pedagogik yordam mexanizmiga aylantirish zarurligini ko'rsatmoqda. Xodabande, Qosimov va Umarova ChatGPT vositasidagi akademik yozuv faoliyatini tashqi yordamdan texnologiyani ongli o'zlashtirish tomon kechadigan jarayon sifatida ko'rib, talabani AI tavsiyalarini baholashi va ularni o'z yozuv maqsadiga moslashtirishi muhimligini ta'kidlaydilar [7, 1–4-b.]. Yangiboyeva esa generativ AI'ni Sokratik savollar orqali talabani



argumentatsiyasi, mantiqiy fikrlashi va metakognitiv faolligini qo'llab-quvvatlovchi kognitiv tayanch sifatida tashkil etishni ilgari suradi [8, 30–34-b.]. Bu yondashuvlar korpus va AI integratsiyasida ham talabaning faol pozitsiyasi saqlanishi zarurligini ko'rsatadi. Bizningcha, korpus va GenAI integratsiyasining asosiy didaktik ustunligi "misolni topish – kuzatish – qiyoslash – izohlash – qo'llash – tekshirish" ketma-ketligini yagona interaktiv muhitda tashkil etish imkoniyatidadir. Masalan, talaba akademik matnida muayyan birikmani qo'llaganida tizim avvalo korpusdan unga mos real akademik kontekstlarni topishi, GenAI esa ushbu misollar asosida talabaning variantini tushuntirishi va zarur hollarda muqobil shakllarni tavsiya qilishi mumkin. Bunda yakuniy tanlovni AI emas, talabaning o'zi amalga oshirishi muhimdir. Chunki akademik yozuv kompetensiyasining rivojlanishi tayyor to'g'ri variantni olishdan ko'ra, variantlar o'rtasidagi farqni anglash va ongli tanlov qilish jarayonida yuz beradi.

Mazkur yondashuv o'zbek tilidagi akademik yozuv uchun yanada muhimdir. Umumiy maqsadli generativ modellar tavsiyalarini o'zbek akademik matnlari korpusi bilan asoslash milliy ilmiy uslub, terminologik birikmalar va diskursiv xususiyatlarni hisobga olish imkonini beradi. Natijada korpus → lingvistik dalil → GenAI tahlili → individual tavsiya → talabaning tanlovi → qayta yozish shaklidagi didaktik mexanizm yuzaga keladi. Bunday integratsiya generativ sun'iy intellektni oddiy matn generatoridan dalillarga tayangan adaptiv lingvodidaktik yordamchiga aylantirish uchun nazariy-metodik asos yaratadi.

Xulosa

Korpus texnologiyalari va generativ sun'iy intellekt integratsiyasining tahlili ushbu ikki texnologiyaning akademik yozuv ta'limida o'zaro to'ldiruvchi didaktik imkoniyatlarga ega ekanligini ko'rsatadi. Korpus autentik akademik matnlarga asoslangan ishonchli lingvistik dalillarni taqdim etsa, generativ sun'iy intellekt mazkur ma'lumotlarni saralash, izohlash va talabaning individual yozuv ehtiyojlariga moslashtirish imkonini beradi. Bunday integratsiya akademik leksika, kollokatsiyalar,



terminologik birikmalar, sintaktik konstruksiyalar va diskurs markerlarini real kontekst asosida o'zlashtirishga xizmat qiladi. Tahlil asosida korpus va GenAI integratsiyasini "korpus – lingvistik dalil – GenAI tahlili – individual tavsiya – talabaning ongli tanlovi – qayta yozish" ketma-ketligida tashkil etish maqsadga muvofiq, degan xulosaga kelindi. Bunda generativ sun'iy intellekt tayyor matn yaratuvchi vosita emas, balki korpus ma'lumotlarini talaba uchun tushunarli va adaptiv shaklda taqdim etuvchi lingvodidaktik yordamchi sifatida faoliyat yuritishi lozim. Ayniqsa, ushbu yondashuvni o'zbek tilidagi akademik matnlar korpusi bilan integratsiyalash milliy akademik diskursning leksik, grammatik va uslubiy xususiyatlarini ta'lim jarayoniga tatbiq etish imkonini beradi. Natijada talaba tayyor til variantini qabul qiluvchi emas, balki real korpus dalillarini kuzatish, qiyoslash, baholash va ular asosida ongli lingvistik tanlov amalga oshiruvchi faol subyektga aylanadi. Shu bois korpus va GenAI integratsiyasi o'zbek tilida akademik yozuv kompetensiyasini rivojlantirishning istiqbolli adaptiv lingvodidaktik yo'nalishlaridan biri sifatida baholanishi mumkin.

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