INTERNATIONAL SCIENTIFIC ONLINE CONFERENCE

Global Conference Hub

WORLD INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY AND EDUCATION

GERMANY

http://globalconferencehub.org

WORLD INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY AND EDUCATION: a collection scientific works of the International scientific conference (May, 2026) – Germany: 2026. Volume-01, Issue 05, 2026

Languages of publication: English, Russian, and Uzbek

This collection includes research papers presented by scientists, graduate students, and students at the International Scientific Online Conference "**WORLD INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY AND EDUCATION**" held in Germany on May, 2026.

The conference proceedings are intended for researchers and academic staff of higher education institutions. They may be used for teaching and research purposes, including postgraduate education and preparation for bachelor's and master's degree programs.

All submitted articles underwent peer review by qualified experts. The materials are published in accordance with copyright regulations. The authors are fully responsible for the accuracy of the content, research findings, and any errors.

Quantumqill Research Press PVT LTD, 2026

THE ROLE OF HR MANAGEMENT IN THE INTEGRATION OF EDUCATIONAL INSTITUTIONS AND ENTERPRISES (BASED ON THE DUAL EDUCATION MODEL)

Majidov Qobiljon Qodirovich

Abstract: This thesis examines the pivotal role of human resource (HR) management in fostering integration between educational institutions and enterprises within the framework of the dual education model. Dual education, which combines theoretical learning in academic settings with practical training in real workplace environments, serves as a strategic mechanism for aligning workforce development with industry needs. HR professionals act as key facilitators in this integration by designing competency-based curricula, coordinating partnerships, managing talent pipelines, and ensuring seamless transitions for learners into productive employment. Drawing on theoretical foundations and practical implementations, particularly in the context of Uzbekistan's evolving education system, the study highlights how effective HR strategies enhance skill acquisition, reduce youth unemployment, boost enterprise productivity, and contribute to national economic competitiveness. The analysis underscores the necessity of strategic HR interventions, including mentorship programs, performance evaluation systems, and stakeholder collaboration, to maximize the benefits of dual education. Recommendations are provided for policymakers, educational leaders, and corporate HR departments to strengthen this integrative approach.

Keywords: Dual education model, HR management, education-enterprise integration, workforce development, vocational training, talent management, Uzbekistan higher education, competency-based learning.

TA'LIM MUASSASALARI VA KORXONALAR INTEGRATSIYASIDA HR BOSHQARUVINING ROLI (DUAL TA'LIM MODELI ASOSIDA)

Majidov Qobiljon Qodirovich

Anotatsiya: Ushbu tezis dual ta’lim modeli asosida ta’lim muassasalari va korxonalar integratsiyasida inson resurslarini boshqarishning strategik rolini tahlil qiladi. HR mutaxassislarining hamkorliklarni muvofiqlashtirish, kompetensiyalarni shakllantirish va kadrlar rivojlantirishdagi ahamiyati yoritilgan. O‘zbekiston kontekstida modelning afzalliklari va HRning integrativ funktsiyalari ko‘rib chiqiladi.

Kalit so‘zlar: Dual ta’lim modeli, HR boshqaruvi, ta’lim-korxona integratsiyasi, kadrlar tayyorlash, mehnat bozori, inson kapitali, O‘zbekiston ta’lim tizimi.

Dual ta’lim modeli zamonaviy ta’lim tizimlarida ta’lim muassasalari va korxonalarni integratsiya qilishning eng samarali mexanizmlaridan biri sifatida e’tirof etilmoqda. Ushbu model nazariy bilimlarni ta’lim muassasalarida, amaliy ko‘nikmalarni esa bevosita ishlab chiqarish jarayonida egallashni nazarda tutadi, bu esa bitiruvchilarning mehnat bozoridagi raqobatbardoshligini oshirishga xizmat qiladi. Bunday integratsiyada inson resurslarini boshqarish (HR) mutaxassislarining roli markaziy ahamiyatga ega bo‘lib, ular ta’lim va ishlab chiqarish o‘rtasidagi ko‘prik vazifasini o‘taydi. HR boshqaruvi nafaqat kadrlar tanlash va o‘qitish bilan cheklanmay, balki strategik hamkorliklarni rivojlantirish, kompetensiyalarni shakllantirish, motivatsiya tizimlarini yaratish va uzoq muddatli inson kapitalini rivojlantirish kabi vazifalarni ham o‘z zimmasiga oladi. O‘zbekiston Respublikasida dual ta’limning joriy etilishi ta’lim tizimini modernizatsiya qilish va iqtisodiy o‘sishni ta’minlashda muhim qadam bo‘ldi, chunki bu model orqali yoshlarning amaliy tajribaga ega bo‘lishi va korxonalarning malakali kadrlar ehtiyojini qondirishi ta’minlanadi. HR boshqaruvining integratsiyadagi asosiy funktsiyalaridan biri hamkorlik shartnomalarini tuzish va monitoring qilishdir. Ta’lim muassasalari bilan korxonalar o‘rtasida uch tomonlama shartnomalar (talaba, muassasa va korxona) imzolanishi orqali o‘quv jarayoni muvofiqlashtiriladi. HR mutaxassislari bu jarayonda talabalar uchun ish haqi to‘lash

mexanizmlarini, amaliyot muddatlarini va baholash tizimlarini ishlab chiqadi. Masalan, korxonada “ustoz-shogird” tizimini joriy etish orqali tajribali xodimlar talabalarga amaliy bilimlarni o‘rgatadi, bu esa HRning rivojlanish va murabbiylik dasturlarini boshqarish qobiliyatini talab qiladi. Natijada, talabalar nafaqat nazariy bilimlarni egallaydi, balki korxona madaniyati, ish jarayonlari va texnologiyalari bilan chuqur tanishadi. Bu esa bitiruvchilarning ishga joylashish muddatini qisqartiradi va korxonalarning o‘quv xarajatlarini kamaytiradi.

Dual ta’lim modelida HR boshqaruvi inson resurslarini rivojlantirish strategiyasining asosiy tarkibiy qismi sifatida namoyon bo‘ladi. An’anaviy ta’limdan farqli o‘laroq, dual model talabalarni korxona ehtiyojlariga mos ravishda tayyorlaydi, shuning uchun HR bo‘limlari oldindan prognoz qilish, kasbiy standartlarni ishlab chiqish va o‘quv dasturlarini moslashtirish bilan shug‘ullanadi. O‘zbekiston tajribasida ko‘rinib turibdiki, sanoat korxonalari, xususan, to‘qimachilik, muhandislik, energetika va xizmat ko‘rsatish sohalari dual ta’lim orqali kadrlar tayyorlashda faol ishtirok etmoqda. HR rahbarlari bu jarayonda korxonaning strategik maqsadlarini ta’lim muassasalari dasturlari bilan uyg‘unlashtiradi, natijada mehnat unumdorligi oshadi va innovatsiyalar joriy etilishi tezlashadi. Bundan tashqari, HR mutaxassislari gender tengligi, inkluzivlik va ijtimoiy mas’uliyat tamoyillarini hisobga olgan holda dasturlarni shakllantirishi lozim, chunki dual ta’lim jamiyatning barcha qatlamlarini qamrab olishi kerak. Integratsiya jarayonida HR boshqaruvining yana bir muhim jihati – motivatsiya va ishlash samaradorligini baholash tizimlarini yaratishdir. Talabalar korxonada haq to‘lanadigan amaliyot o‘tashi mumkin bo‘lgan sharoitlarda ularning natijalari KPI (asosiy ko‘rsatkichlar) asosida baholanadi. Bu tizim talabalarda mas’uliyat hissini kuchaytiradi va korxonalar uchun potentsial xodimlarni sinab ko‘rish imkonini beradi. Shu bilan birga, HR bo‘limlari talabalar va xodimlar o‘rtasidagi psixologik moslashuvni ta’minlash, stressni boshqarish va martaba o‘sishini rejalashtirish kabi masalalar bilan

shug‘ullanadi. Ilmiy tadqiqotlar shuni ko‘rsatadiki, dual ta’limda ishtirok etgan talabalar an’anaviy bitiruvchilarga nisbatan tezroq professional muvaffaqiyatga erishadi, chunki ularning amaliy tajribasi yuqori darajada bo‘ladi. O‘zbekistonda bu modelni kengaytirish orqali yoshlar bandligini oshirish va “miya oqimi”ni oldini olish mumkin.

HR boshqaruvining roli faqat operativ vazifalar bilan cheklanmaydi. Strategik darajada HR mutaxassislari ta’lim siyosatini shakllantirishda ishtirok etadi, korxonalar ehtiyojlarini tahlil qiladi va davlat dasturlari bilan muvofiqlashtiradi. Masalan, O‘zbekistonning “Kasb egasi” dual ta’lim tizimi oliy ta’lim muassasalarida joriy etilayotgani HRning yangi rolini – hamkorlik platformalarini yaratish va monitoringni kuchaytirishni talab qilmoqda. Bu jarayonda raqamli texnologiyalar, masalan, HRIS (inson resurslari axborot tizimlari) dan foydalanish orqali ma’lumotlar almashinuvi va natijalarni kuzatish samaradorligi oshadi. Bundan tashqari, xalqaro tajriba, xususan, Germaniya dual tizimining muvaffaqiyati shuni ko‘rsatadiki, HR boshqaruvi kuchli bo‘lgan mamlakatlarda ish beruvchilarning ishtiroki yuqori bo‘lib, bu esa iqtisodiy o‘sishga hissa qo‘shadi. O‘zbekistonda ham shunga o‘xshash yondashuvni qo‘llash orqali ta’lim sifati va mehnat bozori talablari o‘rtasidagi tafovutni bartaraf etish mumkin.

Dual ta’lim modeli doirasida HR boshqaruvining integrativ roli murakkab muammolarni hal qilishda ham namoyon bo‘ladi. Bularga korxonalarning qisqa muddatli foyda talablari va ta’limning uzoq muddatli maqsadlari o‘rtasidagi ziddiyat, resurslar yetishmasligi, o‘qituvchilar va ustozlar malakasini oshirish zarurati kiradi. HR mutaxassislari bu muammolarni hal qilish uchun trening dasturlarini ishlab chiqadi, moliyaviy rag‘batlantirish mexanizmlarini taklif etadi va doimiy baholash tizimini joriy etadi. Natijada, integratsiya nafaqat texnik, balki ijtimoiy va madaniy jihatdan ham chuqurlashadi. Talabalar korxona ichidagi jamoaviy ish, qaror qabul qilish va innovatsion fikrlash ko‘nikmalarini egallaydi, bu esa ularni zamonaviy iqtisodiyot

talablariga moslashtiradi. O‘zbekiston kabi rivojlanayotgan mamlakatlarda bunday yondashuv iqtisodiy diversifikatsiya va barqaror rivojlanishni ta’minlashda muhim ahamiyatga ega.

Xulosa qilib aytganda, ta’lim muassasalari va korxonalar integratsiyasida HR boshqaruvining roli strategik va operativ darajada muhim bo‘lib, dual ta’lim modeli uning samaradorligini oshiruvchi asosiy vositadir. HR mutaxassislari ta’lim va sanoat o‘rtasidagi tafovutni bartaraf etish, malakali kadrlar tayyorlash va inson kapitalini rivojlantirish orqali mamlakat iqtisodiyotining raqobatbardoshligini oshirishga hissa qo‘shadi. Kelgusida bu yo‘nalishda qo‘shimcha tadqiqotlar o‘tkazish, xalqaro tajribani chuqurroq o‘rganish va raqamli HR texnologiyalarini joriy etish zarur. Shu bilan birga, davlat siyosati, ta’lim muassasalari va korxonalar o‘rtasidagi hamkorlikni yanada mustahkamlash orqali dual ta’lim modelini kengaytirish O‘zbekistonning ta’lim va mehnat bozorini zamonaviy talablarga moslashtirishga yordam beradi. Ushbu integratsiya nafaqat individual darajada muvaffaqiyat, balki butun jamiyat farovonligini ta’minlaydi.

Foydalanilgan adabiyotlar ro‘yxati:

1. O‘zbekiston Respublikasi Prezidentining farmonlari va Vazirlar Mahkamasining qarorlari (dual ta’lim bo‘yicha, 2021–2025 yillar).
2. S.Z.N. o‘g‘li. O‘zbekiston ta’lim tizimida dual ta’limning rivojlanish bosqichlari. CyberLeninka.
3. Saidjonova P.Sh. Texnik oliy ta’lim muassasalarida dual ta’limni joriy etish istiqbollari.
4. Xakimova M. O‘zbekistonda dual ta’lim tizimi. World Bulletin of Education and Learning.
5. Tojiyev S. Kasbiy ta’lim mazmunida ta’lim va ishlab chiqarish integratsiyasi.
6. O‘zbekiston Respublikasi “Ta’lim to‘g‘risida”gi Qonuni va unga tegishli hujjatlar.

The Formation of Uzbek-Language Broadcasting in Tajikistan Radio and Its Role in Covering Uzbekistan–Tajikistan Relations

Rasulova Durdona Asliddinovna

Master's Student, Journalism Department National University of Uzbekistan

Abstract:

This article examines the formation, development stages, and current significance of Uzbek-language broadcasting within the radio space of Tajikistan. In particular, the role of Uzbek-language programs of "Ovozi Tojik" radio in covering political, cultural, and humanitarian relations between Uzbekistan and Tajikistan is analyzed. The study also highlights how these broadcasts contribute to promoting interethnic harmony, cultural closeness, and shared values. The findings indicate that Uzbek-language radio programs function not only as a means of information dissemination but also as an important communication platform that fosters ethnocultural integration and regional cooperation.

Keywords:

Tajikistan radio, Uzbek-language broadcasting, Ovozi Tojik, mass media, media space, interethnic relations, cultural ties, radio journalism, information policy, Central Asia

Тожикистон радиосида ўзбек тилидаги эшиттиришларнинг шаклланиши ва уларнинг Ўзбекистон–Тожикистон муносабатларини ёритишдаги ўрни

Дурдона Расулова,

Ўзбекистон Миллий университети

Журналистика ва ўзбек филологияси факультети 2-курс магистранти

Аннотация

Мазкур мақолада Тожикистон радиомаконида ўзбек тилидаги эшиттиришларнинг шаклланиш жараёни, уларнинг ривожланиш босқичлари ва замонавий ахборот муҳитидаги ўрни таҳлил қилинади. Хусусан, “Овози тожик” радиосининг ўзбек хизмати мисолида икки давлат — Ўзбекистон ва Тожикистон ўртасидаги сиёсий, маданий ва гуманитар алоқаларни ёритишда радиоэшиттиришларнинг роли ўрганилади. Шунингдек, мазкур дастурлар орқали миллатлараро дўстлик, маданий яқинлик ва умумий қадриятларни тарғиб этиш масалалари илмий асосда ёритилади. Тадқиқот натижалари шуни кўрсатадики, ўзбек тилидаги радиодастурлар нафақат ахборот тарқатиш воситаси, балки этномаданий уйғунликни таъминловчи муҳим коммуникацион платформа сифатида намоён бўлади.

Калит сўзлар:

Тожикистон радиоси, ўзбек тилидаги эшиттиришлар, Овози тожик, оммавий ахборот воситалари, медиа макон, миллатлараро муносабатлар, маданий алоқалар, радиожурналистика, ахборот сиёсати, Марказий Осиё

Кириш. Ўзбек ва тожик халқларини азал-азалдан қон-қардошлик, дўстлик, ҳамжиҳатлик ришталари боғлаб туради. Ер юзида тарихи, маданияти, урф-одат ва анъаналари бир-бирига бу қадар яқин бўлган халқларни учратиш қийин. Бу яқинликни улуғ аждодларимиз Мир Алишер Навоий ва Абдурраҳмон Жомий ўртасидаги дўстона муносабатлар ҳам тасдиқлаб турибди.

Навоий ҳазратлари ўз устозларини,

Сўз гулшанининг шукуфта варди,

Илм оятининг варақ наварди,

–деб таърифлаган бўлсалар, мавлоно Жомий улуғ бобомиз ҳақида:

Агар ў турк буд-у ман тожик,

Ҳар ду доштем хешии наздик

-яъни у туркий, мен эса, тожик бўлсам-да, ҳар иккимиз яқин қариндошдекмиз, дея эътироф этганлар.

Ўзбек ва тожик халқларидан етишиб чиққан буюк алломалар, мутафаккирлар жаҳон цивилизациясига катта ҳисса қўшиб келишган. Бугун халқларимиз Спитамен, Исмоил Сомоний, Жалолиддин Мангуберди, Темур Малик, Амир Темур, Заҳириддин Муҳаммад Бобур сингари жасур саркардалари билан, Абу Али ибн Сино, Абу Абдуллоҳ Рўдакий, Жалолиддин Румий, Носир Хисрав, Камол Хўжандий, Бобораҳим Машраб, Муҳаммад Ризо Огаҳий, Аҳмад Дониш, Абдулла Қодирий, Чўлпон, Садриддин Айний, Мирзо Турсунзода, Ғафур Ғулом сингари шоиру фозиллари билан ҳақли равишда фахрланади.

Халқларимиз ўртасидаги азалий дўстлик ва ҳамжиҳатлик маданият ва санъат соҳасида ҳам ривожланиб келган. Хусусан, ўзбек ва тожик халқларининг муштарак мероси бўлган “Шашмақом” бугунги кунда бутунжаҳон номоддий маданий мероси сифатида ЮНЕСКО рўйхатидан жой олган.

Марказий Осиё минтақасида кинематографиянинг тараққий этишида ҳам халқларимизнинг етук маърифатпарвар вакиллари катта ҳисса қўшишган. Эътиборли жиҳати, ўзбек ва тожик кинематографияси ривожини бир-биридан айро ҳолда тасаввур қилиш мумкин эмас. Чунки, миллий киномиз дарғалари ҳам ҳар жиҳатдан бир-бирига кўмаклашиб, бир-бирини қўллаб-қувватлаб келган. Ўзбек киносининг атоқли устозларидан бири Комил Ёрматов Тожикистонда, Конибодомда туғилиб ўсган бўлса, тожик киносининг Борис Кимёгаров, Анвар Тўраев, Самариддин Саъдиев сингари машҳур арбоблари Самарқандда таваллуд топишган.

Бугун Тожикистон киноусталари томонидан яратилган кўплаб бадиий фильмлар ўзбек томошабинлар қалбидан чуқур жой олган. Улар қаторида “Суғдиёна қизлари”, “Ҳасан аравакаш”, “Рустам ва Суҳроб”, “Сиёвуш ҳақида

қисса”, “Темирчи Кова”, “Мен бир қизни учратдим” сингари фильмларнинг алоҳида ўрни бор. Жаҳон киносининг бебаҳо дурдонлари қаторидан ўрин олган “Шаҳризоданинг янги эртаклари” бадиий фильмида Улуғбек Музаффаров, Убайдулла Омон, Дилором Қамбарова сингари ўзбек актёр ва актрисаларини кўришимиз мумкин. Ёхуд “Тожикфильм” студиясида Рашид Маликов суратга олган “Ғаройиб саргузашт” фильмида ўзбек киносининг таниқли вакиллари Ҳусан Шарипов, Баҳром Матчонов яратган қаҳрамонлар ҳар қандай томошабинга завқ-шавқ улаша олган.

Ўз навбатида, ўзбек фильмларида тожик актёрлари ҳам ёркин образларни яратиб қолдиришган. Жумладан Тожикистон халқ артистлари – Сайрам Исаева Майсара, Нодирабегим сингари образлари билан ўзбек киномухлисларини мафтун қилган бўлса, Ато Муҳаммаджонов Имом ал-Бухорий образини тўлақонли гаввдалантира олган. Бундай мисолларни яна кўплаб келтиришимиз мумкин.

Асосий қисм. Сўнгги йилларда Ўзбекистон ва Тожикистон ўртасидаги дўстона муносабатлар янада мустаҳкамланиб бормоқда. Бу борада муҳтарам президентимиз Шавкат Миромонович Мирзиёев ҳамда Тожикистон Республикаси Президенти Эмомали Раҳмоннинг расмий доирасида учрашувлари, икки томонлама имзоланган ҳужжатлар муҳим ўрин тутмоқда. Сўнгги беш йилга яқин вақт мобаайнида икки давлат чегараларининг очилиши, мавжуд масалаларнинг дўстона ҳал қилиниши, икки томонлама алоқаларнинг янада ривожланишини кинематография соҳасидаги ҳамкорлик учун ҳам мустаҳкмм замин ҳозирлади. 2018 йил 15-17 сентябрда Тожикистонда ўтказилган ўзбек киноси кунлари ҳам ана шу ҳамкорликнинг самараси бўлди дейиш мумкин.

Айни кунларда ўзбек ва тожик киноусталари томонидан халқларимизнинг икки буюк вакили Абдураҳмон Жомий ва Мир Алишер навоий дўстлиги ҳақидаги “Юлдузлар шуъласи: Жомий ва Навоий” бадиий фильми суратга олинмоқда.

Бугун Ўзбекистонда тожик тилида сўзлашувчи аҳоли вакиллари учун алоҳида мактаблар фаолият кўрсатади. Тожик тилида ҳар йили юз минглаб нусхада дарсликлар чоп этилади. Бу тилда матбуот нашрлари, марказий ва ҳудудий газета-журналлар чоп этилади. Хусусан, Ўзбекистон Республикаси Вазирлар Маҳкамаси муассислигида “Овози тожик” газетаси чоп этилади. Республика ва вилоятларда тожик миллий мадапният марказлари фаолият кўрсатмоқда.

Ўз навбатида Тожикистонда ҳам ўзбек тилида фаолият кўрсатувчи ўнлаб мактаблар мавжуд. Тожикистон Республикаси ҳукуматининг ўзбек тилидаги “Халқ овози” газетаси 1934 йилдан бери чоп этиб келинади.

Тожикистон Республикаси кўпмиллатли давлат ҳисобланиб, унинг аҳолиси таркибида ўзбеклар энг йирик этник озчиликлардан бири сифатида муҳим ўрин эгаллайди. Демографик тадқиқотлар ва халқаро статистик манбаларга кўра, мамлакат аҳолиси таркибида ўзбекларнинг улуши тахминан 12–15 фоиз атрофида баҳоланади. Айрим манбаларда бу кўрсаткич 13 фоизга яқин деб келтирилса, тарихий демографик маълумотларда уларнинг улуши баъзи даврларда 15 фоиздан ҳам юқори бўлгани қайд этилади[1].

Бироқ айрим тадқиқотчилар ва экспертлар фикрига кўра, Тожикистондаги ўзбек аҳолисининг ҳақиқий сони расмий статистик кўрсаткичларда акс эттирилган рақамларга нисбатан юқорироқ бўлиши мумкин. Бу ҳолат демографик ҳисоботларни юритишда қўлланиладиган методологик ёндашувлар, аҳолининг этник ўзлигини қайд этиш тамойиллари, шунингдек, рўйхатдан ўтиш

[1] Minority Rights Group International. Uzbeks in Tajikistan // https://minorityrights.org/communities/uzbeks-3/

жараёнидаги субъектив омиллар билан изоҳланади. Хусусан, аҳоли рўйхатлари ва расмий статистикада этник мансублик фуқароларнинг ўз-ўзини идентификация қилиши асосида белгиланиши, айрим ҳолатларда реал демографик ҳолат билан статистик кўрсаткичлар ўртасида фарқлар юзага келишига сабаб бўлиши мумкин.

Ўзбек аҳолиси асосан Тожикистоннинг шимолий ва ғарбий ҳудудларида зич жойлашган. Жумладан, Суғд вилоятида (Хужанд, Исфара, Панжакент, Бобожон Ғафуров туманлари), шунингдек, Ҳисор водийси, Душанбе атрофи, Кўлоб ва Бохтар ҳудудларида улар салмоқли улушни ташкил этади. Ушбу ҳудудлар тарихан Ўзбекистон билан чегарадош бўлгани сабабли бу ерларда этник ва маданий алоқалар табиий равишда шаклланган ва барқарор сақланиб қолган[2].

Ижтимоий-иқтисодий жиҳатдан қаралганда, Тожикистондаги ўзбеклар жамиятнинг турли соҳаларида фаол иштирок этади. Улар асосан қишлоқ хўжалиги, савдо, хизмат кўрсатиш, таълим ва маданият соҳаларида банд бўлиб, мамлакат иқтисодий ва ижтимоий ҳаётига муносиб ҳисса қўшиб келмоқда. Шу билан бирга, зиёлилар қатлами, педагоглар, ижодкорлар ва давлат хизматчилари ҳам этник гуруҳнинг ижтимоий таркибида муҳим ўрин тутади.

Тожикистондаги ўзбеклар орасида этномаданий муҳит маълум даражада сақланиб қолган бўлиб, айрим ҳудудларда ўзбек тилида таълим бериладиган муассасалар, маданий марказлар ва оммавий коммуникация воситалари фаолият юритади. Бу ҳолат этник ўзликни сақлаш ҳамда маданий алоқаларни ривожлантиришда муҳим омил ҳисобланади.

Умуман олганда, хулоса шуни кўрсатадики, Тожикистон радиосида ўзбек тилидаги эшиттиришларнинг шаклланиши бир вақтнинг ўзида сиёсий, ижтимоий, демографик ва медиа омиллар таъсирида юзага келган мураккаб ва кўп қиррали

[2] WorldAtlas. Ethnic Composition of the Population of Tajikistan // https://www.worldatlas.com/articles/ethnic-composition-of-the-population-of-tajikistan.html

жараён бўлиб, у босқичма-босқич ривожланиб борган. Бу жараёнда давлатнинг ахборот сиёсати, жамиятдаги этник таркиб ва аудитория эҳтиёжлари билан бир қаторда, радионинг техник имкониятлари ва ижодий салоҳияти ҳам ҳал қилувчи аҳамият касб этган.

Бундан ташқари, мазкур эшиттиришлар Тожикистон ва Ўзбекистон ўртасидаги тарихий, маданий ва тил бирлигига асосланган алоқаларни янада мустаҳкамлашга ҳам ҳисса қўшган. Радио эфирлари орқали икки халқ ўртасидаги маънавий яқинлик кучайгани, умумий маданий қадриятлар кенг тарғиб этилгани алоҳида аҳамиятга эга.

Шу тариқа, Тожикистон радиосида ўзбек тилидаги эшиттиришлар фақат ахборот тарқатиш воситаси эмас, балки минтақа миқёсида маданий мулоқотни кучайтирувчи, этномаданий уйғунликни таъминловчи ва ахборот алмашинувини ривожлантирувчи муҳим омил сифатида шаклланганини кўриш мумкин.

Бу борада “Овози тожик” радиосининг ўзбек хизмати алоҳида ўрин тутади. Ўзбекистон ва Тожикистон муносабатларининг ёритилиши “Овози тожик” радиоси учун доимий мавзулардан бири бўлиб, бу мавзуга эътибор 2016-йилдан бошлаб янада кучайган. Ўзбекистон ва Тожикистон ўртасидаги муносабатларнинг янги босқичга кўтарилиши 2016 йилдан бошлаб икки давлат раҳбарлари — Ўзбекистон Республикаси Президенти Шавкат Миромонович Мирзиёев ва Тожикистон Республикаси Президенти Эмомали Раҳмоннинг сиёсий иродаси ҳамда конструктив мулоқоти билан бевосита боғлиқдир[3]. Мазкур давр икки давлат ўртасидаги муносабатларда яқинлашув, ишонч ва прагматик ҳамкорликнинг кучайиши билан характерланади.

[3] Emomali Rahmon. Официальные выступления и обращения. – Официальный сайт Президента Республики Таджикистан. Электрон манба: https://www.president.tj/ru/node

Хусусан, 2017 йилдан бошлаб олий даражадаги ўзаро давлат ташрифлари фаоллашди, икки томонлама учрашувларда чегара масалалари, транспорт-логистика йўлаклари, энергетика ва маданий-гуманитар соҳалардаги ҳамкорликни кенгайтириш бўйича муҳим келишувлар эришилди[4]. Натижада, узоқ йиллар давомида чекланган ҳолатда бўлган чегара пунктларининг қайта очилиши минтақавий интеграция жараёнларига янги суръат берди.

Айнан шу сиёсий ўзгаришлар шароитида “Овози тожик” радиоси ўз эфир сиёсатини ҳам мослаштириб, Ўзбекистон билан боғлиқ мавзуларни тизимли равишда кенг ёритишга алоҳида эътибор қаратди. Радиоэшиттиришларда икки давлат ўртасидаги дўстлик, тарихий яқинлик ва стратегик шериклик масалалари таҳлилий ва ахборот жанрлари орқали ёритилди.

Мазкур жараёнда “Овози тожик” радиосининг ўзбек тилидаги дастурлари ҳам муҳим ўрин тута бошлади. Ушбу эшиттиришлар орқали Ўзбекистондаги воқеалар, икки мамлакат ўртасидаги қўшма ташаббуслар ва маданий алоқалар кенг тингловчи аудиториясига етказилди. Бу эса радионинг минтақавий ахборот маконида кўприк вазифасини бажарувчи оммавий коммуникация воситаси сифатидаги ролини янада мустаҳкамлади.

Адабиётларда қайд этилишича, икки давлат раҳбарлари ташаббуси билан йўлга қўйилган очиқ мулоқот сиёсати Марказий Осиёда янги сиёсий муҳитни шакллантириб, оммавий ахборот воситалари, жумладан радио соҳаси фаолиятига ҳам ижобий таъсир кўрсатди.

Йиллар давомида «Дўстлик», «Пайванд», «Тожикистон ва жаҳон» каби бир қатор дастурлар тайёрланиб, эфирга узатилган.

[4] Shavkat Mirziyoyev. Расмий нутқлар ва чиқишлар. – Ўзбекистон Республикаси Президенти расмий веб-сайти. Электрон манба: https://president.uz/uz/lists/category/5

Ўзбекистон ва Тожикистон алоқалари нафақат “Овози тожик” радиосининг тожик ва ўзбек бўлимларида, балки унинг рус, инглиз, араб, форс, дарий ва ҳинд тилларидаги дастурларида ҳам ёритилади. Бундай дастурлар сони 2016 йилдан янада ошган.

Ташқи ишлар вазирлиги ва бошқа масъул идоралар билан бир қаторда оммавий ахборот воситалари ҳам давлатлараро муносабатларга таъсир кўрсатиш имкониятига эга. Хусусан, радио давлатлар ва миллатлар ўртасидаги дўстликни тарғиб этишда муҳим рол ўйнаши мумкин.

Тожикистонда 30 дан ортиқ давлат ва хусусий радиотармоқлар фаолият юритади ва улар орасида “Овози тожик” радиоси халқаро характерга эга.

“Овози тожик” радиосининг асосий бўлимларидан бири бўлган чет элга мўлжалланган дастурлар бошқармаси 1949-йил 16-октабрда Тожикистон радиоси таркибида “академик Бобожон Ғафуров ташаббуси билан ташкил этилган бўлиб, ўша даврда фақат форс ва дарий тилларида эфирга чиқарди”[5]. Кейинчалик форс, дарий, инглиз ва араб тилларида ҳам дастурлар эфирга узатила бошланди.

Тожикистон Республикасининг замонавий ташқи сиёсатидаги асосий йўналишларидан бири — Ўзбекистон Республикаси билан муносабатларни кенгайтиришдир. Тадқиқотчи И. Усмоновнинг фикрича, ҳар бир давлатнинг ташқи сиёсати асосан уч мезонда амалга ошади ва “икки давлат ўртасидаги муносабатлар”[6] шуларнинг энг асосийларидан биридир. Тожикистон ташқи муносабатларида ушбу уч мезондан фаол фойдаланади, айниқса Ўзбекистон Республикаси билан муносабатларда.

Шу билан бирга, Тожикистон Ўзбекистон билан муносабатларни минтақавий ташкилотлар — жумладан, Шанхай Ҳамкорлик Ташкилоти, Мустақил Давлатлар

[5] Саидзода Марзия «Овози точик» отпразднует 65-летие. С.29
[6] Усмонов, И. К. Воситаҳои ахбори омма ва сиёсати хориҷии Ҷумҳурии Тоҷикистон / И.К. Усмонов. – Душанбе, 2003. – .23.

Ҳамдўстлиги доирасида ўзаро ҳурмат, умумий манфаатлар, икки ва кўп томонлама битимларга риоя қилиш, иқтисодий, маданий ва гуманитар ҳамкорликни мустаҳкамлаш, минтақа умумий муаммоларини биргаликда ҳал этишга интилиш асосида ривожлантиради. Хусусан, “Халқаро Оролни қутқариш фонди ва минтақавий иқтисодий ҳамкорлик жараёни” мазкур йўналишдаги Тожикистон ташқи сиёсатининг устувор йўналишларидан бири ҳисобланади[7].

Таъкидлаш лозимки, Ўзбекистон Республикаси ва Тожикистон Республикаси ўртасида дипломатик муносабатлар 1992 йил 22 октябрдан бошлаб ўрнатилди. Ўзбек ва тожик халқларининг тарихан шаклланган муносабатлари, иқтисодий ривожланиш истиқболлари, икки мамлакатнинг географик ўрни ва ўзаро манфаатли ҳамкорликни янада мустаҳкамлаш зарурати, Ўзбекистон ва Тожикистоннинг ўзаро муносабатларни кенгайтиришга интилишларини кучайтирди[8].

2016 йилдан буён Ўзбекистон ва Тожикистон президентларининг икки мамлакатга амалга оширган ташрифлари кўпайгани, икки давлат муносабатларининг изчил равишда ривожланаётганидан далолат беради. 2024-йил 18–19 апрел кунлари Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Тожикистонга давлат ташрифи Ўзбекистон ва Тожикистоннинг кўп қиррали муносабатларини ривожлантиришда янги саҳифа очди.

“Ушбу ташриф доирасида икки давлат ўртасидаги муносабатларни ривожлантириш учун турли соҳаларда 28 та ҳамкорлик битими, жумладан 6 та келишув — Тожикистон Республикасининг Хатлон ва Суғд вилоятлари ҳокимиятининг Ўзбекистон Республикасининг Хоразм, Фарғона, Сирдарё,

[7] 25 қадам дар паҳнои олам. – Душанбе: Ирфон, 2016. – С.58.
[8] Министерство иностранных дел Республики Таджикистан. Дипломатические отношения Республики Таджикистан с зарубежными государствами [Электрон ресурс]. – Кириш режими: https://mfa.tj

Наманган ва Андижон вилоятлари билан ҳамкорлигига оид келишувлар имзоланди”[9].

Кучайиб бораётган ўзаро муносабатларни ёритиш баробарида, оммавий ахборот воситалари миллатлар ва давлатлар муносабатига таъсирчан кучига эга. “Овози тожик” радиосининг ушбу йўналишда қандай ишларни амалга оширганини аниқлаш мақсадида унинг дастурларини тадқиқ қилиш зарурати пайдо бўлди.

“Овози тожик” радиоси материалларини таҳлил қилиш жараёнида маълум бўлдики, икки давлат ўртасидаги муносабатларга оид ахборот аввало хабар бўлимларида эфирга узатилади ва кейин таҳлилий дастурларда шарҳланади ҳамда изоҳланади.

“Овози тожик” радиосининг тожик ва ўзбек бўлими муаллифлари Тошкент ва Ўзбекистон ҳамкорлигини таҳлил қилиш жараёнида тарихий умумийликлар, тожик ва ўзбек халқларининг маданий ўхшашликлари, шунингдек, икки халқнинг анъаналари ва дўстлигини ҳисобга олиб, тингловчиларига бир-бирларига ҳурмат кўрсатиш ва яхши муносабатларни мустаҳкамлашни доимо тарғиб қиладилар. Шунингдек, дастур муаллифлари ва интервью берувчилар миллатлар дўстлигига алоҳида эътибор қаратиб, янги авлодга тожик ва ўзбекларнинг яхши анъаналари ва меҳмондўстлик маданиятини сақлашни таъкидлайдилар. Мазкур мисолда “Овози тожик” радиосининг тожик ва ўзбек бўлимлари фаолияти орқали икки халқ ўртасидаги муносабатларни ёритишда медиа воситанинг тарбиявий ва ижтимоий функцияси яққол намоён бўлади. Дастур муаллифлари Тошкент ва Душанбе ўртасидаги ҳамкорликни таҳлил қилиш жараёнида тарихий

[9] Саидзода Марзия, АМИТ «Ховар» Арзҳои дӯстӣ. Ӯзбекистон- шарики стратегӣ ва ҳампаймони боэътимоди Тоҷикистон [Манбаи электронӣ] – URL:https://jumhuriyat.tj/bahsho/3346-arzoi-dst-zbekiston-shariki-strateg-va-ampajmoni-bojetimodi-toikiston.html

умумийликлар ва маданий ўхшашликларга таянади, бу эса икки халқни яқинлаштирувчи асосий омил сифатида кўрсатилади.

Таҳлилдан кўриниб турибдики, радиодастурларда фақат ахборот бериш эмас, балки аудиторияда ўзаро ҳурмат, дўстлик ва бағрикенглик каби қадриятларни шакллантириш мақсади устувор ҳисобланади. Муаллифлар ва суҳбатдошлар томонидан миллатлар дўстлигига алоҳида урғу берилиши, медиа маконнинг ижтимоий интеграция жараёнидаги муҳим восита эканини кўрсатади.

Шунингдек, янги авлодга миллий анъаналар ва меҳмондўстлик маданиятини етказиш масаласи кўтарилиши, ушбу дастурларнинг фақат ахборот эмас, балки маданий-тарбиявий вазифага ҳам эга эканини англатади. Бу эса оммавий ахборот воситаларининг жамиятда тинчлик ва ҳамжиҳатликни мустаҳкамлашдаги роли юқори эканини тасдиқлайди. Шунингдек, икки халқ ўртасидаги муносабатлар Марказий Осиё халқлари тарихий алоқалари контекстида ҳам кўриб чиқилади. Шу борада олим Бобожон Ғафуров тожик ва ўзбек халқлари ўзаро яқин тарихий ва маданий алоқаларга эга эканини таъкидлаб, улар бир-бири билан яқин муносабатда бўлганини қайд этади. Унинг фикрича, тожик халқининг тарихини ўрганиш Марказий Осиё халқлари анъанавий алоқаларини билишда ёрдам беради. Шу билан бирга, у “ўзбеку тожик халқининг маданият, урф-одат, санъат ва халқ ҳунармандчилиги хусусиятлари шунчалик яқин эдики, баъзан уларни ажратиш қийин бўларди[10]” эканини алоҳида таъкидлайди. И. Усмонов ҳам тожик ва ўзбекларнинг қадимдан дўстона муносабатларига эътибор қаратган ва “улар асрлар давомида бир-бирига дўст ва ака-ука бўлиб келган”[11] деб ҳисоблайди.

“Овози тожик” радиосининг ўзбек бўлимида тожик ва ўзбек классик ва замонавий адиблари ўртасидаги адабий алоқалар ва дўстлик мавзусига эътибор

[10] **Ғафуров Б.** *Тожиклар: қадимий, ўрта аср ва замонавий тарих*. – Душанбе: Ирфон нашриёти, 1998. С.312.
[11] Усмонов, И. К. Правда о таджиках / И.К. Усмонов. –Душанбе, 2006. – С.3.

қаратилган, “Дўстлик”, “Пайванд”, “Тожикистон ва жаҳон” каби бир қатор дастурлар тайёрланиб, эфирга узатилган. Ушбу дастурларда ўзбек шоирларининг шеърлари кенг қўлланилган. Жумладан, тожикистонлик ўзбек шоири Ўлмас Жамолнинг ширу-шакар услубидаги шеърлари ва Ўзбекистон халқ шоири Абдулла Ориповнинг шеърлари “Овози тожик” радиосида кўп эшитилади[12].

Тожик ва ўзбек халқлари ўртасидаги дўстлик ришталари Абдураҳмони Жомий ва Алишер Навоий давридан бошланиб, асрлар давомида тожик ва ўзбек адиблари бу анъанани сиёсий вазиятдан қатъий назар доимо давом эттирдилар. Қалам аҳли нафақат тожик ва ўзбек дўстлиги мавзусида шеърлар ва достонлар яратган, балки бир-бирларининг асарларини таржима қилиб, уларни танитишда ва дўстона алоқаларни сақлашда муносиб ҳисса қўшган. Академик Абдужаббор Раҳмонзода таъбири билан айтганда: “Тожиклар ва ўзбеклар икки халқдир, уларнинг барча ахлоқий қадриятлари, одоб-ахлоқ, маросим ва байрамлари умумийдир”[13].

“Овози тожик” радиосининг ўзбек бўлимида “Мавлоно Абдураҳмони Жомий ва Алишер Навоий дўстлиги”[14] мавзусига бир неча бор тўхталиб, янги авлодни улардан ўрнак олишга ундайдилар. “Овози тожик” радиосининг ўзбек бўлимида Мавлоно Абдураҳмони Жомий ва Алишер Навоий дўстлиги мавзуси бир неча маротаба алоҳида эшиттиришлар орқали ёритилган бўлиб, ушбу йўналишдаги дастурлар ёш авлодни икки буюк мутафаккирнинг маънавий мероси ва дўстлик анъаналаридан ўрнак олишга чорлашга қаратилган.

Хусусан, Алишер Навоий таваллуди муносабати билан 2022 йилда тайёрланган 40 дақиқалик махсус эшиттиришда мазкур мавзуга кенг ўрин

[12] «Овози тоҷик» ўзбек бўлими. – 2024. – 19 апрел.
[13] URL: https://jumhuriyat.tj/bahsho/1061-pajomi-dst-kitobi-safiri-toikiston- dar-toshkent-chop-shud.html. кўрилган сана: 27.10.2025.
[14] «Овози тожик» ўзбек бўлими. – 2022. – 20 март.

берилган. Ушбу дастурнинг муҳаррири ва бошловчиси сифатида Дурдона Расулова фаолият олиб борган[15]. Эшиттириш давомида Алишер Навоийнинг ғазаллари эфирга узатилган, улар бадиий ўқиш орқали тингловчиларга тақдим этилган.

Шу билан бирга, дастур доирасида Тожикистон ва Ўзбекистонда фаолият юритаётган навоийшунос олимлар билан суҳбатлар ташкил этилган. Уларда Алишер Навоий ва Абдураҳмони Жомий ўртасидаги илмий-маънавий алоқалар, уларнинг адабий мактаб шаклланишига қўшган ҳиссаси ҳамда икки халқ маданий яқинлигини мустаҳкамлашдаги ўрни таҳлилий жиҳатдан ёритилган.

Ушбу эшиттиришлар орқали радиода нафақат тарихий шахслар мероси тарғиб қилинган, балки икки халқ ўртасидаги дўстлик, адабий-илмий ҳамкорлик ва умуммаданий қадриятлар ҳам кенг аудиторияга етказилган.

Дарҳақиқат, бу икки адиб тожик ва ўзбек халқлари учун муносиб хизмат қилган ва ҳозирги кунда ҳам халқлар дўстлигининг ёрқин намунаси сифатида қолмоқда.

Фойдаланилган адабиётлар рўйхати

1. Minority Rights Group International. Uzbeks in Tajikistan // https://minorityrights.org/communities/uzbeks-3/

2. WorldAtlas. Ethnic Composition of the Population of Tajikistan // https://www.worldatlas.com/articles/ethnic-composition-of-the-population-of-tajikistan.html

3. Emomali Rahmon. Официальные выступления и обращения. – Официальный сайт Президента Республики Таджикистан. Электрон манба: https://www.president.tj/ru/node

[15] Муаллифнинг “Овози тожик” ўзбек бўлимидаги ўз фаолиятидан.

4. Shavkat Mirziyoyev. Расмий нутқлар ва чиқишлар. – Ўзбекистон Республикаси Президенти расмий веб-сайти. Электрон манба: https://president.uz/uz/lists/category/5

5. Саидзода Марзия «Овози точик» отпразднует 65-летие. С.29

6. Усмонов, И. К. Воситаҳои ахбори омма ва сиёсати хориҷии Ҷумҳурии Тоҷикистон / И.К. Усмонов. – Душанбе, 2003. – .23.

7. 25 қадам дар паҳнои олам. – Душанбе: Ирфон, 2016. – С.58.

8. Министерство иностранных дел Республики Таджикистан. Дипломатические отношения Республики Таджикистан с зарубежными государствами [Электрон ресурс]. – Кириш режими: https://mfa.tj

9. Саидзода Марзия, АМИТ «Ховар» Арзҳои дӯстӣ. Ўзбекистон- шарики стратегӣ ва ҳампаймони боэътимоди Тоҷикистон [Манбаи электронӣ] – URL:https://jumhuriyat.tj/bahsho/3346-arzoi-dst-zbekiston-shariki-strateg-va-ampajmoni-bojetimodi-toikiston.html

10. Ғафуров Б. *Тожиклар: қадимий, ўрта аср ва замонавий тарих*. – Душанбе: Ирфон нашриёти, 1998. С.312.

11. Усмонов, И. К. Правда о таджиках / И.К. Усмонов. –Душанбе, 2006. – С.3.

12. «Овози тоҷик» ўзбек бўлими. – 2024. – 19 апрел.

13. URL: https://jumhuriyat.tj/bahsho/1061-pajomi-dst-kitobi-safiri-toikiston-dar-toshkent-chop-shud.html.

14. “Овози тожик” ўзбек бўлими. – 2022. – 20 март.

15. Муаллифнинг “Овози тожик” ўзбек бўлимидаги ўз фаолиятидан.

THE CONCEPT OF PATRIOTISM IN LITERATURE

Sobirova Munibakhon Sherzod kizi
sobirovamuniba334@gmail.com

Abstract: This section examines patriotism as a social, moral, and spiritual phenomenon in literary discourse. Based on philosophical and literary studies, it explores key interpretations of patriotic feeling and its connection with moral responsibility, historical memory, and personal choice. It is argued that literature presents patriotism not as a declarative concept but as a complex inner experience shaped by historical challenges and ethical reflection.

Keywords: patriotism; literature; moral choice; national identity; historical memory; spiritual values

ПОНЯТИЕ ПАТРИОТИЗМА В ЛИТЕРАТУРЕ

Собирова Мунибахон Шерзод кизи
sobirovamuniba334@gmail.com

Аннотация: В разделе рассматривается понятие патриотизма как социального, нравственного и духовного явления в художественной литературе. На основе анализа философских и литературоведческих исследований выявляются основные подходы к интерпретации патриотического чувства, его связь с категориями долга, памяти, совести и нравственного выбора личности. Особое внимание уделяется тому, что в литературе патриотизм раскрывается не как декларативная идея, а как сложный внутренний опыт человека, формирующийся в условиях исторических испытаний. Обосновывается, что художественное осмысление патриотизма позволяет глубже понять духовную природу национального самосознания и его роль в формировании культурной идентичности.

Ключевые слова: патриотизм; художественная литература; нравственный выбор; национальное самосознание; историческая память; духовные ценности

ADABIYOTDA VATANPARVARLIK TUSHUNCHASI

Sobirova Munibaxon Sherzod qizi
sobirovamuniba334@gmail.com

Annotatsiya: Ushbu bo‘limda vatanparvarlik tushunchasi ijtimoiy, axloqiy va ma’naviy hodisa sifatida badiiy adabiyotda tahlil qilinadi. Falsafiy va adabiyotshunoslik yondashuvlari asosida uning mazmuni, tarixiy xotira va shaxsiy mas’uliyat bilan bog‘liqligi ko‘rib chiqiladi. Adabiyotda vatanparvarlik murakkab ichki tajriba sifatida talqin qilinishi asoslanadi.

Kalit so‘zlar: vatanparvarlik; badiiy adabiyot; axloqiy tanlov; milliy ong; tarixiy xotira; ma’naviy qadriyatlar

Патриотизм как социальное и духовное явление занимает одно из центральных мест в системе ценностей человеческой культуры и находит глубокое отражение в художественной литературе. В самом общем понимании он определяется как любовь к Родине, привязанность к родной земле, языку и культурным традициям, а также осознание личной ответственности за судьбу Отечества [1, 45].

В отличие от публицистики и идеологического дискурса, художественная литература стремится не к декларативному утверждению патриотических идей, а к раскрытию их внутренней сущности. Патриотизм в художественном тексте предстает как результат нравственного выбора, как форма духовного самоопределения человека в условиях исторических испытаний [2, 63]. Он

проявляется через судьбы героев, их поступки, сомнения, страдания и моральные решения.

Особое значение в осмыслении патриотизма имеют такие категории, как долг, честь, совесть, память и ответственность. Именно через них раскрывается глубинное содержание патриотического чувства. В литературе оно почти всегда связано с внутренними конфликтами личности и необходимостью нравственного выбора [3, 78].

Художественное осмысление патриотизма тесно связано с изображением человека в предельных исторических ситуациях — войне, кризисе, социальной катастрофе. В этих условиях патриотическое чувство приобретает особую остроту и трагизм, становясь основой морального самоопределения личности. Литература показывает, что подлинный патриотизм формируется не в сфере абстрактных идей, а в пространстве живого человеческого опыта [4, 116].

Важную роль в раскрытии патриотической проблематики играет система художественных образов и мотивов. Патриотизм может выражаться через образ Родины, мотив памяти, тему жертвы, верности и исторической ответственности. Эти элементы формируют сложное семантическое пространство произведения, в котором патриотическое чувство предстает как многомерное и внутренне напряжённое явление [5, 114].

Принципиально важным является различие между подлинным патриотизмом и его упрощёнными формами. Подлинный патриотизм основывается на гуманистических ценностях и уважении к культуре своего народа, тогда как идеологизированные формы нередко сводятся к внешней риторике. Художественная литература, как правило, противостоит таким упрощениям, раскрывая патриотизм как внутреннюю нравственную позицию личности [6, 88].

Таким образом, патриотизм в литературе представляет собой сложное и многомерное явление, в котором соединяются личное и общественное, эмоциональное и рациональное, историческое и нравственное. Он выступает не как абстрактная идея, а как форма духовного опыта, через которую литература осмысляет судьбу человека и народа.

Проведённый анализ показывает, что в художественной литературе патриотизм раскрывается как глубоко личностное и нравственно значимое явление. Он формируется в процессе внутреннего выбора и духовного развития личности и тесно связан с историческим опытом общества.

Такое понимание патриотизма создаёт теоретическую основу для дальнейшего анализа его художественного воплощения, в частности в военной лирике XX века, где данная тема приобретает особую глубину и трагизм.

Список литературы

1. Кожинов В. В. История русской литературы XX века. — Москва: Просвещение, 1985.
2. Гизатулина О. И. Flipped classroom — инновационная модель обучения // Инновационные педагогические технологии. — 2017. — С. 116–118.
3. Калачинская Е. В. Образовательные технологии в современной школе. — Москва, 2017.
4. Логвинова А. В. Педагогические модели обучения. — Москва, 2015.
5. Шайтанов И. О. Русская словесность и традиции. — Москва, 2000.
6. Роднянская И. Б. Война и слово. — Москва: Языки русской культуры, 1999.

The Effect of the Fixed-Dose Combination of Telmisartan/Amlodipine on the Regression of Left Ventricular Hypertrophy and Arterial Stiffness in Arterial Hypertension

Khusanjon Pulatov, Ibrokhim Ugli

Republican Specialized Scientific and Practical Medical Center of Cardiology, Tashkent, Uzbekistan.

Abstract: In patients with hypertension, target organ damage, including left ventricular hypertrophy and increased arterial stiffness, worsens the prognosis. A study involving 52 patients evaluated the effect of 6 months of therapy with the fixed-dose combination of telmisartan/amlodipine. A significant reduction in left ventricular myocardial mass index (by 7.6%), central arterial pressure, and pulse wave velocity was found. These data indicate a pronounced cardioprotective and vasoprotective effect of the therapy, which may contribute to an improved long-term prognosis in patients with hypertension.

Key words: hypertension, treatment of arterial hypertension, left ventricular index.

Влияние фиксированной комбинации телмисартан/амлодипин на регресс гипертрофии левого желудочка и артериальную жёсткость при артериальной гипертензии

Пулатов Хусанжон Иброхим угли.

Республиканский специализированный научно-практический медицинский центр кардиологии. Ташкент. Узбекистан.

Аннотация: У пациентов с артериальной гипертензией поражение органов-мишеней, включая гипертрофию левого желудочка и повышение артериальной

жёсткости, ухудшает прогноз. В исследовании с участием 52 пациентов оценено влияние 6-месячной терапии фиксированной комбинацией телмисартан/амлодипин. Установлено достоверное снижение индекса массы миокарда левого желудочка (на 7,6%), центрального артериального давления и скорости распространения пульсовой волны. Полученные данные свидетельствуют о выраженном кардио- и вазопротективном эффекте терапии, что может способствовать улучшению долгосрочного прогноза у пациентов с АГ.

Ключевые слова: гипертоническая болезнь, лечение артериальной гипертензии, индекс левого желудочка.

Актуальность: Артериальная гипертензия (АГ) остаётся одной из ведущих причин сердечно-сосудистой заболеваемости и смертности во всём мире, определяя высокий риск развития инфаркта миокарда, инсульта и хронической сердечной недостаточности. Ключевым звеном неблагоприятного прогноза при АГ является поражение органов-мишеней, в первую очередь гипертрофия левого желудочка (ГЛЖ) и повышение артериальной жёсткости. ГЛЖ рассматривается как независимый предиктор сердечно-сосудистых осложнений, отражающий процессы структурного и функционального ремоделирования миокарда.

Одновременно увеличение жёсткости артериальной стенки, оцениваемое по скорости распространения пульсовой волны, ассоциировано с ранним сосудистым старением, нарушением центральной гемодинамики и повышением нагрузки на миокард. Эти изменения приводят к усилению постнагрузки, снижению коронарной перфузии и прогрессированию сердечно-сосудистой патологии.

Несмотря на широкий арсенал антигипертензивных препаратов, достижение не только целевых уровней артериального давления, но и органопротективного эффекта остаётся актуальной задачей современной

кардиологии. В этой связи особый интерес представляют фиксированные комбинированные препараты, способные оказывать комплексное влияние на патогенетические механизмы АГ, включая регресс ГЛЖ и снижение артериальной жёсткости, что обуславливает необходимость дальнейших клинических исследований в данном направлении.

Цель: Оценить влияние шестимесячной терапии фиксированной комбинацией телмисартан/амлодипин на показатели органопротекции, включая параметры ремоделирования миокарда и артериальной жёсткости, у пациентов с АГ.

Материалы и методы: В исследование были включены 52 пациента с АГ I–II степени. Средний возраст обследованных составил 51,90±13,84 года, средняя длительность заболевания — 5,17±4,09 года. Все пациенты получали фиксированную комбинацию телмисартан/амлодипин в течение 6 месяцев. Исходно и по завершении наблюдения выполнялись эхокардиографическое исследование с оценкой индекса массы миокарда левого желудочка (ИММЛЖ) и аппланационная тонометрия для оценки параметров центральной гемодинамики и скорости распространения пульсовой волны (СРПВ) - маркера артериальной жёсткости. Результаты считались статистически значимыми при $p<0.05$.

Результаты: На фоне проводимой терапии отмечен значительный регресс ГЛЖ, оцениваемый по снижению ИММЛЖ на 7.6 % (с 78.16±17.99 до 72.22±16.99 г/м², $p<0.001$). По данным аппланационной тонометрии (n=30), наблюдалось значительное улучшение показателей центральной гемодинамики. Центральное САД снизилось с 143.52±18.48 мм рт.ст. до 125.00±5.21 мм рт.ст. ($p<0.001$). Центральное ДАД уменьшилось с 83.96±11.38 мм рт.ст. до 78.00±3.91 мм рт.ст. ($p=0.026$). Центральное пульсовое давление снизилось с 59.39±11.48 мм рт.ст. до

47.26±6.99 мм рт.ст. (p<0.001). СРПВ значительно снизилась с 9.95±2.13 м/с до 9.00±1.12 м/с (p=0.019).

Выводы: Шестимесячная терапия фиксированной комбинацией телмисартан/амлодипин ассоциируется с выраженной кардио- и вазопротекцией у пациентов с АГ проявляющейся регрессом ГЛЖ и снижением артериальной жёсткости, что потенциально способствует улучшению долгосрочного сердечно-сосудистого прогноза.

Список использованной литературы:

1. World Health Organization. *Global report on hypertension: the race against a silent killer*. Geneva: WHO; 2023.
2. European Society of Cardiology, European Society of Hypertension. 2023 ESC/ESH Guidelines for the management of arterial hypertension. *European Heart Journal*. 2023;44(21):180–276.
3. Bryan Williams, et al. 2018 ESC/ESH Guidelines for the management of arterial hypertension. *European Heart Journal*. 2018;39(33):3021–3104.
4. Giuseppe Mancia, et al. Reappraisal of European guidelines on hypertension management. *Journal of Hypertension*. 2009;27(11):2121–2158.
5. Michael E. Safar, Alberto P. Avolio. Arterial stiffness and cardiovascular risk: implications for therapy. *Hypertension*. 2007;50(1):e5–e7.

Environmental impact of sunflower oil production enterprises

Samadova Xadichabegim
Bukhara State Medical Institute
samadova.xatichabegim@bsmi.uz

Annotation. The environmental impacts of edible sunflower oil production are evaluated by life cycle assessment (LCA), with a particular focus on the processing and packaging phases. The assessment is performed using both a resource oriented method (cumulative energy demand, CED method) and an impacts oriented method (ReCiPe method). Both methods show similar results in the evaluation of two alternatives for energy management in an edible oil refinery. However, the CED method gives misleading results in the identification of hot spots in the life cycle because it does not consider environmental impacts not correlated with the energy consumption. The hot spots of the refining phase are the bleaching step, the production of steam from natural gas and the wastewater treatment plant.

Introduction

In the last years, the process industries began to decrease their material and energy consumption and to improve the global performance of their products under the pressure of several factors, such as the introduction of policies on a worldwide scale for the reduction of greenhouse gases, the consequent commitments of several countries, and the need of a cost compression to survive in a highly competitive global market. The awareness of food product consumers to buy products using the environmental performance as a choice criterion has contributed to the acceleration of this improvement process. In order to face the changes in consumer requirements and the international policies for the reduction of the environmental impacts, the food industry is engaged in the production of high quality goods with low energy and material consumption.

In this context, every firm needs to reduce its consumption and, consequently, check its environmental impacts in order to reduce the impact associated with its products. In addition, the distribution sector increasingly demands producing industries to evaluate, quantify and reduce their environmental impacts. Sometimes, this request can influence the choice for one supplier instead of another. These factors drive the food industry to consider the specific contribution of production processes to the impacts of products, though the environmental burden of the processing phase may be considerably lower than that of other phases of the life cycle. In particular, the agricultural production phase, rather than the processing phase, determines the life cycle impact of many food products (Roy et al., 2009). However, better than a general analysis on the whole life cycle, a focus on the processing phases may address technological actions towards environmental improvements in production processes and plants.

References:

1.G.A. Blengini et al.The life cycle of rice: LCA of alternative agri-food chain management systems in Vercelli (Italy)J. Environ. Manage.(2009)

2.C. Brink et al.Cost-effective emission abatement in agriculture in the presence of interrelations: cases for the Netherlands and Europe.Ecol. Econ.(2005)

3.B. Grau et al.Environmental life cycle assessment of rapeseed straight vegetable oil as self-supply agricultural biofuel.Renew. Energ.(2013)

4.G. Landucci et al.Analysis and simulation of an industrial vegetable oil refining process.J. Food Eng.(2013)

5.S.C. De Vries et al.Resource use efficiency and environmental performance of nine major biofuel crops, processed by first-generation conversion techniques.Biomass Bioenerg.(2010)

PEDAGOGICAL-PSYCHOLOGICAL FEATURES OF THE USE OF DIGITAL EDUCATIONAL TECHNOLOGIES BY COMPUTER SCIENCE TEACHERS

Nurulloyev Firuz Nomonjonovich

Bukhara State University Information Systems and Digital Technologies PhD student

Associate Professor.

feruznn@mail.ru

Abstract. This article analyzes the pedagogical and psychological aspects of the use of digital educational technologies in the professional activities of computer science teachers. The purpose of the study is to identify the digital competence of computer science teachers, their attitude to the use of modern technologies in the educational process, psychological barriers and pedagogical opportunities that arise in this process. The article uses theoretical analysis, questionnaires, pedagogical observation and statistical data processing methods. The results show that the effectiveness of computer science teachers in using digital technologies is directly related to their technological knowledge, psychological readiness and openness to innovative approaches. Also, the age characteristics and professional experience of teachers have a significant impact on the process of mastering digital tools. In conclusion, in order for computer science teachers to effectively use digital technologies, it is necessary to systematically develop their pedagogical and psychological readiness, provide continuous professional support and strengthen motivational factors.

Keywords: *computer science teacher, digital educational technologies, pedagogical and psychological characteristics, digital competence, innovative tools, professional development.*

INTRODUCTION. The rapid development of the modern education system and the processes of global digitalization are placing new demands on the teacher. In particular,

computer science teachers are required to be not only deep experts in their subject, but also specialists who have mastered digital educational technologies and can innovatively integrate them into the pedagogical process. Digital technologies are considered an important tool for enriching the content of education, organizing independent work of students, and increasing their motivation to learn.

The educational policy of the Republic of Uzbekistan also identifies the introduction of digital technologies and the development of digital competencies of teachers as one of the priority tasks. In particular, within the framework of the "Uzbekistan - 2030" strategy, special attention is paid to the issues of introducing innovations into the education system, improving the digital literacy and media literacy skills of teachers.

However, the introduction of digital technologies into the educational process is not limited to the provision of technical means. The success of this process largely depends on the teacher's pedagogical skills, psychological preparation, attitude to innovations and individual characteristics in their application. Although computer science teachers have a certain advantage over other subject teachers in working with digital tools, certain problems are observed in their pedagogical and psychological preparation.

The relevance of this article is that it comprehensively analyzes the process of using digital educational technologies by computer science teachers from the perspective of a pedagogical and psychological approach. The purpose of the study is to identify the pedagogical capabilities and psychological characteristics of computer science teachers in using digital technologies, as well as to develop recommendations for improving this process.

METHODS. A number of theoretical and empirical methods were used in the research process. The theoretical methods used were systematic analysis, comparison and generalization of domestic and foreign scientific literature in the field of digital educational technologies, pedagogy and psychology [1; 8].

Empirical research was conducted with the participation of 45 computer science teachers and 876 students from Bukhara State Pedagogical Institute, Navoi State University, Urgench State University, Termez State University, and Gulistan State University. The following methods were used in the research:

1. Questionnaire: A special questionnaire was created to determine the level of teachers' use of digital technologies, their attitudes towards these tools, and the challenges they face.

2. Pedagogical observation: The methods of computer science teachers' use of digital tools in lesson processes, their interaction with students, and the effectiveness of the lesson were observed.

3. Interviews: In-depth interviews were conducted with selected teachers to explore their personal experiences, psychological states, and needs in using digital technologies.

4. Statistical analysis: The collected data were analyzed quantitatively and qualitatively, and averages and correlations were determined.

The study was carried out in phases over the 2023–2026 academic year.

RESULTS. The results obtained during the study revealed important pedagogical and psychological characteristics of the process of using digital educational technologies by computer science teachers.

First, it was found that teachers have different levels of digital competence. 70% of teachers surveyed indicated that they have a high level of digital competence, 25% have an average level, and 5% have a low level. It was observed that younger teachers (25–35 years old) tend to master digital tools faster and use them in the classroom. Experienced teachers (over 45 years old), on the other hand, rely more on traditional methods and face certain difficulties in mastering new technologies.

Digital competence level of computer science teachers

(by age group)

Table 1

Age group	High level	Average level	Low level
25–35 years old	78%	18%	4%
36–45 years old	52%	38%	10%
Over 45 years old	31%	41%	28%

Secondly, it was found that teachers' psychological attitude towards the use of digital technologies is an important factor. 72% of respondents noted that the use of digital tools helps to organize the lesson interestingly and effectively. At the same time, 28% of teachers experienced psychological barriers to using technologies (fear of technical failures, anxiety about not being able to master new programs, lack of time). This situation is especially common among teachers over 45 years old.

Third, the types of digital tools used by teachers were analyzed. The most commonly used tools include:

- Online learning platforms: Zoom, Google Classroom, Microsoft Teams.
- Interactive tools: Kahoot!, Quizizz, Mentimeter [1; 3].
- Creative tools: Canva, Tinkercad, Google Slides.
- Simulation and 3D modeling programs [1; 9].

When teaching programming, teachers are effectively using gamification, Flipped Learning, and STEAM approaches.

Fourth, the professional development needs of teachers were identified. 80 percent of respondents noted the need to participate in regular advanced training courses and seminars on digital technologies. The active participation of computer science teachers in the seminar-training "Digital Pedagogy and Media Literacy" held by the Republican

Scientific and Methodological Center for the Development of Education in December 2025 confirms the relevance of this need.

DISCUSSION. The results obtained show that the process of using digital educational technologies by computer science teachers is a complex pedagogical and psychological phenomenon. As Nurmamotov RA (2025) noted, high digital competence of a teacher not only increases the effectiveness of the educational process, but also creates opportunities for students to develop their knowledge and skills through the use of innovative and interactive methods. Our study also revealed that the active use of digital tools by young teachers is associated with high student activity in their lessons.

Psychological factors play an important role in the implementation of digital technologies. The anxiety and lack of confidence in the use of technologies observed among teachers limit their ability to apply innovative approaches. This situation is especially common among experienced teachers and indicates the need for special psychological and pedagogical work with them. As Usmonova QS (2023) noted, the development of pedagogical mechanisms for the effective use of information, communication and digital technologies is of great importance in the formation of independent learning competence.

The influence of teachers' age and professional experience in the use of digital technologies deserves special attention. While young teachers tend to quickly master technologies, experienced teachers have an advantage in their in-depth knowledge of pedagogical methods. To achieve optimal results, it is advisable to establish mechanisms for cooperation and exchange of experience between these two groups and continue the tradition of "teacher-student".

Also, the experience of the "Digital Educational Environment and Digital Technologies" program implemented at the Russian State Pedagogical University shows that the synthesis of fundamental computer science, psychology, and pedagogy serves to train

highly qualified specialists in the field of digital education. This experience can also be applied in the education system of Uzbekistan.

Future research should focus on modeling individual trajectories of computer science teachers' digital competence development, evaluating the effectiveness of training to improve their psychological readiness, and further studying the impact of the use of digital tools on the quality of students' knowledge.

CONCLUSION. In conclusion, the process of using digital educational technologies by computer science teachers is characterized by the following important pedagogical and psychological features:

- The level of digital competence of teachers varies depending on their age characteristics and professional experience.
- The psychological preparation of teachers (openness to innovations, confidence in using technologies, ability to manage anxiety) plays an important role in the effective use of digital technologies.
- The range of digital tools used by computer science teachers is wide and includes online platforms, interactive tools, simulation and 3D modeling programs.
- Most teachers feel the need for regular professional development and psychological support in digital technologies.

To ensure the effective use of digital educational technologies by computer science teachers, it is advisable to implement the following recommendations:

1. Establish a mentoring system between young and experienced teachers.
2. Organize practical seminars and trainings on the use of digital technologies.
3. Develop special programs aimed at improving the psychological preparation of teachers.
4. Popularization of advanced pedagogical practices in the use of digital tools.

Only then will computer science teachers be able to use digital educational technologies not only as a technical tool, but also as a powerful pedagogical tool to increase students' cognitive activity and develop them in all aspects.

List of used literature

1. Nurmamotov RA The role of innovative tools in the development of digital competence of teachers of technological subjects // Pedagogy and psychology in modern mire : theoretical and practical Issledovaniya . - 2025. - T. 4, No. 2. - S. 20–22. - DOI: 10.5281/zenodo.14748118.

2. Digital resources for improving teachers' digital competencies and media literacy skills were discussed [Electronic resource] / Republican Scientific and Methodological Center for the Development of Education. – 2025. – URL: https://trm.uz/news/18122025.

3. Kuralov YA Effective methods of teaching programming using digital technologies // New methods and innovations in the integration of mathematics and information technology disciplines: materials of the international scientific and practical conference. – 2025. – P. 112–117.

4. Usmonova QS Pedagogical and psychological characteristics of the content and organization of students' independent work // Science and Education. – 2023. – T . 4, No. 3. – P. 384–390.

5. Digital educational environment and digital technologies [Electronic resource] / Russian State Pedagogical University named after AI Herzen. – URL: https://studyinrussia.ru/index.php/uz/university-show/502/programm-trainings/7021.

6. Nurulloyev FN Modern teaching methods: traditional and modern education // Journal of Pedagogical Skills. – Bukhara, 2021. – No. 5. – P. 51-56.

“Judicial System, Reforms and Results in Uzbekistan”

Student of the Faculty of Law at Termez State University

Majidova Sevinch Sherzod qizi

Abstarct: This article analyzes the reforms implemented in the judicial system of the Republic of Uzbekistan in recent years, their essence and significance, as well as the results achieved. In particular, it covers important areas such as ensuring the independence of the judiciary, improving the system of selection and appointment of judges, increasing openness and transparency, as well as the introduction of digital technologies. The importance of reforms in increasing citizens' confidence in justice and strengthening the principles of the rule of law is also examined.

Keywords: Judicial system, judicial reforms, judicial independence, Supreme Council of Judges, rule of law, openness and transparency, digital technologies, justice, human rights, Uzbekistan.

Annotatsiya: Mazkur maqolada O‘zbekiston Respublikasining sud tizimida so‘nggi yillarda amalga oshirilgan islohotlar, ularning mazmun-mohiyati hamda erishilgan natijalar tahlil qilinadi. Xususan, sud hokimiyatining mustaqilligini ta’minlash, sudyalarni tanlash va tayinlash tizimini takomillashtirish, ochiqlik va shaffoflikni oshirish, shuningdek raqamli texnologiyalarni joriy etish kabi muhim yo‘nalishlar yoritiladi. Shuningdek, islohotlarning fuqarolarning adolatga bo‘lgan ishonchini oshirish va huquqiy davlat tamoyillarini mustahkamlashdagi ahamiyati ko‘rib chiqiladi.

Kalit so‘zlar : Sud tizimi, sud islohotlari, sud mustaqilligi, Sudyalar oliy kengashi, huquqiy davlat, ochiqlik va shaffoflik, raqamli texnologiyalar, adolat, inson huquqlari, O‘zbekiston.

So’ngi yillarda Yangi O‘zbekistonda amalga oshirilayotgan ijobiy o‘zgarishlarning markazida sud-huquq tizimidagi islohotlar turibdi. So‘nggi olti-yetti yil davomida ushbu tizimda tub, inqilobiy o‘zgarishlar yuz berdi. Natijada odil sudlov instituti sezilarli

darajada takomillashtirildi, xususan, sudyalarni shakllantirish, tanlash va lavozimga tayinlashning ochiq hamda shaffof tartiblari joriy etildi, shuningdek sudyalar mustaqilligini haqiqiy ta’minlashga qaratilgan huquqiy asoslar yanada mustahkamlandi. O‘zbekiston Respublikasi Sudyalar oliy kengashi O‘zbekiston Respublikasi Prezidenti Sh.M. Mirziyoyevning 2017-yil 21-fevraldagi PF–4966-son Farmoniga muvofiq, sud hokimiyatining mustaqilligi konstitutsiyaviy prinsipiga xalqaro standartlar asosida rioya etilishini ta’minlash hamda haqiqatan mustaqil sud tizimini shakllantirish maqsadida tashkil etilgan.[1]

O‘zbekiston Respublikasi Konstitutsiyasining yangi tahririga (2023-yil 30-aprel) muvofiq, Sudyalar oliy kengashiga sudyalar korpusini shakllantirish va sud hokimiyatining mustaqilligi konstitutsiyaviy prinsipiga rioya etilishini ta’minlovchi organ maqomi berildi. Mazkur maqom unga yuklatilgan vazifalarning mustaqil va samarali amalga oshirilishini kafolatlovchi konstitutsiyaviy asos hisoblanadi.

Shuningdek, 2017-yil 6-aprelda “O‘zbekiston Respublikasi Sudyalar oliy kengashi to‘g‘risida”gi Qonun qabul qilinib, unda muhim normalar mustahkamlab qo‘yildi. Xususan, Kengash o‘z faoliyatini qonuniylik, mustaqillik, kollegiallik, xolislik, tenglik va ochiqlik prinsiplari asosida amalga oshirishi belgilandi.Mazkur Qonun bilan sudyalik lavozimiga tayinlash tartibi va shakllari ham tubdan o‘zgartirildi. Sud hokimiyatining boshqa hokimiyat tarmoqlaridan mustaqilligini ta’minlash, sudyalar tomonidan xolis va adolatli odil sudlovni amalga oshirish maqsadida viloyat, tumanlararo, tuman (shahar) sudlari sudyalarini lavozimga tayinlash va lavozimdan ozod etish vakolatlari to‘liq Sudyalar oliy kengashiga o‘tkazildi hamda O‘zbekiston Respublikasi Prezidenti bilan kelishish tartibi bekor qilindi.[2]

[1] https://lex.uz/uz/docs/-3121087?ONDATE=08.11.2023
[2]http://m.xabar.uz/uz/jamiyat/sudyalar-oliy-kengashi-raisi-yil-yakunlari-boyicha-davl

Bundan tashqari, qonunchilikka tegishli o‘zgartirishlar kiritilib, Sudyalar oliy kengashiga o‘z faoliyati bilan bog‘liq zarur ma’lumotlar, hujjatlar va boshqa materiallarni davlat organlari, boshqa tashkilotlar, mansabdor shaxslar hamda fuqarolardan talab qilib olish vakolati berildi. Shuningdek, sudyalar uchun belgilangan maksimal yosh chegarasini uzaytirish, doimiy asosda faoliyat yurituvchi Kengash a’zolariga nisbatan xizmat tekshiruvlarini o‘tkazish hamda ularni intizomiy javobgarlikka tortish masalalarini ko‘rib chiqish vakolatlari ham belgilandi.

Shubhasiz, Yangi O‘zbekistonda yuz berayotgan ijobiy o‘zgarishlarning markazida sud-huquq tizimida amalga oshirilayotgan islohotlar turadi. So‘nggi olti-yetti yil davomida ushbu tizimda tub, inqilobiy o‘zgarishlar yuz berdi. Natijada odil sudlov instituti yanada takomillashtirildi, xususan, sudyalarni shakllantirish, ularni tanlash va lavozimga tayinlashning ochiq va shaffof tartiblari joriy etildi, shuningdek sudyalarning haqiqiy mustaqilligini ta’minlashga xizmat qiluvchi huquqiy asoslar mustahkamlandi.

O‘zbekiston Respublikasi Prezidenti Sh.M. Mirziyoyevning 2017-yil 21-fevraldagi PF–4966-son Farmoniga muvofiq, sud hokimiyatining mustaqilligi konstitutsiyaviy prinsipiga xalqaro standartlar asosida rioya etilishini ta’minlash hamda chinakam mustaqil sud tizimini shakllantirish maqsadida O‘zbekiston Respublikasi Sudyalar oliy kengashi tashkil etildi. O‘zbekiston Respublikasining 2023-yil 30-apreldagi yangi tahrirdagi Konstitutsiyasiga ko‘ra, Sudyalar oliy kengashiga sudyalar korpusini shakllantirish va sud hokimiyati mustaqilligining konstitutsiyaviy prinsipiga rioya etilishini ta’minlovchi organ maqomi berildi. Bu esa uning faoliyatini mustaqil va samarali amalga oshirishning muhim konstitutsiyaviy kafolati hisoblanadi.[3]

Shuningdek, 2017-yil 6-aprelda “O‘zbekiston Respublikasi Sudyalar oliy kengashi to‘g‘risida”gi Qonun qabul qilinib, unda muhim normalar belgilab berildi. Xususan,

[3] https://kun.uz/news/2017/04/08/uzbekistonda-sudalar-olij-kengasi-tugrisidagi-konun-kucga-kirdi

Kengash o‘z faoliyatini qonuniylik, mustaqillik, kollegiallik, xolislik, tenglik va ochiqlik tamoyillari asosida amalga oshirishi mustahkamlab qo‘yildi.

Mazkur Qonun sudyalik lavozimlariga tayinlash tartibi va shakllarini ham tubdan o‘zgartirdi. Sud hokimiyatining boshqa tarmoqlardan mustaqilligini ta’minlash, sudyalarning xolis va adolatli sudlovni amalga oshirishini kafolatlash maqsadida viloyat, tumanlararo, tuman (shahar) sudlari sudyalarini tayinlash va lavozimidan ozod etish vakolatlari to‘liq Sudyalar oliy kengashiga o‘tkazildi hamda bu borada Prezident bilan kelishish tartibi bekor qilindi.

Bundan tashqari, Kengashning vakolatlari kengaytirilib, unga davlat organlari, boshqa tashkilotlar, mansabdor shaxslar va fuqarolardan o‘z faoliyatiga oid zarur axborot, hujjat va materiallarni talab qilish, sudyalar uchun belgilangan maksimal yosh chegarasini uzaytirish, doimiy asosda faoliyat yurituvchi Kengash a’zolariga nisbatan xizmat tekshiruvlari o‘tkazish hamda ularni intizomiy javobgarlikka tortish masalalarini ko‘rib chiqish huquqlari berildi.

Sudyalik lavozimlariga tanlash va tayinlash jarayoni ochiq tanlov asosida yo‘lga qo‘yildi hamda bu jarayonga zamonaviy axborot texnologiyalari joriy etildi. Natijada inson omilining ta’siri sezilarli darajada qisqartirildi, tayinlovlarning ochiqligi va shaffofligi ta’minlandi.

“O‘zbekiston Respublikasi Sudyalar oliy kengashi to‘g‘risida”gi Qonunning 5-moddasiga muvofiq, Kengash rais, rais o‘rinbosari, kotib hamda sudyalar orasidan tasdiqlanadigan o‘n bir nafar a’zodan, shuningdek fuqarolik jamiyati institutlari vakillari va huquq sohasidagi yuqori malakali mutaxassislar orasidan tasdiqlanadigan yetti nafar jamoatchilik vakillaridan iborat bo‘lib, jami yigirma bir kishidan tashkil topadi.[4]

Sudyalar oliy kengashi a’zolarining aksariyat qismini sudyalar tashkil etishi xalqaro talablarga hamda sud hokimiyatining o‘zini o‘zi boshqarish (sudyalarning o‘zini o‘zi

[4] https://lex.uz/mact/-3153668

boshqaruvi) tamoyiliga to‘liq mos keladi. Xususan, Kengash tarkibiga oid bunday yondashuv EXHT Demokratik institutlar va inson huquqlari bo‘yicha byurosi hamda Venetsiya komissiyasi ekspert xulosasining 20-bandida, shuningdek boshqa xalqaro standartlarda ham o‘z aksini topgan.[5]

O‘zbekiston Respublikasi Konstitutsiyasining avvalgi tahririda Sudyalar oliy kengashi tuzilishini shakllantirishga oid normalar aniq belgilab qo‘yilmagan edi. Mazkur masala faqat “O‘zbekiston Respublikasi Sudyalar oliy kengashi to‘g‘risida”gi Qonun bilan tartibga solingan bo‘lib, unga ko‘ra Kengash raisi O‘zbekiston Respublikasi Prezidentining taqdimiga binoan O‘zbekiston Respublikasi Oliy Majlisi Senati tomonidan tayinlanishi, Kengash raisining o‘rinbosari esa O‘zbekiston Respublikasi Prezidenti tomonidan tayinlanishi belgilangan edi.[6]

Hozirda ushbu tartib Konstitutsiya darajasida o‘zgartirilgan bo‘lib, unga muvofiq O‘zbekiston Respublikasi Sudyalar oliy kengashining raisi va rais o‘rinbosari O‘zbekiston Respublikasi Prezidentining taqdimiga binoan O‘zbekiston Respublikasi Oliy Majlisi Senati tomonidan besh yil muddatga saylanadi. Shuningdek, Kengash raisi va rais o‘rinbosarining vakolat muddatlari ham aniqlashtirildi hamda bir shaxs ushbu lavozimga ketma-ket ikki martadan ortiq saylanishi mumkin emasligi belgilandi.

Mamlakat Prezidentining “Sudlar faoliyatini yanada takomillashtirish va odil sudlov samaradorligini oshirish bo‘yicha qo‘shimcha chora-tadbirlar to‘g‘risida”gi 2020-yil 24-iyuldagi PF–6034-son Farmoni hamda “Sudyalarning chinakam mustaqilligini ta’minlash va sud tizimida korrupsiyaning oldini olish samaradorligini oshirish chora-tadbirlari to‘g‘risida”gi 2020-yil 7-dekabrdagi PF–6127-son Farmoni sud-huquq tizimidagi islohotlarni yangi bosqichga olib chiqdi.[7]

[5] https://constitution.uz/oz/pages/sudyalar_oliy_kengashi
[6] https://lex.uz/docs/-3153668?ONDATE=21.09.2024
[7] https://lex.uz/uz/docs/-4910826?ONDATE=20.09.2024

Mazkur huquqiy hujjatlar asosida sudyalarning maqomini yanada mustahkamlash, ularning mustaqilligini kafolatlash hamda daxlsizligini kuchaytirishga qaratilgan qator kafolatlar yaratildi. Shu asosda O‘zbekiston faoliyatiga aralashish holatlari yuzasidan Bosh prokuraturaga murojaat kiritish vakolati berildi.

Shuningdek, prokuratura organlari tomonidan bunday murojaatlarni bir oy muddatda ko‘rib chiqish, ko‘rsatilgan holatlar yuzasidan jinoyat ishi qo‘zg‘atilgani yoki rad etilgani haqida O‘zbekiston Respublikasi Sudyalar oliy kengashiga xabar berish tartibi ham qonunchilik darajasida mustahkamlandi.

ushbu norma mustahkamlanishi ham sudyalar daxlsizligini ishonchli himoya qilish yo‘lidagi muhim qadam bo‘ldi. Unga ko‘ra, agar sudya jinoyat sodir etishda gumon qilinsa, sudya ushlangan paytdan boshlab uch soatdan kechiktirmasdan bu haqda O‘zbekiston Respublikasi Sudyalar oliy kengashiga xabar berilishi shart (sudyaning ushlanishi uchun asos bo‘lgan hujjatlar nusxalari ilova qilingan holda).

Shuningdek, sudyani guvoh yoki gumon qilinuvchi sifatida huquqni muhofaza qiluvchi organlarga chaqirish faqat tegishli sudyalar malaka hay’ati (kvalifikatsiya hay’ati) roziligi bilan amalga oshirilishi belgilandi.

O‘zbekiston Respublikasi Prezidentining 2019-yil 6-yanvardagi PQ–4096-sonli “Sud lavozimlariga nomzodlarni tayyorlash, sudyalar va sud xodimlarini qayta tayyorlash hamda ularning malakasini oshirish tizimini tubdan takomillashtirish chora-tadbirlari to‘g‘risida”gi Farmoni mamlakatimizda sud hokimiyatining mustaqilligini mustahkamlash, professional sudyalar korpusini shakllantirish hamda fuqarolarning odil sudlovga bo‘lgan murojaat qilish imkoniyatlarini kengaytirish yo‘lida muhim qadam bo‘ldi.

Mazkur Farmonga muvofiq, mamlakatimizda birinchi marta sud lavozimlariga nomzodlarni tayyorlash, sudyalar va sud xodimlarini qayta tayyorlash hamda ularning malakasini oshirishga mas’ul bo‘lgan davlat ta’lim va ilmiy-tadqiqot muassasasi —

O‘zbekiston Respublikasi Sudyalar oliy kengashi huzuridagi Sudyalar oliy maktabi tashkil etildi.

Sudyalar oliy maktabining asosiy vazifalaridan biri sud lavozimlariga nomzodlarni tayyorlash, sudyalarni rahbarlik lavozimlariga qayta tayyorlash hamda sudyalar va sud xodimlarini tayyorlashning yagona tizimini shakllantirishdan iboratdir.

Mazkur jarayonda ta’lim jarayoniga innovatsion pedagogik va axborot-kommunikatsiya texnologiyalarini joriy etish, asosli va puxta qaror qabul qilish ko‘nikmalarini rivojlantiruvchi interaktiv o‘qitish usullarini qo‘llash, shuningdek tinglovchilarning huquqshunoslik, kasbiy etika, psixologiya, ish muhitida muloqot, vaqtni boshqarish, muzokara olib borish usullari, axborot texnologiyalari hamda huquq normalarini sharhlash va qo‘llash bo‘yicha nazariy va amaliy bilimlarini rivojlantirish zarurligi belgilab qo‘yildi.

Bundan tashqari, O‘zbekiston Respublikasi Prezidentining 2020-yil 7-dekabrdagi “Sudyalarning chinakam mustaqilligini ta’minlash va sud tizimida korrupsiyaning oldini olish samaradorligini oshirish chora-tadbirlari to‘g‘risida”gi PF–6127-son Farmoni hamda ushbu Farmon asosida qonunchilikka kiritilgan o‘zgartish va qo‘shimchalar sud hokimiyatini shakllantirish jarayonini yangi bosqichga olib chiqdi.[8]

Xususan, tizimda ochiqlik va shaffoflikni samarali joriy etish, sud tizimida korrupsiyaga olib keluvchi sabab va sharoitlarni chuqur o‘rganish hamda tahlil qilish, shuningdek fuqarolar va tadbirkorlik subyektlarining sud hokimiyatiga bo‘lgan ishonchini oshirish borasidagi ishlar sifat jihatidan yangi darajaga ko‘tarildi.

Shu bilan birga, odil sudlovni amalga oshirish jarayonida sudyalarning professional faoliyatini har qanday tashqi ta’sirlardan samarali himoya qilishning huquqiy

“Ma’naviyat bo‘lmagan joyda adolat bo‘lmaydi” degan tamoyil asosida Kengash tashabbusi bilan “Sudyalar ma’naviyati, etikasi va mas’uliyati” nomli o‘quv qo‘llanma

[8] https://sud.uz/la/citizen-admission-la/

tayyorlanib, barcha sudyalarga bepul tarqatildi. Mazkur kitobda sudyaning yuksak insoniy va axloqiy fazilatlari adolatli qarorlar qabul qilishning muhim omillaridan biri sifatida keng yoritilgan bo‘lib, unda sudyaning jamiyat oldidagi axloqiy me’yorlari va mas’uliyat mezonlari batafsil tahlil qilingan.

Shuningdek, tizimda ko‘p yillar samarali faoliyat yuritib, sud hokimiyati rivojiga munosib hissa qo‘shgan sud faxriylarini rag‘batlantirish maqsadida ularga “Sud faxriysi” ko‘krak nishonini topshirish an’anaga aylandi. Bundan tashqari, ularning hayoti va faoliyati haqida “Ibrat maktabi” turkumida bir qator kitoblar chop etilmoqda.

Tizimdagi muhim yangiliklardan yana biri — sudyalar faoliyatini ochiq va shaffof baholashga qaratilgan milliy elektron reyting dasturining joriy etilishidir. Mazkur dasturda sudyalar faoliyati professionalizm, malaka, intizom va mas’uliyat mezonlari asosida inson omilisiz, ochiq va shaffof tarzda baholanadi.

Yuqori reyting ko‘rsatkichlariga ega bo‘lgan sudyalar yuqorida qayd etilgan Farmon asosida joriy etilgan “Namunali sudya” mukofoti bilan taqdirlanadi. So‘nggi uch yil davomida 50 nafar sudya ushbu mukofotga loyiq deb topilgan.[9]

Yana bir muhim yangilik sifatida Sudyalar oliy kengashi faoliyatiga zamonaviy axborot texnologiyalari keng joriy etildi. Xususan, sud lavozimlariga nomzodlar hamda sudyalar bilan o‘tkaziladigan suhbat jarayonida beriladigan savollarni axborot tizimi orqali avtomatlashtirilgan tarzda tanlash dasturi ishlab chiqilib, amaliyotga tatbiq etilmoqda.

Sud lavozimlariga birinchi marta tayinlash uchun nomzodlarni tanlash, yangi muddatga yoki boshqa sud lavozimlariga nomzodlar bilan o‘tkaziladigan suhbat jarayonida beriladigan savollar axborot tizimi tomonidan nomzodning o‘zi ishtirokida avtomatik ravishda tanlanadi.

Nomzod tomonidan tanlangan savollar to‘plami hamda undagi savollar jarayoni boshqa nomzodlar va jamoatchilik vakillari tomonidan onlayn rejimda bevosita kuzatib borilishi

[9] https://gov.uz/oz/advice/NaN/document/2165

imkoniyati yaratilgan. Elektron savollar dasturi bilet.sjco.uz platformasida joylashtirilgan.

Shuningdek, sud lavozimlariga nomzodlarni tanlash bo‘yicha imtihon jarayonlarini internet tarmog‘i orqali (veb-sayt orqali) onlayn yoritish amaliyoti ham ilk bor yo‘lga qo‘yildi.

Sud lavozimlariga nomzodlar hamda amaldagi sudyalarning kasbiy mosligini ularning psixologik profili asosida baholashga xizmat qiluvchi elektron dastur ishlab chiqilib, to‘liq ishga tushirildi. O‘zbekiston Respublikasi Sudyalar oliy kengashining qarori bilan “Sud lavozimlariga nomzodlar va sudyalarining kasbiy mosligini baholashga ko‘maklashuvchi psixologik testlar tizimi to‘g‘risida”gi Nizom tasdiqlandi.

Psixologik testlar va suhbatlar yordamida professional psixolog sudyalarning dunyoqarashi, sud jarayonida turli vaziyatlarga bardoshliligi, vaziyatni to‘g‘ri baholash ko‘nikmalari, shuningdek, ayrim salbiy omillarga, jumladan spirtli ichimliklarga moyillik yoki korrupsiyaviy xatti-harakatlarga nisbatan moyillik kabi jihatlar bo‘yicha tavsiyalar beradi. Ushbu xulosalar sudyalarni tayinlash jarayonida tobora muhim ahamiyat kasb etib bormoqda. Ma’lumot uchun: 2022–2023-yillarda 138 nafar sudya lavozimiga nomzod va 901 nafar sudya psixologik testdan o‘tkazildi. Natijalarga ko‘ra, 258 nafar sudyaga psixologik treninglar o‘tkazildi hamda 40 nafar sudya bilan psixologik suhbatlar amalga oshirildi.[10]

Sudyalar va sud organlari xodimlari o‘rtasida korrupsiya holatlarini oldini olish hamda ularni erta aniqlashga qaratilgan samarali tizim yo‘lga qo‘yildi. Aniqlangan har qanday korrupsion holat mutlaqo qabul qilib bo‘lmaydigan holat sifatida baholanmoqda. Shu asosda har yili korrupsiyaning oldini olish va unga nisbatan murosasiz munosabatni shakllantirishga qaratilgan maxsus dastur tasdiqlanib, amaliyotga joriy etilmoqda.

[10] https://www.zhiyanbao.cn/index/partFile/10/860/2022-05/10_218150.pdf

O‘zbekiston Respublikasining Inson huquqlari bo‘yicha Milliy strategiyasi tasdiqlangani to‘g‘risidagi ma’lumotning Birlashgan Millatlar Tashkilotining olti tilida e’lon qilinib, BMT Bosh Assambleyasining 74-sessiyasi rasmiy hujjati sifatida tarqatilgani bejiz emas. Mazkur Milliy strategiya Venetsiya deklaratsiyasi va Harakatlar dasturi asosida ishlab chiqilgan bo‘lib, unda BMT Inson huquqlari bo‘yicha Oliy komissari boshqarmasi tavsiyalari, EXHT Demokratik institutlar va inson huquqlari bo‘yicha byurosi tavsiyalari hamda xalqaro ekspertlarning fikrlari inobatga olingan.[11]

O‘zbekiston Respublikasining Inson huquqlari bo‘yicha Milliy strategiyasi, jumladan, quyidagi chora-tadbirlarni amalga oshirishni nazarda tutadi:

— sudlar va huquqni muhofaza qiluvchi organlar faoliyatida O‘zbekiston Respublikasi a’zo bo‘lgan umume’tirof etilgan xalqaro huquq prinsiplari va normalari hamda xalqaro shartnomalarni keng qo‘llashni ta’minlaydigan samarali mexanizm yaratish;

— “habeas corpus” institutini yanada takomillashtirish orqali sud hokimiyatining mustaqilligi va xolisligini ta’minlash, shuningdek inson huquqlari, erkinliklari va qonuniy manfaatlarini himoya qilish sohasida sud hamjamiyati organlari faoliyatining huquqiy asoslarini mustahkamlash;

— sud jarayonlarida tenglik va tortishuv (kontradiktorlik) prinsiplarini to‘liq joriy etish, advokatura institutini huquqlarni himoya qiluvchi mustaqil va ishonchli institutga aylantirish, malakali yuridik yordam sifatini oshirish hamda advokatlik kasbining nufuzini yuksaltirish, shuningdek inson huquqlari sohasida ixtisoslashgan advokatlarni tayyorlash tizimini takomillashtirish.

Prokuratura organlari faoliyatini xalqaro standartlar talablariga muvofiqlashtirish, ularning jamiyat oldidagi ochiqligi va hisobdorligini ta’minlash, shuningdek prokuratura boshqaruv tizimida kollegial organlarning rolini kuchaytirish kabi masalalar ham mazkur hujjatlar doirasiga kiritilgan.

[11] https://uzbekistan.un.org/uz/about/about-the-un

Tizimdagi muhim yangiliklardan biri sifatida O‘zbekiston Respublikasi Prezidenti tomonidan “Sud tizimida sudyalarning chinakam mustaqilligini ta’minlash va korrupsiyaning oldini olish samaradorligini oshirish chora-tadbirlari to‘g‘risida”gi 2020-yil 7-dekabrdagi PF–6127-son Farmoni ijrosi doirasida O‘zbekiston Sudyalar oliy kengashi huzurida O‘zbekiston sudyalari klubi tashkil etildi.[12]

O‘zbekiston sudyalari klubi sudyalar odob-axloq qoidalarini muayyan vaziyatlarda qo‘llash bo‘yicha tushuntirishlar berish, shuningdek moddiy va protsessual huquq normalarini to‘g‘ri qo‘llash yuzasidan tavsiyalar ishlab chiqishga vakolatli jamoat tashkiloti hisoblanadi.Bugungi kunga kelib, sudyalar klubi onlayn forumida sudyalar tomonidan 13 104 ta mavzu bo‘yicha 457 531 ta xabar, fikr va izohlar joylashtirilgan.[13] Mazkur Klub yagona sud amaliyotini shakllantirish, sud qarorlarining sifatini oshirish hamda sudyalarning hisobdorligini kuchaytirish orqali ijtimoiy adolatga erishishga xizmat qilish maqsadida tashkil etilgan bo‘lib, uning qisqa muddatdagi faoliyati amaliyotda bunday tuzilmaning zarurligini ko‘rsatdi.

Agar xohlasang, men bularning hammasini yakuniy “kitob bob” (chapter) qilib, ilmiy xulosa va kirish bilan birlashtirib beraman.

O‘zbekiston Respublikasida sud-huquq tizimini isloh qilish jarayoni so‘nggi yillarda tub burilish bosqichiga kirdi. Ayniqsa, Sudyalar oliy kengashining tashkil etilishi, sudyalarni tanlash va tayinlash jarayonining ochiq tanlov asosiga o‘tkazilishi hamda raqamli texnologiyalar joriy etilishi sud hokimiyatining mustaqilligini amalda ta’minlashga xizmat qildi. Shu bilan birga, sudyalarning daxlsizligini kuchaytirish, ularning kasbiy tayyorgarligini oshirish va korrupsiyaning oldini olishga qaratilgan institutsional mexanizmlar tizimli ravishda rivojlantirildi.

[12] https://lex.uz/docs/-5146554?ONDATE=23.08.2025
[13] https://sudyalaroliykengashi.uz/

Shuningdek, Sudyalar oliy maktabining tashkil etilishi orqali professional sud kadrlarini tayyorlash va qayta tayyorlashning yagona tizimi shakllantirildi. Sudyalar faoliyatini baholashda elektron reyting tizimi va psixologik testlar joriy etilishi inson omilini kamaytirib, shaffoflikni oshirdi. Bu esa sud qarorlarining adolatli va asosli bo‘lishiga xizmat qilmoqda.

Bundan tashqari, inson huquqlari bo‘yicha milliy strategiya, xalqaro standartlarga mos islohotlar hamda sud tizimida gender tenglikni ta’minlashga qaratilgan chora-tadbirlar O‘zbekiston sud-huquq tizimini xalqaro darajaga yaqinlashtirmoqda. Xususan, sud tizimida ayol sudyalarning ulushini oshirish va ularning xalqaro hamkorlikdagi ishtirokini kengaytirish ham muhim yo‘nalishlardan biri sifatida belgilangan.

Umuman olganda, amalga oshirilayotgan islohotlar O‘zbekistonda sud hokimiyatining mustaqilligini mustahkamlash, fuqarolarning adolatga bo‘lgan ishonchini oshirish hamda huquqiy davlat tamoyillarini yanada rivojlantirishga xizmat qilmoqda.

Foydalanilgan adabiyotlar ro’yxati:

1. https://lex.uz/uz/docs/-3121087?ONDATE=08.11.2023
2. https://uzbekistan.un.org/uz/about/about-the-un
3. https://sudyalaroliykengashi.uz/
4. https://lex.uz/docs/-5146554?ONDATE=23.08.2025
5. https://www.zhiyanbao.cn/index/partFile/10/860/2022-05/10_218150.pdf
6. https://gov.uz/oz/advice/NaN/document/2165
7. https://lex.uz/mact/-3153668
8.https://kun.uz/news/2017/04/08/uzbekistonda-sudalar-olij-kengasi-tugrisidagi-konun-kucga-kirdi
9. http://m.xabar.uz/uz/jamiyat/sudyalar-oliy-kengashi-raisi-yil-yakunlari-boyicha-davl

ADAPTATION DIFFICULTIES IN PRESCHOOL CHILDREN: AN ANALYSIS OF SOCIAL AND PSYCHOLOGICAL ROOTS

Choriyev Bekzod Bahrom o'g'li

Master's student at Asia International University

Annotation. This article analyzes the underlying social and psychological roots of adaptation difficulties experienced by preschool children upon entering early childhood educational institutions. The transition from a familiar family environment to a structured social setting often triggers psychological stress and emotional instability. The study explores how external social factors—such as family dynamics, parenting styles (e.g., hyper-parenting), and maternal anxiety—intersect with internal psychological determinants, including the child's temperament and attachment style. Furthermore, the paper highlights the effectiveness of modern pedagogical interventions, particularly gamification and art therapy techniques, in mitigating emotional tension, facilitating smooth socialization, and ensuring the psychological well-being of young children during the adaptation phase.

keywords: preschool children, adaptation difficulties, social roots, psychological determinants, family environment, psychological stress, early childhood socialization, pedagogical interventions.

A preschool child's transition from the care of their parents to joining a preschool educational institution for the first time is considered one of the most responsible and complex transitional periods in their social development. This process is directly characterized by a sharp change in the child's lifestyle, daily routine, circle of communication, and emotional environment. In most cases, this period coincides with the three-year crisis, during which the child's process of self-awareness becomes highly active, further increasing the psychological burden of adaptation. Scientific observations show that during the period of adjusting to new social conditions, children often

experience negative states such as anxiety, fear, loss of appetite, sleep disturbances, and even an increased susceptibility to psychosomatic illnesses. To successfully mitigate these difficulties, it is first and foremost necessary to deeply analyze the social and psychological roots that cause them on a scientific basis and find practical solutions.

Among the social roots of adaptation difficulties, the parenting style and the moral and psychological climate within the family occupy the most important place. A child's social skills are initially formed within the family circle. The hyper-parenting style widely used by parents today—that is, being overprotective of the child and keeping their every action under strict control—seriously undermines the child's independence. A child who lacks elementary self-care skills feels extremely helpless when confronted with the collective rules and routines of a kindergarten. Furthermore, a lack of social communication experience is also a serious barrier. Children who have not interacted sufficiently with their peers before entering preschool do not know basic communicative rules, such as sharing toys, reaching an agreement in conflict situations, or waiting for their turn. As a result, they struggle to establish communication within the group and withdraw into their own shell. Additionally, neurotic anxiety in the mother is directly transmitted to the child. If a mother hands her child over to the institution with distrust and apprehension, the child subconsciously perceives the place as a dangerous environment.

The psychological roots of the problem are directly explained by the child's individual nervous system characteristics, temperament, and established attachment style. For example, for children with a melancholic or phlegmatic temperament, where inhibitory processes predominate, a noisy environment among a large number of peers serves as a strong stress factor. They tire more quickly than sanguine or choleric children when absorbing new information and transitioning to rapidly changing activities. The excessive strain on the nervous system manifests itself in the form of apathy or

capriciousness. At the same time, the feeling of anxious attachment formed in a child from an early age turns separation from the mother into a severe emotional state. Such children cannot easily see a reliable support figure in the educator and require long-term individual approaches to feel secure in the institution.

Traditional educational methods may not always yield the expected results in overcoming these socio-psychological problems and optimizing the adaptation process. During such a transitional phase, the effective use of modern psycho-pedagogical correction methods is of paramount importance. The systematic introduction of gamification, or various play technologies, into the educational process serves to divert the child's attention from separation grief to engaging activities in their surroundings. Children feel much freer within the framework of game rules, making it easier for them to engage in social interaction and form a sense of belonging to the group.

The unique potential of art therapy is invaluable in neutralizing a child's inner turmoil, subconscious fears, and accumulated aggression. In particular, drawing therapy allows the child to put emotions onto paper that they cannot explain with words. Through the choice of colors and the movement of lines, a pedagogue can diagnose the child's mental state and provide adequate assistance. Similarly, clay therapy, by engaging finger motor skills, relaxes the tension in the central nervous system, creating an opportunity for the child to materialize their emotions and release negative feelings. With the help of these approaches, it is possible to ensure the child's smooth transition to a new lifestyle and help them view their surroundings with confidence. In conclusion, it should be noted that adaptation difficulties in children are not accidental but have deep social and psychological causes, which can only be effectively overcome through mutual cooperation and empathy between parents and educators, as well as the application of modern psycho-correctional approaches.

FOYDALANILGAN ADABIYOTLAR RO‘YXATI

1. G'oziyev, E. G'. Ontogenez psixologiyasi: darslik / E. G'. G'oziyev. – Toshkent: Noshir, 2010. – 360 b.

2. Nishanova, Z. T. Bolalar psixologiyasi va psixodiagnostikasi: darslik / Z. T. Nishanova, G. K. Alimova. – Toshkent: TDPU, 2017. – 198 b.

3. Qodirova, F. R. Maktabgacha pedagogika: darslik / F. R. Qodirova, Sh. Q. Toshpo'latova, N. M. Qayumova. – Toshkent: Tafakkur, 2019. – 688 b.

4. Rasulova, Z. Sh. Maktabgacha yoshdagi bolalarni ijtimoiy-psixologik moslashuvida o'yin texnologiyalarining o'rni: o'quv qo'llanma / Z. Sh. Rasulova. – Buxoro: Buxoro davlat universiteti nashriyoti, 2021. – 112 b.

Developing the Mathematical Competence of Future Chemists Through an Adaptive–Integrative Approach

Yusupova Yashnar Feruz qizi
Namangan State University, PhD student
yusupovayashnar@gmail.com

Abstract

Mathematical preparedness is a recurring bottleneck in undergraduate chemistry programmes, where students are expected to move fluently between abstract mathematical reasoning and discipline-specific representations of chemical phenomena. This paper proposes and conceptually examines an adaptive–integrative approach to developing the mathematical competence of future chemists, in which "adaptive" denotes the systematic orientation of mathematical content toward the professional field of chemistry, and "integrative" denotes the meaningful embedding of mathematical concepts within authentic chemical contexts. Drawing on a structured review of research in chemistry education, competence-based mathematics instruction, and integrated STEM pedagogy, the study identifies four design principles: (i) discipline-anchored selection of mathematical content; (ii) context-based and modelling-oriented tasks; (iii) differentiated, adaptive support of learners with heterogeneous mathematical backgrounds; and (iv) authentic, competence-oriented assessment. A pedagogical model linking these principles to the cognitive, operational, motivational, and reflective components of mathematical competence is presented. The discussion outlines testable hypotheses for future quasi-experimental studies in chemistry teacher education and industrial chemistry programmes.

Keywords: mathematical competence; chemistry education; adaptive learning; integrative STEM; context-based learning; higher education.

1. Introduction

Mathematics functions as both an instrument and a language of the chemical sciences. Stoichiometric calculations, equilibrium expressions, kinetic laws, quantum-

mechanical descriptions of bonding, and the statistical treatment of experimental data all require students to perform mathematical operations while simultaneously interpreting them in chemical terms. Despite this, the so-called "mathematics problem" — the persistent gap between the mathematical preparedness students arrive with and the mathematical demands of their university courses — remains a well-documented concern in chemistry and the wider physical-science disciplines [1]. The problem in chemistry is qualitatively different from that in mathematics or engineering, because chemistry students frequently need not more mathematics but a deeper conceptual grasp of how familiar mathematics encodes chemical meaning [1].

Empirical work confirms that the gap is not a marginal issue. A recent intervention study with incoming chemistry doctoral students at the University of California, Berkeley reports that insufficient mathematical fluency depresses first-semester performance and erodes students' sense of belonging in their programmes [2]. Other authors note that even capable undergraduates struggle to translate the abstract mathematics taught in service courses into chemical reasoning [3]. At the same time, large-scale evidence from general chemistry suggests that prior mathematical knowledge predicts where students start more strongly than how quickly they learn during the course itself [4], implying that early, well-targeted interventions are particularly valuable.

From a pedagogical standpoint, the established response has shifted from purely remedial support toward structural reforms in how mathematics is taught to students of the natural sciences. The competence-based paradigm reframes mathematical preparation as the development of professional mathematical competence: the ability to deploy mathematical knowledge to solve problems that arise in a specific professional field [5]. In parallel, the context-based learning tradition has shown that anchoring scientific concepts in authentic, professionally meaningful situations improves

motivation, conceptual understanding and transfer [6]. When mathematics is reorganised around chemical contexts — the "chemistry-first" principle [7] — these gains can be brought to bear directly on the preparation of future chemists.

The present paper synthesises these strands of research into a coherent adaptive–integrative approach to the mathematical preparation of future chemists. In this framework, "adaptive" refers specifically to the orientation of mathematics instruction toward the professional field of chemistry — that is, the deliberate selection, sequencing, and contextualisation of mathematical content according to the cognitive demands of chemical reasoning. "Integrative" refers to the horizontal coupling of mathematical and chemical concepts within tasks, modules, and assessments, so that students experience the two disciplines as a single epistemic practice rather than as two parallel courses.

The objectives of the study are threefold: (1) to articulate the theoretical foundations of the adaptive–integrative approach; (2) to formulate design principles and a pedagogical model linking the approach to the structural components of mathematical competence; and (3) to outline empirically testable propositions that can guide subsequent quasi-experimental research. The paper is structured according to the IMRaD convention.

2. Methods

2.1 Research design

The study is conceptual–analytical in character. It develops a pedagogical model on the basis of a structured narrative review of the research literature on (a) the mathematical preparation of chemistry students, (b) the competence-based approach to mathematics education, and (c) integrative and context-based STEM pedagogy. The objective of the review was not to provide an exhaustive bibliometric mapping but to identify recurrent design principles that converge across these three traditions and that can be combined into a unified instructional framework.

2.2 Source selection

Sources were identified through searches in Google Scholar, ERIC, Scopus and ScienceDirect using combinations of the terms “mathematical competence”, “chemistry education”, “competence-based approach”, “integrated STEM”, “context-based learning” and “mathematical modelling”. Priority was given to peer-reviewed journal articles and monographs published by established academic publishers between 2007 and 2024. Sources were screened in two stages: an initial title-and-abstract screening for thematic relevance, followed by a full-text reading aimed at extracting design principles, assessment models and reported empirical effects.

2.3 Analytical procedure

The selected sources were coded along four analytical dimensions corresponding to the structural components of mathematical competence as articulated in the contemporary mathematics-education literature [8]: the cognitive component (mathematical knowledge and conceptual understanding), the operational component (procedural and modelling skills), the motivational–value component (interest, self-efficacy, professional identification), and the reflective component (metacognitive monitoring and transfer). For each source, pedagogical design features were classified according to whether they primarily addressed the adaptive dimension (orientation toward the chemical profession), the integrative dimension (structural coupling of mathematics and chemistry), or both. Recurring patterns were then synthesised into a small set of design principles and into a pedagogical model linking the approach to learning outcomes.

2.4 Limitations of the method

Because the present study is conceptual rather than empirical, its conclusions take the form of testable propositions rather than verified findings. The reviewed literature is dominated by studies conducted in North American, Western European and East Asian contexts; transfer to other educational systems requires cultural and curricular

adaptation. A formal systematic-review protocol was not adopted, which means that selection bias cannot be fully excluded. These limitations are discussed further in section 4.

3. Results

3.1 The construct of mathematical competence in chemistry

Across the reviewed literature, the mathematical competence of a future chemist emerges as a multi-componential construct rather than as a unidimensional measure of computational skill. Building on the competence-based formulation in [5] and on the framework articulated in [8], the construct can be described as the integrated readiness and ability of a student to use mathematical knowledge, procedures, and reasoning strategies to identify, formulate and solve problems that arise in the practice of chemistry. Four interrelated components are consistently distinguished: a cognitive component (conceptual mathematical knowledge and its disciplinary interpretations), an operational component (procedural fluency and the ability to construct and manipulate mathematical models of chemical systems), a motivational–value component (interest in mathematics-as-tool, self-efficacy, and identification with the chemical profession), and a reflective component (metacognitive awareness, error analysis, and transfer to novel contexts).

This decomposition is consistent with the argument that conceptual rather than purely procedural mathematical understanding is most strongly associated with chemistry performance [1], and with research on modelling-based instruction showing that students' ability to construct, interpret and critique mathematical models of chemical phenomena is a distinct learning outcome that should be assessed alongside computational fluency.

3.2 Design principles of the adaptive–integrative approach

The synthesis of the reviewed sources yields four mutually reinforcing design principles. They are summarised in Table 1 and elaborated below.

Table 1. Design principles of the adaptive–integrative approach and their primary targets in the mathematical-competence construct.

№	Design principle	Pedagogical mechanism	Primary competence target
1	Discipline-anchored content selection	Mathematical topics and tasks are chosen on the basis of their explanatory role in chemical theories and laboratory practice.	Cognitive component
2	Context-based and modelling-oriented tasks	Each mathematical concept is introduced through, or immediately applied to, an authentic chemical context (kinetics, equilibrium, spectroscopy, data analysis).	Cognitive & operational
3	Differentiated, adaptive support	Diagnostic assessment, tiered tasks, scaffolded modelling, and small-group peer learning accommodate heterogeneous mathematical backgrounds.	Operational & motivational
4	Authentic, competence-oriented assessment	Performance tasks, project-based modelling assignments, and reflective portfolios complement traditional written examinations.	Operational & reflective

Principle 1 — Discipline-anchored content selection. The mathematics curriculum for future chemists is not a generic service course but a deliberately reorganised body of content whose selection and sequencing follow the conceptual structure of chemistry. The chemistry-first perspective [7] exemplifies this idea: mathematical tools are introduced as responses to recognisable chemical problems rather than as decontextualised abstractions. This principle responds to the observation that even mathematically capable students often fail to see mathematics as relevant to chemistry, which depresses both motivation and transfer [1].

Principle 2 — Context-based and modelling-oriented tasks. A meta-analytic synthesis of research on context-based and STS approaches shows that situating new

concepts in authentic contexts improves both motivation and conceptual understanding without compromising performance on traditional measures [6]. When applied to mathematics-for-chemistry, the principle implies that mathematical concepts — derivatives in kinetics, integrals in thermodynamics, matrices in molecular symmetry, statistics in analytical chemistry — are introduced through modelling tasks that begin with a chemical question, proceed through mathematical formulation, and return to chemical interpretation.

Principle 3 — Differentiated, adaptive support. The heterogeneity of incoming students' mathematical backgrounds, documented at scale in general-chemistry cohorts [4], demands a differentiated pedagogical response. Practical manifestations include diagnostic pre-tests, tiered problem sets that calibrate difficulty to demonstrated proficiency, scaffolded modelling worksheets, and small-group active-learning sessions of the type evaluated by Clune and colleagues, whose week-long bootcamp produced measurable gains in students' confidence and sense of belonging [2]. Computer-algebra environments — such as the Maple-supported practical sessions described in [3] — offer complementary technological means to individualise the learning trajectory.

Principle 4 — Authentic, competence-oriented assessment. If competence is the goal, then assessment must elicit and evaluate performance in tasks that resemble the genuine intellectual work of a chemist. Context-based testing models implemented at the university level demonstrate that assessment items grounded in real laboratory scenarios can validly probe both mathematical and chemical reasoning while complementing traditional written examinations [6]. Project-based modelling assignments, reflective portfolios, and oral defences extend this principle to the operational and reflective components of competence.

3.3 A pedagogical model

The four design principles can be organised into a four-stage pedagogical cycle that operates at the level of a single instructional unit (lecture–seminar–laboratory–assessment) and is iteratively replicated across the curriculum. The cycle consists of: (a) a contextualisation stage, in which a chemical phenomenon is introduced and the need for mathematical description is made apparent; (b) a mathematisation stage, in which the mathematical content is developed in explicit dialogue with the chemical context; (c) a modelling-and-practice stage, in which students construct, manipulate and critique mathematical models of chemical systems with scaffolded support calibrated to their diagnosed level; and (d) a reflection-and-assessment stage, in which authentic tasks elicit evidence of the four components of mathematical competence and inform the next iteration of the cycle.

Within this cycle, the adaptive dimension manifests primarily in the calibration of content selection and scaffolding to the professional field and to the individual learner, while the integrative dimension manifests in the systematic coupling of mathematics and chemistry at every stage. The model thus articulates how the two dimensions, often discussed separately in the literature, can be operationalised together within a coherent instructional sequence.

3.4 Anticipated effects on the components of mathematical competence

On the basis of the reviewed evidence, the model is expected to produce differentiated gains across the four components of mathematical competence. The context-based and modelling-oriented tradition [6] supports gains in conceptual understanding and in the construction of mathematical models of chemical phenomena. The competence-based tradition [5] supports improvements in students' ability to apply mathematical knowledge to professional problems. The active-learning intervention reported in [2] provides evidence that such formats can increase self-efficacy and strengthen students' sense of belonging in the discipline. The reflective component is

the least studied empirically; the model treats it as a hypothesised outcome of authentic assessment and structured peer discussion, to be tested in subsequent empirical work.

4. Discussion

The adaptive–integrative approach articulated above brings together strands of research that are frequently treated separately. The competence-based tradition [5] has clarified what mathematical competence should consist of for a future specialist, but has only partly addressed the discipline-specific structure of mathematics instruction for chemistry students. The chemistry-education literature — from synthetic reviews of context-based teaching [6] to the contemporary debate on conceptual mathematical understanding [1] — has produced rich evidence on the mathematics problem and on context-based and modelling-based remedies, yet has not consistently framed these remedies in terms of a single competence construct. By proposing four design principles and a four-stage pedagogical model that explicitly couples adaptation to the chemical profession with integration of mathematics and chemistry, the present study contributes a unified instructional framework whose components are individually grounded in prior empirical work.

Several aspects of the approach deserve closer scrutiny. First, the discipline-anchored selection of mathematical content raises the question of which mathematics is genuinely necessary for contemporary chemistry. Recent curriculum analyses suggest that the answer increasingly involves linear algebra, differential equations, probability and statistics, and computational methods, alongside the classical calculus core [2, 3]. The adaptive–integrative approach is compatible with such a reorientation but does not by itself prescribe a specific topical inventory; this remains a matter for curriculum-level decisions informed by the chemistry programmes' graduate-profile documents.

Second, the integrative coupling of mathematics and chemistry depends on institutional conditions that are frequently absent: close cooperation between

mathematics and chemistry faculty, co-designed teaching materials, and shared assessment practices. Implementation studies of the proposed model would need to attend explicitly to these organisational dimensions.

Third, the role of digital tools deserves emphasis. Computer-algebra systems, statistical software, and discipline-specific simulations make it feasible to engage students in mathematical modelling of chemical phenomena at a level of authenticity that was previously inaccessible. The technology-supported pedagogy described in [3] illustrates how digital environments can carry the integrative principle, but their integration must itself be adaptive: technology choices should follow the professional practices of the chemical sciences rather than precede them.

The principal limitation of the present work is its conceptual nature. The propositions developed here are based on a triangulation of well-established research traditions but have not yet been tested in a coordinated empirical design. Subsequent work should pursue at least three lines of investigation: (i) quasi-experimental comparison of cohorts taught under the adaptive–integrative model versus parallel mathematics and chemistry courses, with outcomes measured on all four components of mathematical competence; (ii) longitudinal tracking of the transfer of mathematical competence into upper-division chemistry courses and capstone projects; and (iii) design-based research on the institutional conditions that make sustained adaptive–integrative implementation possible.

5. Conclusion

The mathematical preparation of future chemists is best conceived not as a remedial supplement but as the cultivation of a multi-componential professional competence whose development requires a deliberate alignment of mathematics teaching with the epistemic practices of chemistry. The adaptive–integrative approach proposed in this paper specifies this alignment along two axes: an adaptive axis that orients mathematical

content and pedagogical scaffolding toward the chemical profession, and an integrative axis that couples mathematical and chemical reasoning within shared tasks and assessments. Translated into four design principles — discipline-anchored content selection, context-based and modelling-oriented tasks, differentiated adaptive support, and authentic competence-oriented assessment — and a four-stage pedagogical cycle, the approach offers a coherent framework that consolidates established findings from chemistry-education, competence-based mathematics didactics, and integrated STEM research. Its empirical validation, particularly through quasi-experimental and longitudinal designs, constitutes a promising agenda for further research and a practical resource for the reform of mathematics teaching in chemistry programmes.

References

1. Hill M, Sharma MD, O'Byrne J, Airey J. Is a conceptual understanding of mathematics vital for chemistry? Education in Chemistry. London: Royal Society of Chemistry; 2023.

2. Clune R, Das A, Jasrasaria D, Rossomme E, Cohen O, Baranger AM. Development of a week-long mathematics intervention for incoming chemistry graduate students. Journal of Chemical Education. 2023;100(9):3458–3467. https://doi.org/10.1021/acs.jchemed.2c00915

3. Ogilvie JF. How can we effectively improve the mathematical capabilities of students of chemistry? Chemistry Teacher International. 2019;1(2):20180007. https://doi.org/10.1515/cti-2018-0007

4. Mahaffy P, Matlin SA, Holme TA, MacKellar J. Mathematics matters or maybe not: an astonishing independence between mathematics and the rate of learning in general chemistry. JACS Au. 2024;4(8):2890–2904. https://doi.org/10.1021/jacsau.4c01126

5. Kytmanov AA, Noskov MV, Safonov KV, Savelyeva MV, Shershneva VA. Competency-based learning in higher mathematics education as a cluster of efficient approaches. Bulletin of the Mathematical Sciences. 2016;6(2):145–168.

6. Bennett J, Lubben F, Hogarth S. Bringing science to life: a synthesis of the research evidence on the effects of context-based and STS approaches to science teaching. Science Education. 2007;91(3):347–370. https://doi.org/10.1002/sce.20186

7. Parsons S, Dingwall S, Reid K. Introduction to contextual maths in chemistry. London: Royal Society of Chemistry; 2020.

8. Niss M, Højgaard T. Mathematical competencies revisited. Educational Studies in Mathematics. 2019;102(1):9–28. https://doi.org/10.1007/s10649-019-09903-9

ORGANIZING ENGLISH LANGUAGE LESSONS THROUGH INNOVATIVE AND CREATIVE METHODS

Avliyakulova Fotima Nusrtovna

Leading specialist of the Transformation Center of Navoi State University

ABSTRACT

This paper highlights the issues of organizing English language lessons based on innovative and creative methods. In the context of ongoing reforms in the education system, the importance of modern pedagogical technologies, interactive methods, and the communicative approach is analyzed. In addition, the scientific and methodological level of textbook content, as well as the role of exercises and tasks in developing students' speaking activity, independent thinking, and creativity are examined. The thesis substantiates that the use of innovative and creative approaches in English language teaching is an important factor in improving the quality of education.

KEY WORDS: English language education, innovative approach, creative methods, communicative competence, interactive learning, textbook content, quality of education.

INGLIZ TILI MISOLIDA DARSLARNI INNOVATSION VA KREATIV USULDA TASHKIL ETISH

ANNOTATSIYA

Ushbu tezisda ingliz tili darslarini innovatsion va kreativ usullar asosida tashkil etish masalalari yoritilgan. Ta'lim tizimida amalga oshirilayotgan islohotlar sharoitida zamonaviy pedagogik texnologiyalar, interaktiv metodlar va kommunikativ yondashuvning ahamiyati tahlil qilingan. Shuningdek, darsliklar mazmunining ilmiy-metodik saviyasi, mashq va topshiriqlarning o'quvchilarning nutqiy faolligi, mustaqil fikrlashi hamda ijodkorligini rivojlantirishdagi o'rni ko'rib chiqilgan. Tezisda ingliz tili ta'limida innovatsion va kreativ yondashuvlarni qo'llash ta'lim sifatini oshirishning

muhim omili ekanligi asoslab berilgan.

KALIT SO‘ZLAR: ingliz tili ta’limi, innovatsion yondashuv, kreativ metodlar, kommunikativ kompetensiya, interaktiv ta’lim, darsliklar mazmuni, ta’lim sifati.

Bugungi kunda ta’lim tizimida amalga oshirilayotgan islohotlar fanlarni o‘qitishda innovatsion va kreativ yondashuvlarni joriy etishni taqozo etmoqda. Xususan, ingliz tili fanini o‘qitishda zamonaviy metodlardan samarali foydalanish o‘quvchilarning kommunikativ kompetensiyasini rivojlantirishda muhim ahamiyat kasb etadi. Ingliz tili darslari faqatgina grammatik qoidalarni o‘rgatish bilan cheklanmay, balki o‘quvchilarning mustaqil fikrlashi, nutqiy faolligi va ijodkorligini shakllantirishga xizmat qilishi lozim. Shu bois, darsliklar mazmuni va dars jarayonini innovatsion hamda kreativ usullar asosida tashkil etish bugungi ta’limning dolzarb masalalaridan biridir.

Shu bois, darsliklar mazmuni chuqur tahlil qilinib, ularning ilmiy-metodik saviyasi zamon talablari asosida qayta ko‘rib chiqilishi lozim. Ayniqsa, boshlang‘ich ta’lim bosqichida o’qitiladigan “Alifbo” va “Ona tili” darsliklari o‘quvchilarning yosh va psixologik xususiyatlariga mos, aniq va tushunarli bo‘lishi zarur. Fan mohiyatiga daxldor bo‘lmagan mavzularning haddan tashqari ko‘pligi bolalarda asosiy bilim va ko‘nikmalarning shakllanishiga salbiy ta’sir ko‘rsatadi.

Shuningdek, darsliklardagi mashq va topshiriqlar o‘quvchilarning mantiqiy fikrlashini, nutqini va savodxonligini rivojlantirishga xizmat qilishi kerak. Aks holda, ta’lim sifati pasayib, o‘quvchilarda fanlarga bo‘lgan qiziqish susayadi. Demak, darsliklarni takomillashtirish, ulardagi kamchiliklarni bartaraf etish va fanlararo muvozanatni ta’minlash bugungi ta’lim tizimining eng dolzarb vazifalaridan biri hisoblanadi.

Shu asosda, ingliz tili fanini o‘qitishda innovatsion va kreativ yondashuvlarni amaliyotga joriy etish masalasiga alohida e’tibor qaratish zarur. Xususan, kommunikativ yondashuv, loyihaviy ta’lim, interaktiv metodlar hamda axborot-kommunikatsiya

texnologiyalaridan foydalanish o‘quvchilarning til o‘rganishga bo‘lgan qiziqishini oshiradi. Ingliz tili darslarida rolli o‘yinlar, munozaralar, jamoaviy ishlash va real hayotiy vaziyatlarga asoslangan topshiriqlarni qo‘llash o‘quvchilarning og‘zaki va yozma nutqini rivojlantirishga xizmat qiladi va shuningdek keng doirada fikrlashiga ham turtki bo’ladi.

Bundan tashqari, kreativ yondashuv asosida tashkil etilgan darslar o‘quvchilarda tanqidiy fikrlash, muammoni hal etish va mustaqil qaror qabul qilish ko‘nikmalarini shakllantiradi. Zamonaviy darsliklar va o‘quv materiallari multimedia vositalari, autentik matnlar hamda vizual elementlar bilan boyitilgan bo‘lishi lozim. Bu esa ingliz tilini o‘rganish jarayonini samarali va qiziqarli tashkil etishga imkon yaratadi.

Demak, ingliz tili fanini o‘qitishda innovatsion va kreativ metodlardan foydalanish nafaqat til ko‘nikmalarini rivojlantiradi, balki o‘quvchilarning shaxsiy va intellektual salohiyatini yuksaltirishda ham muhim omil hisoblanadi. Bundan kelib chiqib aytish mumkinki, ta’lim tizimida juda ko’p yangilanishlar, o’zgarishlarni amalga oshirish kerak va amalga ham oshib kelmoqda. Bu modernizatsiya ishlari albatta ta’lim tizimini, muhitini yaxshilashga qaratilgan. Agarda bu tizim yetarli darajada yaxshi tashkillashtirilsa, albatta ta’lim kutilgan darajaga chiqadi va kutilgan natijalarni beradi.

Adabiyotlar:

1. Harmer J. How to Teach English. – London: Longman, 2007.

2. Richards J.C., Rodgers T.S. Approaches and Methods in Language Teaching. – Cambridge

University Press, 2014.

3. Brown H.D. Principles of Language Learning and Teaching. – Pearson Education, 2007.

4. Nunan D. Task-Based Language Teaching. – Cambridge University Press, 2004.

5. O‘zbekiston Respublikasi Ta’lim to‘g‘risidagi Qonuni. – Toshkent, 2020.

Application and Importance of Educational Technologies in Teaching Chemistry

Sadikova Mashxura Idilloyevna

Assistant Lecturer, Department of Chemical Technology

Karimova Gulchiroy

Student, Group 102-25 BIO

Tilloyeva Hulkar

Student, Group 108-25 MSU Bukhara State Technical University

Abstract:

By creating problem situations in chemistry education, it shows the possibilities of developing students' logical thinking skills, forming independent decision-making skills, and strengthening interdisciplinary connections. The use of problem-based learning technologies helps students to gain a deeper understanding of chemical processes, develop independent analytical skills, and increase interest in chemistry among them.

Keywords:

chemistry teaching, interactive methods, logical thinking, interdisciplinary integration, problem-based learning, innovative technologies.

Kimyo fanini o‘qitishda ta’lim texnologiyalarni qo’llanilishi va ahamiyati

Sadikova Mashxura Idilloyevna

“Kimyo texnologiyasi” kafedrasi assistenti

102-25 BIO guruh talabasi Karimova Gulchiroy

108-25 MSU guruh talabasi Tilloyeva Hulkar

Buxoro Davlat Texnika Universiteti

Annotatsiya: Kimyo ta’limida muammoli vaziyatlarni yaratish orqali o‘quvchilarning mantiqiy fikrlash qobiliyatini rivojlantirish, mustaqil qaror qabul qilish ko‘nikmalarini shakllantirish hamda fanlararo bog‘liqlikni mustahkamlash imkoniyatlarini ko‘rsatadi. muammoli ta’lim texnologiyalaridan foydalanish o‘quvchilarning kimyoviy jarayonlarni chuqurroq anglashlariga, mustaqil tahlil qilish qobiliyatlarining rivojlanishiga hamda ular orasida kimyo faniga bo‘lgan qiziqishni oshirishga xizmat qiladi.

Аннотация: Создание проблемных ситуаций в химическом образовании демонстрирует возможности развития логического мышления учащихся, формирования навыков самостоятельного принятия решений и укрепления междупредметных связей. Использование технологий проблемного обучения способствует более глубокому пониманию учащимися химических процессов, развитию навыков самостоятельного анализа и повышению интереса к химии.

Kalit so‘zlar: kimyo o‘qitish, interfaol metodlar, mantiqiy fikrlash, fanlararo bog‘liqlik, muammoli ta’lim innovatsion texnologiyalar

Kimyo o‘qitishda faqatgina bilimlar uzatish emas, balki o‘quvchilarni innovatsion texnologiyalarni qo‘llashga o‘rgatish muhim ahamiyat kasb etadi. Shu maqsadda, ta’lim jarayonida turli pedagogik texnologiyalarni qo‘llash zarurati ortib bormoqda. Ayniqsa, muammoli ta’lim texnologiyalari, o‘quvchilarni amaliy va nazariy muammolarni yechishga undovchi samarali usul sifatida, kimyo o‘qitish metodikasining ajralmas qismiga aylangan. Ushbu metodning asosiy g‘oyasi shundan iboratki, o‘quvchi faqat tayyor bilimlarni qabul qiluvchi emas, balki ularni mustaqil ravishda tahlil qilish va o‘z bilimlarini amaliyotda qo‘llash qobiliyatiga ega bo‘ladi.[1] Kimyo fanini o‘qitishda muammoli ta’lim texnologiyalarining qo‘llanishi, ayniqsa, kimyoviy jarayonlarni tushunishda va nazariy bilimlarni amaliyotda qo‘llashda o‘quvchilarning qiziqishlarini oshiradi va ularni chuqurroq bajarishga undaydi.

Kimyo fani o‘qitishidagi muammoli ta’lim texnologiyalarining roli va ularning samarali qo‘llanilishi, shuningdek, o‘quv jarayonidagi metodik yondashuvlar tahlil qilinadi. Muammoli ta’lim texnologiyalarining nazariy asoslari, ularning kimyo o‘qitishidagi amaliy qo‘llanishi va o‘quvchilarni ta’lim jarayonida faollikka undovchi metodlar haqida kengroq fikr yuritiladi. Shuningdek, o‘quvchilarga kimyo faniga

bo‘lgan qiziqishni kuchaytiradi, chunki ular amaliy muammolarni hal qilish jarayonida o‘zlarini ilmiy faoliyatda ishtirok etayotgan kabi his qilishadi.[2]

Kimyo fanini o‘qitishdagi muammoli ta’lim texnologiyalarining qo‘llanilishi doirasida ikki asosiy metodologik yondashuvlar tahlil qilinadi: Muammoli yondashuv: Ushbu yondashuvda o‘quvchilarni amaliy va nazariy kimyoviy masalalar orqali muammoli vaziyatlarga jalb etish ko‘zda tutilgan.] O‘quvchilar kimyoviy jarayonlarni to‘g‘ri tahlil qilish, ular bilan bog‘liq fizik va kimyoviy qonuniyatlarni tushunish hamda amaliy masalalarni hal qilishda ishtirok etadilar va yangi bilimlarni topishga ham undaydi. Interfaol metodlar: Bu metodlar o‘quvchilarni guruhli faoliyatga, muhokama va jamoaviy ishlashga jalb etadi. O‘quvchilar muammoli vaziyatlar va masalalarni birgalikda muhokama qilishadi, o‘z fikrlarini himoya qiladilar va boshqalar bilan bilim almashadilar. Bu metodlar o‘quvchilarning fikrlash va muloqot qilish ko‘nikmalarini rivojlantirishga xizmat qiladi.[3]

Eksperiment qismida sifatida o‘quvchilarga kimyo fanidan turli muammoli vaziyatlar taqdim etilib, ularning o‘z fikrlarini erkin ifodalashlari, masalalarni yechish jarayonidagi faoliyati va bilim darajasi kuzatiladi. Eksperiment davomida o‘quvchilarning javoblari va yondashuvlari tahlil qilinib, ularning muammoli ta’lim texnologiyalariga nisbatan qanday ta’sir ko‘rsatganligi, ularning o‘qishdagi motivatsiyasi va bilimlarining shakllanishi baholanadi. Bu ma’lumotlar asosida muammoli ta’lim metodlarining samaradorligini aniqlashga harakat qilinadi. Dars davomida pedagogik nazorat va kuzatish metodi ham qo‘llaniladi. O‘qituvchilar tomonidan o‘quvchilarni darslarda kuzatish, ularning muammolarni yechish jarayonidagi ishtirokini baholash, jamoaviy ishda faolligi aniqlanadi. Dars jarayonida foydalanilgan materiallar o‘quvchilarga taqdim etilgan muammoli vaziyatlar, kimyo faniga oid amaliy masalalar, laboratoriya ishlarini bajarish uchun zarur bo‘lgan uskunalar va materiallar bo‘lib, bular ta’lim jarayonida o‘quvchilarning faoliyatini stimulyatsiya qilishda muhim ahamiyatga ega. Mazkur metod o‘quvchilarni faollikka undash, mustaqil fikrlashga rag‘batlantirish va kimyo fanini samarali o‘qitishda muammoli ta’lim texnologiyalarining qo‘llanilishining samaradorligini o‘rganishga asoslanadi. Muammoli ta’lim texnologiyalari ta’lim jarayonida o‘quvchilarning faolligini oshirish, bilimlarni chuqur o‘rganish va mustaqil fikrlashni rivojlantirishga yo‘naltirilgan metodik yondashuv sifatida keng qo‘llanila boshlandi. Kimyo fanini o‘qitishda muammoli ta’lim texnologiyalarining qo‘llanishi bo‘yicha olib borilgan

tadqiqotlar turli metodikalar, o‘quvchilarning fikrlash jarayonlarini mustahkamlash va ilmiy yondashuvlarni rivojlantirishda samarali vosita sifatida e’tirof etilgan.[4]

Kimyo fanini o‘qitishda muammoli ta’lim texnologiyalarining samaradorligi, o‘quvchilarning amaliy va nazariy bilimlarini o‘zlashtirish jarayonida sezilarli o‘zgarishlarga olib keldi. Bu texnologiyalar o‘quvchilarni kimyoviy muammolarni hal qilishga, ilmiy-tahliliy va ijodiy fikrlashga undaydi. Tadqiqotda olingan natijalarga ko‘ra, eksperimental guruhda o‘quvchilar muammolarni yechishda mustaqil va faol ishtirok etdilar, bu esa ular uchun yangi bilimlarni o‘zlashtirishda sezilarli darajada yordam berdi. Shuningdek, o‘quvchilarda ilmiy muhitga bo‘lgan qiziqish va ijobiy motivatsiya kuchaydi. Bu, albatta, muammoli ta’lim texnologiyalarining ta’lim jarayonidagi yuksak samaradorligini ko‘rsatadi. Biroq, metodning samaradorligi faqat o‘quvchilarning qiziqishini uyg‘otish bilan cheklanmaydi, balki ular mustaqil fikrlash va murakkab masalalarni hal qilishda amaliy ko‘nikmalarni rivojlantirishga qaratilgan yondashuvlarni talab qiladi. Shu sababli, o‘qituvchilar bu texnologiyalarni o‘z dars jarayonida yanada to‘g‘ri va izchil qo‘llashlari lozim. Bunday metodologik o‘zgarishlar, albatta, o‘qituvchining pedagogik kompetensiyasini oshirishga hamda o‘quvchilarning o‘z-o‘zini anglashiga yordam beradi.[5]

Xulosa qilib aytadigan bo’lsak kimyo fanini o‘qitishda muammoli ta’lim texnologiyalari muhim ahamiyatga ega ekanligini tasdiqladi. O‘quvchilarning ilmiy va amaliy bilimlarini rivojlantirish, mantiqiy fikrlash va mustaqil ishlash ko‘nikmalarini oshirish, guruhli faoliyatda ishtirok etish orqali kimyo faniga bo‘lgan qiziqish va motivatsiya sezilarli darajada kuchayganligini ko‘rsatdi. Muammoli ta’lim texnologiyalari, o‘quvchilarning kimyo fani bo‘yicha yuqori natijalar ko‘rsatishlariga yordam berib, ularni ilmiy va ijodiy fikrlashga, murakkab masalalarni yechishga undadi. Natijalar shuni ko‘rsatadiki, bu texnologiyalar o‘quvchilarda mustaqil fikrlash, tanqidiy yondashuv va analitik qobiliyatlarni rivojlantirishda samarali vosita bo‘ladi. Shuningdek, guruhli ishlash va o‘zaro hamkorlik o‘quvchilarga jamoaviy fikr bildirish va qaror qabul qilishni o‘rgatdi, bu esa ularning shaxsiy va ijtimoiy ko‘nikmalarini yanada rivojlantirdi. O‘qituvchining roli faqat bilim beruvchi emas, balki muammoli vaziyatlarni yaratib, o‘quvchilarga o‘z bilimlarini mustahkamlashda yordam beruvchi yo‘naltiruvchi sifatida namoyon bo‘lishi kerak. Shunday qilib, muammoli ta’lim texnologiyalarining kimyo fanini o‘qitishda qo‘llanishi nafaqat o‘quvchilarning bilim darajasini oshirishga, balki ularning mantiqiy fikrlash, mustaqil ishlash, jamoaviy

faoliyat va ilmiy izlanishlarga bo‘lgan qiziqishini kuchaytirishga ham xizmat qiladi. Bu metodologiya, kimyo ta’limini yangilash va takomillashtirishda samarali vosita sifatida qo‘llanilishi mumkin. Kelajakda, o‘qituvchilarning metodik kompetensiyalarini rivojlantirish va bu texnologiyalarni kengroq joriy etish orqali ta’lim sifatini oshirish mumkin.[6]

Foydalanilgan adabiyotlar

1. Choriqulova, Dildora, Xurshida Kosimova, and Nodirabegim Jamolova. "THE ROLE OF THE METHOD OF TEACHING CHEMISTRY TO STUDENTS USING THE" ASSESSMENT" METHOD." Modern Science and Research 3.11 (2024): 256-264.

2. Yuldoshevich, Ergashev Elyor. "KIMYO FANINI O ‘QITISHDA, SINFLAR KESIMIDA KRITIK VA KREATIV FIKRLASH KO ‘NIKMASINI RIVOJLANTIRISHNING ZAMONAVIY STRATEGIYALARI VA METODLARIDAN FOYDALANISH." Ustozlar uchun 61.1 (2024): 8-15.

3. Amangeldievna, Jiemuratova Aynura, Pardayev Ulug‘bek Xayrullo o‘g, and Bobojonov Jamshid Shermatovich. "Integrated teaching of inorganic chemistry with modern information technologies in higher education institutions." FAN VA TA’LIM INTEGRATSIYASI (INTEGRATION OF SCIENCE AND EDUCATION) 1.3 (2024): 92-98.

4. Azim o‘g‘li, Ochilov Ravshan, Pardayev Ulug‘bek Xayrullo o‘g, and Tilyabov Maxsudjon Umurzokovich. "Importance of integrating virtual laboratory software into analytical chemistry and learning processes." FAN VA TA’LIM INTEGRATSIYASI (INTEGRATION OF SCIENCE AND EDUCATION) 1.3 (2024): 38-43.

5. O‘G‘Li, Hamroyev Adham Ikromjon, Tojiboyev Jaloliddin Alisher o‘g‘li, and Xamroyeva Feruza Asrorovna. "O‘QUVCHILARNING AQLIY FAOLYATINI INSERT METODI ORQALI RIVOJLANTIRISH." TA’LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI 4.2 (2024): 213-216.

6. Xamroyeva, Feruza Asrorovna, and Mavjuda Akmal qizi Davronova. "GEOGRAFIYA DARSLARIDA YANGI INNOVATSION "Science and Education" Scientific Journal / www.openscience.uz December 2024 / Volume 5 Issue 12 ISSN

2181-0842 / Impact Factor 4.182 256 TEXNOLOGIYALARDAN FOYDALANISH USULLARI (GEOGRAFIK BOSHQOTIRMA)." INTERNATIONAL CONFERENCES. Vol. 1. No. 7. 2022.

7. Садикова М. И., Шухратовна Қ. С. КООРДИНАЦИОН БИРИКМАЛАР НАЗАРИЯСИ //MODELS AND METHODS FOR INCREASING THE EFFICIENCY OF INNOVATIVE RESEARCH. – 2022. – Т. 2. – №. 17. – С. 63-67.

8. Bobir O., Mashhura S., Islom B. Technology of obtaining effective corrosion inhibitors in the oil and gas industry //Universum: технические науки. – 2022. – №. 1-3 (94). – С. 85-87.

9. Sadikova M. FROM INNOVATIVE TECHNOLOGIES IN TEACHING CHEMISTRY SCIENTIFIC AND THEORETICAL BASIS OF USE //Science and Innovation. – 2022. – Т. 1. – №. 7. – С. 429-431.

10.Sadikova M. ESSENCE AND OBJECTIVES OF PROBABILISTIC MICROBIOLOGY //Finland International Scientific Journal of Education, Social Science & Humanities. – 2023. – Т. 11. – №. 5. – С. 2270-2276.

Emergency care for asthma attacks in children

Khamzaeva Kamina Azizovna

Scientific Advisor: PhD, Associate Professor

Turaeva Nafisa Omanovna

Samarkand State Medical University Samarkand, Uzbekistan

Abstract: The paper presents an algorithm for providing emergency medical care for acute asthma attacks in pre-hospital and hospital settings. Current dosing regimens for short-acting beta-2 agonists, severity criteria, and indications for systemic corticosteroids are reviewed.

Keywords: asthma attack, emergency care, salbutamol, nebulizer therapy, pediatrics.

Неотложная помощь при астматическом приступе у детей

Хамзаева Камина Азизовна

Научный руководитель:PhD, доцент Тураева Нафиса Омановна

Самаркандский государственный медицинский университет

Узбекистан, Самарканд

Аннотация: В работе представлен алгоритм оказания экстренной медицинской помощи при остром приступе бронхиальной астмы на догоспитальном и госпитальном этапах. Рассматриваются актуальные схемы дозирования короткодействующих бета-2-агонистов, критерии тяжести состояния и показания к применению системных кортикостероидов.

Ключевые слова: астматический приступ, неотложная помощь, сальбутамол, небулайзерная терапия, педиатрия.

Приоритетной задачей при купировании острого приступа является быстрое устранение бронхоспазма и гипоксемии. «Золотым стандартом» остаются

короткодействующие бета-2-агонисты (КДБА), такие как сальбутамол. В педиатрической практике предпочтительным методом доставки является небулайзерная терапия или ДАИ через спейсер, что обеспечивает доставку препарата даже при слабом вдохе.

При среднетяжелых и тяжелых приступах терапия дополняется антихолинергическими препаратами (ипратропия бромид), что дает синергический эффект. Важным этапом является раннее назначение системных глюкокортикостероидов (перорально или внутривенно) для уменьшения воспалительного отека, который не купируется бронхолитиками. Оценка эффективности проводится каждые 20 минут по клиническим признакам (частота дыхания, участие вспомогательной мускулатуры) и показателям пульсоксиметрии (SpO2 > 94-95%).

В области оказания экстренной помощи ключевым выводом является необходимость строгой стандартизации действий на всех этапах.

Приоритет небулайзерной терапии: Для купирования приступа у детей небулайзерная доставка комбинированных препаратов (КДБА + ипратропия бромид) признана наиболее эффективной, обеспечивая быстрое достижение терапевтической концентрации.

Роль системных ГКС: Своевременное (в первый час) введение системных кортикостероидов при тяжелых приступах является критическим фактором снижения частоты госпитализаций в отделения реанимации.

Объективизация оценки: Клиническое суждение врача должно быть подкреплено объективными данными пульсоксиметрии. Игнорирование «скрытой» гипоксемии — частая ошибка, ведущая к недооценке тяжести состояния ребенка.

Литература:

- **Оказание скорой медицинской помощи детям: клинические рекомендации.** / под ред. Ю. С. Александровича, В. В. Лазарева. — СПб.: СпецЛит, 2020.
- **Papadopoulos N. G. et al.** International consensus on (ICON) pediatric asthma // Allergy. — 2012. — Vol. 67, № 8. — P. 976-997. (Международный консенсус по оказанию помощи).
- **Геппе Н. А., Колосова Н. Г.** Неотложная помощь при бронхиальной астме у детей // Лечащий врач. — 2016. — № 9.

STRATEGIC APPROACHES TO ESTABLISHING FRUIT AND VEGETABLE CLUSTERS AND ENHANCING THEIR ORGANIZATIONAL-ECONOMIC MANAGEMENT MECHANISMS

Mannopova Muazzamkhon Sultanbekovna

Senior Lecturer Department of World and Regional Economy, Fergana State University

Abstract. This article examines the issues of globalization, enhancing the competitiveness of the Uzbek economy, and clustering the agricultural sector. The economic efficiency of implementing the cluster model in agriculture is analyzed through the experience of foreign countries (the USA, Sweden, and India), as well as contemporary digital indicators within the fruit and vegetable sector of the republic. The research highlights the mechanisms for organizing fruit and vegetable clusters, establishing deep processing value chains, optimizing production costs, and ensuring rural employment.

Keywords. Cluster, fruit and vegetable sector, organizational-economic mechanism, integration, competitiveness, infrastructure, value chain, agrologistics, export potential.

In the global economy, qualitatively new transformations are occurring due to globalization processes, developmental imbalances, and intensifying interstate competition. Transforming the economy of Uzbekistan into an equal and competitive participant in the world market constitutes one of the most pressing contemporary tasks. Concurrently, introducing modern innovations into the agricultural sector and increasing the domestic processing level of local raw materials are imperatives of our time. This is because the further the agricultural sector is industrialized, the more the state's economic

power and export opportunities expand, which, in turn, elevates the population's quality of life and welfare to a higher level.

In recent years, particular emphasis has been placed in Uzbekistan on shaping an infrastructure reliant on advanced technologies, as well as integrating the cluster model into agriculture. The development of cluster structures, modern greenhouses, and household plots has facilitated not only an increase in crop yields but also a significant improvement in the income levels of the rural population. Within a short period, this innovative organizational form has become the primary driving force behind agricultural development. For this reason, various forms of integration among enterprises across economic sectors—specifically clusters—hold distinct significance today. Utilizing the cluster approach in economic management is considered one of the most effective paths toward enhancing competitiveness. Currently, this method is widely applied in numerous countries worldwide. Foreign experience demonstrates that clusters already play a leading role in various industries. Notably, 32 percent of private-sector workers in the USA and 39 percent of the employable population in Sweden operate within clusters, while in India, more than 60 percent of the total export volume is attributed to clusters.

To this end, the Head of Our State proposed the cluster reform and emphasized that this system constitutes the most reliable path toward leading agriculture and other sectors toward high efficiency and sustainable development. As a result of large-scale measures implemented in this direction in recent years, a harmony of interests between commodity producers and processors has been ensured. Within the framework of agricultural sector reforms in Uzbekistan, over 200 fruit and vegetable clusters operate to date. The republic produces more than 23 million tons of fruit and vegetable products annually. Specifically, 55 districts in the republic are specialized in fruit and vegetable cultivation. The total annual export value of fruit and vegetable products amounts to

approximately 1.5 billion dollars. Notably, 70–80 percent of the total fruit and vegetable production in the country is attributed to smallholder and peasant farms integrated into these clusters.

Cluster participants demonstrate active initiatives in resolving long-standing sector-specific issues by introducing industrial activities into rural areas. Most importantly, this model has fully ensured population employment, providing rural citizens with stable year-round work and a regular monthly salary. In other words, clusters have assisted farmers and agricultural practitioners in adopting modern working methods, as well as increasing productivity and income. Indeed, every individual strives for a quality life and sustainable prosperity, laboring continuously to advance both personal interests and national development.

Within the cluster structure, landowners, finished product manufacturers, fertilizer supply enterprises, and service-providing organizations are firmly linked economically, geographically, and logistically. They are directly invested in mutual cooperation, wherein the success of one participant establishes the foundation for the prosperity of others.

Under the cluster system, farms, enterprises, and institutions operate as a unified team across all stages, ranging from raw material cultivation to finished product manufacturing and market commercialization. Such integration facilitates the optimization of production costs and a substantial increase in revenues.

The primary objective of implementing the cluster model in the agriculture of Uzbekistan is to transition the agrarian sector from a raw material supply stage toward deep processing and industrialization, thereby reducing production costs and maximizing profits. The practical outcomes of this approach include the following:

1. Processes encompassing raw material cultivation, logistics, warehousing, processing, and sales are controlled by a single entity. Consequently, production costs decrease while high quality standards are maintained.

2. Due to the formation of a continuous production chain between enterprises and farms, various expenses and losses are minimized, and the issue of raw material shortages is entirely resolved.

3. The integration of industrial technologies into rural areas enables the population to acquire modern production skills. This creates a favorable foundation for the emergence of innovative solutions within the rural environment.

4. New jobs will be created in rural areas and the employment rate will increase significantly.

5. The continuous and sustainable operation of all participants in the cluster is guaranteed.

6. The cluster model swiftly adapts to shifting external conditions and contributes effectively to resolving regional socio-economic challenges.

7. Collaboration among specialists from diverse fields is enhanced, serving as a robust foundation for transitioning the national economy toward an innovative development path.

Concurrently, the creation of fruit and vegetable clusters in our country is recognized as a vital factor driving the sector toward a new stage of development. Along with the formation of this innovative production model, the necessity to improve the cluster management system is also emerging. To ensure the sustainable operation and high performance of fruit and vegetable clusters, clear solutions must be found for pressing issues, such as: what functions and tasks their management mechanism should execute, how the interests of participants are to be coordinated, and through what regulatory frameworks economic cooperation between the state and the cluster should

be established. This, in turn, requires a scientific justification for the agricultural development strategy, particularly in fruit and vegetable cultivation. These strategic objectives indicate the appropriateness of expanding the scope of scientific research dedicated to forming the cluster system in fruit and vegetable production and exploring its development pathways. Furthermore, within the framework of organizing fruit and vegetable clusters and optimizing their effective management, defining and executing tasks along the following trajectories holds distinct significance:

- Developing a program of incentive measures that comprehensively accounts for the interests of participants, strengthens mutual cooperation, and serves to enhance value addition within the cluster;
- Further improving the organizational and economic mechanisms for managing fruit and vegetable clusters;
- Explicitly defining the structure of the cluster management company (the leading enterprise), as well as its core tasks and functions;
- Regulating and optimizing contractual and legal relations among cluster members;
- Expanding economic cooperation between fruit and vegetable clusters and the state, thereby ensuring the further refinement of tax, credit, customs, and export-support mechanisms.
- The formation of an effective management system in agriculture not only fosters cluster development but also assists in thoroughly eliminating existing deficiencies within the sector. One of the paramount functions of managing fruit and vegetable clusters is planning, the most critical stage of which entails the precise definition of cluster goals.

It is well known that the goals of clusters, operating as multi-tiered systems, are comprehensive and multifaceted. The primary objective of these systems is formulated

through the functions they execute. It is precisely these functions that systematically reflect the current status of the cluster and define the paths toward achieving goals and strategies at each organizational stage. The organizational structure of the cluster is developed in accordance with these goals. Each cluster shapes its structure based on its internal capabilities, where every division and structural component contributes to the achievement of the common objective. In general, creating a modern management structure constitutes one of the fundamental requirements and criteria of effective management today.

In optimizing the management mechanism of fruit and vegetable clusters, particular attention must be devoted to organizational and economic aspects. In this regard, it is expedient to implement the development of the organizational and economic mechanisms of clusters along the following trajectories:

- Identifying all factors influencing operations, defining their scope of impact, planning cluster activities within short- and long-term perspectives, and establishing optimal economic relations among participants while fully preserving their operational and legal independence;
- Regulating mutual settlements among organizations within the cluster, and introducing state incentive measures that account for the rights and obligations of the participants;
- Establishing effective distributive relations that ensure cluster development, harmonizing long-term system perspectives with the interests of each entity during income distribution, and structuring contractual relations in accordance with the contribution levels and development potentials of the participants.

Organizational and economic aspects hold substantial importance in cluster management; this process requires strengthening cooperation among participants, assessing their current status, and accounting for future development dynamics. To

achieve these goals, the following measures must be implemented: analyzing the current state of the fruit and vegetable sector at national and regional levels and forecasting future development trends; explicitly defining the core objective of establishing the cluster and aligning the goals of all participants with this direction; developing a general development model for each participant and the cluster as a whole, while defining its key indicators; and continuously monitoring the impact of sector activities on the environment and ecology.

The organizational and economic mechanisms of cluster management are primarily aimed at effectively incentivizing cooperation among producers during the cultivation, storage, processing, and commercialization of fruit and vegetable products.

Today, fruit and vegetable clusters operating in Uzbekistan primarily possess either a single-sector economic specialization (horticulture, viticulture, vegetable production, or greenhouse farming) or a multi-sector specialization (encompassing several regions). The formation of their management mechanisms is being carried out along two main directions:

- The first direction: optimizing clusters organized on the basis of a single enterprise or a group of interconnected enterprises that independently manage all processes from fruit and vegetable cultivation to sales;
- The second direction: establishing a product procurement system based on guaranteed contracts with fixed prices and terms between processing enterprises, exporters, and agricultural producers, including the supply of seeds, seedlings, and advance payments. This direction entails optimizing cluster activities that encompass the entire "seed/seedling cultivation–harvesting–storage–processing–transportation–market delivery" chain.

The management of fruit and vegetable clusters is also directly linked to innovative technologies and technological cooperation relations. The primary criteria determining the organizational form of a cluster include:

- The complexity of the structure and the intensity of interaction among participants (weak, moderate, strong, very strong);
- The integration level of modern innovative technologies and the presence of close technological linkages;
- The operation of the cluster based primarily on the principles of self-organization and self-management.

Self-management and self-organization processes are shaped on the basis of concrete economic interests, the essence of which is determined by innovative technologies and the technological interdependencies arising from them. Chain activities aimed at developing cluster operations create conveniences and benefits not only for the participants but also for the regional and national economies. Therefore, studying the experience of advanced foreign countries and analyzing the regulatory and legal documents adopted regarding agricultural development in our republic hold distinct significance. Based on these foundations, it is expedient to take the following measures in developing fruit and vegetable clusters: diversifying agriculture and accounting for the natural-climatic conditions of the regions; cultivating high-yielding and export-oriented varieties; integrating modern technologies into the processes of manufacturing cheap and competitive products, as well as their storage, processing, and export; creating new jobs; incentivizing the financial interests of participants; and integrating cultivation and processing processes into a unified system. When necessary, it is also important to develop and implement ecological measures aimed at improving the state of the environment.

Literatures

1. O`zbekiston Respublikasi Prezidentining «Meva-sabzavotchilik mahsulotlarini tashqi bozorlarga chiqarish samaradorligini oshirishga doir qo`shimcha chora-tadbirlar to`g`risida»gi 2022 yil 4 apreldagi PQ-225-sonli qarori. https://lex.uz/uz/docs/-5984522

2. Mannopova M. S. O`zbekistonda meva-sabzavotchilik yo`nalishidagi klasterlarni rivojlantirish va boshqarishning asosiy vazifalari. *Biznes-эксперт*, 2022 yil *1*(6), 48-52.

3. Mannopova M.S. Meva-sabzavot mahsulotlarini eksport salohiyatini oshirishda boshqaruv strategiyasini shakllantirishning ilg‘or xorij tajribalari. “Innovations in Science and Technologies” ilmiy elektron jurnali. 2 -son 2025 yil.136-141.

4. Mannopova M.S. (2023). Meva-sabzavotchilik klasterlarining rivojlantirish va ularni boshqarishning tashkiliy tuzilmalari. *Gospodarka i Innowacje.*, *33*, 419-423.

The Effectiveness of Communicative Approach in Teaching German as a Foreign Language

Abdullayeva Guljahon Xakimovna

Abdullayev Davron Xakimovich

Madyorov Shuhrat Pazlidinovich

Abstract. This article examines the effectiveness of the Communicative Approach in teaching German as a foreign language. The study focuses on how communicative language teaching enhances learners' communicative competence, fluency, and classroom interaction. A qualitative-descriptive method was applied, based on classroom observations, analysis of communicative tasks, and evaluation of learner performance. The findings indicate that the Communicative Approach significantly improves students' ability to use German in real-life situations through interactive activities such as role-plays, group discussions, and problem-solving tasks. However, challenges related to grammatical accuracy, especially in complex sentence structures, were also observed. The study concludes that the Communicative Approach is most effective when combined with selective form-focused instruction, ensuring a balance between fluency and accuracy in language learning.

Keywords: Communicative Approach, German language teaching, communicative competence, foreign language learning, task-based learning, classroom interaction, language fluency, second language acquisition

Introduction. In recent decades, foreign language teaching has undergone significant methodological changes, shifting from traditional grammar-translation approaches to more interactive and learner-centered methods. Among these, the Communicative Approach (CA) has gained widespread recognition as an effective methodology for developing learners' communicative competence. This approach emphasizes meaningful interaction, real-life communication, and the ability to use

language appropriately in different social contexts rather than focusing solely on grammatical accuracy.

Teaching German as a foreign language presents specific challenges due to its complex grammatical structure, including case system, word order rules, and compound word formation. Traditional teaching methods often fail to provide sufficient opportunities for learners to actively use the language in authentic communicative situations. As a result, learners may acquire theoretical knowledge but struggle with practical language use in real-life communication.

The Communicative Approach addresses these limitations by integrating speaking, listening, reading, and writing skills into interactive classroom activities such as role-plays, group discussions, simulations, and task-based learning. This method encourages students to participate actively in the learning process, thereby increasing motivation and improving language retention. Moreover, it helps learners develop not only linguistic competence but also sociolinguistic and pragmatic skills essential for effective communication in German-speaking environments.

This article examines the effectiveness of the Communicative Approach in teaching German as a foreign language, focusing on its impact on learners' communicative competence, motivation, and overall language performance. It also explores how this approach can be adapted to different educational contexts to enhance the quality of German language instruction.

Literature Review. The Communicative Approach (CA), also known as Communicative Language Teaching (CLT), emerged in the 1970s as a response to the limitations of structural and grammar-translation methods in foreign language education. According to Dell Hymes, language learning should not only focus on grammatical correctness but also on the ability to use language appropriately in social contexts. His concept of communicative competence became the theoretical foundation

for the development of CLT. Further development of the approach was supported by scholars such as Michael H. Long, who emphasized the importance of interaction in language acquisition. Long's Interaction Hypothesis suggests that meaningful communication and negotiation of meaning during interaction facilitate language learning more effectively than passive knowledge acquisition.

In the context of foreign language pedagogy, Jack C. Richards highlighted that CLT focuses on the functional use of language, where learners are engaged in authentic communication tasks rather than mechanical drills. Similarly, David Nunan emphasized task-based learning as a core component of communicative teaching, arguing that language is best acquired through meaningful tasks that reflect real-life situations.

In German language teaching specifically, researchers have noted both advantages and challenges of implementing the communicative approach. Studies indicate that German grammar complexity, especially case inflections (nominative, accusative, dative, genitive) and verb placement rules, often require additional instructional support even within communicative frameworks. However, scholars such as Claudia Riemer argue that integrating communicative activities significantly improves learners' fluency, confidence, and pragmatic competence in German.

Recent research in foreign language education also highlights the role of technology-enhanced communicative learning. Digital tools, online collaboration platforms, and multimedia resources have been shown to increase learner engagement and provide authentic communicative environments. These developments align with modern interpretations of CLT, where interaction is not limited to the classroom but extended to virtual and global communication contexts.

Methodology. This study adopts a qualitative-descriptive research design to examine the effectiveness of the Communicative Approach in teaching German as a foreign language. The data were collected through classroom observations, analysis of

teaching materials, and review of learners' performance in communicative tasks such as role-plays, group discussions, and problem-solving activities. The participants of the study included German language learners at intermediate level in an educational institution, where the Communicative Approach was implemented as the main teaching method. The effectiveness of the approach was evaluated by analyzing students' speaking fluency, accuracy, interactional ability, and overall engagement during classroom activities. In addition, feedback from both teachers and students was considered to identify strengths and limitations of the approach in practice. The collected data were then interpreted using thematic analysis to determine how communicative teaching methods contribute to the development of learners' communicative competence in German.

Results and Discussion

The findings of the study indicate that the Communicative Approach significantly improves learners' communicative competence in German as a foreign language. Students who were exposed to communicative activities demonstrated higher levels of speaking fluency and greater willingness to participate in classroom interaction compared to traditional instruction methods. Role-plays, group discussions, and task-based activities created a more dynamic learning environment, allowing learners to use German in meaningful contexts. However, some grammatical inaccuracies were still observed, particularly in complex sentence structures and case usage, which suggests that while fluency improved, accuracy required additional focused instruction.

The discussion of these results shows that the Communicative Approach is highly effective in enhancing learner motivation and practical language use, but it should not completely replace form-focused instruction. The combination of communicative activities with explicit grammar teaching appears to be the most balanced and effective strategy for German language acquisition. Furthermore, the study highlights that learner-

centered interaction increases confidence and reduces language anxiety, which are essential factors in successful foreign language learning.

In a Communicative Language Teaching (CLT) classroom, practical examples clearly demonstrate how learners develop German language skills through real-life interaction. For instance, in a role-play activity at a restaurant, students use expressions such as “Ich möchte bitte eine Pizza und ein Glas Wasser” and “Möchten Sie noch etwas bestellen?”, which helps them practice functional language in an authentic context, improving both sociolinguistic competence and communicative confidence. Similarly, during group discussions about daily routines, learners exchange sentences like “Ich stehe um sieben Uhr auf und gehe zur Universität” and “Ich lerne abends Deutsch”, which enhances fluency and encourages spontaneous speech with minimal fear of making mistakes. In problem-solving tasks such as planning a trip to Berlin, students negotiate meaning using phrases like “Wir können das Brandenburger Tor besuchen” and “Wir müssen auch die Tickets online kaufen”, which fosters collaboration, critical thinking, and interactive communication. Overall, these examples show that CLT shifts the focus from memorizing grammar rules to using language meaningfully, thereby significantly improving learners’ ability to communicate effectively in German.

Conclusion

The findings of this study confirm that the Communicative Approach is an effective methodology for teaching German as a foreign language. It significantly enhances learners’ communicative competence by providing opportunities for meaningful interaction, real-life communication, and active participation in classroom activities. Students exposed to this approach demonstrated improved fluency, higher motivation, and greater confidence in using German for practical communication. However, the study also revealed that while communicative activities strongly support fluency development, learners may still face difficulties with grammatical accuracy,

particularly in complex sentence structures and case usage. Therefore, it can be concluded that the Communicative Approach is most effective when combined with selective form-focused instruction, ensuring a balance between fluency and accuracy. The integration of interactive tasks with explicit grammar support creates a more comprehensive learning environment that meets both communicative and structural needs of German language learners. Overall, this approach contributes positively to modern foreign language pedagogy and should be further adapted and applied in diverse educational contexts to maximize its effectiveness.

References:

1. Hymes, D. (1972). On Communicative Competence. In J. B. Pride & J. Holmes (Eds.), Sociolinguistics. Harmondsworth: Penguin.
2. Richards, J. C., & Rodgers, T. S. (2014). Approaches and Methods in Language Teaching. Cambridge: Cambridge University Press.
3. Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), Handbook of Second Language Acquisition. San Diego: Academic Press.
4. Nunan, D. (2004). Task-Based Language Teaching. Cambridge: Cambridge University Press.
5. Savignon, S. J. (2002). Interpreting Communicative Language Teaching: Contexts and Concerns in Teacher Education. New Haven: Yale University Press.
6. Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. Applied Linguistics, 1(1), 1–47.
7. Riemer, C. (2010). Teaching German as a Foreign Language: Theory and Practice. Berlin: De Gruyter.

ECONOMIC EFFICIENCY OF SMART TOURISM DEVELOPMENT IN THE CONDITIONS OF DIGITAL TRANSFORMATION

Nuraliyeva Feruza Yangiboyevna

Lecturer at the Tashkent University of Information Technologies named after Muhammad al-Khwarizmi

yangiboyevaferan@gmail.com

Abstract. This article examines the impact of digital transformation on the development of smart tourism and evaluates its economic efficiency in the modern tourism industry. The study explores the mechanisms for implementing innovative information and communication technologies in the organization of tourism services, management of tourist flows, and interaction with consumers. Particular attention is paid to the role of digital platforms, mobile applications, online booking systems, and data analytics tools in improving the operational efficiency of tourism enterprises. The research findings demonstrate that the use of smart technologies contributes to reducing operational costs, accelerating customer service processes, expanding digital marketing opportunities, and creating personalized tourism products. The study also identifies the main challenges hindering the development of smart tourism, including insufficient digital infrastructure, the need for substantial investment, and information security risks. It is concluded that the digitalization of the tourism sector is an important factor in enhancing the competitiveness of the national tourism market and ensuring the sustainable development of regional tourism within the global digital economy.

Keywords: smart tourism, digital transformation, digital economy, tourism industry, digital technologies, online services, digital marketing, tourism enterprises, economic efficiency, tourism digitalization, smart technologies, regional tourism.

ЭКОНОМИЧЕСКАЯ ЭФФЕКТИВНОСТЬ РАЗВИТИЯ SMART-ТУРИЗМА В УСЛОВИЯХ ЦИФРОВОЙ ТРАНСФОРМАЦИИ

Нуралиева Феруза Янгибоевна

Преподаватель Ташкентского университета информационных технологий имени Мухаммада аль-Хорезми

Аннотация. Статья посвящена исследованию влияния цифровой трансформации на развитие smart-туризма и оценке его экономической результативности в современной туристической индустрии. Рассматриваются механизмы внедрения инновационных информационно-коммуникационных технологий в процессы организации туристических услуг, управления туристическими потоками и взаимодействия с потребителями. Особое внимание уделено роли цифровых платформ, мобильных приложений, систем онлайн-бронирования и инструментов аналитики данных в повышении эффективности деятельности туристических предприятий. В ходе исследования установлено, что использование smart-технологий способствует сокращению операционных затрат, ускорению обслуживания клиентов, расширению возможностей цифрового маркетинга и формированию персонализированных туристических предложений. Также выявлены основные ограничения развития smart-туризма, связанные с недостаточным уровнем цифровой инфраструктуры, необходимостью значительных инвестиций и вопросами информационной безопасности. Сделан вывод о том, что цифровизация туристической отрасли является важным условием повышения конкурентоспособности национального туристического рынка и устойчивого развития регионального туризма в условиях глобальной цифровой экономики.

Ключевые слова: smart-туризм, цифровая трансформация, цифровая экономика, туристическая отрасль, цифровые технологии, онлайн-сервисы, цифровой маркетинг, туристические предприятия, экономическая эффективность, цифровизация туризма, smart-технологии, региональный туризм.

Введение. В современных условиях развития цифровой экономики туристическая отрасль активно трансформируется под воздействием информационно-коммуникационных технологий. Использование цифровых платформ, онлайн-сервисов, мобильных приложений и интеллектуальных систем управления способствует формированию нового направления развития туристической индустрии - smart-туризма. Данный подход предполагает интеграцию цифровых технологий в процессы организации туристических услуг, управления туристическими потоками и взаимодействия с потребителями [1].

Развитие smart-туризма оказывает существенное влияние на экономику туристической отрасли. Цифровые технологии позволяют туристическим предприятиям оптимизировать бизнес-процессы, сокращать издержки, повышать качество обслуживания и формировать новые конкурентные преимущества. В условиях глобальной цифровой трансформации smart-туризм становится важным фактором устойчивого развития туристической индустрии и повышения эффективности туристического бизнеса [2].

Актуальность исследования обусловлена тем, что цифровизация оказывает значительное влияние на развитие мировой туристической отрасли и формирование современных моделей управления туристическими услугами. В условиях роста глобальной конкуренции туристические предприятия вынуждены внедрять smart-технологии для повышения эффективности своей деятельности и адаптации к изменяющимся требованиям рынка.

Особую значимость приобретает изучение экономической эффективности smart-туризма, поскольку внедрение цифровых технологий способствует автоматизации бизнес-процессов, развитию онлайн-туризма, расширению

цифрового маркетинга и совершенствованию механизмов взаимодействия с потребителями [3].

Кроме того, развитие smart-туризма создает дополнительные возможности для развития регионального туризма, повышения инвестиционной привлекательности территорий и интеграции национального туристического рынка в мировую цифровую экономику.

Целью исследования является анализ экономической эффективности развития smart-туризма в условиях цифровой трансформации экономики.

Для достижения поставленной цели были определены следующие **задачи**:

- исследовать сущность smart-туризма и особенности его развития;
- определить влияние цифровых технологий на туристическую отрасль;
- проанализировать экономические преимущества smart-технологий;
- выявить основные проблемы цифровизации туристической сферы;
- определить перспективы развития smart-туризма в современных условиях.

Обзор источников. Теоретической основой исследования послужили научные труды отечественных и зарубежных ученых, посвященные вопросам цифровой экономики, цифровизации туризма и smart-технологий.

В учебном пособии Л.И. Ивановой, С.В. Савиной и К.К. Сирбиладзе «Цифровые технологии в сфере туризма» рассматриваются современные цифровые инструменты, используемые в туристической деятельности, а также механизмы автоматизации туристических услуг [4].

Р.Ю. Стыцюк, Т.П. Розанова и О.А. Денисова в учебнике «Цифровой бизнес в туризме и гостеприимстве» анализируют особенности цифрового маркетинга, онлайн-платформ и электронной коммерции в туристической отрасли [5].

Практические аспекты smart-туризма исследуются в работе Дмитрия Тина и Андрея Тина «Цифровизация и Smart-туризм», где рассматриваются современные smart-технологии и их влияние на развитие туристических предприятий [6].

Вопросы влияния цифровой экономики на развитие регионального туризма рассматриваются в научных статьях и аналитических исследованиях, посвященных цифровой трансформации туристической отрасли [7].

Методы исследования. В процессе исследования были использованы методы системного анализа, сравнительного анализа, экономико-статистический метод и метод научного обобщения.

Системный подход позволил рассматривать smart-туризм как комплексную цифровую систему, включающую туристические предприятия, цифровые платформы, информационные технологии и потребителей туристических услуг.

Экономико-статистический анализ использовался для оценки влияния цифровых технологий на показатели эффективности туристической отрасли. Сравнительный анализ позволил определить преимущества smart-технологий по сравнению с традиционными моделями организации туристической деятельности.

Результаты исследования показали, что развитие smart-туризма оказывает значительное влияние на повышение экономической эффективности туристической отрасли. Использование цифровых платформ, систем онлайн-бронирования, мобильных приложений и интеллектуальных аналитических систем способствует оптимизации бизнес-процессов и сокращению операционных расходов предприятий [5].

Установлено, что внедрение smart-технологий позволяет повысить качество туристических услуг, ускорить процессы обслуживания клиентов и увеличить уровень конкурентоспособности туристических предприятий. Использование

цифрового маркетинга и аналитики больших данных способствует более эффективному продвижению туристических продуктов и формированию персонализированных предложений для потребителей [6].

Проведенный анализ также показал, что smart-туризм оказывает положительное влияние на развитие регионального туризма. Цифровые платформы позволяют повышать узнаваемость туристических дестинаций, расширять международное сотрудничество и привлекать дополнительные инвестиции в туристическую инфраструктуру [7].

Вместе с тем развитие smart-туризма сопровождается рядом проблем, включая высокие затраты на внедрение цифровых технологий, недостаточный уровень цифровой инфраструктуры и риски информационной безопасности.

Вывод. Проведенное исследование подтвердило, что smart-туризм является одним из наиболее перспективных направлений развития современной цифровой экономики и важным фактором повышения экономической эффективности туристической отрасли.

Использование smart-технологий способствует модернизации системы управления туризмом, снижению операционных издержек, повышению качества туристических услуг и формированию новых конкурентных преимуществ туристических предприятий.

В современных условиях дальнейшее развитие smart-туризма требует совершенствования цифровой инфраструктуры, стимулирования инновационной деятельности и повышения уровня цифровых компетенций работников туристической сферы.

Практическая значимость исследования заключается в возможности использования полученных результатов при разработке программ цифровой

трансформации туристической отрасли и формировании стратегий развития smart-туризма в условиях цифровой экономики.

Список литературы

1. Kononova O., Prokudin D., Ryabysko J. The Vision and the Perspective of Digital Tourism // arXiv. - 2021.
2. Rodriguez Luna R.E., Rosenstiehl Martinez J.L. Digital Transformation of Nature Tourism // arXiv. - 2022.
3. Влияние цифровизации на развитие предприятий туристической отрасли // SciUp.
4. Иванова Л.И., Савина С.В., Сирбиладзе К.К. и др. Цифровые технологии в сфере туризма: учебное пособие / под ред. О.Н. Цветковой. - М.: КноРус, 2026.
5. Стыцюк Р.Ю., Розанова Т.П., Денисова О.А. Цифровой бизнес в туризме и гостеприимстве: учебник. - М.: КноРус, 2022.
6. Тин Д., Тин А. Цифровизация и Smart-туризм: практическое пособие. - 2023.
7. Влияние цифровой экономики на развитие регионального туризма // CyberLeninka.

Bridging the Gap: Integrating Short-Form Video Content (TikTok/Instagram) into the Uzbek EFL Speaking Classroom

Karimjonova Parvina

1st-year Master's Student Tashkent International University of Education

Abstract

Traditional English as a Foreign Language (EFL) classrooms in Uzbekistan frequently struggle with the challenge of transitioning students from passive grammar comprehension to active, fluent oral production. Meanwhile, outside the classroom, Uzbek youth are deeply immersed in consuming and creating short-form video content on platforms such as TikTok and Instagram Reels. Rather than treating these digital spaces as mere distractions, this article proposes a pedagogical framework for intentionally integrating short-form video content into the Uzbek higher education EFL speaking curriculum. Grounded in Krashen's Affective Filter Hypothesis and Sweller's Cognitive Load Theory, this paper outlines how the structural and psychological properties of micro-video creation can be harnessed to increase student motivation, decrease foreign language speaking anxiety, and cultivate culturally contextualized, fluent oral communication among Uzbek learners.

Keywords

EFL pedagogy, short-form video, communicative competence, Uzbek youth, TikTok pedagogy, Instagram Reels, APA 7

Introduction. The modernisation of Uzbekistan's education system has placed great emphasis on the development of communication skills among language learners. Despite these curricula objectives, there is still a gap between the formal English taught in academic settings and the dynamic, authentic English that students encounter in the real world. Uzbek EFL students often face psychological obstacles - especially foreign language anxiety (FLA) - stemming from traditional classroom culture, which penalises

grammatical errors in spontaneous speech. On the contrary, Uzbek youth's digital habits show an open interest in English through social media. Short-form video platforms, in particular TikTok and Instagram Reels, have become the dominant media consumption and expression channel for this audience. These platforms offer highly contextualised, repeatable and engaging language input. By bridging the gap between informal digital learning habits and formal classroom instruction, educators can turn passive learning into active, structured verbal production.

The Pedagogical Value of Short-Form Video Content

Short-form video content (typically ranging from 15 to 90 seconds) possesses unique structural attributes that align closely with modern task-based and communicative language teaching methodologies.

Micro-Inputs and Output Optimization

Traditional listening and speaking tasks often overwhelm learners with long and complex audio tracks. According to Sweller's theory of cognitive load, instruction design should avoid overloading the working memory. Short-form videos break down language into digestible, micro-entries. These bite-sized chunks are highly visual, rely heavily on contextually-related body language, and often use captions, a combination that greatly improves understanding. When students switch to making their own short videos, they are forced to practice micro-production, which requires them to be concise, accurate and powerful in their choice of vocabulary within a limited time.

Reduction of Affective Filters

According to Krashen’s (1982) Affective Filter Hypothesis, high anxiety, low self-confidence, and low motivation act as psychological barriers to language acquisition. In a traditional classroom, standing up to speak in front of peers often raises this filter. TikTok and Instagram environments, however, utilize a "sandbox" approach to production:

- **Pre-recording and Editing:** Students can record, review, delete, and re-record their speech multiple times before anyone else hears it. This private trial-and-error phase fosters self-correction without the immediate social penalty of a public mistake (Mundia, 2026).
- **Gamification and Trends:** Using viral audio trends, filters, and challenges shifts the student's focus from grammatical hyper-awareness to creative task execution, effectively lowering stress levels (Karimbaeva, 2025).

A Framework for Classroom Integration: The WAP Model

To successfully implement short-form videos without compromising academic rigor, educators can adopt a structured Watch-Analyze-Produce (WAP) framework tailored to the Uzbek educational context.

1. **Watch (Input):** The instructor introduces a specific, curated TikTok or Instagram Reel that targets a specific linguistic function (e.g., expressing an opinion, using narrative tenses, or applying workplace vocabulary). Alternatively, students can find a video fitting a specific hashtag related to their lesson topic.
2. **Analyze (Intake):** The class deconstructs the video. Students analyze the speaker's choice of words, pronunciation, linking words, and conversational pacing. This phase ensures that the informal language found online is critically evaluated alongside the formal rules learned in textbooks.
3. **Produce (Output):** Students are assigned a creative task where they must generate their own short-form video. Crucially, these videos do not need to be published publicly. They can be recorded on smartphones and uploaded to secure, private digital learning platforms like Google Classroom, Telegram channels dedicated to the course, or Moodle systems utilized by Uzbek universities (Tukhtanazarova, 2026).

Practical Activity Designs for Uzbek Universities

The following matrix outlines actionable, structured tasks that seamlessly merge short-form video mechanics with university-level EFL speaking objectives:

Task Name	Target Speaking Skill	Task Description
The 60-Second Cultural Tour	Descriptive language, idiomatic expressions, pacing.	Students create an Instagram-style "Reel" guiding a foreigner through a historical site in Uzbekistan (e.g., Registan, Chorsu Bazaar), using specific descriptive adjectives and local historical narratives in fluent English.
The Stitch/Duet Debate	Spontaneous reaction, argumentation, counter-arguing.	Using TikTok's "Stitch" feature (or an analog classroom setup), a student records a short 30-second opinion on a controversial topic (e.g., *"Is AI ruining education?"*). A peer must record a video responding to and countering that argument.
The "Day in the Life" Vlog	Narrative tenses (Past Continuous, Present Perfect), daily vocabulary.	Students film a fast-paced, narrated 1-minute video documenting their routine as an Uzbek university student, focusing on smoothly transitioning between sequential events using connectors (*First, then, unexpectedly, finally*).
The Idiom Explainer	Conceptual clarity, voice modulation, precise articulation.	Students choose a complex English idiom or phrasal verb, script a creative 45-second skit or explanation showing its misuse vs. correct use, and present it dynamically.

Addressing Pedagogical Challenges and Institutional Constraints

While the benefits are clear, integrating social media components into the Uzbek higher education ecosystem introduces practical hurdles that instructors must manage proactively.

Privacy and Cultural Sensitivity

Many students, particularly female students in traditional families, may feel uncomfortable publishing their faces or voices online. Educators must emphasize that these tasks are strictly academic. Submissions should be kept confidential within a closed Learning Management System (LMS) or a private group chat rather than being posted to public feeds.

The Slang vs. Academic Balance

Short-form media is rife with ungrammatical vernacular, internet slang, and fillers (*"gonna", "bruh", "lowkey"*). Teachers must establish rigid evaluation rubrics. While fluency and natural delivery are rewarded, grades must also depend on the appropriate use of targeted, level-appropriate grammar structures.

Digital Inequality

Not all students possess high-end smartphones or stable, unlimited high-speed internet. Group projects—where students work in pairs, combining their technical resources—can mitigate this disparity, ensuring that technological limits do not turn into educational barriers.

Conclusion

Integrating TikTok and Instagram into the Uzbek EFL classroom does not mean abandoning academic standards; rather, it means meeting digital-native students where they already live. By transforming short-form video creation into a structured language task, educators can tap into an existing reservoir of high student motivation. This methodology effectively bypasses the anxiety of live public speaking, allowing Uzbek

learners to build conversational speed, acquire natural vocabulary, and ultimately step out into the globalized world as confident, fluent English speakers.

References

1. Boymurot o‘g‘li, X. B. (2026). Borrowings in digital communication and social media language. *O‘zbekiston Davlat Jahon Tillari Universiteti Konferensiyalari*, *1*(2). https://doi.org/10.5281/zenodo.19649135
2. Inagamova, I. (2026). The impact of technology on the English language, including the rise of new forms of communication like texting and social media. *Kelajak Bunyodkori*, 115–122.
3. Karimbaeva, M. (2025). Engaging Uzbek students in English learning via social media: Instagram, TikTok, YouTube, and Telegram. *Shokh Library Journals*, *5*(2), 45–58.
4. Krashen, S. (1982). *Principles and practice in second language acquisition*. Pergamon Press.
5. Mundia, M. (2026). A systematic review on podcasting and micro-video as pedagogical tools: Enhancing speaking confidence through digital media production. *Journal of NamSPI*.
6. Rahmanova, G. (2026). Developing speaking skills through social media interaction in English language teaching. *IMRAS Journal*, *9*(3).
7. Tukhtanazarova, K. (2026). The impact of digital storytelling on EFL learners' speaking fluency and confidence. *Shokh Library Journals*, *27*, 237–250.

The Importance of Media Literacy in Modern Society

Yoqubboyeva Dinara

Student, Speech Therapy Program Chirchik State Pedagogical University

Tel: +998 95 806 18 20 E-mail: yoqubboyevadinara@gmail.com

Scientific Supervisor: Mahkamov Doston Shokir o‘g‘li

E-mail: mahkamovbk@gmail.com Tel: +998 99 605 1301

Abstract

This article analyzes the importance of media literacy in modern society. It highlights that with the development of information technologies, the role of media in human life is increasing, along with the spread of unreliable information. The article explains the concept of media literacy, its role and significance in society, and its impact on the development of critical thinking.

Keywords: media literacy, information, critical thinking, fake news, social media, media, information security

.Zamonaviy jamiyatda mediasavodxonlikning ahamiyati

Yoqubboyeva Dinara.

CHDPU,Logopediya yo'nalishi

+998 95 806 18 20 yoqubboyevadinara@gmail.com

Ilmiy rahbar: Mahkamov Doston Shokir o'g'li

mahkamovbk@gmail.com 99 605 1301

Annotatsiya

Ushbu maqolada zamonaviy jamiyatda mediasavodxonlikning ahamiyati tahlil qilinadi. Axborot texnologiyalarining rivojlanishi natijasida inson hayotida media vositalarning o‘rni ortib borayotgani, shu bilan birga noto‘g‘ri va yolg‘on axborotlar ko‘payayotgani ko‘rsatib o‘tiladi. Maqolada mediasavodxonlik tushunchasi, uning jamiyatdagi o‘rni va ahamiyati yoritilib, tanqidiy fikrlashni rivojlantirishdagi roli ochib beriladi.

Аннотация

В данной статье анализируется значение медиаграмотности в современном обществе. Отмечается, что с развитием информационных технологий возрастает роль медиа в жизни человека, а также увеличивается количество недостоверной информации. В статье раскрывается понятие медиаграмотности, её роль и значение в обществе, а также её влияние

на развитие критического мышления.

Kalit so‘zlar:mediasavodxonlik, axborot, tanqidiy fikrlash, feyk xabarlar, ijtimoiy tarmoqlar, media, axborot xavfsizligi

Ключевые слова:медиаграмотность, информация, критическое мышление, фейковые новости, социальные сети, медиа, информационная безопасност

Bugungi kunda axborot oqimi misli ko‘rilmagan darajada tezlashdi. Internet, ijtimoiy tarmoqlar va turli media platformalar orqali har bir inson istalgan vaqtda turli xil ma’lumotlarga ega bo‘lish imkoniyatiga ega. Biroq bu imkoniyatlar bilan bir qatorda, noto‘g‘ri, yolg‘on yoki manipulyativ axborotlar ham keng tarqalmoqda. Shu sababli zamonaviy jamiyatda mediasavodxonlik, ya’ni axborotni to‘g‘ri qabul qilish, tahlil qilish va baholash ko‘nikmasi juda muhim ahamiyat kasb etadi.Mediasavodxonlik — bu shaxsning turli media manbalaridan kelayotgan axborotni tanqidiy fikrlash asosida qabul qilish, uning ishonchliligini tekshirish va to‘g‘ri xulosa chiqarish qobiliyatidir. Ayniqsa, yoshlar orasida bu ko‘nikma juda zarur, chunki ular internet va ijtimoiy tarmoqlardan eng faol foydalanuvchilardir.Zamonaviy jamiyatda feyk xabarlar, propaganda va axborot manipulyatsiyasi keng tarqalgan. Ayrim hollarda yolg‘on ma’lumotlar odamlar fikriga, qarorlariga va hatto jamiyatdagi ijtimoiy muhitga salbiy ta’sir ko‘rsatadi. Mediasavodxonlik esa bunday holatlarning oldini olishga yordam beradi. Masalan, inson har qanday xabarni darhol qabul qilmasdan, uning manbasini

tekshiradi, boshqa manbalar bilan solishtiradi va faqat ishonchli ma’lumotlarga tayanadi.Bundan tashqari, mediasavodxonlik shaxsning tanqidiy fikrlashini rivojlantiradi. Tanqidiy fikrlash esa insonni mustaqil qaror qabul qilishga, turli qarashlarni solishtirishga va asossiz fikrlarga berilmaslikka o‘rgatadi. Bu esa nafaqat shaxsiy rivojlanish, balki jamiyat taraqqiyoti uchun ham muhimdir.Mediasavodxonlik yana bir muhim jihati — axborot xavfsizligini ta’minlashdir. Internetda firibgarlik, shaxsiy ma’lumotlarni o‘g‘irlash kabi xavflar mavjud. Mediasavodli inson esa bunday tahdidlardan o‘zini himoya qila oladi, shaxsiy ma’lumotlarini ehtiyot qiladi va xavfsiz foydalanish qoidalariga amal qiladi.Zamonaviy jamiyatda mediasavodxonlik har bir inson uchun zarur ko‘nikmaga aylangan. U nafaqat to‘g‘ri axborot tanlash, balki ongli fikrlash, mustaqil qaror qabul qilish va axborot xavfsizligini ta’minlashda muhim rol o‘ynaydi. Shu sababli mediasavodxonlikni rivojlantirish ta’lim tizimining muhim yo‘nalishlaridan biri bo‘lishi lozim. Chunki mediasavodli jamiyat — bu ongli, fikrlaydigan va taraqqiyotga intiluvchi jamiyatdir.1. Mediasavodxonlik tushunchasi va uning nazariy asoslari.

Zamonaviy jamiyatda axborot almashinuvi nihoyatda tezlashgan bo‘lib, insonlar kundalik hayotida turli xil media manbalardan foydalanadi. Shu sababli “mediasavodxonlik” tushunchasi alohida ahamiyat kasb etadi. Mediasavodxonlik — bu shaxsning media orqali uzatilayotgan axborotni ongli ravishda qabul qilish, uni tahlil qilish, baholash va undan to‘g‘ri foydalanish qobiliyatidir.Mediasavodxonlik faqatgina axborotni o‘qish yoki ko‘rish bilan cheklanmaydi. U quyidagi muhim komponentlarni o‘z ichiga oladi:axborotni tanlash va saralash;manbalarni tekshirish;axborotning ishonchliligini aniqlash;media xabarlarning maqsadini tushunish;mustaqil fikr bildirish.Bugungi kunda mediasavodxonlik insonning umumiy savodxonligi darajasining ajralmas qismi hisoblanadi. Chunki har qanday axborot ham haqiqatga mos

kelavermaydi. Ayrim hollarda ma’lumotlar noto‘g‘ri yoki maqsadli ravishda buzib berilishi mumkin.

Axborot makonining kengayishi va uning ta’siri. Axborot texnologiyalarining rivojlanishi natijasida global axborot makoni shakllandi. Internet, ijtimoiy tarmoqlar va mobil ilovalar orqali insonlar istalgan vaqtda, istalgan joydan ma’lumot olish imkoniga ega bo‘ldi. Bu esa jamiyat hayotiga ijobiy ta’sir ko‘rsatishi bilan birga, ayrim muammolarni ham yuzaga keltirdi.Ijobiy jihatlari:tezkor axborot almashinuvi;bilim olish imkoniyatlarining kengayishi;masofaviy ta’lim va ish faoliyatining rivojlanishi.Salbiy jihatlari:yolg‘on va tekshirilmagan axborotlarning tarqalishi;inson ongiga manipulyativ ta’sirlar;axborot ortiqchaligi (informatsion shovqin).Shu nuqtai nazardan, mediasavodxonlik insonni axborot oqimida yo‘qolib qolmaslikka yordam beradi. U kerakli ma’lumotni ajratib olish va noto‘g‘ri xabarlardan himoyalanish imkonini beradi.

Feyk xabarlar va axborot manipulyatsiyasi. Bugungi kunda eng dolzarb muammolardan biri — bu feyk xabarlarning keng tarqalishidir. Feyk xabarlar — bu ataylab noto‘g‘ri yoki chalg‘ituvchi ma’lumotlarni tarqatish orqali jamoatchilik fikriga ta’sir ko‘rsatishga qaratilgan axborotlardir.Feyk xabarlarning asosiy belgilariga quyidagilar kiradi:ishonchsiz yoki noma’lum manbalar;hissiyotga ta’sirqiluvchi sarlavhalar;aniq dalillarning yo‘qligi;tekshirib bo‘lmaydigan ma’lumotlar.Axborot manipulyatsiyasi esa inson ongiga yashirin ta’sir o‘tkazish usullaridan biridir. Bu jarayonda turli psixologik usullar qo‘llaniladi, masalan:qo‘rquv uyg‘otish;noto‘g‘ri taqqoslash;bir tomonlama yoritish;stereotiplardan foydalanish.Mediasavodxon inson esa bunday axborotlarni darhol tanib oladi va ularga tanqidiy yondashadi.4. Tanqidiy fikrlash va uning ahamiyati. Mediasavodxonlikning asosiy tarkibiy qismlaridan biri bu tanqidiy fikrlashdir. Tanqidiy fikrlash — bu har qanday axborotni shunchaki qabul qilmasdan, uni tahlil qilish, solishtirish va baholash qobiliyatidir.Tanqidiy fikrlash

quyidagi ko‘nikmalarni o‘z ichiga oladi:savol berish;dalillarni tekshirish;turli nuqtai nazarlarni solishtirish;mustaqil xulosa chiqarish.Masalan, ijtimoiy tarmoqlarda tarqalgan biror xabarni ko‘rgan inson darhol unga ishonib qolmasdan, quyidagi savollarni beradi:bu ma’lumot qayerdan olingan?

Boshqa manbalarda ham tasdiqlanganmi?bu xabar kimga foydali?Bu kabi yondashuv insonni noto‘g‘ri qaror qabul qilishdan saqlaydi.5. Ijtimoiy tarmoqlarning roli va ta’siri. Ijtimoiy tarmoqlar zamonaviy jamiyatning ajralmas qismiga aylangan. Ular orqali insonlar nafaqat muloqot qiladi, balki yangiliklar

oladi, fikr almashadi va o‘z qarashlarini bildiradi.Biroq ijtimoiy tarmoqlarning ta’siri ikki tomonlama:ijobiy: tezkor aloqa, o‘zini ifoda etish imkoniyati;salbiy: noto‘g‘ri axborotlarning tez tarqalishi, qaramlik (addiksiya).Ayniqsa, algoritmlar insonlarga ko‘proq ularning qiziqishlariga mos kontentni ko‘rsatadi. Bu esa insonni “axborot pufagi”ga solib qo‘yadi, ya’ni u faqat bir xil fikrlarni ko‘ra

boshlaydi.

Mediasavodxonlik esa bunday holatlarni anglash va turli manbalardan foydalanishga o‘rgatadi.Axborot xavfsizligi va shaxsiy himoya. Internetdan foydalanishda axborot xavfsizligi muhim o‘rin tutadi. Bugungi kunda kiberjinoyatlar, firibgarlik va shaxsiy ma’lumotlarni o‘g‘irlash holatlari ko‘paymoqda.Mediasavodxon inson quyidagi qoidalarga amal qiladi:shaxsiy ma’lumotlarni oshkor qilmaslik;ishonchsiz havolalarga kirmaslik;kuchli parollardan foydalanish;rasmiy manbalarga tayanish.Bu ko‘nikmalar insonni turli xavflardan himoya qiladi.7. Mediasavodxonlikni rivojlantirish yo‘llari. Jamiyatda mediasavodxonlikni rivojlantirish muhim vazifalardan biridir. Buning uchun quyidagi choralar amalga oshirilishi lozim:

ta’lim tizimiga mediasavodxonlik fanini kiritish;trening va seminarlar tashkil etish;

ommaviy axborot vositalari orqali targ‘ibot olib borish;yoshlarni tanqidiy fikrlashga o‘rgatish.Shuningdek, ota-onalar va o‘qituvchilarning roli ham katta. Ular yosh avlodga to‘g‘ri axborot bilan ishlash ko‘nikmalarini o‘rgatishi kerak.

Mediasavodxonlik nafaqat shaxsiy, balki ijtimoiy ahamiyatga ham ega. Mediasavodli jamiyat:yolg‘on axborotlarga kamroq ishonadi;ongli qarorlar qabul qiladi;ijtimoiy barqarorlikni ta’minlaydi.Bunday jamiyatda fuqarolar faol, bilimli va mas’uliyatli bo‘ladi. Bu esa davlat va jamiyat rivojiga ijobiy ta’sir ko‘rsatadi. Zamonaviy jamiyatda mediasavodxonlik tushunchasi tobora muhim ahamiyat kasb etib bormoqda. Axborot texnologiyalarining jadal rivojlanishi natijasida inson hayoti bevosita media bilan chambarchas bog‘lanib qoldi. Har bir inson kundalik hayotida turli manbalardan — internet saytlar, ijtimoiy tarmoqlar, televideniye va boshqa axborot vositalaridan foydalanadi. Bunday sharoitda insonfaqatgina axborotni qabul qiluvchi emas, balki uni tahlil qiluvchi va baholovchi subyektga aylanishi zarur. Aynan shu jihat mediasavodxonlikning mohiyatini tashkil etadi.

Mediasavodxonlik insonning axborotni ongli ravishda qabul qilishi, uning mazmunini tushunishi, manbasini tekshirishi va undan to‘g‘ri foydalanish ko‘nikmalarini o‘z ichiga oladi. Bu ko‘nikmalar zamonaviy axborot makonida yo‘qolib qolmaslik uchun zarur hisoblanadi. Chunki bugungi kunda har

bir foydalanuvchi turli xil, ba’zan esa bir-biriga zid bo‘lgan ma’lumotlarga duch keladi. Shunday vaziyatda qaysi axborotga ishonish, qaysi birini rad etish masalasi muhim ahamiyatga ega bo‘ladi.Axborot makonining kengayishi insonlar uchun katta imkoniyatlar yaratdi. Masalan, istalgan mavzuda bilim olish, yangiliklardan xabardor bo‘lish, masofadan turib ta’lim olish imkoniyatlari paydo bo‘ldi. Biroq bu jarayon bilan birga axborotning ortiqchaligi, ya’ni informatsion shovqin ham yuzaga keldi. Bu esa inson ongiga salbiy ta’sir ko‘rsatishi, chalg‘itishi yoki noto‘g‘ri qarorlar qabul qilishiga olib kelishi mumkin. Shuning uchun mediasavodxonlik insonni ortiqcha va keraksiz

ma’lumotlardan himoya qiluvchi vosita sifatida namoyon bo‘ladi.Bugungi kunda eng katta muammolardan biri bu — yolg‘on axborotlar, ya’ni feyk xabarlarning keng tarqalishidir. Feyk xabarlar ko‘pincha odamlarni chalg‘itish, ularning fikrini o‘zgartirish yoki ma’lum bir maqsadga erishish uchun tarqatiladi. Bunday xabarlar ko‘pincha hissiyotlarga ta’sir qiluvchi sarlavhalar, tekshirilmagan faktlar va ishonchsiz manbalarga asoslanadi. Mediasavodxon inson esa bunday belgilarni tezda aniqlay oladi va xabarni

tanqidiy tahlil qiladi. U har qanday ma’lumotni bir necha manba orqali tekshiradi, uning ishonchliligiga ishonch hosil qilgandan keyingina xulosa chiqaradi.

Axborot manipulyatsiyasi ham zamonaviy media makonining muhim muammolaridan biridir.

Manipulyatsiya — bu inson ongiga yashirin ta’sir ko‘rsatish orqali uni ma’lum bir fikrga yo‘naltirish jarayonidir. Bu jarayonda turli psixologik usullar qo‘llaniladi, masalan, qo‘rquv uyg‘otish, noto‘g‘ri taqqoslash yoki ma’lumotni bir tomonlama yoritish. Bunday holatlarda mediasavodxonlik insonni mustaqil fikrlashga undaydi va uni manipulyativ ta’sirlardan himoya qiladi.Tanqidiy fikrlash mediasavodxonlikning ajralmas qismi hisoblanadi. Tanqidiy fikrlash orqali inson har qanday axborotni tahlil qiladi, savollar beradi va mustaqil xulosa chiqaradi. Bu ko‘nikma insonni nafaqat media sohasida, balki kundalik hayotda ham muvaffaqiyatli bo‘lishiga yordam beradi. Chunki tanqidiy fikrlaydigan inson har qanday vaziyatda to‘g‘ri qaror qabul qilishga intiladi va boshqalarning ta’siriga

oson berilmaydi.Ijtimoiy tarmoqlar zamonaviy jamiyat hayotida alohida o‘rin tutadi. Ular orqali insonlar tezkor muloqot qiladi, fikr almashadi va turli axborotlarni tarqatadi. Biroq ijtimoiy tarmoqlar orqali noto‘g‘ri ma’lumotlar ham juda tez tarqaladi. Ba’zan foydalanuvchilar xabarni tekshirmasdan turib uniboshqalarga ulashadi, bu esa yolg‘on axborotlarning keng yoyilishiga sabab bo‘ladi. Shu bois mediasavodxonlik ijtimoiy

tarmoqlardan foydalanishda ham muhim ahamiyatga ega.Axborot xavfsizligi masalasi ham mediasavodxonlik bilan bevosita bog‘liqdir. Internetda firibgarlik, shaxsiy ma’lumotlarni o‘g‘irlash va boshqa kiberxavflar mavjud. Mediasavodli inson bunday xavflarni oldindan

sezadi va o‘zini himoya qila oladi. U shaxsiy ma’lumotlarini himoya qiladi, ishonchsiz manbalarga kirmaydi va xavfsizlik qoidalariga amal qiladi.

Mediasavodxonlikni rivojlantirish jamiyatning muhim vazifalaridan biri hisoblanadi. Ayniqsa, yoshlar orasida bu ko‘nikmani shakllantirish zarur. Ta’lim tizimida mediasavodxonlikka alohida e’tibor qaratish, maxsus darslar va treninglar o‘tkazish bu borada samarali natija beradi. Shuningdek, ommaviy axborot vositalari orqali ham aholining mediasavodxonligini oshirish mumkin.Umuman olganda, mediasavodxonlik zamonaviy jamiyatda har bir inson uchun zarur ko‘nikmaga aylangan. U insonni axborot oqimida to‘g‘ri yo‘l topishga, mustaqil fikrlashga va ongli qaror qabul qilishga yordam beradi.

Mediasavodli jamiyat esa barqaror, ongli va rivojlangan jamiyat hisoblanadi. Shu sababli mediasavodxonlikni rivojlantirish bugungi kunning eng muhim vazifalaridan biri sifatida qaralishi lozim.

Xulosa

Zamonaviy jamiyatda mediasavodxonlik har bir inson uchun zarur va ajralmas ko‘nikmaga aylangan. Axborot oqimining keskin ortib borishi sharoitida turli xil ma’lumotlarni to‘g‘ri qabul qilish, tahlil qilish va baholash insondan yuqori darajadagi ongli yondashuvni talab etadi. Ayniqsa, yolg‘on va manipulyativ

axborotlarning keng tarqalishi mediasavodxonlikning ahamiyatini yanada

oshirmoqda.Mediasavodxonlik shaxsga nafaqat ishonchli va foydali axborotni ajratib olish, balki mustaqil fikrlash, tanqidiy yondashuvni rivojlantirish va to‘g‘ri qaror qabul

qilish imkonini beradi. Shu bilan birga, u insonni turli axborot tahdidlaridan, jumladan, feyk xabarlar va kiberxavflardan himoya

qilishda muhim rol o‘ynaydi.Shuningdek,mediasavodxonlikning rivojlanishi jamiyat taraqqiyoti bilan bevosita bog‘liqdir. Mediasavodli jamiyatda fuqarolar ongli, faol va mas’uliyatli bo‘lib, ular axborotni tanlab iste’mol qiladi va uni tarqatishda ehtiyotkorlik bilan yondashadi. Bu esa jamiyatda axborot madaniyatining yuksalishiga va ijtimoiy barqarorlikning ta’minlanishiga xizmat qiladi

Foydalanilgan adabiyotlar

1. Media Literacy — Potter W.J. Media Literacy. Sage Publications, 2018.
2. O‘zbekiston Respublikasi “Axborotlashtirish to‘g‘risida”gi Qonuni. Toshkent, 2022.
3. O‘zbekiston Respublikasi “Ommaviy axborot vositalari to‘g‘risida”gi Qonuni. Toshkent, 2021.
4. Qosimova F. Mediasavodxonlik va axborot madaniyati. Toshkent, 2020.

Study of technological processes of inter-row soil cultivation in vineyards

Ibrohim S. Jolbekov
Gulistan State University, Acting Associate Professor, PhD in Agricultural Sciences
Sardor B. Sherbekov
Gulistan State University, Student of the Agricultural Mechanization educational program

Abstract: This research focuses on improving technological processes of inter-row soil cultivation in vineyards and developing an efficient combined mechanized aggregate (UKIA-3) adapted to the agro-climatic conditions of Uzbekistan. The study addresses the existing limitations of conventional vineyard cultivation machinery, which include low productivity, limited operational capacity in a single pass, high labor demand, and insufficient adaptability to varying field conditions. The research was conducted in intensive vineyards located in the Guliston and Boyovut districts of the Sirdaryo region. Scientific methods included literature and patent analysis, field experiments, 3D modeling using SolidWorks, laboratory and field measurements, and statistical and economic evaluation using Excel and SPSS software. The developed UKIA-3 aggregate integrates passive and active working bodies into a single modular system, enabling soil loosening, crushing, weed elimination, and surface leveling in one pass. Experimental results showed that the proposed aggregate increased productivity by 75%, reduced labor input by 42%, improved weed control efficiency up to 93–96%, and achieved soil pulverization quality of 90–94%. Although fuel consumption slightly increased due to the active rotary tiller, overall production costs decreased by 16.2%, while net profit increased by 124%. The study confirms that the UKIA-3 aggregate significantly improves both agro-technical and economic efficiency in vineyard inter-row cultivation and can be effectively implemented under Uzbek farming conditions..

Keywords: *Viticulture; inter-row cultivation; mechanization; UKIA-3 aggregate; rotary tiller; soil cultivation; vineyard machinery; agricultural engineering; energy efficiency; Uzbekistan agriculture..*

Introduction

Viticulture is considered one of the leading strategic sectors of agriculture in the Republic of Uzbekistan. The geographical location, climatic conditions, and natural resources of our country create unique opportunities for the development of grape growing. Uzbekistan, as one of the oldest viticulture centers in Central Asia, possesses a history spanning thousands of years. Today, vineyard areas in the republic are expanding year by year, while productivity indicators continue to show stable growth. The “Development Strategy of New Uzbekistan for 2022–2026” adopted under the leadership of our government, along with a number of Presidential decrees and resolutions (PF-60, PQ-4549, PQ-5200, and others), identified viticulture and grape production as one of the priority sectors. As a result, in recent years vineyard areas have significantly expanded, new intensive orchards have been established, and export volumes have increased.

In the Central Asian region, particularly under the favorable soil and climatic conditions of Uzbekistan, it is possible to cultivate grape varieties with different ripening periods, including both the earliest and the latest ripening varieties, while obtaining high yields from them.

Grapevine is considered a valuable subtropical plant and one of the important agricultural products contributing greatly to human longevity. Its fruit is regarded as an essential food product for the human body due to its dietary and nutritional composition. Ripe grapes, especially raisin grape varieties, contain up to 28–30% easily digestible sugars such as glucose, fructose, and sucrose, which play an important role in improving and regulating blood composition.

Grapes also contain vitamins such as A, C, P, PP, B1, B2, B6, and B12. Furthermore, the amount of B-group vitamins, amino acids, and microelements preserved in grapes depends on the ripening period of the variety, whether the berries are seeded or seedless, the vigor of vine growth, soil-climatic and weather conditions, and cultivation practices. According to observations by viticulture scientists, B-group vitamins, amino acids, and microelements accumulate more abundantly in late-ripening grape varieties, which has been confirmed by numerous studies.

Grapevine (Vitis vinifera L.) is not only a highly productive fruit crop but also a plant of great economic importance. Fresh grapes, raisins, juice, wine, canned products, jams, and many other processed products are obtained from it. Vineyards also play a significant role in providing employment in rural areas, increasing household incomes, preventing soil erosion, and maintaining ecological balance. In addition, grapes are considered one of Uzbekistan's national brands and export-oriented products with a recognized place in the international market.

One of the most important agrotechnical measures for obtaining high and stable yields in vineyards is high-quality inter-row soil cultivation. This process must be carried out while considering the biological requirements of grapevines. Proper inter-row cultivation performs several essential functions, including weed control, improvement of the soil water-air regime, moisture conservation, enhancement of fertilizer efficiency, development of the vine root system, and maintenance of soil fertility. According to scientific data, high-quality inter-row cultivation can increase grape yield by 25–45%. Conversely, insufficient mechanization of this process leads to reduced productivity, increased water consumption, gradual decline in soil fertility, and higher labor costs.

Currently, the level of mechanization in Uzbek vineyards remains insufficient. In many farms, especially small and medium-sized enterprises, manual labor is still the

primary method used for inter-row cultivation. Existing machine aggregates do not fully meet modern requirements. Their main shortcomings include lack of adaptability to varying row widths, ineffective operation under different relief conditions, high fuel consumption, low productivity, the ability to perform only one or two operations in a single pass, and a high risk of mechanical damage to the shallow root system of grapevines. As a result, labor productivity decreases, production costs rise, excessive manual labor is required, and overall yield and product quality decline.

World experience in countries such as Italy, France, Spain, the United States, and Germany demonstrates that the advanced development of inter-row mechanization in vineyards can increase productivity by 30–60%, reduce fuel consumption by 35–50%, and improve labor productivity several times over. Modern foreign machinery is capable of performing several operations simultaneously in a single pass and achieves high precision through automatic depth control and sensor technologies.

Under the conditions of Uzbekistan, deepening scientific research in this field and developing new, efficient, energy-saving, and universal machine aggregates adapted to local climatic conditions, soil types, relief characteristics, and biological features of grape varieties has become an urgent scientific and practical issue. Eliminating the shortcomings of existing machinery and introducing resource-saving technologies are among the most important tasks in the mechanization and digitalization of agriculture.

Therefore, the topic of improving technological processes for inter-row soil cultivation in vineyards, developing modern mechanization tools that meet current requirements, and scientifically evaluating their efficiency is highly relevant.

The purpose of the research is to study the technological processes of inter-row soil cultivation in vineyards, identify the shortcomings of existing machinery, and develop an efficient combined mechanized aggregate.

Research objectives:

To analyze the biological and agrotechnological characteristics of vineyards;

To study the objectives and agrotechnical requirements of inter-row soil cultivation;

To analyze the structure, operating principles, and shortcomings of existing domestic and foreign machine aggregates;

To substantiate the конструктive and technological parameters of an improved combined aggregate;

To evaluate the technical-economic and qualitative indicators of the proposed technology and aggregate and develop recommendations for practical implementation.

Research object: Inter-row spaces of vineyards located in various regions of the Republic of Uzbekistan.

Research subject: Technological processes and mechanization tools for inter-row soil cultivation in vineyards.

Scientific novelty: A special combined inter-row aggregate for vineyards has been proposed, integrating soil loosening, weed cutting, and soil crushing operations in a single pass.

Practical significance of the work: The implementation of the proposed technology and aggregate can reduce labor costs, save fuel and energy resources, increase operational productivity, and improve grape yield..

2.1. Research Object and Methodology

The main research object consisted of intensive vineyards located in the Guliston and Boyovut districts of the Sirdaryo region. In the studied areas, the row spacing ranged from 2.8 to 3.2 meters, while the soil types mainly included gray soils, sieroz soils, and moderately saline soils. Vineyards of the grape varieties “Rizamat,” “Oq Husayini,” “Kishmish Sagdiana,” and “Qora Kishmish,” aged between 4 and 18 years, were selected for the research.

The research methodology included the following stages: systematic analysis of scientific literature and patent databases; evaluation of the technical and operational indicators of existing machine aggregates through field testing; 3D modeling and virtual testing of the proposed aggregate's constructive parameters using the SolidWorks software; measurement of agrotechnical and technological indicators under field and laboratory conditions; statistical processing of the obtained results using Excel and SPSS software; and comprehensive analysis of economic efficiency.

2.2. General Structure and Operating Principle of the Proposed Combined Aggregate

As a result of the research, a universal combined inter-row aggregate called UKIA-3, designed for comprehensive cultivation of vineyard inter-row spaces, was developed. This aggregate is capable of performing several technological operations in a single pass, thereby increasing soil cultivation efficiency, reducing energy and time consumption, and improving agrotechnical quality.

The aggregate's construction is characterized by the integration of passive and active working bodies into a single technological system. Such a constructive solution enables soil loosening, weed elimination, improvement of soil aggregate structure, and moisture conservation under vineyard inter-row conditions.

Main Structural Modules

The UKIA-3 aggregate consists of the following main modules:

Front passive module — composed of lance-shaped and chisel-type loosening tools designed to loosen and fracture compact soil layers.

Central active module — consists of a vertical rotary tiller. This module is driven by the tractor's power take-off shaft (PTO) and performs soil crushing and weed elimination functions.

Rear module — consists of disc levelers and pressing wheels that level the cultivated layer and partially compact the surface to preserve soil moisture.

Control system — includes hydraulic and automatic adjustment mechanisms that ensure control of cultivation depth and the aggregate's position within the inter-row space.

Operating Principle

The operating process of the aggregate is carried out through sequential technological operations.

First, during the movement of the aggregate, the chisel and lance-shaped looseners of the front module loosen the hard and compact soil layers. This process creates favorable conditions for the subsequent active cultivation stage and reduces the soil penetration resistance of the rotary tiller.

At the next stage, the central active module — the vertical rotary tiller — begins operation. The rotor is driven through the tractor's power take-off shaft and intensively crushes the soil. Simultaneously, the root systems of weeds are mechanically cut and fragmented. As a result, the soil aggregate structure improves, aeration increases, and the soil's moisture retention capacity is enhanced.

At the final stage, the disc levelers and pressing wheels of the rear module level the cultivated surface. This process forms a fine mulched layer on the soil surface, reducing moisture evaporation.

Thus, the UKIA-3 aggregate simultaneously:

loosens the soil;

crushes the soil;

eliminates weeds;

levels the surface;

helps preserve soil moisture.

This significantly reduces the need for multiple passes using separate aggregates and machinery.

Operating Scheme and Technological Description of the UKIA-3 Universal Combined Aggregate

The UKIA-3 aggregate is an innovative machine designed for комплекс inter-row soil cultivation in vineyards within a single pass. Its distinctive feature is the integration of passive and active working bodies into one construction, which reduces energy consumption and increases operational productivity.

1. Main Structural Modules of the Aggregate

The aggregate has a modular structure consisting of the following four main systems:

Module I (Front Passive Module)

This module consists of lance-shaped and chisel-type looseners. They fracture and loosen the upper soil layer to a depth of 15–25 cm, preparing the soil for the operation of the central module.

Module II (Central Active Module)

This module includes a vertical-axis rotary tiller. Driven by the tractor's power take-off shaft (PTO), it intensively crushes the soil and cuts weed roots.

Module III (Rear Module)

This module consists of disc levelers and pressing wheels. It levels the cultivated soil layer and slightly compacts it in order to reduce moisture evaporation.

Module IV (Control System)

This system includes hydraulic and automatic adjustment mechanisms. It ensures precise control of the cultivation depth and the aggregate's position within vineyard row spacing.

2. Operating Principle in Vineyard Conditions (Technological Scheme)

The operation of the aggregate in vineyards is carried out in the following sequence:

1. Primary Loosening

As the aggregate moves forward, the front chisels loosen the compact soil layer. This process facilitates the penetration of the central rotary tiller into the soil and reduces the tractor's draft resistance.

2. Active Rotary Tillage

The vertically rotating rotors break soil clods into fine fractions (aggregate structure). During this process, soil aeration is improved.

3. Weed Control

The rotary tiller uproots weeds together with their root systems and mixes them with the soil, allowing them to function as green organic fertilizer.

4. Final Leveling

The disc levelers eliminate surface irregularities remaining after rotary tillage, while the pressing wheels create a mulched surface layer that helps preserve soil moisture.

3. Technical Characteristics of the Main Working Bodies

The main working bodies of the UKIA-3 aggregate are designed based on vineyard agrotechnical requirements and soil conditions. Their technical parameters are selected to ensure high operational efficiency, minimal energy consumption, and improved soil cultivation quality.

Front Chisel and Lance-Type Looseners

Working depth: 15–25 cm

Number of working bodies: 3–5 units

Operating width: 2.8–3.2 m

Function: loosening compact soil layers and reducing penetration resistance

Vertical Rotary Tiller

Rotor rotation speed: 180–320 rpm

Rotor diameter: 450–600 mm

PTO drive type: mechanical transmission from tractor PTO

Function: crushing soil, improving aggregate structure, and eliminating weeds

Disc Levelers

Disc diameter: 350–450 mm

Installation angle: adjustable

Function: leveling the cultivated surface and distributing soil evenly

Pressing Wheels

Wheel diameter: 300–450 mm

Pressure regulation: adjustable spring or hydraulic system

Function: partial compaction of the soil surface and moisture conservation

Hydraulic Control System

Working depth adjustment range: 10–30 cm

Automatic stabilization capability: available

Function: maintaining stable operation and adapting to varying field conditions

The combined operation of these working bodies allows the UKIA-3 aggregate to perform several technological operations simultaneously, significantly reducing labor, fuel consumption, and total cultivation costs in vineyard management.

Table 1

Technical Characteristics

No.	Working Body	Parameters	Function

1	Lance-Shaped Loosener	Height: 610 mm, Width: 80 mm	Fracturing the soil and loosening the lower layer
2	Rotary Tiller (Vertical Type)	Diameter: 420 mm, Working Width: 900 mm	Soil crushing and weed elimination
3	Disc Leveler	Diameter: 460 mm	Leveling the soil surface and shaping the edges

4. Advantages of the UKIA-3 Aggregate

Resource Efficiency:

Due to its ability to perform several operations simultaneously, fuel consumption is reduced by up to 25–30%.

Soil Fertility Improvement:

The aggregate increases the biological activity of the soil without damaging its natural structure.

Agrotechnical Efficiency:

It creates an ideal inter-row microrelief necessary for improving vineyard productivity and ensuring favorable growing conditions for grapevines.

2.3. Substantiation of Technological and Structural Parameters of Working Bodies

Table 2

Main Technological and Structural Parameters of Working Bodies

No.	Working Body	Main Parameters	Optimal Value	Scientific Justification

1	Lance-shaped loosener	Angle / working depth	25–30° / 12–16 cm	Minimizes mechanical damage to roots and reduces soil resistance
2	Rotary tiller	Diameter / rotation speed / number of blades	Ø 420 mm / 350–450 rpm	Effectively crushes weeds and improves soil aggregate structure
3	Disc leveler	Diameter / angle	Ø 460 mm / 15–20°	Levels the soil surface and reduces moisture evaporation
4	Hydraulic adjustment mechanism	Row spacing adaptability	2.5–3.5 m	Ensures universal operation under different vineyard conditions

2.4. Technological and Energy Calculations of the Aggregate

The traction force was calculated using the following formula:

$F = F_1 + F_2 + F_3$ (sum of loosening, milling, and leveling forces).

According to the calculation results, the total traction force of the aggregate ranges from 10.8 to 13.6 kN, which is considered suitable for tractors of the MTZ-82.1 class and similar models.

Since the UKIA-3 aggregate includes an active rotary tiller, its energy consumption is slightly higher compared to conventional loosening machines. However, because it performs several technological operations in a single pass, the total number of field operations is reduced, resulting in higher overall production efficiency.

Table 3

Comparative Analysis of Technical Indicators

No.	**Indicator**	**Existing Machines**	**UKIA-3 Aggregate**	**Change (%)**

1	Productivity (ha/h)	0.9–1.3	1.8–2.2	+75
2	Fuel consumption (L/ha)	6.5–7.0	8.8–9.5	+32
3	Labor input (man-hours/ha)	1.6–2.0	0.9–1.1	–42
4	Weed elimination efficiency (%)	72–81	93–96	+18
5	Soil compaction reduction (%)	8–10	15–17	+65
6	Soil pulverization quality (%)	68–74	90–94	+27

2.5. Economic Efficiency of the Proposed Technology

The economic efficiency of the proposed UKIA-3 aggregate was evaluated based on 2026 market prices. The calculations included fuel and lubricants, mechanization and labor costs, wages, as well as maintenance and depreciation expenses.

Due to the active operation of the rotary tiller, fuel consumption is somewhat higher than in conventional systems. However, since the aggregate performs multiple operations in a single pass, overall production costs are significantly reduced.

In addition, improved soil structure, effective weed control, and better moisture retention positively influence yield increase. All calculations were carried out per 1 hectare of vineyard..

Table 4.

Comparative Economic Efficiency Analysis for 1 Hectare of Vineyard (2026 Prices)

No	**Indicators**	**Existing Technology (PRVM-3, UK-3)**	**UKIA-3 Aggregate**	**Difference**	**Change (%)**
1	Fuel + lubricants cost (UZS)	1,800,000	2,320,000	+520,000	+28.8

2	Mechanization and labor cost (UZS)	3,650,000	2,250,000	–1,400,000	–38.4
3	Depreciation and maintenance (UZS)	2,020,000	1,690,000	–330,000	–16.3
4	Total cost (UZS)	7,470,000	6,260,000	–1,210,000	–16.2
5	Additional yield (centner/ha)	12.5	18.6	+6.1	+48.8
6	Additional income (UZS)	13,800,000	20,460,000	+6,660,000	+48.2
7	Net profit (UZS)	6,330,000	14,200,000	+7,870,000	+124
8	Profitability (%)	47–48%	72–76%	+28%	—

The updated table presents a detailed comparative analysis of economic efficiency indicators between existing technology (PRVM-3, UK-3) and the proposed UKIA-3 aggregate based on real market prices of 2026 for 1 hectare of vineyard. The analysis includes fuel and lubricant costs, mechanization and labor expenses, depreciation, and maintenance costs.

The results show that due to the presence of an active rotary tiller, fuel consumption in the UKIA-3 aggregate is higher than in conventional technologies. Specifically, fuel and lubricant costs increased from 1,800,000 UZS to 2,320,000 UZS. This is explained by the simultaneous operation of multiple working units and the additional power requirement of the PTO-driven rotary tiller.

However, the main advantage of the aggregate lies in its ability to perform several technological operations in a single pass. Therefore, mechanization and labor costs significantly decreased—from 3,650,000 UZS to 2,250,000 UZS, resulting in

savings of 38.4%. This is due to reduced technological operations and more efficient use of machinery and labor resources.

Depreciation and maintenance costs also decreased from 2,020,000 UZS to 1,690,000 UZS, representing a 16.3% reduction and indicating stable and efficient machine performance.

Overall production costs decreased from 7,470,000 UZS to 6,260,000 UZS, achieving a cost reduction of 1,210,000 UZS (16.2%). This significantly contributes to reducing production costs and improving efficiency.

Yield results also showed a significant increase. Additional yield rose from 12.5 to 18.6 centners per hectare, representing a 48.8% increase, due to improved soil structure, better weed control, and enhanced moisture retention.

Additional income increased from 13,800,000 UZS to 20,460,000 UZS, an increase of 48.2%, confirming the high agro-technical efficiency of the proposed technology.

The most significant result was observed in net profit, which increased from 6,330,000 UZS to 14,200,000 UZS—an increase of 124%. Profitability also improved significantly, rising from 47–48% to 72–76%.

In general, the economic analysis confirms that the UKIA-3 aggregate provides high agro-technical and economic efficiency for vineyard inter-row cultivation. Despite slightly higher fuel consumption, its ability to perform multiple operations in a single pass, improve soil quality, effectively control weeds, and increase yield significantly enhances overall economic performance..

Conclusion

1. It was established that the currently used PRVM-3, UK-3, and similar aggregates have major limitations, including the ability to perform only a limited number of operations in a single pass, relatively low productivity, high labor demand,

and the need for additional technological passes. This leads to increased production costs and longer operational time.

2. The developed UKIA-3 universal combined aggregate is characterized by the integration of passive and active working bodies into a single structure. The aggregate enables soil loosening, crushing, weed elimination, and surface leveling in a single pass.

3. The structural and technological parameters of the aggregate were substantiated considering the biological characteristics of grapevines, root system distribution, and the physical-mechanical properties of the soil. In particular, loosening depth, rotor speed, and the positioning of working bodies were selected based on optimal values.

4. According to field experiment results, the UKIA-3 aggregate demonstrated higher agrotechnical efficiency compared to existing technologies. Specifically: productivity increased by 75%; labor input decreased by 42%; weed control efficiency reached 93–96%; and soil pulverization quality was 90–94%.

5. Due to the use of an active rotary tiller, fuel consumption was found to be slightly higher compared to conventional aggregates. However, since the machine performs multiple technological operations in a single pass, overall production costs decreased and the number of technological operations was reduced.

Recommendations

1. It is recommended to produce the UKIA-3 combined aggregate as a pilot-industrial model and conduct extended field trials in different agro-climatic regions of Uzbekistan.

2. It is advisable to further adapt the aggregate design to widely used tractors such as MTZ-82.1 and Belarus-82.1, and to improve its hydraulic control system.

3. It is proposed to establish serial production of the aggregate in cooperation with agricultural mechanization enterprises and scientific research institutions.

References

1. Fayziyev, J.N. (2020). Scientific Substantiation of Technology for Increasing the Yield and Quality of Seedless Grape Varieties under the Conditions of Uzbekistan. Author's abstract of the dissertation. Tashkent. pp. 5–18.
2. Egamberdiyev, P.E. (2023). The Influence of Bud Loading on Grape Yield and Quality in the Cultivation of Table Grape Varieties Using the Overhead Trellis (Voish) Method. Dissertation. Tashkent. pp. 52–85.
3. Сапаева, З. Ш., & Абдуллаева, Б. А. (2021). Влияние низкотемпературной обработки некоторых сортов винограда на их аминокислотный состав. *Молодой ученый*, (22), 117-120.
4. Файзиев, Ж. Н., Эгамбердиев, П. Э., & Жўлбеков, И. С. Ў. (2022). УЗУМНИНГ ХЎРАКИ КАТТА ҚЎРҒОН НАВИНИ ВОИШ УСУЛИДА ЕТИШТИРГАНДА КУРТАК ЮКЛАМАЛАРИНИ ҲОСИЛДОРЛИК КЎРСАТКИЧЛАРИГА БОҒЛИҚЛИГИ. *Academic research in educational sciences*, *3*(Speical Issue 1), 254-257.
5. Ergashovich, E. P., Mardonovich, K. F., Ogli, J. I. S. O. A. D. U., Shavkatovich, A. A., Djumanazarova, S. D., & Raimovna, R. D. (2022). Effect of buds particle on productivity and quality when growing Katta Kurgan table variety grapes by voish method.
6. Jo'lbekov, I., Ungarov, A., Umrzoqova, I., & Adhamov, A. (2023). UZUMNING SANOATBOP NAVLARINI YETISHRISH USULLARIGA DOIR MAVZULARNI INNOVATSION TEXNOLOGIYALARDAN FOYDALANGAN HOLDA TASHKIL ETISH. *Евразийский журнал*

технологий и инноваций, *1*(6), 89-93.

7. Rakhmatov, O., Zhulbekov, I. S., & Kabulov, I. M. (2023). Experimental study of a drying installation for drying melon with IR-radiation. In *E3S Web of Conferences* (Vol. 443, p. 02005). EDP Sciences.
8. Жўлбеков, И. С. Ў. (2024). УЗУМНИНГ ШАРОБОП НАВЛАРИНИНГ ХУСУСИЯТЛАРИ ВА УЛАРДАН ТУРЛИ НАВЛИ ШАРОБ ТАЙЁРЛАШ ТЕХНАЛОГИЯЛАРИ. *Central Asian Journal of Multidisciplinary Research and Management Studies*, *1*(7), 158-165.
9. Khujakulov, F., Egamberdiev, P., Julbekov, I., Abduraimov, D., & Ungarov, A. (2023). The dependence of grape feeding on the productivity indicator and harvest quality of rizamat and large dry varieties.
10. Sultanov, K., Egamberdiev, P., & Khujakulov, F. (2024). THE DEPENDENCE OF THE AMOUNT OF ORGANIC MATTER ON THE DEVELOPMENT OF THE ROOTS OF GRAPE VARIETIES. *American Journal Of Agriculture And Horticulture Innovations*, *4*(03), 15-20.
11. Kamoliddin, S., Pulatjon, E., & Ibrohim, J. (2024). DEPENDENCE ON THE MECHANICAL COMPOSITION OF THE APPLICATION OF GROWTH SUBSTANCES TO THE GROWING VARIETIES OF GRAPES. *Universum: технические науки*, *8*(3 (120)), 37-40.
12. Weizhou, Z., O‘G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO ‘CHATLARINI EKISH SXEMASI VA NAVLARNI JOYLASHTIRISH. *Central Asian Journal of Academic Research*, *3*(4), 94-97.
13. Sattarov, K., Eshmurodov, D., Mamatkulova, M., Julbekov, I., & Kharsika, I. (2025). The impact of active packaging and nanocoatings on the safety and shelf life of dairy products. *Scientific Journal'Animal Science & Food Technologies'*, *16*(2).

14. Эгамбердиев, П. Э., Хужақулов, Ф. М., Жулбеков, И. С. Ў., & Абдураимов, Д. У. Ў. (2025). ЗАВИСИМОСТЬ ПРИМЕНЕНИЯ РЕГУЛЯТОРОВ РОСТА НА МЕХАНИЧЕСКИЙ СОСТАВ ЯГОД СТОЛОВЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, *6*(12 (141)), 31-35.
15. O‘G, J. L. I. S., & Qizi, U. I. S. (2025). UZUMNI HOSILDORLIGI VA SIFATIGA ORGANIK VA MINERAL O ‘G ‘ITLARNING TA’SIRI. *Central Asian Journal of Academic Research*, *3*(4-3), 61-66.
16. Weizhou, Z., O‘G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO ‘CHATLARINI EKISH SXEMASI VA NAVLARNI JOYLASHTIRISH. *Central Asian Journal of Academic Research*, *3*(4), 94-97.
17. Жулбеков, И. С. У. (2025). ВЛИЯНИЕ ЦИТОГУМИНОВОГО ВЕЩЕСТВА НА РАЗМЕР ЯГОД И МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ КИШМИШНЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, *4*(1 (130)), 9-11.

Communicative Competence in ESL Learning: Contemporary Issues and Practical Approaches

Nazarova Yorqinoy Hamidovna

Namangan State University

Abstract: In modern English as a Second Language (ESL) education, communicative competence has become a key objective of language instruction. In the context of globalization, learners are expected not only to master grammar and vocabulary but also to communicate successfully in authentic situations. Nevertheless, many ESL students continue to face challenges in speaking confidently, expressing their thoughts clearly, and interacting naturally in English. This article explores the meaning of communicative competence, its major dimensions, the difficulties faced in ESL classrooms, and practical strategies for improving communication skills. The study further discusses the influence of technology, Communicative Language Teaching (CLT), classroom interaction, and learner motivation on communicative development. Special attention is given to the importance of learner-centered and interactive teaching environments that promote real communication.

Keywords: communicative competence, ESL education, CLT, speaking ability, interaction, learner motivation, educational technology

Annotatsiya: Ushbu maqolada ingliz tilini ikkinchi til sifatida o‘rganishda kommunikativ kompetensiyaning ahamiyati, uning asosiy tarkibiy qismlari hamda zamonaviy ESL ta’limidagi muammolar tahlil qilinadi. Tadqiqotda grammatik, sotsiolingvistik, diskursiv va strategik kompetensiyalar mohiyati yoritilib, o‘quvchilarning erkin va samarali muloqot qilishiga ta’sir etuvchi omillar ko‘rib chiqiladi. Shuningdek, kommunikativ til o‘qitish (CLT), juftlik va guruh ishlari, rol o‘yinlari, vazifaga asoslangan ta’lim hamda raqamli texnologiyalarning kommunikativ ko‘nikmalarni rivojlantirishdagi o‘rni ochib beriladi. Maqolada o‘quvchilarning

motivatsiyasi, interaktiv muhit yaratish va o‘qituvchining fasilitator sifatidagi roli kommunikativ kompetensiyani shakllantirishning muhim omillari sifatida baholanadi. Tadqiqot natijalari ESL ta’limida kommunikativ va o‘quvchi markazli metodlarni qo‘llash samarali ekanligini ko‘rsatadi.

Kalit so‘zlar: Kommunikativ kompetensiya, ESL ta’limi, kommunikativ til o‘qitish, nutq ko‘nikmalari, interaktiv ta’lim, motivatsiya, sinfdagi muloqot, task-based learning, raqamli texnologiyalar, sun’iy intellekt.

Аннотация: В данной статье рассматривается значение коммуникативной компетенции в процессе изучения английского языка как второго языка (ESL), её основные компоненты и современные проблемы в системе ESL-образования. В исследовании анализируются грамматическая, социолингвистическая, дискурсивная и стратегическая компетенции, а также факторы, влияющие на развитие свободного и эффективного общения учащихся. Особое внимание уделяется коммуникативному обучению языку (CLT), парной и групповой работе, ролевым играм, обучению на основе заданий и использованию цифровых технологий в развитии коммуникативных навыков. В статье подчеркивается важность мотивации обучающихся, создания интерактивной образовательной среды и роли преподавателя как фасилитатора в формировании коммуникативной компетенции. Результаты исследования показывают, что применение коммуникативных и личностно-ориентированных методов значительно повышает эффективность обучения английскому языку.

Ключевые слова: Коммуникативная компетенция, ESL-обучение, коммуникативное обучение языку, речевые навыки, интерактивное обучение, мотивация, взаимодействие в классе, обучение на основе заданий, цифровые технологии, искусственный интеллект

English currently serves as the leading international language in fields such as science, education, technology, tourism, and global business. Consequently, language teaching methodologies have gradually shifted from traditional grammar-oriented approaches toward communication-based instruction. In ESL learning, the goal is no longer simply memorizing vocabulary items and grammatical structures. Instead, students are expected to acquire communicative competence, which refers to the ability to use language effectively and appropriately in various contexts.

The idea of communicative competence was first introduced by Dell Hymes, who emphasized that language proficiency involves more than grammatical accuracy. According to his theory, learners must also understand how, when, and where language should be used in social interaction.

Although modern methodologies have improved language teaching practices, communicative competence remains difficult for many learners to achieve. A large number of students possess theoretical grammar knowledge but struggle to communicate naturally because of speaking anxiety, limited opportunities for practice, teacher-centered instruction, and insufficient exposure to authentic language use. Studies also indicate that factors such as confidence, motivation, classroom participation, and willingness to communicate strongly influence communicative success.

Theoretical Foundations of Communicative Competence

Communicative competence can be defined as the ability to apply language effectively and appropriately in different communicative situations. Linguistic scholars generally divide communicative competence into several interconnected components.

1. Grammatical Competence

Grammatical competence refers to knowledge of vocabulary, spelling, pronunciation, grammar rules, and sentence formation. Learners need this linguistic foundation to create meaningful and accurate sentences.

For instance, students should recognize the grammatical difference between:

- "He go to school"
- "He goes to school"

Accurate grammar contributes significantly to successful communication.

2. Sociolinguistic Competence

Sociolinguistic competence involves understanding the social and cultural rules governing communication. This includes politeness strategies, formal and informal language, cultural expectations, and context-appropriate expressions.

For example:

- "Could you help me, please?" (formal/polite)
- "Help me!" (informal/direct)

Students require cultural awareness to communicate effectively with both native and non-native English speakers.

3. Discourse Competence

Discourse competence refers to the ability to organize spoken or written ideas logically and coherently. Learners must know how to connect ideas, maintain conversations, structure presentations, and express opinions clearly.

This competence is especially valuable in academic and professional communication settings.

4. Strategic Competence

Strategic competence enables learners to overcome communication difficulties by applying different strategies such as paraphrasing, clarification requests, gestures, or simplified expressions.

For example, if a student forgets the word "umbrella," they might say:

"Something you use when it rains."

Such strategies help maintain communication even when vocabulary knowledge is limited.

The Importance of Communicative Competence in ESL Education

Communicative competence plays a vital role in language learning because language primarily functions as a means of communication. Today's educational institutions and employers value practical communication skills more highly than isolated grammar knowledge.

Developing communicative competence offers several advantages:

- improves speaking fluency
- increases learner confidence
- promotes critical thinking
- encourages active interaction
- prepares students for real-life communication
- strengthens intercultural understanding

Research findings show that communicative teaching approaches positively affect learner participation and motivation in ESL classrooms.

Challenges in Developing Communicative Competence

Despite its importance, many learners encounter obstacles while developing communicative skills.

1. Speaking Anxiety and Fear of Mistakes

A large number of ESL students hesitate to speak because they are afraid of making grammatical or pronunciation mistakes. Anxiety reduces fluency and discourages participation in classroom interaction.

Students frequently:

- avoid speaking tasks
- remain silent during discussions

- depend on memorized responses

Psychological factors such as confidence and motivation significantly influence communicative performance.

2. Traditional Grammar-Oriented Instruction

In many schools and universities, English is still taught mainly through grammar translation, memorization, and repetitive exercises. As a result, learners may understand grammar rules but struggle to use English naturally in communication.

Teachers often prioritize grammatical accuracy over meaningful interaction, which limits communicative development.

3. Limited Opportunities for Classroom Interaction

Teacher-centered instruction and overcrowded classrooms frequently reduce speaking opportunities for students.

In such situations, learners:

- spend more time listening than speaking
- participate minimally in communication
- receive insufficient feedback

Large classroom environments can make communicative teaching methods difficult to implement effectively.

4. Lack of Authentic Language Environment

Many ESL learners study English in environments where the language is rarely used outside the classroom. Consequently, students often lack real communicative experience and struggle with spontaneous speaking.

Limited exposure to authentic language input negatively affects fluency and confidence.

5. Examination-Oriented Systems

In many educational contexts, teachers focus heavily on preparing students for written examinations. As a result, learners become skilled at memorizing vocabulary and

completing grammar exercises but may experience difficulty in real communication situations.

Communicative Language Teaching (CLT)

Communicative Language Teaching is considered one of the most effective methods for developing communicative competence.

CLT emphasizes:

- meaningful interaction
- real-life communication
- active student participation
- authentic learning tasks

Research demonstrates that CLT improves learner autonomy, speaking fluency, and motivation.

Core Principles of CLT

- communication is the primary objective
- fluency is as important as accuracy
- interaction promotes learning
- authentic materials should be incorporated
- mistakes are viewed as a natural part of learning

Effective Strategies for Enhancing Communicative Competence

1. Pair and Group Activities

Collaborative tasks encourage active participation and increase opportunities for communication.

Examples include:

- discussions
- debates
- interviews

- role plays
- problem-solving activities

Such activities help reduce learner anxiety while promoting speaking practice.

2. Simulations and Role Plays

Role-playing activities allow students to practice real-life communication situations.

Examples:

- airport interactions
- hotel bookings
- job interviews
- doctor-patient conversations

These activities improve both fluency and learner confidence.

3. Task-Based Learning

Task-based learning encourages students to use English while completing meaningful tasks.

Typical activities include:

- planning trips
- preparing presentations
- solving practical problems

This approach supports natural language use and authentic communication.

4. Technology Integration

Digital technologies play an increasingly important role in developing communicative competence.

Useful technological tools include:

- online speaking applications
- virtual classrooms
- video conferencing platforms

- AI-powered chatbots
- mobile learning applications

Modern AI systems such as OpenAI's ChatGPT can provide additional speaking practice and increase learner engagement.

5. Intercultural Competence Development

Successful communication also requires cultural understanding. Teachers should therefore integrate intercultural activities into language instruction.

These may include:

- cultural discussions
- international collaboration projects
- authentic multimedia materials
- intercultural communication exchanges

Such activities improve students' global communication awareness.

The Teacher's Role in Communicative Development

Teachers play a central role in establishing communicative learning environments. Effective ESL instructors should:

- motivate participation
- reduce learner anxiety
- provide supportive feedback
- organize interactive tasks
- encourage collaboration

Rather than functioning solely as lecturers, teachers should act as facilitators who guide communication and interaction.

Motivation and Communicative Competence

Motivation is one of the strongest factors influencing communicative success. Motivated learners are generally more willing to participate, practice regularly, and take risks during communication.

Highly motivated students tend to:

- engage actively in lessons
- communicate more confidently
- practice language more frequently
- demonstrate stronger speaking performance

Supportive classroom environments and positive teacher behavior significantly increase learners' willingness to communicate.

Future Directions in ESL Communication Teaching

The future of ESL education is becoming increasingly connected with:

- artificial intelligence
- virtual reality
- online communication
- adaptive learning systems

Although technological innovations are transforming language education, direct human interaction remains essential for developing authentic communicative ability.

Future ESL classrooms are expected to combine:

- communicative methodologies
- AI-supported instruction
- intercultural learning
- personalized education systems

Communicative competence remains one of the primary objectives of modern ESL education. Effective language learning requires more than grammatical accuracy;

learners must also communicate confidently, appropriately, and effectively in authentic situations.

Although ESL learners continue to face challenges such as anxiety, limited speaking opportunities, examination-oriented instruction, and insufficient authentic exposure, communicative teaching approaches and modern technologies provide valuable solutions. Approaches such as CLT, collaborative learning, task-based instruction, and AI-assisted tools significantly enhance speaking fluency and communicative confidence.

Therefore, ESL education should continue emphasizing learner-centered, interactive, and communication-focused methodologies that prepare students for successful global interaction.

References

1. Brown, H. D. *Principles of Language Learning and Teaching*. Pearson Education, 2007.
2. Hymes, D. "On Communicative Competence." In *Sociolinguistics*, edited by J. Pride and J. Holmes, Penguin Books, 1972.
3. Richards, J. C., & Rodgers, T. S. *Approaches and Methods in Language Teaching*. Cambridge University Press, 2014.
4. Littlewood, W. *Communicative Language Teaching: An Introduction*. Cambridge University Press, 2014.
5. Canale, M., & Swain, M. "Theoretical Bases of Communicative Approaches to Second Language Teaching and Testing." *Applied Linguistics*, 1980.
6. Elmahdi, O. et al. "Improving Communicative Competence and Speaking Skills in EFL/ESL Classrooms." *Forum for Linguistic Studies*, 2025.
7. Fernández Cando, D. et al. "The Impact of Active Learning on EFL Learners' Communicative Competence." 2025.

8. PARA, I. “Integrating Communicative Grammar into EFL Instruction for Effective Learning.” *ACROSS Journal*, 2025.
9. Shahrokhi, M., & Dehaghani, F. “Motivation and Willingness to Communicate in EFL Students.” *BMC Psychology*, 2025.
10. Huang, T. et al. “Beyond Communicative Competence: Classroom Enjoyment and Willingness to Communicate.” 2025.

Unification of Customs Valuation Processes with International Requirements

Shadmankulov Anvar Ablakulovich

Head of Department, Candidate of Economic Sciences, Associate Professor, Lieutenant Colonel of Customs Service Customs Institute of the Customs Committee of the Republic of Uzbekistan

Juraev Bekzodjon G‘ufronjon o‘g‘li

Cadet Customs Institute of the Customs Committee of the Republic of Uzbekistan

E-mail: djurayevbekzod7777@gmail.com

Annotation: *This article conducts a comparative analysis of international and national experience in determining customs value. The practices of determining customs value in Uzbekistan, the legislative framework, and the process of adaptation to international standards are analyzed. The methods, standards, and norms used in international practice for determining customs value are examined.*

Keywords: *unification, customs value, international requirements, customs regulation, TradeNet, product evaluation, international standards, fixed rates, legal framework, standardization.*

Унификация процессов определения таможенной стоимости с международными требованиями.

Шадманкулов Анвар Аблакулович

начальник кафедры Таможенного института ТК РУз, к.э.н. доцент, подполковник т/с,

Жураев Бекзоджон Ғуфронжон ўғли

курсант Таможенного института ТК РУз

e-mail: djurayevbekzod7777@gmail.com

Аннотация: *В данной статье проведен сравнительный анализ международ-*

ного и национального опыта Узбекистана в определении таможенной стоимости. Проанализированы практики определения таможенной стоимости Узбекистана, законодательная база и процесс адаптации к международным стандартам. Рассмотрены методы, стандарты и нормы, применяемые в международной практике для определения таможенной стоимости.

***Ключевые слова**: унификация, таможенная стоимость, международные требования, таможенное регулирование, TradeNet, оценка товаров, международные стандарты, фиксированные ставки, правовая база, стандартизация.*

***Annotatsiya:** Ushbu maqolada bojxona qiymatini aniqlashda xalqaro va milliy tajriba o‘rtasidagi qiyosiy tahlil amalga oshirilgan. O‘zbekistonning bojxona qiymatini aniqlash amaliyoti, qonunchilik bazasi va xalqaro standartlarga moslashish jarayoni tahlil qilingan. Xalqaro tajribada bojxona qiymatini aniqlashda qo‘llaniladigan usullar, standartlar va me'yorlar ko‘rib chiqilgan.*

***Kalit so‘zlar**: unifikatsiya, bojxona qiymati, xalqaro talablar, bojxona tartibga solinishi, TradeNet, tovarlarni baholash, xalqaro standartlar, qat'iy stavkalar, huquqiy baza, standartlashtirish.*

В современных условиях глобализации и глобальной экономики важным аспектом международной торговли является гармонизация и унификация таможенных процедур, в том числе и преобразование таможенной стоимости. для Узбекистана, стремящегося к развитию и выработке своей экономической позиции на международной арене, внедрение международных стандартов в данной сфере становится актуальным. Этот процесс не только допускает условия для внешнеэкономической деятельности, но и позволяет укрепить прозрачность и доступность таможенных операций. Правовыми основами применения таможенной стоимости в Республике Узбекистан являются:

 Устав о таможенной оценке «Соглашение о применении 7 статьи ГАТТ (Генерального соглашения по тарифам и торговле)» принятый 12 апреля 1979 года («Токийский раунд»);

 «Единые правила процедуры контроля объявления и контроля таможенной стоимости товаров» принятый решением Совета руководителей таможенных служб стран СНГ от 14.09.1995 года;

 Протокол Совета руководителей таможенных служб стран СНГ «О взаимном обмене информацией, необходимой для определения и контроля таможенной стоимости товаров»;

 Таможенный кодекс Республики Узбекистан;

 Постановление Кабинета Министров Республики Узбекистан «Об утверждении положения о порядке определения таможенной стоимости товаров, ввозимых на таможенную территорию Республики Узбекистан» №160 от 6 апреля 2022 года.

 Инструкция «О порядке заполнения декларации таможенной стоимости» Зарегистрированная Министерством юстиции Республики Узбекистан от 14.03.2017 года №2868; **[1]**

Согласно Таможенному кодексу Республики Узбекистан **таможенная стоимость товара**, ввозимого на таможенную территорию, является стоимость товара, определяемая одним из методов определения таможенной стоимости товаров и используемая в целях начисления таможенных платежей.[1]

Правильное определение таможенной стоимости товаров ввозимых на таможенную территорию Республики Узбекистан способствует полному взиманию таможенных платежей, ускорению интеграции национальной экономики в мировую экономику и её развитию.

[1] Источник: Таможенный кодекс Республики Узбекистан.

Для унификации законодательства Узбекистана по таможенной стоимости с международными требованиями, особенно с нормами Всемирной таможенной организации (ВТамО) и Всемирной торговой организации (ВТО), были внедрены ряд изменений, в том числе:

Адаптация законодательства:

Пересмотрен и внесены изменения в Таможенный кодекс Республики Узбекистан, регулирующими нормами касающиеся определение таможенной стоимости, чтобы они соответствовали международным стандартам. И были добавлены следующие нормы: **[2]**

Статья	**Таможенный кодекс на состоянии 25.03.2025 г.**
301	Положения главы 44 основаны на общих принципах и правилах, установленных статьей VII Генерального соглашения по тарифам и торговле и Соглашением по применению статьи VII Генерального соглашения по тарифам и торговле (Марокко, 15 апреля 1994 года). Процедуры определения таможенной стоимости товара, ввозимого на таможенную территорию, не должны использоваться в целях борьбы с демпингом.
303	Общая сумма всех платежей за ввозимые товары, уплаченных или подлежащих уплате покупателем непосредственно продавцу или иному лицу в пользу продавца, считается ценой, фактически уплаченной или подлежащей уплате за эти товары. При этом платежи могут быть осуществлены прямо или косвенно в любой форме, не запрещенной законодательством Республики Узбекистан.

305	Цена, фактически уплаченная или подлежащая уплате за ввозимые товары, относится к товарам, перемещаемым через таможенную границу, в связи с чем перечисляемые покупателем продавцу дивиденды или иные платежи в случае, если они не связаны с ввозимыми товарами, не включаются в таможенную стоимость ввозимых товаров.
307	Уполномоченные лица, являющиеся сторонами договорных отношений, осуществляющие деятельность с целью получения прибыли и совместно несущие все расходы и убытки в ходе этой деятельности, считаются юридически признанными деловыми партнерами. Если одно из таких лиц является единственным агентом или единственным дистрибьютором либо единственным концессионером другого лица, они считаются взаимосвязанными для целей главы 44.
313	В случае наличия возможности применения нескольких методов определения таможенной стоимости оцениваемых товаров в соответствии с часью первой статьи 301 необходимо придерживаться последовательности их применения

Принят Постановление Кабинета Министров Республики Узбекистан от 6 апреля 2022 года № 160 утверждено «Положение о порядке определения таможенной стоимости товаров, ввозимых на таможенную территорию Республики Узбекистан». Настоящее Положение основывается на общих принципах и правилах, установленных статьей VII Генерального соглашения по тарифам и торговле и Соглашением о применении статьи VII Генерального соглашения по тарифам и торговле (Марокко, 15 апреля 1994 года). **[3]**

В последние годы в Узбекистане наблюдается увеличение случаев применения

первого метода определения таможенной стоимости (рис.1), что связано с подготовкой страны к вступлению в Всемирную торговую организацию (ВТО).

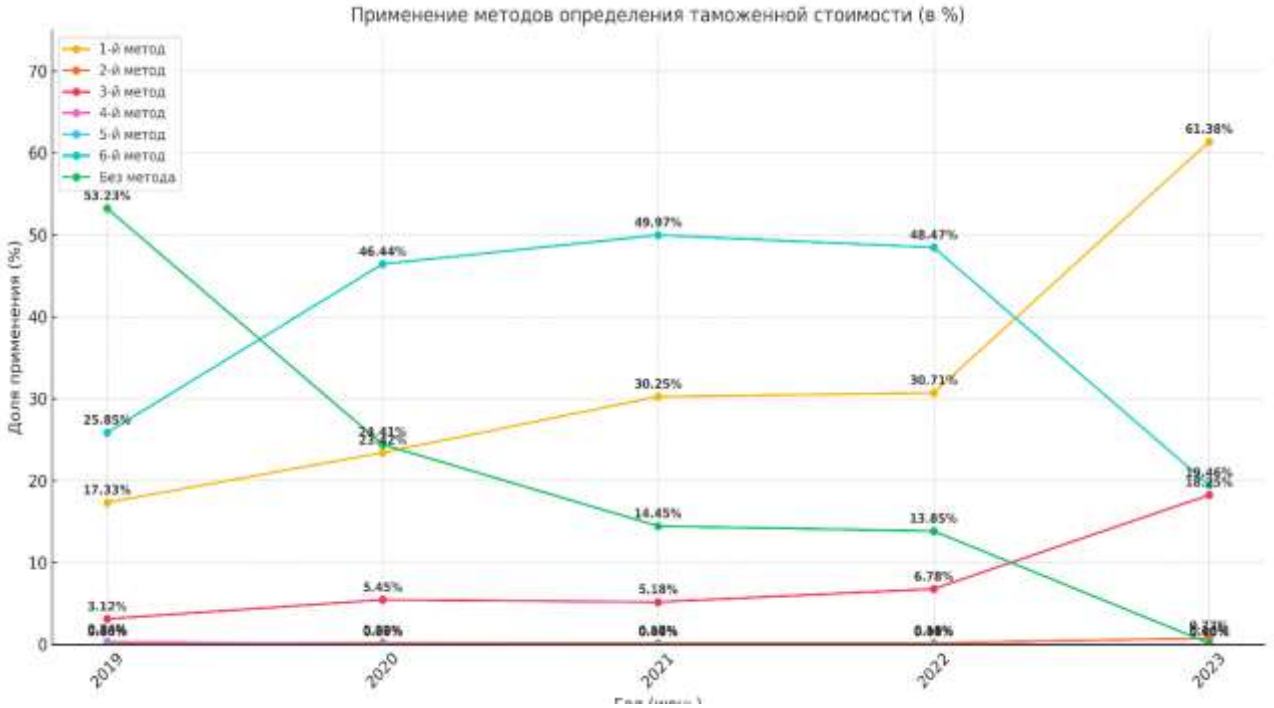


Рисунок 1

Источник: Статистика Таможенного комитета

График показывает динамику использования различных методов определения таможенной стоимости при оформлении импортных грузовых таможенных деклараций (ГТД). На оси X представлены годы (июнь каждого года с 2019 по 2023), а на оси Y — доля применения каждого метода в процентах от общего количества оформленных деклараций.

1-й метод (по цене сделки) демонстрирует стабильный рост, особенно резкий скачок в 2023 году до 61.38%, что говорит о повышении прозрачности внешнеэкономической деятельности и улучшении документооборота.

6-й метод (резервный) активно использовался в 2020–2022 гг. (пик — почти 50% в 2021), но затем его применение резко снизилось до 19.46% в 2023 году. Это может свидетельствовать о сокращении неопределённых случаев при расчёте

стоимости. Метод "Без метода", применявшийся в более чем половине случаев в 2019 году (53.23%), практически исчез к 2023 году (0.16%). Это отражает систематизацию и унификацию процедур на таможне.

2-й и 3-й метод (по идентичным и однородным товарам) демонстрируют постепенный рост. Особенно заметен рост 3-го метода до 18.25% в 2023 году.

4-й и 5-й методы остаются крайне редко используемыми — доля их применения стремится к нулю.

Опыт Сингапура. Подход Сингапура к определению таможенной стоимости и обеспечению ее точности славится своей эффективностью и прозрачностью. Будучи мировым торговым центром, Сингапур придерживается международных стандартов, в частности, руководящих принципов Всемирной таможенной организации и Соглашения ВТО о таможенной оценке. Основным методом определения таможенной стоимости является стоимость сделки, которая представляет собой цену, согласованную при продаже. Для этого Сингапур использует передовую электронную систему TradeNet[2], которая упрощает таможенные декларации и автоматизирует проверки, обеспечивая согласованность данных и сокращая количество ошибок.

В Сингапуре существует несколько методов определения таможенной стоимости товаров.

Метод стоимости транзакции

Метод стоимости сделки в первую очередь рассматривается при установлении таможенной стоимости, которая представляет собой *стоимость, страхование и фрахт (CIF)* в соответствии с международными коммерческими условиями (Инкотермс). Для установления таможенной стоимости с использованием этого метода все прочие расходы, связанные с продажей и доставкой, должны быть

[2] *TradeNet®* — это национальное единое окно Сингапура для торговых деклараций.

добавлены к стоимости сделки или цене, уплаченной или подлежащей уплате за импорт. Примерами таких расходов являются комиссионные за продажу, ассистент (материалы или услуги, предоставленные покупателем продавцу бесплатно или по сниженной цене), расходы на упаковку, выручка от перепродажи, причитающаяся продавцу, роялти и лицензионные сборы, расходы на фрахт и страхование.

Если метод стоимости транзакции не может быть использован, для определения таможенной стоимости будут использоваться следующие методы:

- Стоимость идентичных или аналогичных товаров — стоимость сделки с идентичными или аналогичными товарами, проданными на экспорт в Сингапур.
- Вычитаемая стоимость — продажная цена товара в Сингапуре, скорректированная с учетом расходов, понесенных после отгрузки.
- Расчетная стоимость - стоимость, рассчитанная на основе себестоимости продукции, общих расходов и прибыли в стране происхождения импортируемого товара.
- Остаточная стоимость — стоимость, определяемая таможней Сингапура на основе гибкой интерпретации всех предыдущих методов.

Фиксированные ставки на грузоперевозки и страхование. Для расчета таможенной стоимости импорта трейдеры могут использовать фиксированные ставки, предоставляемые таможней Сингапура за фрахт и страхование:

- Для стоимости транзакций, указанной в *международных коммерческих условий поставок (ИНКОТЕРМС) на условиях франко-борт (FOB)*
- Когда фактические расходы на перевозку и страхование неизвестны или недоступны импортеру.

Фиксированные ставки на фрахт и страхование составляют:

Место экспорта	**Фиксированная ставка за фрахт и страхование (% от стоимости FOB)**
Африка, Канада и США	24,5%
Европа	19%
Япония, Австралия и Новая Зеландия	19%
Китай, Китайский Тайбэй, Корея, Шри-Ланка, Индия и Пакистан	15,5%
Мьянма, Таиланд, Камбоджа, Лаос, Вьетнам, Гонконг, Филиппины и Индонезия	9,5%
Полуостровная Малайзия	5%

Фиксированная ставка за страхование. Трейдеры[3] могут использовать фиксированную ставку 1% за страхование для расчета таможенной стоимости импорта:

- Для стоимости транзакций, указанной в *Международных коммерческих условиях (Инкотермс) франко-борт (FOB)*,
- Если фактические страховые сборы неизвестны или недоступны импортеру **[5]**

Опыт США. В США процесс определения стоимости строго регламентирован законодательством.

[3] *Трейдер в таможенном деле* — это специалист или компания, занимающаяся внешнеэкономической деятельностью, которая включает в себя импорт и экспорт товаров через границу.

Система оценки таможенной стоимости в США основывается на шести основных методах, расположенных в порядке приоритета:

1. ***Метод трансакционной стоимости(transaction value)*** – цена, фактически уплаченная или подлежащая уплате за товар при его продаже на экспорт в США, с добавлением определенных дополнительных расходов.

2. ***Трансакционная стоимость идентичных товаров(Transaction Value of Identical Merchandise)*** – стоимость аналогичных товаров, проданных в идентичных условиях.

3. ***Трансакционная стоимость схожих товаров(Transaction Value of Similar Merchandise)*** – стоимость товаров, имеющих схожие характеристики и функции.

4. ***Вычитаемая стоимость (Deductive Value)*** – цена продажи товара в США с вычетом соответствующих затрат, таких как комиссии, транспортировка, налоги и другие расходы.

5. ***Рассчитанная стоимость (Computed Value)*** – сумма себестоимости производства, прибыли и общих расходов, включая материалы, затраты на производство и управленческие расходы.

6. ***Метод резервного определения стоимости (Fallback Method)*** – использование разумных данных, основанных на ранее принятых таможенных оценках, когда другие методы неприменимы.

Трансакционная стоимость и её корректировки

Основным методом определения стоимости является **трансакционная стоимость**, но в нее могут быть добавлены следующие элементы:

- Расходы на упаковку.
- Комиссионные платежи за продажу.
- Стоимость "ассистов" (материалы или услуги, предоставленные

покупателем продавцу бесплатно или по сниженной цене).

- Роялти[4] и лицензионные платежи.
- Доходы, полученные продавцом от последующей продажи товара в США.

Таможенная система США стремится обеспечить прозрачность и справедливость в оценке стоимости товаров. Однако **корректировки стоимости** и дополнительные сборы могут вызывать сложности у импортеров. Также существует риск **недооценки или завышения стоимости**, что может привести к юридическим и финансовым последствиям.

Система оценки таможенной стоимости в США основана на международных стандартах и направлена на обеспечение точности и справедливости в налогообложении. Несмотря на строгие требования, компании могут минимизировать риски, соблюдая прозрачность в расчетах и используя профессиональную помощь при оценке стоимости товаров. **[6]**

Сравнительный анализ

Таблица. Сравнительный анализ систем определения таможенной стоимости

Параметр	Узбекистан	США	Сингапур
Методология	Основана на ГАТТ, но с национальными особенностями	Применяет адаптированные международные методы	Полностью унифицирована с международными стандартами
Автоматизация	Частичная	Высокая	Полная

[4] *Роялти* — это платежи, которые выплачиваются владельцу интеллектуальной собственности за право использования его произведений или изобретений

Параметр	Узбекистан	США	Сингапур
Контроль	Частично-автоматизированная	Аналитика и автоматизированные системы	Самодекларирование и цифровой анализ
Санкции	Средние	Жесткие	Четкие, но мягкие механизмы стимулирования

Заключение и рекомендации

Таким образом, адаптация национального законодательства к международным требованиям требует последовательных реформ, совершенствования нормативно-правовой базы и внедрения современных цифровых инструментов. В дальнейшем целесообразно продолжить исследования в области практической реализации унифицированных методов оценки таможенной стоимости и их влияния на экономику Узбекистана.

1. Для повышения прозрачности и упрощения контроля, должно быть установлено, что хотя бы 60-80% всех импортных деклараций будут определяться именно через первый метод ОТС. Это позволит обеспечить более высокую степень проверки достоверности данных и предотвращение занижения стоимости товаров.

2. Установить фиксированные ставки на основе анализа рыночных цен на грузоперевозки и страхование когда фактические расходы на перевозку и страхование неизвестны или недоступны импортеру. Введение фиксированных ставок на грузоперевозки и страхование в Узбекистане может упростить процесс определения таможенной стоимости и повысить его прозрачность. Регулярно пересматривать ставки с учетом изменений на рынке.

3. В случае выявления умышленного занижения таможенной стоимости декларантом, установить штраф в размере **X% от суммы неуплаченных таможенных платежей**, исчисленных на основе достоверной таможенной стоимости.

Список использованных литератур

1. А.Шадманкулов. Учебное пособие Таможенная стоимость. Учебное пособие, 2023. - Т.: Таможенный институт.

2. А.Шадманкулов, М.Атаев. «Некоторые вопросы совершенствования механизма определения таможенной стоимости товаров». Журнал фундаментальных исследований, выпуск 6, 2024 год, страницы 153–159.

3. А.А.Шадманкулов. Факторы, влияющие на таможенную стоимость. Журнал Таможенной информации Узбекистана, выпуск 2, 2024 год, страницы 81–86.

4. Таможенный кодекс Республики Узбекистан.

5. ***https://customs.gov.sg/*** Официальный сайт Таможенной службы Сингапура.

6. ***https://www.cbp.gov/*** Официальный сайт Погранично-таможенной службы США

7. Статья 7 Генерального соглашения по тарифам и торговле (ГАТТ, 1979 г.)

8. Постановление Кабинета Министров Республики Узбекистан №160 от 6 апреля 2022 года– "Об утверждении положения о порядке определения таможенной стоимости товаров, ввозимых на таможенную территорию республики Узбекистан".

Colonial Authority and Muslim Law in Turkestan

Makhmudova N.B.

Professor at Bukhara State University

Abstract: The article examines the policy of the Russian Empire toward Muslim law and people's courts in the Turkestan region during the late nineteenth and early twentieth centuries. Particular attention is paid to the revision conducted by Senator K.K. Pahlen, during which a bilingual codification of Sharia norms concerning family, inheritance, and property law was compiled and published for the first time. Based on archival materials, the study analyzes the objectives and methods of the colonial administration in regulating the Muslim population. The views of S.M. Dukhovskoy, K.K. Pahlen, and A.V. Samsonov regarding the role of Sharia and people's courts within the colonial governance system of Turkestan are also explored.

Keywords: Turkestan region, K.K. Pahlen, people's court, Sharia, Muslim law, Russian Empire, colonial policy, judicial reform, S.M. Dukhovskoy, A.V. Samsonov.

Колониальная власть и мусульманское право в Туркестане

Махмудова Н.Б.

профессор Бухарского

государственного университета

Аннотация: В статье рассматривается политика Российской империи в отношении мусульманского права и народных судов в Туркестанском крае во второй половине XIX — начале XX века. Особое внимание уделено ревизии сенатора К.К. Палена, в ходе которой впервые был подготовлен и издан двуязычный свод норм Шариата по вопросам семейного, наследственного и имущественного права. На основе архивных материалов анализируются цели и методы колониальной администрации в сфере правового регулирования мусульманского населения. Исследуются взгляды С.М. Духовского, К.К. Палена

и А.В. Самсонова на роль Шариата и народного суда в системе колониального управления Туркестаном.

Ключевые слова: Туркестанский край, К.К. Пален, народный суд, Шариат, мусульманское право, Российская империя, колониальная политика, судебная реформа, С.М. Духовской, А.В. Самсонов.

Turkistonda mustamlakachi hokimiyat va musulmon huquqi

Mahmudova N.B.

Buxoro davlat universiteti professori

Annotatsiya: Maqolada XIX asrning ikkinchi yarmi — XX asr boshlarida Rossiya imperiyasining Turkiston o‘lkasidagi musulmon huquqi va xalq sudlariga nisbatan olib borgan siyosati tahlil qilinadi. Asosiy e’tibor senator K.K. Palen tomonidan amalga oshirilgan taftishga qaratilib, ushbu jarayonda oilaviy, meros va mulkiy huquq masalalariga oid shariat normalarining ikki tilli (rus va arab tillarida) to‘plami tayyorlangani va nashr etilgani ko‘rsatib beriladi. Arxiv manbalari asosida mustamlakachi ma’muriyatning musulmon aholini huquqiy boshqarishdagi maqsad va usullari yoritiladi. Shuningdek, S.M. Duxovskiy, K.K. Palen va A.V. Samsonovning shariat hamda xalq sudlari haqidagi qarashlari tahlil qilinadi.

Kalit so‘zlar: Turkiston o‘lkasi, K.K. Palen, xalq sudi, shariat, musulmon huquqi, Rossiya imperiyasi, mustamlakachilik siyosati, sud islohoti, S.M. Duxovskiy, A.V. Samsonov.

Во второй половине XIX — начале XX века политика Российской империи в Туркестанском крае была тесно связана с вопросами управления мусульманским населением и регулирования деятельности народных судов, основанных на нормах Шариата и обычного права. Несмотря на почти сорокалетнее существование Туркестанского генерал-губернаторства, колониальная администрация долгое время не предпринимала систематических шагов по

изучению и переводу мусульманского права. Исключением были отдельные инициативы - доклад Туркестанского генерал-губернатора С.М. Духовского[1], написанный после Андижанских событий 1898г., и так же записка Н.Т.Денисевича о передаче Туркестанского края в ведение Министерства Внутренних дел, где приводятся доводы о том, что «политика непротивления все развивающемуся суфизму готовит государству серьёзные опасности со стороны фанатизма мусульман и что единственно верный и наиболее пригодный для края метод- метод силы[2]».

Особое место в истории административно-правовой политики Российской империи в Туркестане занимает деятельность сенатора К.К. Палена. Он первый из русских чиновников в кратчайший срок (всего за год) подготовил и издал на русском и арабском языке, свод законов правовых норм коренного населения края по вопросам семейного, наследственного и вещевого права, т.е. свод законов Шариата. Прежде чем приступить к данной работе, сенатор К.К.Пален вел переписку с военными губернаторами областей края и председателями окружных судов о специалистах по мусульманскому праву[3]. Данный архивный источник, на сегодняшний день, хранится в РГИА и второго экземпляра такого рода списков не существует, он доказывает насколько серьезно подходил сенатор в отношении изучения данного вопроса. В списки личного состава совещания входили 16 членов администрации, но так как один из них заболел, осталось 15 членов, необходимо отметить, что все имели воинские звания. Члены комиссии,

[1]НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. – 11л.
[2]РГИА. 1396. Оп.1 Д. 4. Записка Н.И.Денисевича о передаче Туркестанского края в ведение МВД и приложения к ней; журнал заседания Совета Туркестанского генерал-губернатора, рапорт Туркестанского генерал-губернатора Н.Н.Тевяшова и отзыв государственного контролёра на проект Положения об управлении Туркестанского края, выработанный комиссией тайного советника Нестеровского. -Л.Л.1, 1об.
[3]РГИА. 1396. Оп. 1. Д.385. Программа ревизии и переписка с военными губернаторами областей края и председателями окружных судов о представительстве специалистов по мусульманскому праву на совещании по вопросу применения в Туркестане норм мусульманского права. 1908г. -73 л.

осуществлявшие ревизию края под руководством сенатора К.К.Палена, проделали для этого колоссальную работу, была подготовлена специальная перечень вопросов правого быта[4], а именно 61 вопрос. Для того, чтобы собрать полный и достоверный свод юридических норм коренного населения Туркестана, был опрошен предельно широкий круг знающих их лиц. При этом, не имелось в виду воссоздать Шариат в его чистоте, путём теоретических научных построений, а лишь получить точные и определённые положения о том, как, согласно Шариату, в том виде, в котором он понимается и толкуется в Туркестане, разрешаются основные вопросы туземного гражданско-правового быта [5]. Отношение колониальной администрации к исламу носило откровенно настороженный и зачастую враждебный характер. Генерал-губернатор С.М. Духовской называл мусульманство «исторически привившеюся к государственному организму язвой[6]» и предупреждал не упускать из виду, что «ислам, есть кодекс враждебный[7]» не только христианству, но и всей культуре, и представляет собой «солидную силу», центром которой в последние века являлась Средняя Азия и «без преувеличения можно сказать, что Средняя Азия дала мусульманскому миру последнюю редакцию Шариата[8]», поэтому он утверждал, что «чистый мусульманин, крепко верующий в букву Корана и Шариата, не может быть искренним и верным другом христианина; суфизм требует строгого надзора; следует признать вредным духовные управления; постепенное подчинение общим государственным судебным учреждениям[9]». Однако практическая реализация

[4]РГИА. 1396. Оп. 1. Д.385. Л.Л.17, 17 об., 18, 18об.,19, 19 об., 20.
[5] Пален К.К. Правовой быт туземного населения. –С. 10.
[6]НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. –Л.2.
[7] НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. –Л.3 об.
[8] НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. –Л.6 об
[9]НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. –Л.7, 7 об., 8.

подобных предложений началась лишь спустя почти десятилетие, во время ревизии К.К. Палена. Сенатор Пален рассматривал реформирование народных судов как важный механизм укрепления российской государственности в крае. Кроме того, издание на русском языке выверенного свода Законов Шариата, давало возможность их детального изучения чиновниками, так и учеными ориенталистами регламентирующего все стороны жизни мусульманского населения как документа. На что еще в 1899г. обращал внимание Туркестанский генерал-губернатор генерал - от инфантерии С.М.Духовской в своем Всеподданнейшем докладе «Ислам в Туркестане» писал: «Шариат устанавливает взгляд, что им все предусмотрено и регламентировано, что он вполне законченный кодекс, не подлежащий каким-либо изменениям и усовершенствованиям. Регламентируя по возможности все явления человеческой жизни, он подчиняет себе эту жизнь[10]», однако, С.М.Духовской предлагал предоставить Генерал-губернатору права упразднять мусульманские учреждения, которые были бы признаны политически опасными, о регистрации всех мусульманских учреждений и распространении на все мусульманские школы закона 1марта 1893г. об еврейских хедерах[11] и т.д. Подготовка и издание двуязычного (русско-арабского) свода законов правовых норм коренного населения края по вопросам семейного, наследственного и имущественного права, стали беспрецедентным шагом для колониальной администрации. С одной стороны, этот свод способствовал регулированию судебной практики казиев, повышению правовой определённости гражданско-правовых и семейных отношений. С другой стороны, он стал ещё одним инструментом

[10]Сборник материалов по мусульманству. Составлен по распоряжению и указаниям Туркестанского генерал-губернатора, Генерал- от- Инфантерии С.М.Духовского. Т.1. –С.6-7.
[11]НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. – Л.9.

административного контроля, позволившим военной и гражданской администрации, впервые, благодаря результатам ревизии сенатора К.К.Палена получить полное, систематизированное представление о нормах, регулирующих все правовые, семейные и имущественные вопросы мусульманского населения, и тем самым заложили основу для ограничения и контроля народных судов.

Но сенатор К.К.Пален, как истинный патриот предлагал выгодные варианты управления краем.Он утверждал, что: “Разумное руководство съездами со стороны председательствующих в них русских судей за отправлением народными судьями правосудия, заставит их, а с ними и все туземное население, уважать и соблюдать обязательными для них предписания русских законов, укоренит в них убеждение, что они не представляют собой замкнутого мусульманского мира, а входят в состав единой Российской Державы и обязаны жить одной с ней жизнью, общими с нею интересами. Воочию убеждаясь в превосходстве культурных правовых принципов над грубыми, примитивными нормами киргизского и туркменского обычного права и жестокими, мёртвыми в своей неподвижности правилами Шариата, туземное населени Туркестана, без всяких принудительных мер, само забудет старые и создаст новые обычаи, облагороженные, смягчённые и согласованные с русским законом и интересами русского государства ”[12]. В принципе, нет ничего нового во взглядах и предложениях сенатора К.К.Палена, они отражали сущность любой завоевательной политики.

Причем, именно в вышеуказанном вопросе, выводы сенатора К.К.Палена, полностью совпадали со взглядами Туркестанского генерал-губернатора А.В.Самсонова, в его секретном докладе о положении в Туркестанском крае, в отношении народного суда, “которая не безразлична с точки зрения упрочнения

[12]Пален К.К. Народные суды. - С.218.

русской государственности в крае[13]". Он считал, что "представляя с юридической точки зрения учреждение совершенно неудовлетворительное, народный суд, действуя почти безконтрольно, имеет чрезвычайное влияние на жизнь местного населения и руководствуясь нормами чуждого русскому государственному правосознанию Шариата, он является важным фактором, не только препятствующим проникновению в туземные массы начал гуманности и культуры, но и создающим в туземном населении взгляды, чуждые русской государственности. Крайне необходимо, поэтому принять меры к постепенной, без насилия и ломки над сложившимися уже формами суда, замене его общегосударственными судебными установлениями. С этой целью необходимо ввести в Туркестанское Положение правило о том, что по желанию одного из тяжущихся в гражданских делах и по желанию обвиняемого в уголовных, дело обязательно должно быть передано в общие судебные учреждения, а затем постепенно ограничивать компетенцию народных судов, сводя её к разбирательству из уголовных дел, только одних проступков, а из гражданских, самых ничтожных по сумме исков[14]." В самой организации народных судов А.В.Самсонов предлагал ввести серьёзные изменения: "во-первых, уничтожение первой единоличной инстанции народного суда и замена её коллегией из трёх выборных народных судей под председательством мирового судьи, назначаемого на общих основаниях;

во-вторых, уничтожение съездов и чрезвычайных съездов народных судов с введением в качестве второй и последней инстанции для народных судов съезда мировых судей на общих основаниях;

[13] РГИА Ф.1405. Оп.543. Д. 1208. (секретно) Всеподданнейший доклад Туркестанского генерал-губернатора о положении Туркестанского края в 1909г. Л.12.
[14] РГИА Ф.1405. Оп.543. Д. 1208.(секретно) Всеподданнейший доклад Туркестанского генерал-губернатора о положении Туркестанского края в 1909г. Л.26 об., Л.27.

в-третьих, впредь до введения съезда мировых судей признать второй инстанцией, заменяющие эти съезды, окружные суды[15]".

Предложения Самсонова предусматривали радикальную реорганизацию судебной системы: ликвидацию единоличных народных судов, создание коллегий под председательством мировых судей, упразднение съездов народных судей и передачу апелляционных функций окружным судам. При этом генерал-губернатор подчеркивал, что судебная реформа будет не только политически выгодной, но и экономически оправданной, поскольку судебные сборы должны были поступать в государственную казну.

Таким образом, анализ деятельности народных судов в Туркестанском крае на основе материалов ревизии сенатора К.К. Палена показывает, что колониальная администрация рассматривала мусульманское право не как самостоятельную правовую систему, заслуживающую сохранения, а как объект контроля и постепенного подчинения интересам Российской империи. Народный суд в этих условиях превратился прежде всего в инструмент административного воздействия и колониальной политики, а не в механизм защиты прав местного населения.

Литература:

1.Народные суды. Отчет по ревизии Туркестанского края, произведенной по высочайшему повелению Сенатором Гофмейстером графом К.К. Паленым. - Санкт – Петербург: Сенатская типография, 1910. – 309 с.

2.Правовой быт туземного населения. Отчет по ревизии Туркестанского края, произведенной по высочайшему повелению Сенатором Гофмейстером графом К.К. Паленым.- Санкт – Петербург: Сенатская типография, 1910. – 125 с.

[15] РГИА Ф.1405. Оп.543. Д. 1208. Л. 27.

3.Сборник материалов по мусульманству. Составлен по распоряжению и указаниям Туркестанского генерал –губернатора, генерала – от – инфантерии С.М.Духовского. Под редакцией поручика В.И. Ярового-Раевского. Том I.- СПб.: Паровая Типо-Литография М. Розенбер, 1899. –156с.

4. НА РУз. Ф.И.1. Оп.25. Д. 72. Всеподданнейший доклад Туркестанского генерал-губернатора генерал от инфантерии Духовского. Ислам в Туркестане. 1899г. Ташкент. – 11л.

5.РГИА. 1396. Оп.1 Д. 4. Записка Н.И.Денисевича о передаче Туркестанского края в ведение МВД и приложения к ней; журнал заседания Совета Туркестанского генерал-губернатора, рапорт Туркестанского генерал-губернатора Н.Н.Тевяшова и отзыв государственного контролёра на проект Положения об управлении Туркестанского края, выработанный комиссией тайного советника Нестеровского.

6. РГИА. 1396. Оп. 1. Д.385. Программа ревизии и переписка с военными губернаторами областей края и председателями окружных судов о представительстве специалистов по мусульманскому праву на совещании по вопросу применения в Туркестане норм мусульманского права. 1908г. -73 л.

7.РГИА Ф.1405. Оп.543. Д. 1208.(секретно) Всеподданнейший доклад Туркестанского генерал-губернатора о положении Туркестанского края в 1909г.

OPPORTUNITIES FOR BIOGAS PRODUCTION IN UZBEKISTAN

Nurmaxammadova Shaxlohon Sherzodbek qizi
Student Andijan State Technical Institute

Abstract. This article studies the potential for biogas production in Uzbekistan, existing raw materials resources and prospects for the development of this sector. It is noted that organic waste generated as a result of livestock, poultry and agricultural activities in the country serves as an important source for biogas production. The possibilities of reducing the negative impact on the environment, effectively using energy resources and expanding the production of organic fertilizers through the use of biogas technologies are highlighted. The state-implemented programs and projects for the development of renewable energy sources are also considered. The results of the study show that the development of biogas production provides not only economic efficiency, but also environmental sustainability.

Keywords: biogas technology, renewable energy sources, biomass resources, organic waste, livestock waste, environmental protection, energy efficiency, agricultural sector, biofertilizer, methane, green energy, energy system of Uzbekistan.

O‘ZBEKISTONDA BIOGAZ ISHLAB CHIQARISH IMKONIYATLARI

Nurmaxammadova Shaxlohon Sherzodbek qizi
Andijon davlat texnika instituti talabasi

Annotatsiya. Mazkur maqolada O‘zbekistonda biogaz ishlab chiqarish salohiyati, mavjud xomashyo resurslari hamda ushbu sohani rivojlantirish istiqbollari o‘rganilgan. Mamlakatda chorvachilik, parrandachilik va qishloq xo‘jaligi faoliyati natijasida hosil bo‘ladigan organik chiqindilar biogaz ishlab chiqarish uchun muhim manba bo‘lib xizmat qilishi ta’kidlangan. Biogaz texnologiyalaridan foydalanish orqali atrof-muhitga salbiy ta’sirni kamaytirish, energiya resurslaridan samarali foydalanish hamda organik o‘g‘itlar ishlab chiqarishni kengaytirish imkoniyatlari yoritilgan. Shuningdek, qayta

tiklanuvchi energiya manbalarini rivojlantirish bo‘yicha davlat tomonidan amalga oshirilayotgan dasturlar va loyihalar haqida ham fikr yuritilgan. Tadqiqot natijalari biogaz ishlab chiqarishni rivojlantirish iqtisodiy samaradorlik bilan bir qatorda ekologik barqarorlikni ham ta’minlashini ko‘rsatadi.

Kalit so‘zlar: biogaz texnologiyasi, qayta tiklanuvchi energiya manbalari, biomassa resurslari, organik chiqindilar, chorvachilik chiqindilari, ekologik muhofaza, energiya tejamkorligi, qishloq xo‘jaligi sohasi, bioo‘g‘it, metan, yashil energetika, O‘zbekiston energetika tizimi.

Kirish. Bugungi kunda dunyo bo‘yicha energiya resurslariga talabning ortishi va ekologik muammolarning tobora kuchayib borishi qayta tiklanuvchi energiya manbalaridan samarali foydalanish zaruratini yuzaga keltirmoqda. Ayniqsa, an’anaviy yoqilg‘i zaxiralarining cheklanishi hamda atmosfera ifloslanishining ortishi ekologik muvozanatga salbiy ta’sir ko‘rsatmoqda. Shu sababli ko‘plab mamlakatlarda alternativ energiya manbalarini rivojlantirishga, jumladan biogaz texnologiyalarini keng qo‘llashga alohida ahamiyat berilmoqda.

O‘zbekiston qishloq xo‘jaligi va chorvachilik rivojlangan davlatlardan biri hisoblanadi. Mamlakatda ushbu sohalar faoliyati natijasida katta hajmda organik chiqindilar hosil bo‘ladi. Chorva va parranda chiqindilari, shuningdek qishloq xo‘jaligi qoldiqlari biogaz ishlab chiqarish uchun muhim xomashyo manbasi sifatida xizmat qiladi. Ushbu imkoniyatlardan oqilona foydalanish orqali energiya ishlab chiqarish bilan birga atrof-muhitni muhofaza qilishga ham erishish mumkin.

Biogaz ishlab chiqarish jarayoni organik moddalarning anaerob sharoitda parchalanishi natijasida metan gazining hosil bo‘lishiga asoslanadi. Mazkur texnologiya elektr va issiqlik energiyasi olish imkonini berishi bilan bir qatorda sifatli organik o‘g‘it ishlab chiqarishga ham xizmat qiladi. Shu jihatdan biogaz texnologiyalari chiqindilarni qayta ishlashning zamonaviy va samarali usullaridan biri sanaladi hamda qishloq xo‘jaligi

samaradorligini oshirishda muhim ahamiyat kasb etadi. O‘zbekistonda biogaz ishlab chiqarish sohasini rivojlantirish uchun zarur tabiiy resurslar va iqtisodiy imkoniyatlar yetarli hisoblanadi. Mamlakatda qishloq xo‘jaligi yetakchi tarmoqlardan biri bo‘lgani sababli chorvachilik, parrandachilik va dehqonchilik faoliyati jarayonida katta miqdorda organik chiqindilar yuzaga keladi. Mazkur chiqindilarni qayta ishlash orqali biogaz olish energiya ishlab chiqarish bilan birga ekologik muammolarni kamaytirishga ham yordam beradi. Biogaz ishlab chiqarishda asosiy xomashyo sifatida chorva go‘ngi, parranda chiqindilari, o‘simlik qoldiqlari hamda oziq-ovqat sanoati chiqindilaridan foydalaniladi. Ayniqsa, yirik chorvachilik va parrandachilik xo‘jaliklarida hosil bo‘ladigan organik chiqindilar yuqori biogaz salohiyatiga ega. Organik moddalarning anaerob parchalanishi natijasida metan gazi hosil bo‘lib, undan elektr va issiqlik energiyasi ishlab chiqarishda samarali foydalanish mumkin.

Biogaz texnologiyalarining asosiy afzalliklaridan biri ekologik xavfsizlikni ta’minlashidir. Organik chiqindilar ochiq joylarda saqlanganda zararli gazlar atmosferaga tarqalib, atrof-muhit va sanitariya holatiga salbiy ta’sir ko‘rsatadi. Biogaz qurilmalari esa chiqindilarni maxsus yopiq tizimda qayta ishlash orqali ekologik ifloslanish darajasini kamaytiradi. Bundan tashqari, qayta ishlashdan so‘ng qoladigan mahsulot bioo‘g‘it sifatida foydalanilib, tuproq unumdorligini oshirishga xizmat qiladi. O‘tkazilgan tahlillar natijasida O‘zbekistonda biogaz ishlab chiqarishni rivojlantirish uchun zarur xomashyo bazasi va qulay sharoitlar mavjudligi aniqlandi. Mamlakatda chorvachilik, parrandachilik va qishloq xo‘jaligi sohalarining keng rivojlanganligi sababli organik chiqindilar miqdori yuqori hisoblanadi. Ushbu chiqindilardan samarali foydalanish orqali biogaz ishlab chiqarish muqobil energiya manbai sifatida keng imkoniyatlarga ega ekanligi tasdiqlandi.

Tadqiqot jarayonida biogaz texnologiyalarini qo‘llash ekologik hamda iqtisodiy jihatdan foydali ekanligi kuzatildi. Xususan, organik chiqindilarni qayta ishlash orqali atrof-

muhit ifloslanishini kamaytirish, sanitariya holatini yaxshilash va chiqindilarni samarali utilizatsiya qilish mumkinligi ma’lum bo‘ldi. Shuningdek, biogaz qurilmalari yordamida elektr va issiqlik energiyasi ishlab chiqarish orqali an’anaviy energiya resurslariga bo‘lgan ehtiyojni qisqartirish imkoniyati mavjudligi aniqlandi.

Natijalar shuni ko‘rsatadiki, biogaz ishlab chiqarish qishloq xo‘jaligi va chorvachilik xo‘jaliklarining iqtisodiy samaradorligini oshirishda muhim rol o‘ynaydi. Qayta ishlash jarayonida hosil bo‘ladigan bioo‘g‘itlardan foydalanish tuproq unumdorligini yaxshilab, qishloq xo‘jaligi ekinlari hosildorligini oshirishga xizmat qiladi. Bundan tashqari, biogaz texnologiyalarining keng joriy etilishi tabiiy gaz va boshqa an’anaviy yoqilg‘ilarga bo‘lgan bosimni kamaytiradi.

Shu bilan birga, ushbu sohani rivojlantirishda bir qator muammolar mavjudligi ham aniqlandi. Jumladan, zamonaviy uskunalar uchun katta investitsiya talab qilinishi, malakali kadrlar yetishmasligi hamda aholining bu yo‘nalishdagi bilim va tajribasi cheklanganligi asosiy to‘siqlar sifatida qayd etildi. Biroq davlat qo‘llab-quvvatlovi, xorijiy tajribalarni o‘rganish hamda investitsiyalarni jalb etish orqali ushbu muammolarni bartaraf etish mumkin.

Ushbu tadqiqot yakunlariga ko‘ra, O‘zbekistonda biogaz ishlab chiqarishni rivojlantirish uchun tabiiy, iqtisodiy va texnik jihatdan qulay shart-sharoitlar mavjudligi tasdiqlandi. Mamlakatda chorvachilik, parrandachilik hamda qishloq xo‘jaligi sohalarining rivojlanganligi natijasida hosil bo‘ladigan organik chiqindilar biogaz ishlab chiqarish uchun asosiy xomashyo manbasi bo‘lib xizmat qiladi.

Biogaz texnologiyalarini keng miqyosda joriy etish bir qator muhim natijalarga olib kelishi mumkin. Jumladan, atrof-muhit ifloslanishini kamaytirish, energiya resurslaridan samarali foydalanish hamda elektr va issiqlik energiyasini muqobil manbalar hisobidan ishlab chiqarish imkoniyati yaratiladi. Bundan tashqari, biogaz ishlab chiqarish jarayonida olinadigan bioo‘g‘it qishloq xo‘jaligi unumdorligini

oshirishga ijobiy ta’sir ko‘rsatadi. Shuningdek, tadqiqot natijalari shuni ko‘rsatadiki, ushbu sohani rivojlantirishda ayrim texnik va iqtisodiy to‘siqlar mavjud bo‘lsa-da, ularni davlat tomonidan qo‘llab-quvvatlash, investitsiyalarni jalb qilish hamda zamonaviy texnologiyalarni tatbiq etish orqali bartaraf etish mumkin.

Xulosa. Umuman olganda, O‘zbekistonda biogaz ishlab chiqarishni kengaytirish ekologik barqarorlikni mustahkamlash, energiya xavfsizligini ta’minlash hamda iqtisodiy taraqqiyotga hissa qo‘shadigan muhim yo‘nalishlardan biri hisoblanadi.

FOYDALANILGAN ADABIYOTLAR:

1. O‘zbekiston Respublikasi Energetika vazirligi. (2023). Qayta tiklanuvchi energiya manbalarini rivojlantirish bo‘yicha davlat dasturlari. Toshkent.
2. O‘zbekiston Respublikasi Qishloq xo‘jaligi vazirligi. (2022). Qishloq xo‘jaligida organik chiqindilardan foydalanish va qayta ishlash bo‘yicha tavsiyalar. Toshkent.
3. FAO. (2021). Biogas technology and rural energy systems. Rome: Food and Agriculture Organization of the United Nations. (120 bet)
4. International Energy Agency. (2022). Renewables 2022: Analysis and forecast to 2027. Paris. (200–215 betlar)
5. United Nations Development Programme. (2020). Renewable energy for sustainable development in Central Asia. New York. (55–78 betlar)
6. Abdurahmonov, O. (2021). Muqobil energiya manbalari va ularning istiqbollari. Toshkent: Fan va texnologiya nashriyoti. (85 bet)
7. Karimov, B. (2020). Biogaz texnologiyalari va ularning qishloq xo‘jaligidagi ahamiyati. Toshkent: O‘zbekiston Milliy universiteti nashriyoti. (60–72 betlar)
8. Ismailov, J. (2022). Ekologiya va qayta tiklanuvchi energiya. Samarqand: Zarafshon nashriyoti. (95 bet)

SATELITE AND DRON MONITORING SYSTEMS FOR EFFICIENT LAND RESOURCE MANAGEMENT

MATKARIMOV Mansur
Associate Professor of Mamun University
matkarimov_mansur1@mamunedu.uz

Abstract. This article examines the role of satelite and dron monitoring systems in improving the efficiency of land resource management in the agriculture of Uzbekistan. The study focuses on the application of modern digital technologies such as satellites and drones for monitoring soil conditions, irrigation processes, and water consumption. The paper analyzes existing challenges related to water scarcity, inefficient irrigation, and land degradation, while highlighting the potential of smart technologies to support sustainable agricultural development.

Keywords: monitoring systems, drones, the efficiency of land and water resource, management in the agriculture, digital technologies, satellites, GIS, data analysis, irrigation processes, water consumption, inefficient irrigation, land degradation, smart technologies.

Analysis and discussion of results. Sustainable management of land and water resources in Uzbekistan's agriculture should be implemented through an effective monitoring system. In the modern era, digital technologies and geoinformation systems (Geo Information Systems - GIS) allow for a realistic and rapid assessment of resource use, their condition and efficiency. Therefore, this article considers the scientific and practical directions, methods and proposals for the development of a monitoring mechanism based on drones, suitable for Uzbekistan's agriculture.

Satellite monitoring is essential for effective land and water resource management. Satellite monitoring allows for continuous monitoring of land and water resources, assessment of irrigation and cropland efficiency, detection of soil salinity,

erosion and degradation, and provision of information for decision-making on sustainable resource use. Satellite imagery has become a very important tool in monitoring agricultural land.

Satellite imagery is a great help in determining which crops are grown in which area, the size of the crop area, and the state of crop rotation. In this case, different crops are distinguished from each other by their spectral characteristics.

Satellite images allow us to assess crop conditions using vegetation indices, the most popular of which is NDVI.

$$NDVI = \frac{NIR-RED}{NIR+RED} \qquad \text{Formula 1}$$

Here:

- NIR is the near infrared range,
- RED is the red range.

NDVI value:

• high means the plant is healthy,

• low means stress, disease or water shortage.

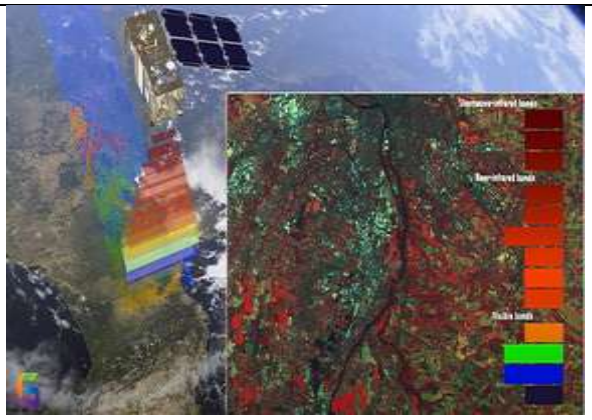
The practical benefit of the NDVI value is the early detection of drought, optimization of fertilization, and increased yield.

Due to the limited water resources in Uzbekistan, satellite monitoring is very relevant. This is especially important in the Amu Darya and Syrdarya basins. In these river basins, the amount of harvest is estimated in advance based on vegetation dynamics and meteorological data, which improves planning for export and domestic markets.

Table 1

Comparison of satellites used in Uzbekistan[1]

[1] The table was prepared by the author based on data from "Google Earth Engine Team. (2022). Earth Engine Data Catalog and Remote Sensing Applications Documentation".

N	Satellite name	Advantages	Which platforms will it be distributed on?	Image
1	Sentinel-2 (European Space Agency)	• 10 meter accuracy, • free data, • updated every 5 days, • perfect for q/x monitoring.	Copernicus Open Access Hub and Copernicus Data Space Ecosystem.	
2	Landsat 8 (NASA and USGS, USA)	• long-term archive, • convenient for analyzing land changes.	OLI (Operational Land Imager) and TIRS (Thermal Infrared Sensor)	

3	Planet Labs (USA Planet Labs PBC)	• long-term archive, • convenient for analyzing land changes.	Dove/ SuperDove, Black Bridge (Rapid Eye), Terra Bella	

In Uzbekistan, the Sentinel-2 satellite is widely used for satellite monitoring of water resources. This satellite allows you to work with an accuracy of 10 meters, collect free data, update data every 5 days, and is very suitable for agricultural monitoring.

In addition, great importance is currently being attached to monitoring via the Landsat 8 satellite. The advantage of the Landsat 8 satellite is its long-term archive and its convenience for analyzing land changes.

Recently, the Planet Labs satellite has also been widely used in monitoring agricultural land and water resources. Its advantages include the ability to obtain high-resolution commercial images and provide daily monitoring. Depending on the purpose of monitoring, different satellites can be used.

There are also problems with the use of satellites in monitoring agricultural land and water resources. In particular, cloudiness affects image quality, high-resolution data is expensive, specialist and GIS knowledge is required, and internet and technical infrastructure are necessary.

In Uzbekistan, Uzgidromet, economics and agricultural universities, and GIS centers can use satellites for monitoring and provide their services to agricultural enterprises. On this basis, it is expected that in the future, as in developed foreign

countries, a transition to the widespread use of "smart farming", "precision agriculture", and automatic water management systems will take place.

The use of drones in agriculture in Uzbekistan has been developing rapidly in recent years. Drones help to monitor land with high accuracy, assess crop conditions, and use resources efficiently. They have become an important technology, especially in the areas of water scarcity and increasing productivity.

The main tasks of drones in agriculture are as follows:

1. Monitoring crop conditions. Using RGB and multispectral cameras installed on drones, crop growth rates, diseases, pests, and water shortages are determined.

2. Irrigation monitoring. Drones can detect moisture imbalances, over-irrigated areas, and areas with insufficient water. This helps save water, especially in cotton, wheat, and horticultural fields.

3. Fertilizer and pesticide spraying. Special agro-drones spray fertilizers, herbicides, and insecticides accurately and in moderation. The advantages include reduced chemical consumption, reduced risks to human health, and time savings.

4. Land mapping and GIS. Drones create 3D maps, relief models, and field boundaries. They are important in land cadastre, land reclamation, and precision agriculture.

5. Yield forecast. Based on data obtained from drones, biomass, plant density, and vegetation dynamics are analyzed and yields are estimated in advance.

One of the most important factors for Uzbekistan is effective water resource management. Drones allow for rapid monitoring of large areas. This allows several hundred hectares of land to be inspected in a short time. This reduces costs, including fuel, labor, and chemical resources.

Table 2

Drones used in Uzbekistan and their characteristics[2]

N	Drone name	Advantages	Use in Uzbekistan	Image
1	DJI AGRAS T40	• 40 kg spraying payload, • Up to 50 kg fertilizer distribution, • Dual rotor system, • High-precision radar, • AI-based safety systems.	• cotton, • wheat, • rice, • horticulture	
2	Parrot Bluegrass Fields	• early detection of diseases, • detection of water shortages, • optimization of fertilization.	• cotton monitoring, • horticulture, • water stress detection, • salinity monitoring	

[2] The table was prepared by the author based on data from "Google Earth Engine Team. (2022). Earth Engine Data Catalog and Remote Sensing Applications Documentation".

3	eBee X (sense Fly)	• accurate scouting of agricultural crops, • plant health analysis, • plant mapping, • yield monitoring.	• cotton clusters, • large wheat fields, • water monitoring, • salinity control, • land cadastre	

There are also disadvantages to monitoring large areas using drones. Some drones can be expensive, require operator training for complex tasks, have limited battery and flight time, and strong winds interfere with operation.

Conclusion

As a result of the conducted analysis, in the conditions of Uzbekistan, if the goal is:

- spraying and fertilization - the “DJI AGRAS T40” drone is the best option;
- crop monitoring and NDVI - the “Parrot Bluegrass Fields” drone is convenient and economical;
- GIS mapping of very large areas - “SenseFly - eBee X” is the most effective combination.

In conclusion, drone technologies create high-precision monitoring, resource efficiency and rapid analysis opportunities in the integrated management of land and water resources. The use of UAV, GIS and remote sensing technologies is of great

importance in increasing efficiency in agriculture and ensuring environmental sustainability.

References:

1. Hunt E.R., Daughtry C.S.T. (2018). What good are unmanned aircraft systems for agricultural remote sensing and precision agriculture? International Journal of Remote Sensing, 39(15-16), 5345–5376.
2. Zhang C., Kovacs J.M. (2012). The application of small unmanned aerial systems for precision agriculture: a review. Precision Agriculture, 13(6), 693–712.
3. Matkarimov Mansur, Sharipov Kamil. Water use and Water Consumption in Agriculture Implementation Procedure. International Journal of Biological Engineering and Agriculture 2026, 5(2), 10-15.
4. Colomina I., Molina P. (2014). Unmanned aerial systems for photogrammetry and remote sensing: A review. ISPRS Journal of Photogrammetry and Remote Sensing, 92, 79–97.
5. ESRI. (2022). GIS for Agriculture. Environmental Systems Research Institute Publications.
6. Google Earth Engine Team. (2022). Earth Engine Data Catalog and Remote Sensing Applications Documentation.
7. Parrot. (2020). Bluegrass Fields: Advanced Drone Solutions for Precision Agriculture. Parrot Drone SAS.

DTCESI METHOD FOR ASSESSING COMPETITIVENESS IN THE TRANSPORT NETWORK

Independent researcher at Termez State University

Aymatov Sirojiddin To‘raqul o‘g‘li

E-mail: aymatovsirojiddin349@gmail.com

Abstract: This article develops the DTCESI method for assessing competitiveness in the transport network. The study introduces a dynamic component based on the TCESI static index and proposes a comprehensive approach to assessing the efficiency of the transport system. The min-max method is used to normalize indicators, the CRITIC method is used to determine weights, and the logarithmic difference approach is used to assess growth rates. As a result, it is possible to dynamically assess and group the transport competitiveness of regions.

Keywords: transport network, competitiveness, DTCESI, TCESI, composite index, CRITIC method, min-max normalization, logarithmic growth, panel data, efficiency analysis.

Аннотация: В данной статье разработан метод DTCESI для оценки конкурентоспособности транспортной сети. В исследовании вводится динамический компонент, основанный на статическом индексе TCESI, и предлагается комплексный подход к оценке эффективности транспортной системы. Для нормализации показателей используется метод min-max, для определения весов — метод CRITIC, а для оценки темпов роста — метод логарифмической разницы. В результате становится возможным динамически оценивать и группировать транспортную конкурентоспособность регионов.

Ключевые слова: транспортная сеть, конкурентоспособность, DTCESI, TCESI, составной индекс, метод CRITIC, нормализация min-max, логарифмический рост, панельные данные, анализ эффективности.

In recent years, the issues of ensuring the sustainable development of the transport network and increasing its competitiveness in the economy of Uzbekistan have become of strategic importance. Because transport not only performs the function of transporting goods and passengers, but is also one of the decisive factors in the economic integration of regions, their connection with domestic and foreign markets, and increasing the well-being of the population. Therefore, in the Resolution of the President of the Republic of Uzbekistan "On Approval of the Transport Strategy of the Republic of Uzbekistan until 2030" dated December 27, 2019, as well as in the "Strategy for Transition to a Green Economy", increasing the efficiency of transport services and strengthening their competitiveness are identified as one of the main tasks.

When applied to the transport network, the concept of competitiveness encompasses the efficiency of transport enterprises and regions in using available resources, the volume and quality of services, the level of infrastructure development, and their contribution to economic growth. However, in current practice, indices based on static indicators are used to assess the competitiveness of the transport network. This does not fully reflect the dynamic changes that occur over time.

From this point of view, it is urgent to develop approaches that take into account not only static, but also dynamic indicators in assessing transport competitiveness. The TCESI (Transport Competitiveness Efficiency Static Index) and its dynamic modification - DTCESI (Dynamic Transport Competitiveness Efficiency Index) used in the study are of significant scientific and practical importance in assessing the efficiency of regional transport networks. This model involves determining weights based on the CRITIC method, normalizing indicators and calculating a static index using the geometric mean, and then adding a dynamic effect through the growth rate $g_{it}$and the sensitivity coefficient δ. Although the issue of assessing competitiveness in the transport sector has been widely studied in the economic literature, the approaches are based on

different methodologies. In general, the use of static composite indices and dynamic efficiency models to determine competitiveness indicators has become a tradition.

The assessment of regional competitiveness using composite indices is widely covered in the OECD's "Handbook on Constructing Composite Indicators" methodology. According to it, normalization, weighting, and aggregation of indicators are the main stages of composite indices. Geometric mean and log-transformation methods are often used in this process. There are various methods for determining the weights of indicators: expert assessment, entropy method, and statistically based methods. One of them is the CRITIC (Criteria Importance Through Intercriteria Correlation) method, proposed by Diakoulaki et al. This method allows for objective weighting, taking into account the dispersion of the indicator and its correlation with other indicators. Dynamic models have been developed to take into account the time factor in assessing transport efficiency. The Malmquist Productivity Index developed by Caves, Christensen, and Diewert and the extended efficiency measures by Fare et al. are widely used in this direction. These methods are based on assessing the changes in resources and outputs over time. Log differences are also widely used to measure economic growth. This approach is also relevant in assessing transport competitiveness, allowing us to express the year-on-year growth of indices in percentages.

Panel data analysis is widely used in transport and regional economics. The methodological advantages of panel fixed effects and random effects models are discussed in detail in the works of Baltagi, Greene, and Wooldridge. Panel regressions are especially important for assessing competitiveness over time across regions.

Uzbek scientists are also studying the role of the transport network in the economy. In particular, the issues of increasing the efficiency of transport services and ensuring their sustainable development are emphasized in the republican-adopted "Transport Strategy of the Republic of Uzbekistan until 2030" and the "Strategy for

Transition to a Green Economy". Composite indices are widely used to assess the level of competitiveness of the transport network. The study first developed the Transport Competitiveness Efficiency Static Index (TCESI) to determine the efficiency of transport services. Later, its dynamic modification, the Dynamic Transport Competitiveness Efficiency Index (DTCESI), was used. Since transport sector indicators are expressed in different units of measurement, it is necessary to bring them into a common range. In this study, the min-max normalization method was used:

$$z_{k,it} = 0.1 + 0.9 \cdot \frac{X_{k,it} - \min(X_{k,i})}{\max(X_{k,i}) - \min(X_{k,i})}, \quad (1)$$

where, $X_{k,it}$ is the k-index value for district i, time t, $z_{k,it}$ is the normalized value, and the inclusion of 0.1 as an additional value eliminates the zero problem in logarithmization.

The relative importance of indicators was determined using the CRITIC method:

$$C_k = s_k \cdot \sum_{\ell \neq k}(1 - r_{k\ell}), w_k = \frac{C_k}{\sum_{h=1}^{K} C_h}, \quad (2)$$

where, s_k is the standard deviation of the indicator (variation strength), $r_{k\ell}$ is the correlation between indicators k and ℓ, C_k is the informative value, and w_k is the final weight.

The advantage of the CRITIC method is that it is based on statistical characteristics, not subjective expert assessments.

The index assessing the competitiveness of the transport network was calculated using the following formula:

$$TCESI_{it} = \exp\left(\sum_{k=1}^{K} w_k \ln z_{k,it}\right), \quad (3)$$

where, w_k are the weights determined by CRITIC, and $z_{k,it}$ are the normalized indicators.

This index, in the form of a geometric mean, is the most common approach to integrating composite indicators.

To account for changes in the regional transport network over time, the growth rate was taken in the form of a log difference:

$$g_{it} = \ln(TCESI_{it}) - \ln(TCESI_{i,t-1}), \quad (4)$$

where g_{it} is the logarithmic growth rate of transport efficiency, and g_{i1} is equal to zero. In the theory of economic growth, the log difference allows us to express growth in percentage terms.

The effect of the growth rate was added to the static index, forming a dynamic index:

$$DTCESI_{it} = TCESI_{it} \times (1 + \delta g_{it}), \quad (5)$$

where δ is the sensitivity coefficient of the growth rate, estimated based on panel data.

The sensitivity coefficient δ was estimated using the following regression model:

$$\ln(TCESI_{it}) = \alpha_i + \delta g_{it} + \varepsilon_{it}, \quad (6)$$

where α_i is the individual effects for the regions, ε_{it} is the random error.

Initially, the indicators are selected in terms of regions, these values given in terms of regions and years are normalized using formula (1), weight coefficients are found using formula (2). Using formulas (3) and (4), the values of TCESI_{it} and g_{it} are found, and then using formula (6), the value of δ is found. First, TCESI is formed, then the growth rate g_{it} is added, and DTCESI is determined. After that, the regions are divided into groups according to the results of the dynamic index. The method of the magnitude of change of the dynamic index is used

The method of grouping based on the magnitude of change of the dynamic index is based on determining the difference between the largest and smallest values of the DTCESI indicator of each region for a certain period of time. This approach allows us to assess the real amplitude of the competitiveness of transport services and the degree

of growth across regions. The advantage of this method is its simplicity and its ability to clearly reveal dynamic differences in the transport sector.

$$\Delta_i = \max(DTCESI_i) - \min(DTCESI_i) \quad (7)$$

Using formula (7), the amplitude of change of the dynamic index of each region was found and expressed in percentages.

$$Z_i = \frac{\Delta_i}{\Delta_{\max}} \times 100 \quad (8)$$

The method of equal intervals was additionally used to group the results. In this method, the normalized value range was divided into three equal intervals, and the districts were divided into "low–medium–high" groups. The advantage of this method is that it is simple, visually understandable, and convenient for comparing indicators.

$$Interval = \frac{\max(x) - \min(x)}{3}$$

LIST OF USED LITERATURE

1. O‘zbekiston Respublikasi Prezidentining “O‘zbekiston Respublikasining 2030-yilgacha bo‘lgan transport strategiyasini tasdiqlash to‘g‘risida”gi qarori. – Toshkent: 2019-yil 27-dekabr, PQ–4563.
2. O‘zbekiston Respublikasi Prezidentining “Yashil iqtisodiyotga o‘tish strategiyasi” to‘g‘risidagi qarori. – Toshkent: 2019-yil, PQ–4477.
3. Handbook on Constructing Composite Indicators: Methodology and User Guide. – Paris: OECD Publishing, 2008. – 158 p.
4. Theil H. Economics and Information Theory. – Amsterdam: North-Holland Publishing, 1967. – 488 p.
5. Zeleny M. Multiple Criteria Decision Making. – New York: McGraw-Hill, 1982. – 563 p.
6. Saaty T.L. The Analytic Hierarchy Process. – New York: McGraw-Hill, 1980. – 287 p.

THE ROLE OF STOMA FORMATION IN THE MANAGEMENT OF BOWEL OBSTRUCTION IN RECTAL CANCER

Orifjonov Oltinbek Xojimurod Oybek ugli
1st-year Master's Student, Andija State Medical Institute

Abstract. Rectal cancer is often complicated by bowel obstruction, requiring urgent surgical intervention. In such cases, stoma formation plays an important role in providing intestinal decompression, reducing intoxication, and preparing the patient for subsequent radical surgery. This article analyzes the clinical effectiveness and advantages of stoma formation in rectal cancer complicated by bowel obstruction.

Keywords: rectal cancer, bowel obstruction, stoma, colostomy, obstructive bowel obstruction, surgical treatment.

TO‘G‘RI ICHAK SARATONIDA ICHAK TUTILISHINI BARTARAF ETISHDA STOMA QO‘YISHNING O‘RNI

Orifjonov Oltinbek-Xojimurod Oybek o'g'li
Andijon davlat tibbiyot instituti 1- kurs magistri

Annotatsiya. To‘g‘ri ichak saratoni ko‘pincha ichak tutilishi bilan asoratlanib, bemorlarda shoshilinch jarrohlik aralashuvini talab qiladi. Bunday holatlarda stoma qo‘yish ichak dekompressiyasini ta’minlash, intoksikatsiyani kamaytirish hamda bemorni keyingi radikal operatsiyaga tayyorlashda muhim ahamiyat kasb etadi. Maqolada ichak tutilishi bilan asoratlangan to‘g‘ri ichak saratonida stoma qo‘yishning klinik samaradorligi va uning afzalliklari tahlil qilindi.

Kalit so‘zlar: to‘g‘ri ichak saratoni, ichak tutilishi, stoma, kolostoma, obturatsion ichak tutilishi, jarrohlik davolash.

To‘g‘ri ichak saratoni dunyo bo‘yicha eng ko‘p uchraydigan onkologik kasalliklardan biri hisoblanadi. Jahon sog‘liqni saqlash tashkiloti ma’lumotlariga ko‘ra, kolorektal saraton onkologik kasalliklar orasida uchinchi o‘rinda turadi va o‘lim ko‘rsatkichlari yuqori bo‘lgan kasalliklardan biri hisoblanadi. Bemorlarda kasallikning 15–30%

holatlarida obturatsion ichak tutilishi rivojlanadi. Bu esa shoshilinch jarrohlik yordamiga ehtiyoj tug‘diradi.

Ichak tutilishi bilan kechgan to‘g‘ri ichak saratonida asosiy muammolardan biri bemorning og‘ir umumiy holati, suv-elektrolit muvozanatining buzilishi va peritonit xavfining yuqoriligidir. Shu sababli bunday bemorlarda bir bosqichli radikal operatsiyalar har doim ham xavfsiz emas. Amaliyotda ko‘pincha stoma qo‘yish usuli qo‘llaniladi.

Stoma qo‘yishning asosiy maqsadi ichak ichidagi bosimni kamaytirish, ichak dekompressiyasini ta’minlash va bemor holatini barqarorlashtirishdan iborat. Kolostoma qo‘yilgandan keyin intoksikatsiya kamayadi, ichak faoliyati tiklanadi hamda bemorni keyingi rejalashtirilgan operatsiyaga tayyorlash imkoniyati yaratiladi. Xalqaro tadqiqotlarga ko‘ra, ikki bosqichli jarrohlik taktikasida operatsiyadan keyingi asoratlar va letallik darajasi bir bosqichli shoshilinch operatsiyalarga nisbatan pastroq kuzatilgan. So‘nggi yillarda chap yonlama yoki transversostoma qo‘yish usullari keng qo‘llanilmoqda. Ayniqsa, og‘ir somatik holatdagi bemorlarda stoma hayotni saqlab qoluvchi usul sifatida muhim o‘rin egallaydi. Bundan tashqari, stoma qo‘yish anastomoz yetishmovchiligi xavfini kamaytiradi va operatsiyadan keyingi davrni yengillashtiradi.

Shunday qilib, ichak tutilishi bilan asoratlangan to‘g‘ri ichak saratonida stoma qo‘yish samarali va xavfsiz jarrohlik usullaridan biri hisoblanadi. Ushbu usul bemor holatini yaxshilash, asoratlarni kamaytirish hamda keyingi radikal davolash bosqichiga tayyorlashda muhim ahamiyatga ega.

Foydalanilgan adabiyotlar:

1. Sung H. et al. Global Cancer Statistics 2023. CA Cancer J Clin. 2023.
2. Ansaloni L. et al. Guidelines in the management of obstructing colorectal cancer. World Journal of Emergency Surgery. 2022.
3. NCCN Clinical Practice Guidelines in Oncology: Rectal Cancer. Version 2024.
4. Pisano M. et al. Management of large bowel obstruction. World Journal of Gastroenterology. 2021.

STUDY OF THE STRUCTURE AND PROPERTIES OF CEMENT COMPOSITES BASED ON MINERAL TECHNOGENIC ADDITIVES

Qodirov R.A.

Khodjamkulov S.Z.

Department of Chemical Engineering, Termez State University of Engineering and Agrotechnologies. Termez, 190111.Uzbekistan.

Abstract: This study investigates the physical and mechanical properties of cement composites based on industrial waste materials. Technogenic mineral additives were introduced into Portland cement, and their effects on density, specific surface area, and volumetric stability were analyzed under laboratory conditions. The obtained results showed that the additives did not deteriorate the main technical properties of cement and, in some cases, even improved them. The research findings confirm the possibility of producing environmentally and economically efficient cement through the utilization of technogenic waste materials.

Keywords: Portland cement, technogenic waste, density, specific surface area, Le Chatelier method, environmental efficiency, clinker consumption.

Introduction

At present, Portland cement is the main binding material in the construction industry, and its production is associated with high energy consumption and significant environmental impact. Therefore, reducing clinker consumption and improving cement properties through the use of technogenic waste as mineral additives has become one of the most relevant research directions.

When incorporated into cement compositions, technogenic waste materials can positively influence the physical and mechanical properties of cement and contribute to the densification of its microstructure. In this study, the physical and mechanical

properties of cement composites based on industrial waste materials were investigated under laboratory conditions.

Main Part

Under laboratory conditions, a Portland cement sample was prepared using Sharg‘un coal mine waste as a mineral additive. The main objective of the study was to determine the density, specific surface area, and volumetric stability (expansion) of the cement paste. For the experiment, a cement mixture with a total mass of 3 kg was prepared, consisting of 78.3% clinker, 13.2% limestone, 3.5% gypsum, and 5% Sharg‘un coal mine waste. In terms of mass ratio, the mixture contained 2349 g of clinker, 396 g of limestone, 105 g of gypsum, and 150 g of waste material.

The prepared raw material components were ground in a laboratory ball mill for 1 hour to obtain a homogeneous mixture. After grinding, the cement powder was sieved through a standard 0.08 mm sieve to ensure a uniform granulometric composition of particles, after which further physicochemical tests were carried out.

Density Determination: The tests were carried out using a high-precision measuring device manufactured by the Micromeritics company. According to the results, the density of the cement sample containing 5% Sharg‘un coal mine waste was 3.08 g/cm³. The obtained result confirms that the technogenic mineral additive was uniformly distributed within the cement matrix and did not negatively affect the physical and mechanical properties of the material. In addition, this indicator demonstrates that the optimal densification of the cement composition was maintained after the incorporation of the additive.

Determination of Specific Surface Area: The specific surface area was determined using a Blaine Air Permeability Apparatus analyzer. At the initial stage of the study, the true density of the cement sample was determined, and based on the obtained values, the sample mass to be placed into the analyzer chamber was calculated according to a

special calibration table. This approach ensured the accuracy and repeatability of the measurement results.

Table 1. Mass quantities used for Blaine test

Mass used for density determination	
2.85 g/cm³-104.95g	3.07 g/cm³-113.05g
2.86 g/cm³-105.32g	**3.08 g/cm³-113.42g**
2.87 g/cm³-105.69g	3.09 g/cm³-113.79g
2.88 g/cm³-106.05g	310 g/cm³-114.16g
2.89 g/cm³-106.42g	3.11 g/cm³-114.52g
2.90 g/cm³-106.78g	3.12 g/cm³-114.89g
2.91 g/cm³-107.16g	3.13 g/cm³-115.26g
2.92 g/cm³-107.53g	3.14 g/cm³-115.63g
2.93 g/cm³-107.90g	3.15 g/cm³-116.00g
2.94 g/cm³-108.26g	3.16 g/cm³-116.37g
2.95 g/cm³-108.63g	3.17 g/cm³-116.73g
2.96 g/cm³-109.00g	3.18 g/cm³-117.10g
2.97 g/cm³-109.37g	3.19 g/cm³-117.47g
3.00 g/cm³-110.47g	3.20 g/cm³-117.84g
3.01 g/cm³-110.84g	3.21 g/cm³-118.21g
3.02 g/cm³-111.21g	3.22 g/cm³-118.57g
3.03 g/cm³-111.58g	3.23 g/cm³-118.94g
3.04 g/cm³-111.95g	3.24 g/cm³-119.31g
3.05 g/cm³-112.31g	3.25 g/cm³-119.68g
3.06 g/cm³-112.68g	

The density of the cement sample was determined to be 3.08 g/cm³, and in accordance with this value, the sample mass for the Blaine Air Permeability Apparatus analyzer was set at 113.42 g.

Table 2. Density and Specific Surface Area of Clinker, Conventional Cement, and Cement Samples Prepared with Sharg‘un Coal Mine Waste

T/r	Samples	Density of samples g/cm³	Specific surface area of samples g/cm²
1	Clinker	3,11	3175
2	Conventional cement	3,09	3161
3	Cement Sample Produced Using Sharg‘un Coal Ash Waste	3,08	3277

Volumetric Stability of Cement Paste: The volumetric stability of the cement paste was evaluated using the Le Chatelier Method. During the experiment, cement paste with standard consistency was placed into a Le Chatelier mold, and the upper and lower parts of the sample were tightly covered with glass plates. The prepared samples were stored in water at a temperature of 20°C for 24 hours. At the end of the specified period, the distance between the indicator needles of the mold was measured, and the initial expansion value was recorded.

In the next stage, the samples were placed in a water bath, where the temperature was gradually increased to 100°C and maintained under boiling conditions for 4 hours. After the heat treatment process, the samples were cooled to room temperature, and the distance between the indicator needles was measured again. Based on the difference between the initial and final measurements, the expansion value of the cement paste was determined in millimeters. The obtained results made it possible to evaluate the volumetric stability of the cement composition and to analyze the effect of free CaO and

MgO compounds during the hydration process. The research results are presented in Table 3.

Table 3. Results of Cement Paste Expansion Determination Using the Le Chatelier Ring Method

№	Samples	Initial width of Le Chatelet ring, mm	Width of Le Chatelet ring after 24 hours in water, mm	Width of Le Chatelet ring after boiling for 4 hours, mm
1	Clinker	11	12	13
2	Conventional cement	8	9	10
3	Cement Sample Produced Using Sharg‘un Coal Ash Waste	8	9	10

The research results showed that cement composites containing Sharg‘un coal mine waste do not contain free CaO and MgO oxides in critical amounts that could cause volumetric instability. The expansion values determined by the Le Chatelier Method were close to those of the control Portland cement samples, and all parameters were recorded within standard requirements.

The obtained results confirm that the technogenic mineral additive does not induce negative deformation processes in the cement system and maintains the volumetric stability of the matrix during hydration. Furthermore, the use of Sharg‘un coal mine waste demonstrates that it does not adversely affect the performance characteristics of cement, indicating its suitability as an environmentally and technologically efficient mineral additive.

RESULTS AND DISCUSSION

The conducted experiments demonstrated that the incorporation of Sharg‘un coal mine waste as a mineral additive into Portland cement does not adversely affect its main physical and mechanical properties. During the study, cement samples were comprehensively analyzed in terms of density, specific surface area, and volumetric stability.

According to the density determination results, the cement sample containing 5% Sharg‘un coal mine waste exhibited a density of 3.08 g/cm³. This result indicates a uniform distribution of the technogenic additive within the cement matrix and the formation of a compatible structure with clinker minerals. The proximity of the density values to those of standard Portland cement confirms that the additive does not negatively influence the physical state of the cement.

The specific surface area, which characterizes cement fineness, was determined using the Blaine method. The results showed that the fine dispersed particles present in Sharg‘un coal mine waste contribute positively to increasing the overall surface area of the cement. This effect may accelerate the hydration process and lead to the formation of a denser cement stone microstructure. As a result of the microfiller effect of the mineral additive, a reduction in voids within the cement matrix was observed, leading to increased structural compactness.

Volumetric stability tests conducted using the Le Chatelier Method confirmed that all samples met the required standards. It was found that the cement containing the additive did not exhibit critical amounts of free CaO and MgO oxides, which are responsible for volumetric expansion. The expansion values being close to those of the control samples indicate that the technogenic additive remains stable within the cement system, ensuring long-term structural integrity.

Overall, the obtained results confirm that Sharg‘un coal mine waste can be effectively utilized as a mineral additive in cement production. Its use contributes not only to the reduction of clinker consumption but also to the mitigation of environmental impacts through the recycling of industrial waste. Therefore, the application of this technogenic material in cement technology represents an important scientific and practical approach toward resource-efficient and environmentally sustainable construction materials.

CONCLUSION

The research results demonstrated that Sharg‘un coal mine waste can be effectively used as a mineral additive in Portland cement. The additive did not have a negative impact on key performance indicators such as density, specific surface area, and volumetric stability of cement.

The Le Chatelier Method results confirmed that all tested samples complied with standard requirements. Overall, the obtained findings indicate that the use of technogenic waste is a promising solution for reducing clinker consumption, improving environmental efficiency, and producing resource-efficient cement.

REFERENCES

1. Qodirov R.A., Khodjamkulov S.Z. Use of technogenic waste as an additive in Portland cement production and study of its properties // Kokand State Pedagogical Institute. Scientific Reports. – 2025. – Issue 2. – pp. 93–103.
2. Qodirov R.A., Khodjamkulov S.Z., Toshmamatov O.A. Study of the physical properties of cement obtained based on asphalt plant filter waste // *Universum: Technical Sciences*. – 28.04.2025. – No. 35689. – pp. 54–56. DOI: 10.32743/UniTech.2025.133.4.19879.
3. Qodirov R.A., Khodjamkulov S.Z., Shaymardanova M.A., Shamaev B.E. Increasing the Efficiency of Cement Based on Asphalt Plant Filter Waste //

International Journal of Engineering Trends and Technology (IJETT). – Vol. 74, No. 2, 2026. – pp. 215–222. https://doi.org/10.14445/22315381/IJETT-V74I2P115

4. Qodirov R.A., Khodjamkulov S.Z. Strength and structural properties of Portland cement obtained with the participation of technogenic waste // Proceedings of the online international scientific-practical conference “Problems and Solutions of Implementing Scientific Research into Practice”. – Namangan State University (NamDU), 20–21 February 2026. – pp. 803–807. https://doi.org/10.5281/zenodo.18980693

5. Qodirov R.A., Khodjamkulov S.Z. Use of technogenic waste for reducing clinker consumption and its effect on cement properties // *Innovations in Science and Education System: International Conference*. – Delhi, India, 2026. – pp. 140–150. https://doi.org/10.5281/zenodo.20195754

THE PEDAGOGICAL SIGNIFICANCE OF DEVELOPING COMMUNICATIVE COMPETENCIES IN VOCATIONAL EDUCATION

Turakulova Motabarkhon Rustamovna
Madoripova Dilzoda Oktamjonovna
Teachers of Fergana City Polytechnic College No. 5

Abstract. This article discusses the theoretical and practical aspects of developing communicative competencies in the system of vocational education. In the context of the modern labor market, it is essential for specialists not only to possess professional knowledge and skills, but also to communicate effectively, work collaboratively in teams, solve problems collectively, and express their ideas clearly. Therefore, the formation of communicative competencies in vocational education has become one of the primary objectives of the educational process. The article analyzes the essence and structure of communicative competence as well as its role in students' professional activities. Furthermore, it highlights the effectiveness of interactive methods, information and communication technologies, and practical training in developing communicative competencies. The article also discusses the communicative culture of teachers and their role in the educational process.

Keywords: communicative competence, vocational education, communication culture, interactive methods, pedagogical technologies, communicative skills, professional development, quality of education.

PROFESSIONAL TA'LIMDA KOMMUNIKATIV KOMPETENSIYALARNI RIVOJLANTIRISHNING PEDAGOGIK AHAMIYATI

Turakulova Mo'tabarxon Rustamovna
Madoripova Dilzoda O'ktamjonovna
Farg'ona shahar 5-son politexnikumi o'qituvchilari

Annotatsiya. Mazkur maqolada professional ta’lim tizimida kommunikativ kompetensiyalarni rivojlantirishning nazariy va amaliy jihatlari yoritilgan. Hozirgi zamonaviy mehnat bozori sharoitida mutaxassislarning nafaqat kasbiy bilim va ko‘nikmalarga, balki samarali muloqot olib borish, jamoa bilan ishlash, muammolarni birgalikda hal qilish hamda o‘z fikrini aniq ifodalash qobiliyatiga ega bo‘lishi muhim ahamiyat kasb etmoqda. Shu sababli professional ta’lim tizimida kommunikativ kompetensiyalarni shakllantirish ta’limning asosiy vazifalaridan biri hisoblanadi. Maqolada kommunikativ kompetensiyaning mazmun-mohiyati, uning tarkibiy qismlari hamda o‘quvchilarning professional faoliyatidagi o‘rni tahlil qilingan. Shuningdek, kommunikativ kompetensiyalarni rivojlantirishda interfaol metodlar, axborot-kommunikatsiya texnologiyalari va amaliy mashg‘ulotlarning samaradorligi yoritilgan. Pedagogning kommunikativ madaniyati hamda ta’lim jarayonidagi roli haqida ham fikr yuritilgan.

Kalit so‘zlar: kommunikativ kompetensiya, professional ta’lim, muloqot madaniyati, interfaol metodlar, pedagogik texnologiyalar, kommunikativ ko‘nikma, professional rivojlanish, ta’lim sifati.

ПЕДАГОГИЧЕСКОЕ ЗНАЧЕНИЕ РАЗВИТИЯ КОММУНИКАТИВНЫХ КОМПЕТЕНЦИЙ В ПРОФЕССИОНАЛЬНОМ ОБРАЗОВАНИИ

Туракулова Мўтабархон Рустамовна
Мадорипова Дилзода Ўктамжоновна
преподаватели Ферганского городского политехникума №5

Аннотация. В данной статье рассматриваются теоретические и практические аспекты развития коммуникативных компетенций в системе профессионального образования. В условиях современного рынка труда важное значение приобретает способность специалистов не только обладать профессиональными знаниями и навыками, но и эффективно общаться, работать

в коллективе, совместно решать проблемы, а также ясно выражать свои мысли. Поэтому формирование коммуникативных компетенций в системе профессионального образования является одной из основных задач обучения. В статье проанализированы сущность и содержание коммуникативной компетенции, её структурные компоненты и роль в профессиональной деятельности обучающихся. Также освещена эффективность интерактивных методов, информационно-коммуникационных технологий и практических занятий в развитии коммуникативных компетенций. Особое внимание уделено коммуникативной культуре педагога и его роли в образовательном процессе.

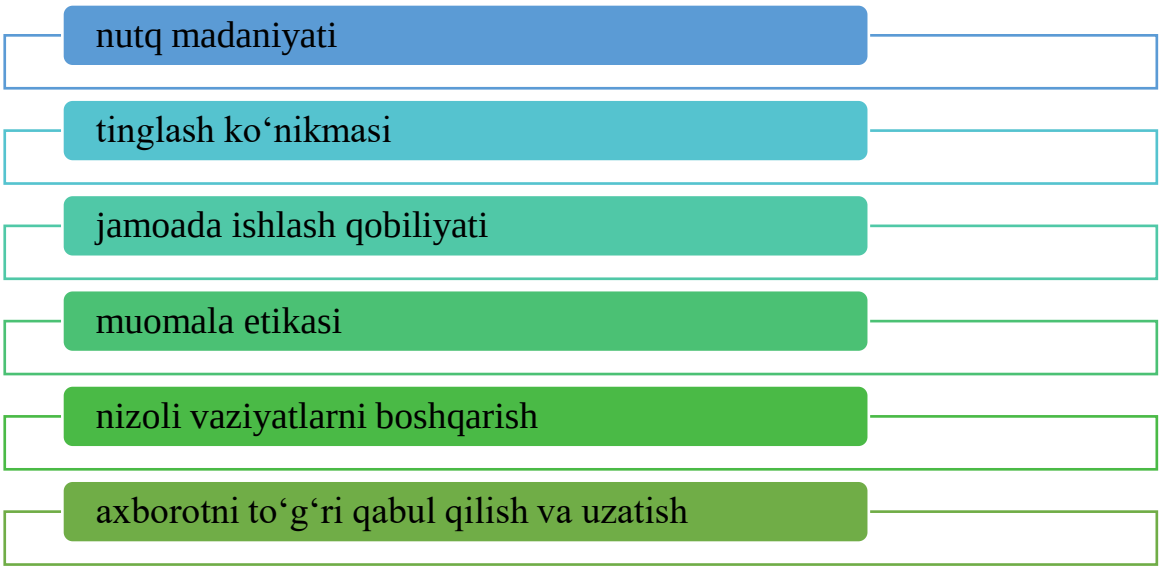
Ключевые слова: коммуникативная компетенция, профессиональное образование, культура общения, интерактивные методы, педагогические технологии, коммуникативные навыки, профессиональное развитие, качество образования.

Kirish. Bugungi kunda dunyoda ta’lim tizimiga qo‘yilayotgan talablar tubdan o‘zgarib bormoqda. Fan va texnologiyalarning jadal rivojlanishi, globallashuv jarayonlari hamda mehnat bozoridagi raqobatning kuchayishi natijasida zamonaviy mutaxassisdan nafaqat chuqur professional bilim, balki yuqori darajadagi kommunikativ kompetensiyalar ham talab etilmoqda. Ayniqsa, professional ta’lim tizimida tayyorlanayotgan mutaxassislarning kelajakdagi faoliyati ko‘p jihatdan ularning samarali muloqot olib borish qobiliyatiga bog‘liqdir. Kommunikativ kompetensiya insonning turli ijtimoiy va professional vaziyatlarda boshqalar bilan samarali aloqa o‘rnata olishi, o‘z fikrini ravon va asosli ifodalashi, suhbatdoshni tinglay bilishi hamda jamoa bilan hamkorlikda ishlash ko‘nikmalarini o‘z ichiga oladi. Zamonaviy ish beruvchilar bugungi kunda aynan shunday sifatlarni qadrlamoqda. Chunki har qanday professional faoliyat jarayonida inson boshqa mutaxassislar, mijozlar yoki hamkasblar bilan muntazam muloqotda bo‘ladi.

Professional ta’lim muassasalarida kommunikativ kompetensiyalarni rivojlantirish o‘quvchilarning nafaqat nutq madaniyatini oshiradi, balki ularning mustaqil fikrlashi, ijtimoiy faolligi va professional moslashuvchanligini ham rivojlantiradi. Ayniqsa, jamoaviy loyiha ishlari, amaliy mashg‘ulotlar, munozaralar va taqdimotlar o‘quvchilarning muloqot ko‘nikmalarini shakllantirishda muhim vosita hisoblanadi. Shu bilan birga, axborot-kommunikatsiya texnologiyalarining rivojlanishi ta’lim jarayonida yangi imkoniyatlarni yaratmoqda. Masofaviy ta’lim, onlayn konferensiyalar, virtual platformalar orqali o‘quvchilar nafaqat an’anaviy, balki raqamli kommunikatsiya ko‘nikmalarini ham egallamoqda. Bu esa ularning zamonaviy mehnat bozori talablariga moslashishiga yordam beradi. Mamlakatimizda ham professional ta’lim tizimini modernizatsiya qilish, xalqaro standartlarga mos mutaxassislar tayyorlash va ta’lim sifatini oshirish bo‘yicha keng ko‘lamli islohotlar amalga oshirilmoqda. Ushbu jarayonda kommunikativ kompetensiyalarni rivojlantirish muhim pedagogik vazifalardan biri sifatida qaralmoqda. Mazkur maqolaning maqsadi professional ta’lim jarayonida kommunikativ kompetensiyalarni rivojlantirishning pedagogik ahamiyatini tahlil qilish, samarali metod va yondashuvlarni yoritish hamda ushbu kompetensiyalarning professional faoliyatdagi o‘rnini ochib berishdan iboratdir.

Asosiy qism. *Kommunikativ kompetensiyaning mazmun-mohiyati*

Kommunikativ kompetensiya — bu shaxsning turli vaziyatlarda samarali muloqot olib borishi, o‘z fikrini aniq va ravon ifodalashi, suhbatdoshni tushunishi hamda axborotni to‘g‘ri yetkazib bera olish qobiliyatidir. Professional ta’lim tizimida ushbu kompetensiya o‘quvchilarning kelajakdagi professional faoliyatida muhim o‘rin egallaydi. Chunki zamonaviy ishlab chiqarish va xizmat ko‘rsatish sohalarida mutaxassislarning nafaqat nazariy bilimlari, balki jamoa bilan ishlashi, mijozlar bilan muloqot qilishi va muammoli vaziyatlarda to‘g‘ri qaror qabul qilishi ham muhim hisoblanadi. Kommunikativ kompetensiya quyidagi tarkibiy qismlardan iborat:



1-rasm. Kommunikativ kompetensiyaning asosiy tarkibiy qismlari.

Professional ta’lim jarayonida mazkur kompetensiyalarni shakllantirish o‘quvchilarning kelajakdagi ish faoliyatida muvaffaqiyatga erishishiga xizmat qiladi.

Professional ta’limda kommunikativ kompetensiyalarni rivojlantirishning ahamiyati

Hozirgi kunda ish beruvchilar tomonidan kommunikativ ko‘nikmalarga ega bo‘lgan mutaxassislarga talab ortib bormoqda. Sababi, har qanday professional faoliyat jamoaviy hamkorlik va doimiy muloqotni talab qiladi. Shuning uchun professional ta’lim muassasalarida kommunikativ kompetensiyalarni rivojlantirish ta’limning asosiy yo‘nalishlaridan biri hisoblanadi. Kommunikativ kompetensiyalarni rivojlantirish quyidagi imkoniyatlarni yaratadi:

o‘quvchilarning erkin fikrlashini rivojlantiradi;

jamoada ishlash ko‘nikmasini shakllantiradi;

o‘z fikrini asoslab bera olish qobiliyatini oshiradi;

professional muhitga moslashishni osonlashtiradi;

liderlik va tashabbuskorlik sifatlarini rivojlantiradi.

1-jadval.

Kommunikativ kompetensiyalarni rivojlantirish metodlari va natijalari

Metodlar	Mazmuni	Natijasi
Interfaol metodlar	Munozara, debat, “Aqliy hujum” kabi usullar orqali o‘quvchilarni faollashtirish	Erkin fikrlash va muloqot ko‘nikmalari rivojlanadi
Guruhli ishlash	Jamoada vazifalarni birgalikda bajarish	Hamkorlik va jamoaviy ishlash malakasi shakllanadi
Rolli o‘yinlar	Professional vaziyatlarni sahnalashtirish	Muomala madaniyati va muammoli vaziyatlarni hal qilish qobiliyati rivojlanadi
AKTdan foydalanish	Onlayn platformalar va taqdimotlardan foydalanish	Raqamli kommunikatsiya ko‘nikmalari shakllanadi
Amaliy mashg‘ulotlar	Ish jarayoniga yaqin amaliy vazifalarni bajarish	Professional faoliyatga tayyorgarlik oshadi
Taqdimotlar tayyorlash	O‘z fikrini auditoriyaga yetkazish	Nutq ravonligi va ishonch ortadi

Texnik va xizmat ko‘rsatish yo‘nalishlarida ta’lim olayotgan o‘quvchilar uchun kommunikativ kompetensiyalar muhim kasbiy sifatlardan biri hisoblanadi.

Kommunikativ kompetensiyalarni rivojlantirish metodlari

Professional ta’lim tizimida kommunikativ kompetensiyalarni rivojlantirish uchun zamonaviy pedagogik metodlardan foydalanish muhim ahamiyatga ega. Interfaol metodlar o‘quvchilarning darsdagi faolligini oshirish bilan birga, ularni erkin fikr bildirishga undaydi. Bunday metodlar o‘quvchilar o‘rtasida muloqotni kuchaytiradi va hamkorlik muhitini yaratadi.

Professional ta’limda quyidagi interfaol metodlar samarali hisoblanadi:

“Aqliy hujum”	“Munozara”	“Case study”;	“Debat”	guruhlarda ishlash

Axborot-kommunikatsiya texnologiyalaridan foydalanish

Raqamli texnologiyalar kommunikativ kompetensiyalarni rivojlantirishda keng imkoniyatlar yaratmoqda. Onlayn platformalar, videokonferensiyalar, virtual taqdimotlar va elektron ta’lim resurslari o‘quvchilarning kommunikativ faolligini oshiradi. Masofaviy ta’lim jarayonida o‘quvchilar virtual muloqot olib borish, elektron yozishmalarni amalga oshirish va onlayn muhokamalarda qatnashish orqali zamonaviy kommunikatsiya ko‘nikmalarini egallaydi.

Amaliy mashg‘ulotlarning o‘rni

Amaliy mashg‘ulotlar kommunikativ kompetensiyalarni shakllantirishning eng samarali vositalaridan biri hisoblanadi. Amaliy jarayonlarda o‘quvchilar birgalikda ishlash, fikr almashish va muammolarni jamoaviy tarzda hal qilish tajribasiga ega bo‘ladi. Shuningdek, amaliy mashg‘ulotlar o‘quvchilarning nutq madaniyatini rivojlantiradi hamda professional muhitga tayyorgarligini oshiradi.

Pedagogning kommunikativ kompetensiyalarni rivojlantirishdagi roli

Professional ta’lim tizimida pedagog kommunikativ kompetensiyalarni shakllantirishda asosiy shaxslardan biri hisoblanadi. Pedagogning nutqi, muomala madaniyati va o‘quvchilar bilan olib boradigan muloqoti ularga bevosita ta’sir ko‘rsatadi.

- Pedagog quyidagi vazifalarni amalga oshirishi zarur:
- darsda erkin muloqot muhitini yaratish;
- o‘quvchilarni mustaqil fikr bildirishga rag‘batlantirish;
- zamonaviy pedagogik texnologiyalardan foydalanish;
- o‘quvchilarning nutq madaniyatini rivojlantirish;

- jamoaviy ishlash ko‘nikmalarini shakllantirish.

Pedagogning kommunikativ mahorati qanchalik yuqori bo‘lsa, ta’lim jarayonining samaradorligi ham shunchalik oshadi.

Xulosa. Xulosa qilib aytganda, professional ta’lim tizimida kommunikativ kompetensiyalarni rivojlantirish zamonaviy ta’limning muhim yo‘nalishlaridan biri hisoblanadi. Chunki bugungi mehnat bozori sharoitida mutaxassisdan nafaqat professional bilim va amaliy ko‘nikmalar, balki samarali muloqot olib borish, jamoa bilan ishlash va muammoli vaziyatlarda to‘g‘ri qaror qabul qilish qobiliyati ham talab etilmoqda. Kommunikativ kompetensiyalarni rivojlantirish o‘quvchilarning mustaqil fikrlashi, nutq madaniyati, ijtimoiy faolligi va professional moslashuvchanligini oshiradi. Ayniqsa, interfaol metodlar, axborot-kommunikatsiya texnologiyalari hamda amaliy mashg‘ulotlardan foydalanish kommunikativ ko‘nikmalarni samarali shakllantirishga xizmat qiladi. Kelgusida professional ta’lim tizimida kommunikativ kompetensiyalarni rivojlantirishga qaratilgan innovatsion metod va texnologiyalarni keng joriy etish, zamonaviy mehnat bozori talablariga mos, raqobatbardosh va kommunikativ jihatdan yetuk mutaxassislarni tayyorlashga xizmat qiladi.

Foydalanilgan adabiyotlar:

1. Tolipov O‘., Usmonboyeva M. Pedagogik texnologiyalar nazariyasi va amaliyoti. Toshkent: O‘qituvchi, 2017.
2. Ishmuhamedov R. Innovatsion pedagogik texnologiyalar. Toshkent, 2020.
3. Muslimov N. Professional ta’lim pedagogikasi. Toshkent, 2019.
4. Xoliqov A. Pedagogik mahorat. Toshkent, 2018.
5. O‘zbekiston Respublikasining “Ta’lim to‘g‘risida”gi Qonuni.
6. Azizxo‘jayeva N. Pedagogik texnologiya va pedagogik mahorat. Toshkent, 2016.
7. Sayidahmedov N. Pedagogik innovatsiyalar va texnologiyalar. Toshkent, 2019.
8. Jo‘rayev R., Zokirova F. Ta’lim jarayonida interfaol metodlar. Toshkent, 2021. adi.

METHODS FOR IMPROVING THE EFFECTIVENESS OF LEARNING PROFESSIONAL TERMINOLOGY IN RUSSIAN LANGUAGE CLASSES

Matkarimova Husnida Dilshodovna

Lecturer, Fergana City Polytechnic No. 5

Abstract. This article examines effective methods for teaching professional terminology in Russian language classes within the vocational education system. The role of a communicative approach, interactive methods, and information and communication technologies in learning professional terminology is highlighted. Pedagogical methods aimed at developing students' professional verbal competence and strengthening their terminological knowledge are also analyzed.

Keywords: professional terminology, Russian language, vocational education, communicative approach, interactive methods, pedagogical technologies, professional competence, terminological knowledge.

МЕТОДЫ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ УСВОЕНИЯ ПРОФЕССИОНАЛЬНОЙ ТЕРМИНОЛОГИИ НА ЗАНЯТИЯХ РУССКОГО ЯЗЫКА

Маткаримова Хуснида Дилшодовна

Преподаватель Ферганского городского политехникума №5

Аннотация. В данной статье рассматриваются эффективные методы преподавания профессиональной терминологии на занятиях русского языка в системе профессионального образования. Освещается роль коммуникативного подхода, интерактивных методов и информационно-коммуникационных технологий в усвоении профессиональной терминологии. Также анализируются педагогические методы, направленные на развитие профессиональной речевой компетенции обучающихся и укрепление терминологических знаний.

Ключевые слова: профессиональная терминология, русский язык, профессиональное образование, коммуникативный подход, интерактивные методы, педагогические технологии, профессиональная компетенция, терминологические знания.

Введение. В настоящее время одной из важнейших задач системы профессионального образования является подготовка конкурентоспособных специалистов, обладающих современными знаниями и навыками. В образовательном процессе особое значение приобретает не только формирование общетеоретических знаний, но и развитие коммуникативных компетенций, необходимых в профессиональной деятельности. В этой связи проблема усвоения профессиональной терминологии в процессе обучения русскому языку становится одной из актуальных педагогических проблем. В условиях глобализации и международного сотрудничества русский язык выступает важным средством коммуникации во многих технических, экономических, производственных и сервисных сферах. Особенно для обучающихся профессиональных образовательных учреждений знание профессиональных терминов на русском языке является важным фактором повышения эффективности будущей профессиональной деятельности. Поскольку только специалист, в совершенстве владеющий терминологией своей области, способен эффективно работать с технической документацией, осуществлять профессиональное общение и пользоваться современными информационными ресурсами. Профессиональная терминология представляет собой систему специальных понятий, используемых в определённой сфере или профессии, и является одним из основных средств формирования профессиональной компетентности специалиста. Поэтому формирование и закрепление терминологических знаний на занятиях русского языка считается важной

составляющей учебного процесса. Однако на практике наблюдаются трудности у обучающихся при запоминании терминов, их правильном употреблении в речи, а также недостаточный уровень развития навыков свободного использования терминологии в профессиональных ситуациях.

В решении данной проблемы важную роль играют современные педагогические технологии, интерактивные методы и коммуникативный подход. В частности, использование ролевых игр, кейс-методов, проектного обучения, мультимедийных средств и цифровых образовательных платформ способствует повышению эффективности усвоения терминологии. Подобные методы повышают активность обучающихся на занятиях, развивают их самостоятельное мышление и способствуют формированию профессиональной речевой компетенции. Кроме того, важным методическим подходом является интеграция занятий русского языка с профессиональной направленностью. Так как занятия, организованные на основе профессионально ориентированных текстов, диалогов, технической документации и практических заданий, обогащают терминологический запас обучающихся и повышают уровень их подготовки к профессиональной деятельности. В нашей стране особое внимание уделяется модернизации системы образования, обучению иностранным языкам и развитию профессиональных компетенций [1]. Вместе с тем внедрение современных педагогических технологий в систему профессионального образования и подготовка конкурентоспособных специалистов определены как одни из приоритетных задач [2].

Основная часть. Профессиональная терминология является важной составной частью подготовки будущих специалистов в системе профессионального образования. На занятиях русского языка обучение терминологии способствует не только расширению словарного запаса

обучающихся, но и формированию их профессиональной речевой компетенции. Владение профессиональными терминами позволяет обучающимся свободно осуществлять коммуникацию в профессиональной среде, понимать техническую документацию, а также эффективно использовать специализированную литературу и информационные ресурсы. В современных условиях обучение профессиональной терминологии требует применения инновационных педагогических подходов и интерактивных методов. Традиционные методы, основанные только на заучивании терминов, не обеспечивают достаточной эффективности. Поэтому особое значение приобретает коммуникативный подход, при котором терминология изучается в процессе речевой деятельности и профессионального общения.

Одним из эффективных методов является использование профессионально ориентированных текстов. Работа с техническими текстами, инструкциями, производственными документами и диалогами способствует лучшему пониманию значения терминов и их правильному употреблению в контексте. При этом обучающиеся учатся анализировать информацию, выделять основные понятия и использовать терминологию в устной и письменной речи. Важную роль в усвоении профессиональной терминологии играют интерактивные методы обучения. К ним относятся ролевые игры, работа в группах, дискуссии, кейс-методы и проектное обучение. Например, в процессе ролевых игр обучающиеся моделируют реальные профессиональные ситуации, что способствует развитию коммуникативных навыков и закреплению терминов на практике. Кейс-метод позволяет анализировать производственные ситуации и находить решения с использованием профессиональной терминологии.

Современные информационно-коммуникационные технологии также значительно повышают эффективность обучения. Использование

мультимедийных презентаций, электронных словарей, обучающих платформ и видеоматериалов делает учебный процесс более интересным и доступным. Визуальное восприятие терминов помогает обучающимся быстрее запоминать новые понятия и применять их в профессиональной деятельности.

Кроме того, важным условием успешного усвоения терминологии является межпредметная интеграция. Сотрудничество преподавателей русского языка со специалистами профильных дисциплин способствует подбору актуальной терминологии и созданию практико-ориентированных заданий. Такой подход обеспечивает связь языковой подготовки с будущей профессией обучающихся. Для повышения эффективности усвоения профессиональной терминологии целесообразно использовать систему упражнений, направленных на развитие речевых навыков. К ним относятся составление диалогов, перевод профессиональных текстов, выполнение терминологических тестов, создание словарей и работа с профессиональными ситуациями. Регулярное применение подобных заданий способствует активизации словарного запаса и формированию устойчивых навыков профессионального общения. Использование коммуникативного подхода, интерактивных методов и современных педагогических технологий на занятиях русского языка способствует повышению эффективности усвоения профессиональной терминологии. Это, в свою очередь, играет важную роль в формировании профессиональной компетентности обучающихся и подготовке квалифицированных специалистов.

Результаты. В ходе исследования было установлено, что использование коммуникативного подхода, интерактивных методов и современных педагогических технологий на занятиях русского языка значительно повышает уровень усвоения профессиональной терминологии обучающимися. Особенно высокая активность и заинтересованность обучающихся наблюдалась на занятиях

с применением профессионально ориентированных текстов, ролевых игр, кейс-методов и мультимедийных средств. В процессе обучения у обучающихся сформировались навыки понимания профессиональных терминов и их правильного употребления в устной и письменной речи. Наряду с этим развивались умения работать с технической документацией, составлять профессиональные диалоги и свободно общаться в профессиональных ситуациях. Использование интерактивных методов также способствовало развитию самостоятельного мышления, навыков работы в коллективе и способности находить решения в проблемных ситуациях.

Результаты исследования показали, что обучение терминологии на основе контекста является значительно более эффективным по сравнению с традиционным методом механического запоминания. Благодаря применению терминов в практических ситуациях обучающиеся быстрее усваивали новые понятия и дольше сохраняли их в памяти. Кроме того, использование информационно-коммуникационных технологий повысило эффективность занятий и улучшило качество образовательного процесса. Полученные результаты подтверждают, что организация занятий русского языка на основе современных методов играет важную роль в развитии профессиональной компетентности обучающихся. Это, в свою очередь, способствует подготовке квалифицированных, конкурентоспособных и коммуникативно развитых специалистов.

Обсуждение. Результаты исследования показали, что эффективность усвоения профессиональной терминологии на занятиях русского языка во многом зависит от выбора педагогических методов и организации учебного процесса. Анализ проведённой работы подтвердил, что применение коммуникативного подхода и интерактивных методов способствует более глубокому усвоению

терминов по сравнению с традиционными способами обучения. В ходе исследования было выявлено, что обучающиеся испытывают определённые трудности при изучении профессиональной терминологии. Основными причинами являются недостаточный словарный запас, сложность терминов и отсутствие регулярной практики их использования в профессиональной речи. В связи с этим особую значимость приобретает создание практико-ориентированной образовательной среды, в которой обучающиеся смогут активно использовать терминологию в различных профессиональных ситуациях.

Использование профессионально ориентированных текстов, диалогов и кейс-заданий показало положительное влияние на развитие речевых навыков обучающихся. Такие задания помогают не только понимать значение терминов, но и применять их в контексте будущей профессиональной деятельности. Кроме того, интерактивные методы повышают мотивацию обучающихся, делают учебный процесс более динамичным и способствуют развитию самостоятельного мышления. Следует отметить, что современные информационно-коммуникационные технологии играют важную роль в повышении качества обучения. Электронные образовательные ресурсы, мультимедийные материалы и цифровые платформы расширяют возможности преподавателя и позволяют сделать процесс усвоения терминологии более доступным и эффективным. Однако для достижения высоких результатов необходимо систематическое и целенаправленное использование данных технологий.

Важным аспектом является также межпредметная интеграция. Сотрудничество преподавателей русского языка со специалистами профильных дисциплин позволяет обеспечить связь языковой подготовки с профессиональной деятельностью обучающихся. Такой подход способствует формированию устойчивых навыков профессионального общения и повышает уровень

профессиональной компетентности будущих специалистов. Результаты исследования подтверждают необходимость внедрения современных педагогических технологий и коммуникативных методов в процесс обучения профессиональной терминологии на занятиях русского языка. Комплексное применение данных подходов обеспечивает повышение качества профессионального образования и способствует подготовке квалифицированных специалистов, способных эффективно функционировать в современной профессиональной среде.

Заключение. Обучение профессиональной терминологии на занятиях русского языка в системе профессионального образования является важным условием формирования профессиональной компетентности обучающихся. Владение профессиональными терминами способствует развитию коммуникативных навыков, повышению качества профессиональной подготовки и эффективному использованию специальных знаний в будущей трудовой деятельности. Результаты исследования показали, что применение коммуникативного подхода, интерактивных методов и современных педагогических технологий значительно повышает эффективность усвоения профессиональной терминологии. Использование профессионально ориентированных текстов, ролевых игр, кейс-методов, мультимедийных средств и цифровых образовательных ресурсов способствует активизации познавательной деятельности обучающихся и развитию их профессиональной речи.

Кроме того, важную роль играет интеграция занятий русского языка с профильными дисциплинами, обеспечивающая практическую направленность обучения и формирование устойчивых навыков профессионального общения. Такой подход позволяет обучающимся не только усваивать терминологию, но и успешно применять её в реальных профессиональных ситуациях. Следовательно,

организация занятий русского языка на основе современных методических подходов и инновационных технологий способствует подготовке квалифицированных, конкурентоспособных и коммуникативно компетентных специалистов. В перспективе дальнейшее совершенствование методов преподавания профессиональной терминологии будет способствовать повышению качества профессионального образования и развитию профессиональной языковой подготовки обучающихся.

Литература:

[1] Указ Президента Республики Узбекистан № ПФ–6108 от 6 ноября 2020 года «О мерах по развитию сфер образования, науки и воспитания».

[2] Постановление Президента Республики Узбекистан № ПҚ–3151 от 27 июля 2017 года «О мерах по дальнейшему расширению участия отраслей и сфер экономики в повышении качества подготовки специалистов с высшим образованием».

[3] Азимов Э.Г., Щукин А.Н. Новый словарь методических терминов и понятий (теория и практика обучения языкам). Москва: ИКАР, 2009.

[4] Пассов Е.И. Коммуникативный метод обучения иноязычному говорению. Москва: Просвещение, 1991.

[5] Зимняя И.А. Педагогическая психология. Москва: Логос, 2004.

[6] Полат Е.С. Современные педагогические и информационные технологии в системе образования. Москва: Академия, 2010.

[7] Леонтьев А.А. Язык, речь, речевая деятельность. Москва: Просвещение, 2005.

[8] Бим И.Л. Теория и практика обучения иностранному языку в средней школе. Москва: Просвещение, 1988.

POSSIBILITIES OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN EDUCATION

Turakulova Mutabarkhon Rustamovna
Madoripova Dilzoda Oktamjonovna
Teachers of Fergana Polytechnic No. 5

Annotation. This article analyzes the role of artificial intelligence technologies in the modern education system, their pedagogical capabilities, and scientific and practical aspects of their integration into the educational process. The study highlights the impact of artificial intelligence-based digital platforms, adaptive learning systems, automated assessment tools, and virtual learning environments on the effectiveness of the educational process. It also reveals the possibilities of developing students' independent learning competencies, creative and critical thinking skills through the use of artificial intelligence technologies. The article substantiates the importance of artificial intelligence in individualizing the educational process, adapting educational materials to the level of students' knowledge, and optimizing pedagogical activities. At the same time, technical, ethical and methodological problems arising in the process of introducing artificial intelligence technologies into the education system were also analyzed.

Keywords: artificial intelligence, digital education, adaptive learning, innovative pedagogy, automated assessment, educational technologies, e-learning, pedagogical innovations.

SUN’IY INTELLEKT TEXNOLOGIYALARINING TA’LIMDAGI IMKONIYATLARI

Turakulova Mo‘tabarxon Rustamovna
Madoripova Dilzoda O‘ktamjonovna
Farg‘ona shahar 5-son politexnikumi o‘qituvchilari

Annotatsiya. Mazkur maqolada sun’iy intellekt texnologiyalarining zamonaviy ta’lim tizimidagi o‘rni, pedagogik imkoniyatlari hamda ta’lim jarayoniga integratsiyalashuvining ilmiy-amaliy jihatlari tahlil qilingan. Tadqiqotda sun’iy intellekt asosidagi raqamli platformalar, adaptiv o‘qitish tizimlari, avtomatlashtirilgan baholash vositalari va virtual ta’lim muhitlarining o‘quv jarayoni samaradorligiga ta’siri yoritilgan. Shuningdek, sun’iy intellekt texnologiyalaridan foydalanish orqali o‘quvchilarning mustaqil ta’lim olish kompetensiyalari, kreativ va tanqidiy fikrlash ko‘nikmalarini rivojlantirish imkoniyatlari ochib berilgan. Maqolada ta’lim jarayonini individuallashtirish, o‘quv materiallarini o‘quvchilarning bilim darajasiga moslashtirish hamda pedagogik faoliyatni optimallashtirishda sun’iy intellektning ahamiyati asoslab berilgan. Shu bilan birga, sun’iy intellekt texnologiyalarini ta’lim tizimiga joriy etish jarayonida yuzaga keladigan texnik, axloqiy va metodik muammolar ham tahlil qilingan.

Kalit so‘zlar: sun’iy intellekt, raqamli ta’lim, adaptiv o‘qitish, innovatsion pedagogika, avtomatlashtirilgan baholash, ta’lim texnologiyalari, elektron ta’lim, pedagogik innovatsiyalar.

Kirish

XXI asrda axborot-kommunikatsiya texnologiyalarining jadal rivojlanishi jamiyatning barcha sohalarida, jumladan ta’lim tizimida ham tub o‘zgarishlarni yuzaga keltirmoqda. Raqamlashtirish jarayonlarining kengayishi natijasida ta’limni tashkil etishning an’anaviy shakllari zamonaviy innovatsion yondashuvlar bilan boyib bormoqda. Ayniqsa, sun’iy intellekt texnologiyalarining rivojlanishi ta’lim jarayonini samarali tashkil etish, o‘quvchilarning individual ehtiyojlarini hisobga olish hamda ta’lim sifatini oshirishda muhim omil sifatida namoyon bo‘lmoqda. Sun’iy intellekt insonning fikrlash, tahlil qilish, qaror qabul qilish va muammolarni hal etish faoliyatiga taqlid qiluvchi texnologiyalar majmuasi hisoblanadi. Bugungi kunda sun’iy intellekt asosidagi tizimlar tibbiyot, iqtisodiyot, sanoat va xizmat ko‘rsatish sohalari bilan bir

qatorda ta’lim tizimida ham keng qo‘llanilmoqda. Xususan, adaptiv o‘qitish platformalari, virtual assistentlar, chatbotlar, avtomatlashtirilgan baholash tizimlari va elektron ta’lim resurslari pedagogik faoliyat samaradorligini oshirish imkonini bermoqda. Zamonaviy ta’lim tizimida sun’iy intellekt texnologiyalaridan foydalanish o‘quv jarayonini individuallashtirishga xizmat qiladi. Har bir o‘quvchining bilim darajasi, qiziqishi va o‘zlashtirish imkoniyatidan kelib chiqib ta’lim materiallarini moslashtirish imkoniyati paydo bo‘lmoqda. Bu esa o‘quvchilarning mustaqil ta’lim olish ko‘nikmalarini rivojlantirish, ta’lim motivatsiyasini oshirish va bilimlarni samarali o‘zlashtirishga yordam beradi. Shuningdek, sun’iy intellekt texnologiyalari pedagoglar faoliyatini optimallashtirishda ham muhim ahamiyat kasb etadi. Avtomatlashtirilgan baholash tizimlari, elektron monitoring va tahliliy platformalar orqali o‘quvchilarning bilim darajasini tezkor aniqlash hamda ta’lim natijalarini monitoring qilish imkoniyati kengaymoqda. Bu esa pedagoglarning vaqtini tejash va ta’lim jarayonini yanada sifatli tashkil etishga xizmat qiladi.

Asosiy qism.

Bugungi kunda dunyoning rivojlangan davlatlarida sun’iy intellekt texnologiyalarini ta’lim tizimiga integratsiya qilish bo‘yicha keng ko‘lamli ilmiy tadqiqotlar olib borilmoqda. Mamlakatimizda ham raqamli ta’lim muhitini shakllantirish, innovatsion texnologiyalarni joriy etish hamda zamonaviy kompetensiyalarga ega mutaxassislarni tayyorlash davlat siyosatining ustuvor yo‘nalishlaridan biri sifatida belgilanmoqda. Hozirgi kunda sun’iy intellekt texnologiyalari ta’lim tizimining muhim tarkibiy qismlaridan biriga aylanib bormoqda. Ular o‘quv jarayonini raqamlashtirish, ta’lim sifatini oshirish hamda pedagogik faoliyatni optimallashtirishda keng imkoniyatlar yaratmoqda. Sun’iy intellekt asosidagi tizimlar katta hajmdagi ma’lumotlarni tahlil qilish, o‘quvchilarning bilim darajasini aniqlash va individual ta’lim yo‘nalishlarini ishlab chiqish imkoniyatiga ega.

Ta’lim jarayonida sun’iy intellekt texnologiyalaridan foydalanish o‘quvchilarning bilim olish jarayonini yanada interaktiv va samarali tashkil etishga xizmat qiladi. Xususan, adaptiv o‘qitish platformalari o‘quvchilarning individual xususiyatlarini hisobga olgan holda topshiriqlar va o‘quv materiallarini taqdim etadi. Bu esa ta’lim jarayonining individuallashuviga hamda bilimlarni samarali o‘zlashtirishga yordam beradi.

1-rasm. Sun’iy intellekt texnologiyalarining ta’limdagi pedagogik imkoniyatlari

Bugungi kunda sun’iy intellekt texnologiyalari quyidagi yo‘nalishlarda keng qo‘llanilmoqda:

- elektron ta’lim platformalari;

- virtual assistent va chatbotlar;
- avtomatlashtirilgan test tizimlari;
- masofaviy ta’lim texnologiyalari;
- virtual laboratoriyalar;
- ma’lumotlarni tahlil qilish tizimlari.

Mazkur texnologiyalar ta’lim jarayonining sifatini oshirish bilan birga, pedagog va o‘quvchi o‘rtasidagi samarali hamkorlikni ham ta’minlaydi. Ta’lim tizimida sun’iy intellekt texnologiyalaridan foydalanish bir qator ijobiy natijalarni beradi(1-jadvalga qarang).

1-jadval

Sun’iy intellekt texnologiyalaridan foydalanishning afzalliklari

Afzalliklar	**Mazmuni**	**Natijasi**
Ta’limni individuallashtirish	O‘quvchiga mos topshiriq va materiallar beriladi	Bilimlarni samarali o‘zlashtirish ta’minlanadi
Tezkor baholash	Topshiriqlar avtomatik tekshiriladi	Vaqt tejaladi va aniqlik oshadi
Interaktiv muhit	Virtual platformalar va simulyatorlardan foydalaniladi	O‘quvchilarning qiziqishi ortadi
Mustaqil ta’lim	O‘quvchi kerakli resurslardan mustaqil foydalanadi	Mustaqil fikrlash rivojlanadi
Masofaviy ta’lim	Internet orqali ta’lim olish imkoniyati yaratiladi	Ta’lim qamrovi kengayadi

Sun’iy intellekt texnologiyalari zamonaviy pedagogik jarayonni tashkil etishda keng imkoniyatlar yaratmoqda. Ularning asosiy afzalligi ta’lim jarayonini samarali, interaktiv va shaxsga yo‘naltirilgan tarzda tashkil etish imkonini berishidadir. An’anaviy ta’lim tizimida barcha o‘quvchilarga bir xil metod va materiallar asosida ta’lim berilgan

bo‘lsa, sun’iy intellekt texnologiyalari har bir o‘quvchining individual xususiyatlarini hisobga olish imkoniyatini yaratadi.

Sun’iy intellekt asosidagi texnologiyalar ta’lim jarayonida o‘quvchilarning bilim olish faolligini oshirish, mustaqil ta’lim olish kompetensiyalarini rivojlantirish hamda pedagogik faoliyatni optimallashtirishda muhim vosita sifatida qo‘llanilmoqda. Ayniqsa, katta hajmdagi ma’lumotlarni tezkor tahlil qilish, individual tavsiyalar berish va o‘quvchilarning o‘zlashtirish darajasini monitoring qilish imkoniyati sun’iy intellektning pedagogik salohiyatini yanada oshirmoqda.

Sun’iy intellekt texnologiyalari pedagogik jarayonda quyidagi muhim imkoniyatlarni yaratadi:

Individual ta’limni tashkil etish

Sun’iy intellekt texnologiyalarining eng muhim pedagogik imkoniyatlaridan biri ta’lim jarayonini individuallashtirish hisoblanadi. Har bir o‘quvchining bilim darajasi, qobiliyati, qiziqishi va o‘zlashtirish sur’ati turlicha bo‘lganligi sababli bir xil yondashuv barcha o‘quvchilar uchun samarali natija bermaydi. Sun’iy intellekt asosidagi tizimlar esa o‘quvchilarning individual xususiyatlarini tahlil qilib, ularga mos o‘quv materiallari va topshiriqlarni tavsiya etadi. Masalan, adaptiv ta’lim platformalari o‘quvchining qaysi mavzuda qiyinchilikka duch kelayotganini aniqlaydi va shu mavzu bo‘yicha qo‘shimcha materiallar yoki mashqlarni taqdim etadi. Kuchli o‘quvchilarga murakkabroq topshiriqlar berilishi orqali ularning bilim darajasi yanada rivojlantiriladi. Bu esa ta’lim jarayonini samarali tashkil etish va har bir o‘quvchining imkoniyatlarini to‘liq namoyon etishiga yordam beradi. Bundan tashqari, individual ta’lim yondashuvi o‘quvchilarning mustaqil fikrlashini rivojlantiradi, o‘z ustida ishlashga bo‘lgan motivatsiyasini oshiradi hamda bilimlarni chuqurroq o‘zlashtirishga xizmat qiladi.

Avtomatlashtirilgan baholash tizimi

Sun’iy intellekt asosidagi avtomatlashtirilgan baholash tizimlari ta’lim jarayonida muhim pedagogik vositalardan biri hisoblanadi. Mazkur tizimlar test, yozma ish va amaliy topshiriqlarni tezkor hamda aniq tekshirish imkoniyatiga ega. An’anaviy baholash jarayonida pedagog ko‘p vaqtini nazorat ishlari va testlarni tekshirishga sarflaydi. Sun’iy intellekt texnologiyalari esa ushbu jarayonni avtomatlashtirish orqali pedagoglarning vaqtini tejaydi hamda ta’lim sifatini oshirishga yordam beradi. Bundan tashqari, avtomatik baholash tizimlari inson omili ta’sirini kamaytiradi va baholashning xolisligini ta’minlaydi. Sun’iy intellekt asosidagi tizimlar o‘quvchilarning xatolarini tahlil qilib, qaysi mavzularda qiyinchilik mavjudligini aniqlash imkoniyatini ham beradi. Natijada pedagog o‘quvchilarning bilim darajasi haqida aniq ma’lumotga ega bo‘ladi va kerakli metodik yordamni ko‘rsatishi mumkin. Shuningdek, tezkor baholash o‘quvchilarning o‘z bilim darajasini darhol bilishiga imkon yaratadi. Bu esa ularda o‘z ustida ishlash va bilimlarni mustahkamlashga bo‘lgan qiziqishni oshiradi.

Interaktiv ta’lim muhiti

Sun’iy intellekt texnologiyalari interaktiv ta’lim muhitini shakllantirishda ham katta ahamiyatga ega. Zamonaviy virtual laboratoriyalar, simulyatorlar, chatbotlar va multimedia vositalari o‘quvchilarning dars jarayonidagi faolligini oshiradi. Virtual laboratoriyalar orqali o‘quvchilar murakkab tajribalarni xavfsiz va qulay muhitda bajarish imkoniyatiga ega bo‘ladi. Ayniqsa, texnik va tabiiy fanlarni o‘qitishda virtual simulyatorlar katta pedagogik ahamiyat kasb etadi. Ular orqali nazariy bilimlarni amaliyot bilan bog‘lash imkoniyati yaratiladi. Chatbotlar esa o‘quvchilarning savollariga tezkor javob berish, qo‘shimcha ma’lumot taqdim etish va mustaqil ta’lim olish jarayonini qo‘llab-quvvatlashda muhim vosita bo‘lib xizmat qiladi. O‘quvchilar sun’iy intellekt yordamida darsdan tashqari vaqtda ham kerakli ma’lumotlarni olish imkoniyatiga ega bo‘ladi. Interaktiv muhitning yana bir afzalligi shundaki, u

o‘quvchilarning darsga bo‘lgan qiziqishini oshiradi, kreativ fikrlashini rivojlantiradi hamda amaliy ko‘nikmalarini mustahkamlaydi.

Masofaviy ta’lim imkoniyatlari

Sun’iy intellekt texnologiyalari masofaviy ta’lim tizimining rivojlanishida muhim o‘rin tutadi. Ayniqsa, global raqamlashtirish jarayonida ta’limni masofadan turib tashkil etish zamonaviy ta’limning muhim yo‘nalishlaridan biriga aylandi. Sun’iy intellekt asosidagi onlayn platformalar o‘quvchilarga istalgan joy va vaqtda ta’lim olish imkoniyatini yaratadi. Bu esa geografik cheklovlarni kamaytirib, ta’lim qamrovini kengaytiradi. O‘quvchilar internet orqali videodarslar, elektron resurslar va virtual mashg‘ulotlardan foydalanishi mumkin. Masofaviy ta’lim jarayonida sun’iy intellekt texnologiyalari o‘quvchilarning faolligini monitoring qilish, topshiriqlarni nazorat qilish va individual tavsiyalar berish imkonini ham yaratadi. Bu esa ta’lim samaradorligini oshirishga yordam beradi. Shuningdek, masofaviy ta’lim texnologiyalari nogironligi bo‘lgan shaxslar, chekka hududlarda yashovchi o‘quvchilar hamda ish faoliyati bilan birga ta’lim olayotganlar uchun qulay imkoniyat yaratadi. Shu jihatdan sun’iy intellekt texnologiyalari ta’limning ochiqligi va ommabopligini ta’minlashda muhim vosita hisoblanadi.

Xulosa

Xulosa qilib aytganda, sun’iy intellekt texnologiyalari ta’lim tizimini modernizatsiya qilishda muhim vosita hisoblanadi. Ular ta’lim jarayonini interaktiv, qulay va samarali tashkil etish imkonini beradi. Ayniqsa, individual ta’lim, avtomatlashtirilgan baholash va virtual o‘quv muhitlarini yaratishda sun’iy intellektning o‘rni katta. Shuningdek, sun’iy intellekt texnologiyalaridan oqilona foydalanish o‘quvchilarning mustaqil fikrlashi, axborot bilan ishlash ko‘nikmalari hamda zamonaviy kasbiy kompetensiyalarini rivojlantirishga xizmat qiladi. Kelgusida ta’lim

tizimida sun’iy intellekt texnologiyalarini yanada keng joriy etish va ulardan samarali foydalanish ta’lim sifatini oshirishning muhim omillaridan biri bo‘lib qoladi.

Foydalanilgan adabiyotlar

1. Tolipov O‘., Usmonboyeva M. *Pedagogik texnologiyalar nazariyasi va amaliyoti*. – Toshkent, 2017.
2. Ishmuhamedov R. *Innovatsion pedagogik texnologiyalar*. – Toshkent, 2020.
3. O‘zbekiston Respublikasining “Ta’lim to‘g‘risida”gi Qonuni.
4. Muslimov N. *Professional ta’lim pedagogikasi*. – Toshkent, 2019.
5. Karimov U. *Raqamli ta’lim texnologiyalari*. – Toshkent, 2021.
6. Russell S., Norvig P. *Artificial Intelligence: A Modern Approach*. – Pearson Education, 2021.

THE IMPORTANCE OF PROVIDING ECONOMIC EDUCATION IN THE PROFESSIONAL EDUCATION SYSTEM

Kuramatova Sanobarxon Ashurovna
Teacher of specialized subjects,
Polytechnic College № 5 Fergana city

Abstract. This article analyzes the importance, content, and main directions of providing economic education in the professional education system. It also highlights the issues of developing financial literacy among students, enhancing entrepreneurial skills, and improving their ability to make independent decisions in the conditions of a market economy. Furthermore, the article examines ways to increase the effectiveness of economic education based on modern pedagogical approaches.

Keywords:professional education, economic knowledge, financial literacy, entrepreneurship, market economy, pedagogical approach, economic thinking, educational effectiveness.

PROFESSIONAL TA’LIM TIZIMIDA IQTISODIY BILIM BERISHNING AHAMIYATI

Kuramatova Sanobarxon Ashurovna
Farg‘ona shahar 5-son politexnikumi
maxsus fan o‘qituvchisi

Annotatsiya. Ushbu maqolada professional ta’lim tizimida iqtisodiy bilim berishning ahamiyati, uning mazmuni va asosiy yo‘nalishlari tahlil qilinadi. Shuningdek, ta’lim jarayonida o‘quvchilarda moliyaviy savodxonlikni shakllantirish, tadbirkorlik ko‘nikmalarini rivojlantirish hamda bozor iqtisodiyoti sharoitida mustaqil qaror qabul qilish qobiliyatini oshirish masalalari yoritilgan. Maqolada zamonaviy

pedagogik yondashuvlar asosida iqtisodiy bilim berish samaradorligini oshirish yo‘llari ham ko‘rib chiqiladi.

Kalit so‘zlar: professional ta’lim, iqtisodiy bilim, moliyaviy savodxonlik, tadbirkorlik, bozor iqtisodiyoti, pedagogik yondashuv, iqtisodiy tafakkur, ta’lim samaradorligi

Kirish

Bugungi globallashuv sharoitida iqtisodiy bilim va ko‘nikmalar jamiyat taraqqiyotining muhim omillaridan biri hisoblanadi [13]. Ayniqsa, professional ta’lim tizimida tahsil olayotgan o‘quvchilarni iqtisodiy jihatdan savodli qilib tarbiyalash dolzarb masalalardan biri sifatida namoyon bo‘lmoqda [1]. Chunki zamonaviy mehnat bozori mutaxassislardan nafaqat kasbiy bilim va malakani, balki iqtisodiy tafakkur va moliyaviy qaror qabul qilish qobiliyatini ham talab etadi [14].

Professional ta’lim tizimi yoshlarni kasb-hunar egallash bilan bir qatorda, ularni mustaqil hayotga tayyorlash vazifasini ham bajaradi [2]. Shu nuqtai nazardan, iqtisodiy bilim berish o‘quvchilarning shaxsiy va kasbiy rivojlanishida muhim o‘rin tutadi. Shu bilan birga, professional ta’limda iqtisodiy bilim berish jarayoni zamonaviy pedagogik yondashuvlar asosida tashkil etilishi lozim. Amaliy mashg‘ulotlar, interaktiv metodlar va real hayotga yaqin vaziyatlar orqali o‘quvchilarning bilim va ko‘nikmalarini mustahkamlash mumkin. Bu esa ta’lim samaradorligini oshirishga xizmat qiladi.

Mazkur yo‘nalishda olib borilayotgan islohotlar professional ta’lim tizimining sifatini oshirishga xizmat qilmoqda. Iqtisodiy bilim berish orqali o‘quvchilarda zamonaviy iqtisodiy jarayonlarga moslashish ko‘nikmalari shakllanadi. Bu esa ularning kelajakdagi kasbiy faoliyatida muvaffaqiyatli faoliyat yuritishiga zamin yaratadi.

TAHLIL VA NATIJALAR

Professional ta’lim tizimida iqtisodiy savodxonlikni shakllantirish o‘quvchilarni zamonaviy iqtisodiy muhitga tayyorlashning muhim tarkibiy qismi hisoblanadi. Bu

jarayon o‘quvchilarda nafaqat iqtisodiy bilimlarni egallash, balki ularni amaliy faoliyatda qo‘llay olish, mustaqil fikr yuritish va turli vaziyatlarda to‘g‘ri qaror qabul qilish ko‘nikmalarini rivojlantirishni nazarda tutadi. Shu orqali ular kelajakda mehnat bozorida o‘z o‘rnini topa oladigan raqobatbardosh mutaxassis sifatida shakllanadi. Iqtisodiy savodxonlikni rivojlantirish quyidagi yo‘nalishlar asosida amalga oshiriladi:

Moliyaviy boshqaruv ko‘nikmalari – o‘quvchilar daromad va xarajatlar muvozanatini tushunishni, shaxsiy byudjetni rejalashtirishni hamda mablag‘larni oqilona taqsimlashni o‘rganadi. Bu ularga moliyaviy barqarorlikni saqlashda yordam beradi.

Tahliliy fikrlashni rivojlantirish – iqtisodiy hodisalarni chuqur anglash, ularning sabablarini aniqlash va oqibatlarini baholash orqali amalga oshiriladi. Natijada o‘quvchilar murakkab vaziyatlarda to‘g‘ri xulosa chiqarish qobiliyatiga ega bo‘ladi.

Tadbirkorlik faoliyatiga tayyorgarlik – yangi g‘oyalarni ilgari surish, ularni rejalashtirish va amalga oshirish jarayonlarini o‘z ichiga oladi. Bu yo‘nalish o‘quvchilarda tashabbuskorlik va mustaqillikni rivojlantiradi.

Bozor munosabatlarini anglash – talab va taklif o‘rtasidagi bog‘liqlikni tushunish, narx shakllanishi va raqobat muhitini tahlil qilish orqali amalga oshiriladi.

Qaror qabul qilish kompetensiyasi – mavjud ma’lumotlarni tahlil qilish asosida eng maqbul variantni tanlash va uning natijalarini oldindan baholashni o‘z ichiga oladi.

Mazkur yo‘nalishlar o‘zaro bog‘liq holda o‘quvchilarning iqtisodiy tafakkurini rivojlantiradi va ularning amaliy faoliyatga tayyorligini oshiradi.

So‘nggi yillarda O‘zbekistonda professional ta’lim tizimini rivojlantirish bilan bir qatorda iqtisodiy savodxonlikni oshirishga ham katta e’tibor qaratilmoqda. Ta’lim dasturlariga amaliy yo‘naltirilgan iqtisodiy fanlar kiritilib, o‘quvchilarning bilimlari real hayot bilan bog‘lanmoqda. Turli davlat va xususiy tashabbuslar asosida amalga oshirilayotgan “Yosh tadbirkor”, “Biznesga ilk qadam” kabi loyihalar o‘quvchilarda

biznes yuritish ko‘nikmalarini shakllantirishga xizmat qilmoqda. Ushbu dasturlar doirasida o‘quvchilar treninglar, mahorat darslari va amaliy mashg‘ulotlarda ishtirok etib, tajriba orttirmoqda.

Bundan tashqari, zamonaviy o‘quv-metodik materiallar ishlab chiqilib, ular orqali iqtisodiy bilimlar yanada sodda va tushunarli shaklda yetkazilmoqda. Raqamli texnologiyalarni ta’lim jarayoniga joriy etish natijasida interaktiv platformalar va elektron resurslardan foydalanish imkoniyati kengaymoqda.

Amaliy kompetensiyalarni rivojlantirishga qaratilgan yondashuvlar esa o‘quvchilarning faolligini oshirib, ularni mustaqil ishlashga undamoqda. Natijada ular iqtisodiy bilimlarni nafaqat o‘rganadi, balki ularni real vaziyatlarda qo‘llash tajribasiga ham ega bo‘ladi. Professional ta’lim tizimida iqtisodiy bilim berish o‘quvchilarning nafaqat kasbiy tayyorgarligini, balki ularning umumiy ijtimoiy-iqtisodiy kompetensiyalarini shakllantirishda muhim ahamiyat kasb etadi. Iqtisodiy bilimlar orqali o‘quvchilar bozor munosabatlarining mohiyatini anglaydi, moliyaviy resurslardan oqilona foydalanishni o‘rganadi hamda iqtisodiy jarayonlarga ongli yondashuvni shakllantiradi. Iqtisodiy bilim berishning mazmuni, avvalo, moliyaviy savodxonlikni rivojlantirishni o‘z ichiga oladi. Bu jarayonda o‘quvchilar daromad va xarajatlarni rejalashtirish, shaxsiy byudjetni shakllantirish, jamg‘arma yaratish va investitsiya asoslarini tushunib yetadilar. Mazkur bilimlar ularning kundalik hayotida to‘g‘ri qarorlar qabul qilishiga xizmat qiladi.

Shuningdek, professional ta’limda tadbirkorlik ko‘nikmalarini rivojlantirish ham muhim yo‘nalishlardan biri hisoblanadi. O‘quvchilarga kichik biznesni tashkil etish, biznes-reja tuzish, risklarni baholash va boshqarish kabi bilim va ko‘nikmalar berilishi zarur. Bu esa ularning kelajakda o‘z faoliyatini mustaqil yo‘lga qo‘yishiga zamin yaratadi. Iqtisodiy bilim berish jarayonida zamonaviy pedagogik texnologiyalardan foydalanish alohida ahamiyatga ega. Xususan, кейс-метод, loyiha asosida o‘qitish,

interaktiv mashg‘ulotlar va biznes o‘yinlar o‘quvchilarning faolligini oshiradi hamda nazariy bilimlarni amaliyot bilan bog‘lash imkonini beradi. Bunday yondashuvlar orqali o‘quvchilar real iqtisodiy vaziyatlarni tahlil qilish va muammolarni hal etish ko‘nikmalarini egallaydi.

Bundan tashqari, professional ta’lim tizimida ishlab chiqarish amaliyoti bilan iqtisodiy bilimlarni integratsiya qilish muhim hisoblanadi. Amaliy mashg‘ulotlar davomida o‘quvchilar ishlab chiqarish jarayonlari bilan bir qatorda, xarajatlar hisobi, mahsulot tannarxi, foyda va rentabellik kabi iqtisodiy ko‘rsatkichlarni ham o‘rganadilar. Bu esa ularning bilimlarini yanada mustahkamlaydi. Umuman olganda, professional ta’limda iqtisodiy bilim berish tizimli va uzviy ravishda tashkil etilgandagina yuqori samaradorlikka erishish mumkin. Bu jarayonda nazariya va amaliyot uyg‘unligi asosiy omil sifatida namoyon bo‘ladi.

Professional ta’lim tizimida iqtisodiy bilim berish o‘quvchilarning bilim va ko‘nikmalarini rivojlantirishda muhim natijalarni yuzaga keltiradi. Ta’lim jarayoniga iqtisodiy yo‘nalishdagi mavzularni tizimli ravishda kiritish orqali o‘quvchilarda moliyaviy savodxonlik, iqtisodiy tafakkur va mustaqil qaror qabul qilish qobiliyati shakllanadi. Natijada ular nafaqat o‘z kasbini egallagan mutaxassis, balki iqtisodiy jihatdan ongli shaxs sifatida ham rivojlanadi. Iqtisodiy bilimlarning amaliy mashg‘ulotlar bilan uyg‘unlashtirilishi o‘quvchilarning real hayotiy vaziyatlarga moslashuvchanligini oshiradi. Bu esa ularning mehnat bozorida raqobatbardoshligini kuchaytiradi va tadbirkorlik faoliyatiga bo‘lgan qiziqishini rag‘batlantiradi. O‘quvchilar o‘z bilimlarini amaliyotda qo‘llash orqali iqtisodiy jarayonlarni chuqurroq anglay boshlaydi. Quyidagi jadvalda professional ta’limda iqtisodiy bilim berish natijasida shakllanadigan asosiy ko‘rsatkichlar keltirilgan:

1-jadval

Professional ta’limda iqtisodiy bilim berish natijasida shakllanadigan ko‘rsatkichlar

№	Ko‘rsatkichlar	Tavsif
1	Moliyaviy savodxonlik	Shaxsiy byudjetni boshqarish va moliyaviy rejalashtirish ko‘nikmalari
2	Iqtisodiy tafakkur	Iqtisodiy jarayonlarni tahlil qilish va tushunish qobiliyati
3	Qaror qabul qilish	Moliyaviy va kasbiy masalalarda mustaqil va asosli qarorlar qabul qilish
4	Tadbirkorlik ko‘nikmalari	Biznes tashkil etish va boshqarish asoslarini egallash
5	Raqobatbardoshlik	Mehnat bozorida o‘z o‘rnini topish va ustunlikka erishish qobiliyati

Professional ta’lim tizimida iqtisodiy bilim berish jarayonini samarali tashkil etish bir qator omillarga bog‘liq. Avvalo, o‘quv dasturlarining mazmuni zamonaviy iqtisodiy talablar asosida yangilanib borilishi zarur. Iqtisodiy fanlar faqat nazariy ma’lumotlar bilan cheklanib qolmasdan, amaliy mashg‘ulotlar bilan boyitilishi lozim. Bu yondashuv o‘quvchilarning bilimlarni chuqurroq o‘zlashtirishiga yordam beradi. O‘qituvchilarning malakasi ham muhim ahamiyatga ega. Zamonaviy pedagogik texnologiyalarni qo‘llay oladigan, iqtisodiy jarayonlarni real misollar asosida tushuntira oladigan mutaxassislar ta’lim sifatini oshiradi. Shu bilan birga, ta’lim jarayonida interaktiv metodlardan foydalanish o‘quvchilarning faolligini kuchaytiradi va ularni mustaqil fikrlashga undaydi.

Amaliyot bilan integratsiya darajasi ham muhokama qilinadigan muhim jihatlardan biridir. Ishlab chiqarish korxonalari bilan hamkorlikni yo‘lga qo‘yish orqali o‘quvchilar real iqtisodiy muhitni kuzatish va unda ishtirok etish imkoniyatiga ega bo‘ladi. Bu esa ularning kasbiy va iqtisodiy kompetensiyalarini yanada mustahkamlaydi. Shu bilan bir qatorda, ayrim muammolar ham mavjud. Ba’zi hollarda iqtisodiy bilim berish jarayonida yetarli metodik ta’minotning yo‘qligi yoki amaliy

mashg‘ulotlarning kamligi kuzatiladi. Bunday holatlar ta’lim samaradorligiga salbiy ta’sir ko‘rsatishi mumkin. Mazkur muammolarni bartaraf etish uchun ta’lim tizimida innovatsion yondashuvlarni keng joriy etish maqsadga muvofiq.

XULOSA

Professional ta’lim tizimida iqtisodiy bilim berish yoshlarning har tomonlama rivojlanishida muhim o‘rin tutadi. Iqtisodiy savodxonlik, tadbirkorlik ko‘nikmalari va mustaqil qaror qabul qilish qobiliyati zamonaviy mutaxassis uchun zarur kompetensiyalar hisoblanadi. Iqtisodiy bilim berishning samaradorligi uni nazariya va amaliyot uyg‘unligida tashkil etish bilan bog‘liq. Ta’lim jarayonida zamonaviy pedagogik texnologiyalardan foydalanish, ishlab chiqarish bilan integratsiyani kuchaytirish va o‘quv dasturlarini doimiy ravishda takomillashtirib borish muhim hisoblanadi. Natijada professional ta’lim tizimida tahsil olayotgan o‘quvchilar nafaqat o‘z kasbining yetuk mutaxassisi, balki iqtisodiy jihatdan ongli, mustaqil va raqobatbardosh shaxs sifatida shakllanadi.

Foydalanilgan adabiyotlar:

1. O‘zbekiston Respublikasi Prezidentining ta’lim sohasiga oid farmonlari va qarorlari. Toshkent, 2020–2024.
2. O‘zbekiston Respublikasi “Ta’lim to‘g‘risida”gi Qonuni. Toshkent, 2020.
3. Abduqodirov A.A. Iqtisodiy ta’lim asoslari. Toshkent: Fan, 2019.
4. Yo‘ldoshev J.G‘. Zamonaviy pedagogik texnologiyalar. Toshkent: O‘qituvchi, 2021.
5. Qurbanov Sh.R. Bozor iqtisodiyoti nazariyasi. Toshkent: Iqtisodiyot, 2018.
6. Karimov I.A. Yuksak ma’naviyat – yengilmas kuch. Toshkent: Ma’naviyat, 2017.
7. To‘xtaxodjayev N. Pedagogika nazariyasi va tarixi. Toshkent: O‘zbekiston, 2020.

8. Samuelson P.A., Nordhaus W.D. Economics. New York: McGraw-Hill, 2010.
9. Mankiw N.G. Principles of Economics. Boston: Cengage Learning, 2018.
10. Becker G.S. Human Capital: A Theoretical and Empirical Analysis. Chicago: University of Chicago Press, 1993.
11. Drucker P.F. Innovation and Entrepreneurship. New York: Harper Business, 2006.
12. Schumpeter J.A. The Theory of Economic Development. Harvard University Press, 1934.
13. OECD. Financial Literacy and Education: Improving Outcomes. Paris, 2020.
14. World Bank. World Development Report: Learning to Realize Education's Promise. Washington DC, 2018.
15. UNESCO. Technical and Vocational Education and Training (TVET) Strategy. Paris, 2019.

CONSTITUTIONAL AND PROCEDURAL FOUNDATIONS AND LIMITS OF APPLYING ARTIFICIAL INTELLIGENCE TECHNOLOGIES TO DIGITAL FORENSICS

Shorasulova Gulnoza Shovkat qizi
Master's student in Cyber Law
Tashkent State University of Law, Uzbekistan
G-mail: gulnozashorasulova@gmail.com

Abstract: This thesis provides a comprehensive analysis of applying artificial intelligence technologies, as established in the Concept approved by Presidential Resolution PQ-155 of 30 April 2025, to digital forensics from the perspective of the 2023 Constitution and the Criminal Procedure Code amended by Law No. o'RQ-1003 of 21 November 2024. The scientific novelty consists in classifying, for the first time in national jurisprudence, the seven technological directions of the Concept according to constitutional risk levels, with a legal regime proposed for each based on the new provisions of the CPC (Articles 81, 87, 88, 95¹, 204¹, 204²). Three hypotheses are tested: the inequality of constitutional risk levels of AI directions, the emergence of five constitutional conflicts from AI application, and the possibility of adapting the national legal framework by 2030. According to our analysis, Part 4 of Article 95¹ of the CPC (new edition) serves as a concrete legal anchor for establishing the regime of AI-based evidence.

Keywords: artificial intelligence, digital forensics, Constitution, Article 95¹ CPC, presumption of innocence, lawful evidence, algorithmic transparency, PQ-155 Concept.

RAQAMLI KRIMINALISTIKAGA SUN'IY INTELLEKT TEXNOLOGIYALARINI TATBIQ ETISHNING KONSTITUTSIYAVIY-PROTSESSUAL ASOSLARI VA CHEGARALARI

Shorasulova Gulnoza Shovkat qizi
Toshkent davlat yuridik universiteti
Kiber huquqi mutaxassisligi magistranti, O‘zbekiston
G-mail: gulnozashorasulova@gmail.com

Annotatsiya: Mazkur tezisda O‘zbekiston Respublikasi Prezidentining 2025-yil 30-apreldagi PQ-155-son qarori bilan tasdiqlangan konsepsiyada belgilangan sun’iy intellekt texnologiyalarining raqamli kriminalistikaga tatbiq etilishi O‘zbekiston Respublikasi Konstitutsiyasi hamda 2024-yil 21-noyabrdagi O‘RQ-1003-sonli Qonun bilan o‘zgartirilgan Jinoyat-protsessual kodeksi nuqtayi nazaridan kompleks tahlil qilingan. Tadqiqotning ilmiy yangiligi - milliy qonunchilikda konsepsiyaning yetti texnologik yo‘nalishi konstitutsiyaviy xavf darajasiga ko‘ra tasniflanib, har biri uchun JPKning yangi normalari (81-, 87-, 88-, 95^1-, 204^1-, 205^2- moddalar) asosida huquqiy rejim taklif etilganligidir. Tadqiqotimiz uchta asosiy ilmiy gipoteza atrofida qurilgan:(a) PQ-155 konsepsiyasidagi SI yo‘nalishlari konstitutsiyaviy xavf darajasi bo‘yicha bir-biridan sezilarli farq qiladi, (b) ushbu texnologiyalarning huquqni muhofaza qilish faoliyatiga tatbiqi beshta konstitutsiyaviy beshta konstitutsiyaviy ziddiyatni (aybsizlik prezumpsiyasi, qonuniy dalillar prinsipi, shaxsiy hayot dahlsizligi, xabarlar maxfiyligi, shaxsga doir ma’lumotlar himoyasi) yuzaga keltiradi, (v) milliy huquqiy ramka ushbu chaqiriqlarga proaktiv moslashtirilishi mumkin. Olib borilgan tahlil natijasida shuni ta’kidlash mumkinki, JPKning 2024-yida yangi tahrirda kiritilgan 95^1-moddasi to‘rtinchi qismi sun’iy intellekt yordamida olingan dalillarning huquqiy rejimini belgilash uchun aniq protsessual asos, o‘ziga xos huquqiy lemma sifatida xizmat qiladi.

Kalit so‘zlar: sun’iy intellekt, raqamli kriminalistika, Konstitutsiya, JPK 95^1-modda, aybsizlik prezumpsiyasi, qonuniy dalillar, algoritmik shaffoflik, PQ-155 konsepsiyasi.

XXI asrning birinchi choragi insoniyat tarixida texnologik metamorfoza davri sifatida qayd etilmoqda. Sun'iy intellekt, katta ma'lumotlar (big data) va prediktiv tahlil texnologiyalari nafaqat texnologik, balki konstitutsiyaviy ahamiyatga ega bo‘lgan o‘zgarishlarni keltirib chiqarmoqda. Sud, prokuratura va tergov organlarida SI ga asoslangan tizimlarning qo‘llanilishi inson huquqlari va erkinliklarining samarali himoyasi bilan bog‘liq fundamental masalalarni ko‘taradi. Fikrimizcha, bu masalalar shu darajada chuqurki, ularni hal qilmasdan turib SI ni huquqiy organlarda keng joriy etish sud protsessining adolatli kechishiga jiddiy zarar yetkazishi mumkin. O‘zbekiston Respublikasi Prezidentining 2025-yil 30-apreldagi PQ-155-son qarori bilan tasdiqlangan konsepsiya Markaziy Osiyo mintaqasida SI ni huquqni muhofaza qilish sohasiga tatbiq etish bo‘yicha birinchi yagona strategik hujjat hisoblanadi. Tahlilimizga ko‘ra, konsepsiya yetti texnologik yo‘nalishni belgilab bergan, ammo har bir yo‘nalishning konstitutsiyaviy huquqlar va protsessual normalar bilan o‘ziga xos munosabati e'tirof etilmagan.

Tadqiqotimizning dolzarbligi to‘rt asosiy omilga asoslanadi. Birinchidan, 2023-yil 30-aprelda yangi tahrirda qabul qilingan O‘zbekiston Respublikasi Konstitutsiyasi inson huquqlari himoyasini sezilarli darajada kengaytirgan. Bular 31-modda (shaxsiy hayot daxlsizligi va shaxsiy sirga ega bo‘lish, yozishmalar, telefon, pochta, elektron hamda boshqa xabarlar sir saqlanishi, shaxsiy ma'lumotlar himoyasi, noto‘g‘ri ma'lumotlarni yo‘q qilishni talab qilish huquqi) da va boshqa bir qancha moddalarda o‘z aksini topgan (Konstitutsiya, 2023, 31, 32, 33-moddalar). Mazkur yangi konstitutsiyaviy normalarning SIga asoslangan kriminalistika bilan munosabati hali milliy doktrinada to‘liq o‘rganilmagan. Ikkinchidan, 2024-yil 21-noyabrdagi O‘RQ-1003-sonli Qonun bilan JPKga raqamli dalillar institutini huquqiy mustahkamlovchi yangi moddalar kiritilgan. Bu esa SIga asoslangan dalillar uchun protsessual ramka shakllantirish imkonini beradi. Uchinchidan, Yevropa Ittifoqida 2024-yil 13-iyunda

qabul qilingan AI Act xalqaro huquqshunoslikda algoritmik adolat masalasini yangi bosqichga olib chiqdi. To‘rtinchidan, SI texnologiyasining “qora quti” (black-box) tabiati Konstitutsiyaning 28-moddasida ko‘rsatilgan aybsizlik prezumpsiyasi va 29-moddasidagi qonuniy dalillar prinsipi bilan bevosita ziddiyatga kirishishi mumkin. Mazkur ziddiyatning mexanizmi quyidagicha namoyon bo‘ladi: chuqur o‘rganishga asoslangan SI tizimlari xulosa qilish, qaror qabul qilish mantig‘ini odam tushunadigan tarzda tushuntira olmaydi, demak sudlanuvchi mazkur dalilni samarali ravishda mantiqiy jihatdan tekshira olmaydi va undan o‘zini himoya qila olmaydi. Bu 28-moddaning birinchi qismida belgilangan “o‘zini himoya qilish uchun barcha imkoniyatlar ta’minlanadi” kafolatiga bevosita zarar yetkazadi. Shu bilan birga qonuniy dalil ilmiy uslub mezonlarini, ya’ni takrorlanuvchanlik, izohlanuvchanlik, tekshiruvchanlik, xato darajasining ma’lumligi ta’minlashi shart. Ammo “qora quti” bu mezonlarning hech birini to‘liq qondira olmaydi.

Tadqiqotning maqsadi - PQ-155 konsepsiyasidagi SI texnologiyalarining raqamli kriminalistikaga tatbiq etilishining konstitutsiyaviy va protsessual nuqtai nazardan chegaralarini aniqlash hamda maxsus huquqiy rejimning konseptual asoslarini ilmiy asoslashdan iborat.

Tadqiqotning maqsad va vazifalarini hal etish, shuningdek, belgilangan ilmiy farazlarning to‘g‘riligini isbotlash uchun umumilmiy va maxsus huquqiy metodlar majmuasidan foydalanildi. Xususan, dialektik usul sun’iy intellekt texnologiyalarining jadal rivojlanishi hamda shaxsning konstitutsiyaviy huquq va erkinliklarini ta’minlash o‘rtasidagi ichki ziddiyatlar, qonuniyatlar va transformatsiya jarayonlarini aniqlashda, qiyosiy-huquqiy usul Yevropa Ittifoqining Sun’iy intellekt to‘g‘risidagi reglamenti, AQSh sud amaliyoti hamda O‘zbekiston Respublikasi milliy huquq tizimi o‘rtasidagi o‘zaro mosliklar, farqlar va ilg‘or jihatlarni baholashda, tizimli-strukturaviy tahlil O‘zbekiston Respublikasi Prezidentining PQ-155-sonli qarori bilan tasdiqlangan

Konsepsiyaning yetti asosiy yo‘nalishini konstitutsiyaviy huquqlar va jinoyat-protsessual normalar bilan o‘zaro uzviy bog‘liqlikda kompleks tahlil qilishda, ssenariyli modellashtirish usuli raqamli kriminalistika va sun’iy intellekt tizimlarining kelajakdagi rivojlanish variantlarini, yuzaga kelishi mumkin bo‘lgan huquqiy risklarni ilmiy bashorat qilishda, yuridik-konstruktiv usul esa milliy qonunchilikni takomillashtirish doirasida yangi raqamli huquqiy rejim elementlarini va konseptual normalarni taklif qilishda qo‘llanildi. Tadqiqotning empirik bazasini hamda normativ-amaliy asoslarining ishonchliligini ta’minlash maqsadida O‘zbekiston Respublikasi Konstitutsiyasi (2023-yil tahriri), O‘RQ-1003-sonli Qonun (2024) bilan tizimli o‘zgartirishlar kiritilgan Jinoyat-protsessual kodeksi, O‘zbekiston Respublikasi Prezidentining PQ-155-sonli qarori (2025) kabi milliy qonunchilik hujjatlari kompleks tahlil qilindi. Shuningdek, xalqaro huquqiy makon va xorijiy tajribani o‘rganish doirasida Yevropa Ittifoqining Sun’iy intellekt bo‘yicha akti, AQSh sud amaliyotida algoritmlar va prediktiv tahlil bo‘yicha pretsedent hisoblangan mashhur “*Wisconsin v. Loomis”* sudyalik ishi materiallari hamda raqamli kriminalistika sohasida xalqaro standartlarni belgilovchi “*INTERPOL AI Toolkit”* (2023) uslubiy qo‘llanmasi empirik manba sifatida tahlilga torildi.

Tahlilimizga ko‘ra, o‘zbekiston Respublikasining Konstitutsiyasi SI va raqamli kriminalistika integratsiyasi uchun ikki tomonlama himoya ramkasini yaratadi. Birinchi tomondan, davlatga inson huquqlarini himoya qilish va jamoat xavfsizligini ta’minlash majburiyatini yuklaydi. 19-moddada inson huquqlari xalqaro huquq normalariga muvofiq e’tirof etilgan va kafolatlangan, 21-moddada esa huquqlarning faqatgina qonun doirasida cheklanishi mumkinligi belgilangan (Konstitutsiya, 2023, 19, 21-moddalar). Ikkinchi tomondan, shaxsiy huquqlarini himoyalovchi qattiq kafolatlarni belgilaydi. Buni biz 26-modda (sha’n va qadr-qimmat daxlsizligi), 27-modda (erkinlik va shaxsiy daxlsizlik), 28-modda (aybsizlik prezumpsiyasi), 31-modda (shaxsiy hayot,

xabarlar, ma’lumotlar va uy-joy daxlsizligi)larda ko‘rishimiz mumkin. SI texnologiyalarining huquqiy rejimi aynan shu ikki tomon o‘rtasidagi muvozanatda shakllantirilishi kerak. Konstitutsiyaviy asosdan tashqari, SI integratsiyasi uchun ikkinchi huquqiy poydevor 2024-yil 21-noyabrdagi O‘RQ - 1003-sonli Qonun bilan o‘zgartirilgan Jinoyat-protsessual kodeksidir. Mazkur qonun bilan JPK ga raqamli dalillar institutining quyidagi normalari kiritildi va tahrirlandi:

- JPK 81-moddasining yangi tahriri - dalillarning turlari endi rasmiy ravishda “ashyoviy, yozma va raqamli dalillar” ni qamrab oladi (JOK, 2024, 82-modda 2-qism);

- JPK 87-moddasiga kiritilgan o‘zgartirish - dalillar to‘plash usullariga “taqdim etilgan ashyolarni, hujjatlarni va elektron ma’lumotlarni qabul qilish” qo‘shilgan (JPK, 2024, 87-modda 1-qism);

- JPK 88-moddasining 5-qismi - elektron ma’lumotlarni olib qo‘yish va saqlash tartibini belgilaydi;

- JPK 95^1-moddasining 4-qismi (yangi norma) - mutaxassis ishtirokisiz olingan elektron ma’lumotlar nomaqbul deb topiladi;

- JPK 204^1-moddasi (yangi norma) - elektron ma’lumotlar tushunchasini va ularni qabul qilish tartibini belgilaydi;

- JPK 204^2-moddasi (yangi modda) - raqamli dalillar tushunchasini va ulardan ko‘chirma nusxa olish qoidalarini belgilaydi.

- JPK 205-moddasining yangi tahriri - ashyoviy, yozma va raqamli dalillarni olish usullarini birlashtirilgan tarzda belgilaydi (JPK, 2024, 81, 87, 88, 95^1, 204^1, 204^2, 205-moddalar).

Fikrimizcha, PQ-155 konsepsiyasi va JPKning yangi normalari bir-birini to‘ldiruvchi xarakterga ega bo‘lsa-da, ammo ularning o‘rtasida to‘liq muvofiqlik ta’minlanmaganligi sababli, amaliyotda parallel ravishda rivojalanayotgan ikki xil huquqiy qatlamni shakllantirmoqda. Konsepsiya texnologik imkoniyatlarni belgilaydi,

JPK esa protsessual rejimni o‘rnatadi. Ammo ular o‘rtasida hozircha muvofiqlashtiruvchi maxsus norma yo‘q. Shu tufayli bu bo‘shliq aynan mazkur tezisning markaziy muammosi sifatida o‘rganiladi. Tadqiqotlar orqali konsepsiyaning 9-bandida belgilangan yetti texnologik yo‘nalish konstitutsiyaviy xavf darasiga ko‘ra uchta toifaga ajratildi (1-jadval).

1-jadval. PQ-155-sonli qaror konsepsiyasida belgilangan ustuvor yo‘nalishlarning konstitutsiyaviy prinsiplarga muvofiqligi va xavf darajasi bo‘yicha tasnifi:

SI yo‘nalishi (PQ-155, 4-ilova, 9-band)	**Xavf darajasi**	**Asosiy ta’sir qiladigan modda (Konstitutsiyada)**	**Tegishli JPK normasi**
Big Data tahlili	o‘rta	**31-modda 2- va 3-qismlari**	**JPK 88-modda 5-qism**
Geoaxborot tahlili	o‘rta	31-modda 1- va 2-qismlari	JPK 87-modda
Boshqaruv qarorlarini qo‘llab-quvvatlash tizimi	past	-	-
Raqamli kriminalistika	yuqori	28-modda, 29-modda 4-qism	JPK 95^1-modda 4-q., 204^1-modda 3-q., 204^2-modda
Real vaqtda profayling tahlili	o‘ta yuqori	28-modda, 31-modda 1-3-qismlari	- (huquqiy bo‘shliq)
Robototexnika imkoniyatlaridan	past-o‘rta	29-modda 4-qism	JPK 95^1-modda 4-qism

ekspert-kriminalistikada foydalanish			
Jinoiy xulq-atvor prognozi	o‘ta-yuqori	28-modda 1- va 2-qismlari	- (huquqiy bo‘shliq)

Tahlilimizdan kelib chiqib, yettita yo‘nalish ichida ikkitasi, ya’ni real vaqtda profayling tahlili va jinoiy xulq-atvor prognozi eng yuqori konstitutsiyaviy xavf darajasiga ega deb hisoblaymiz va ayni paytda JPK bu yo‘nalishni hali tartibga solmagan. Bu strategik huquqiy bo‘shliq bo‘lib, uni bartaraf etish choralarini ko‘rish lozim.

SI texnologiyalarining kriminalistikaga tatbiq etilishi konstitutsiyaviy huquqlar bilan beshta asosiy ziddiyatni keltirib chiqaradi.

Birinchi ziddiyat, Konstitutsiyaning 28-moddasi birinchi qismiga ko‘ra, *“jinoyat sodir etganlikda ayblanayotgan shaxs uning aybi qonunda nazarda tutilgan tartibda oshkora sud muhokamasi yo‘li bilan isbotlanmaguncha va sudning qonuniy kuchga kirgan hukmi bilan aniqlanmaguncha aybsiz deb hisoblanadi. Ayblanuvchiga o‘zini himoya qilish uchun barcha imkoniyatlar ta’minlanadi”* (Konstitutsiya, 2023, 28-modda 1-qism). Shuningdek, mazkur moddaning ikkinchi qismi *“aybdorlikka oid barcha shubhalar… gumon qilinuvchining, ayblanuvchining, sudlanuvchining yoki mahkumning foydasiga hal qilinishi kerak”*ligini belgilaydi (Konstitutsiya, 2023, 28-modda 2-qism). SIga asoslangan prediktiv tahlil esa, aksincha, shaxsning kelejakdagi jinoiy xatti-harakatlari haqida ehtimollik baholarini beradi. Wisconsin v. Loomis (2016) sud ishi bunday “tahdid bahosi”ni hukm tayinlashda hisobga olish mumkinligini tan oldi, lekin ken akademik tanqidga uchradi (Wisconsin v. Loomis, 2016). Fikrimizcha, O‘zbekistonning konstitutsiyaviy doirasi ushbu yondashuvga moslashmaydi. 28-modda

aybsizlikning konkret va aniq isbotlanishini talab qiladi, ehtimollikka asoslangan SI bahosini emas.

Ikkinchi ziddiyat, Konstitutsiyaning 29-moddasi 4-qismida *“qonunni buzgan holda olingan dalillardan odil sudlovni amalga oshirish chog‘ida foydalanishga yo‘l qo‘yilmaydi”* deyilgan (Konstitutsiya, 2023, 29--modda 4-qism). Mazkur konstitutsiyaviy norma JPK ning 95¹-modda to‘rtinchi qismi va 204¹-modda uchinchi qismi orqali protsessual ifodaga ega. Shuning asosida aytishimiz mumkinki, mazkur ziddiyat ikki bosqichda yuzaga keladi. Birinchi bosqichda chuqur o‘rganishga (deep learning) asoslangan SI tiImlari xulosa qabul qilish mantig‘ini odam tushunadigan tarzda tushuntira olmaydi. Demak, sudlanuvchi mazkur dalilni samarali ravishda mantiqiy jihatdan tekshira olmaydi va undan o‘zini himoya qila olmaydi. Bu esa o‘z-o‘zidan Konstitutsiyaning 28-moddasi birinchi qismida belgilangan *“o‘zini himoya qilish uchun barcha imkoniyatlar ta’minlanadi”* kafolatiga bevosita zarar yetkazadi. Ikkinchi bosqichda bo‘lsa, qonuniy dalil ilmiy uslub mezonlari (takrorlanuvchanlik, izohlanuvchanlik, tekshiriluvchanlik, xato darajasi ma’lumligi) ni qondirishi shart, ammo “qora quti” SI bu mezonlarning hech birini to‘liq qondira olmaydi. ProPublica tashkilotining 2016-yilgi tadqiqoti COMPAS algoritmi qora tanli amerikaliklarni qaytadan jinoyat sodir etish ehtimoli yuqori deb baholashda noxolis ekanligi empirik isbotlagan (Angwin et al., 2016). Yevropa Ittifoqi AI Actning 13-moddasi yuqori xavfli SI tizimlari uchun “izohlanuvchanlik talabi” ni belgilab qo‘ygan bo‘lib (Regulation EU 2024/1689, 2024, 13-modda), bu yondashuv O‘zbekiston Respublikasi huquq tizimi uchun ham qabul qilinishi tavsiya etiladi.

Uchinchi ziddiyat, Konstitutsiyaning 31-moddasi birinchi qismi har bir insonga “shaxsiy hayotining daxlsizligi, shaxsiy va oilaviy sirga ega bo‘lish, o‘z sha’ni va qadr-qimmatini himoya qilish huquqi”ni kafolatlaydi (Konstitutsiya, 2023, 31-modda 1-qism). PQ-155 konsepsiyasining 9-bandidagi *“aqlli” videokuzatuv tizimlari, real vaqt*

rejimida shaxslarni aniqlash, fenotipik belgilarni aniqlash texnologiyalari 31-moddaning birinchi qismiga bevosita ta’sir qiladi. Fikrimizcha, bunday texnologiyalardan foydalanish faqat kumulyativ to‘rt shart, aniq qonuniy asos, qat’iy sud nazorati, mutanosiblik prinsipi, muddatli cheklov bajarilgandagina mumkin.

To‘rtinchi ziddiyat, Konstitutsiyaning 31-moddasi ikkinchi qismi *“har kimning yozishmalari, telefon orqali so‘zlashuvlari, pochta, elektron va boshqa xabarlari sir saqlanishi huquqiga ega. Ushbu huquqning cheklanishiga faqat qonunga muvofiq va sudning qaroriga asosan yo‘l qo‘yiladi”* deb belgilangan (Konstitutsiya, 2023, 31-modda 2-qism). Mazkur modda JPK ning 87-moddasi bilan bog‘liq bo‘lib, u yerda telekommunikatsiya qurilmalari orqali olib boriladigan so‘zlashuvlarni eshitib turish va elektron axborotni dalillar to‘plash usuli sifatida belgilangan. Ammo bu harakatlarni amalga oshirish faqat sud sanksiyasi bilan amalga oshirilishi lozim. Biroq SIga asoslangan ommabop xabarlar tahlili qonun va sud orqali emas, balki algoritmik fiktrlash orqali amalga oshirilsa, bu konstitutsiyaviy normalarning buzilishiga olib kelishi mumkin.

Beshinchi ziddiyat, Konstitutsiyaning 31-moddasi uchinchi qismi har bir shaxsga shaxsiy ma’lumotlari himoyasi va *“qonunga xilof yo‘l bilan to‘plangan yoki huquqiy asoslarga ega bo‘lmay qolgan ma’lumotlarning yo‘q qilinishini talab qilish”* huquqlarini beradi (Konstitutsiya, 2023, 31-modda 3-qism). Ushbu norma JPK ning 88-moddasi beshinchi qismi va 204¹-moddasi to‘rtinchi qismi bilan amaliyotda ta’minlanadi: “Ish uchun ahamiyatga ega bo‘lmagan elektron ma’lumotlar mavjud bo‘lgan elektron jismlar egalariga darhol qaytarib beriladi” (JPK, 2024, 204¹-modda 4-qism). SI modellari o‘rganadigan ma’lumotlarning manbasi va huquqiy asosi jiddiy masaladir. Tahlilimiz shuni ko‘rsatadiki, agar SI noqonuniy yo‘l bilan to‘plangan ma’lumotlardan o‘qitilgan bo‘lsa, undan kriminalistik faoliyatda foydalanish 31-modda uchinchi qismini buzgan bo‘ladi.

Olib borgan tahlilimiz quyidagi xulosalarga olib keladi.

Birinchidan, PQ-155-sonli qarori O‘zbekistonda SI va raqamli kriminalistika integratsiyasining startegik bazasini belgilab beradi, ammo konstitutsiyaviy chegaralar va protsessual mexanizmlar unda aniq ko‘rsatilmagan.

Ikkinchidan, konsepsiyaning yetti yo‘nalishi konstitutsiyaviy xavf darajasiga ko‘ra teng emas. Ularni uch toifaga ajratish va har biri uchun maxsus huquqiy rejim belgilash zarur.

Uchinchidan, SI tatbiqi Konstitutsiyaning 28-moddasi (aybsizlik prezumpsiyasi), 29-moddasi to‘rtinchi qismi (qonuniy dalillar) va 31-moddasining bir, ikki, uchinchi qismlari (shaxsiy hayot, xabarlar va ma’lumotlar himoyasi) bilan beshta asosiy ziddiyatni keltirib chiqaradi, ammo JPKning yangi normalari ayrim ziddiyatlarga konkret protsessual javob beradi.

To‘rtinchidan, JPKning 204¹-moddasi uchinchi qismi va 95¹-moddasi to‘rtinchi qismi birgalikda *mutaxassis ishtiroki prinsipi*ni belgilaydi. Bu qoida sun’iy intellekt tizimlari tomonidan shakllantirilgan dalillarning huquqiy maqomini belgilashda asosiy mezon bo‘lib xizmat qiladi. Unga ko‘ra, tegishli mutaxassis ishtirokisiz olingan elektron ma’lumotlar protsessual jihatdan nomaqbul (yaroqsiz) deb topiladi. Binobarin, inson (mutaxassis) nazoratisiz, to‘liq avtonom rejimda ishlovchi AI taqdim etgan raqamli tahlil natijalari ham sud uchun qonuniy dalil kuchi xususiyatiga ega bo‘lolmaydi.

Yuzaga kelayotgan tizimli chaqiriqlarni bartaraf etish hamda sohadagi huquqiy bo‘shliqlarni to‘ldirish maqsadida quyidagi ilmiy-amaliy tavsiyalar ilgari suriladi:

Birinchidan, respublikamizda 2027-yilgacha “Sun’iy intellekt to‘g‘risida”gi maxsus Qonunni qabul qilish zarur. Mazkur normativ-huquqiy hujjatda Yevropa Ittifoqining ilg‘or tajribasiga (*EI AI Act*) tayanib, sun’iy intellekt tizimlarini to‘rt toifadagi xavf darajasiga ajratish mexanizmini joriy etish lozim. Bunda huquqni muhofaza qilish sohasida qo‘llaniladigan barcha SI tizimlari qat’iy ravishda “yuqori

xavfli” toifaga kiritilishi hamda ular uchun majburiy algoritmik audit, faoliyat shaffofligi va inson nazorati talablari qonun darajasida belgilanishi shart.

Ikkinchidan, Jinoyat-prosessual kodeksiga yangi 88¹-modda (“Sun’iy intellekt yordamida olingan ma’lumotlardan dalil sifatida foydalanish tartibi”) kiritish tavsiya etiladi. Ushbu yangi norma amaldagi JPKning 95¹ (maqbullik) va 204¹ (elektron ma’lumotlar) moddalarini SI sharoitiga moslashtirgan holda ixtisoslashtirishi zarur. Mazkur moddada SI tizimlari taqdim etgan natijalarni dalil sifatida tan olish uchun beshta majburiy protsessual talab mustahkamlanishi lozim: SI tizimining davlat attestatsiyasidan o‘tganligi, uning texnik faoliyatini sertifikatlangan mutaxassis tasdiqlashi, algoritmning izohlanuvchanligi (himoya tomonining tekshira olish imkoniyati uchun), inson-ekspert nazorati hamda majburiy sud nazorati va auditi mavjudligi.

Uchinchidan, PQ-155-sonli qaror bilan tasdiqlangan konsepsiyaga tegishli o‘zgartish va qo‘shimchalar kiritish lozim. Unga ko‘ra, unda belgilangan yetti texnologik yo‘nalish konstitutsiyaviy xavf darajasiga ko‘ra tasniflanishi va har bir toifa uchun alohida huquqiy rejim belgilanishi kerak. Inson huquq va erkinliklariga bevosita daxldor bo‘lgan eng yuqori xavfli yo‘nalishlar - prediktiv (oldindan taxmin qiluvchi) profayling hamda jinoiy xulq-atvor prognozi texnologiyalarini amaliyotga joriy etishga vaqtincha moratoriy e’lon qilish maqsadga muvofiqdir.

To‘rtinchidan, Bosh prokuratura, Oliy sud va Adliya vazirligi tomonidan “Sun’iy intellekt asosidagi dalillarni maqbul deb topish va baholash bo‘yicha qo‘shma uslubiy ko‘rsatma” ishlab chiqilishi zarur. Mazkur idoralararo hujjat amaldagi JPKning 95¹ va 204¹-moddalarini raqamli kriminalistika amaliyotida va tergov jarayonida to‘g‘ri qo‘llashning konkret hamda aniq protsessual mexanizmlarini belgilab berishi lozim.

Beshinchidan, O‘zbekiston Respublikasi Prezidentining PQ-229-sonli qarori asosida tashkil etilgan Raqamli kriminalistika ilmiy-tadqiqot instituti tarkibida maxsus

“Sun’iy intellekt etikasi va konstitutsiyaviy chegaralar laboratoriyasi” tashkil etilishi lozim. Ushbu laboratoriyaning asosiy vazifasi SI tizimlarini huquqni muhofaza qilish amaliyotiga tatbiq etishdan oldin ularning inson huquqlari va protsessual qonunchilikka ta’sirini majburiy tartibda baholash hamda ekspertlik xulosalarini berishdan iborat bo‘lishi darkor.

Istiqboldagi ilmiy izlanishlarda Konstitutsiyaning muayyan normalari va alohida SI texnologiyalari o‘rtasidagi munosabatlarni yanada chuqurroq o‘rganish talab etiladi. Shu bilan birga, milliy sud amaliyotida sun’iy intellekt vositasida olingan dalillarga oid dastlabki keyslar (sud ishlari) yuzaga kelishi bilan, ularni JPKning 95^1 va 204^1-moddalari prizmasida chuqur ilmiy-praktik tahlil qilish raqamli kriminalistika fanining kelajakdagi muhim yo‘nalishiga aylanadi.

FOYDALANILGAN ADABIYOTLAR Ro‘YXATI / REFERENCES

1. Angwin, J., Larson, J., Mattu, S., & Kirchner, L. (2016, May 23). Machine bias: There’s software used across the country to predict future criminals. And it's biased against blacks. *ProPublica*. https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing

2. Casey, E. (2011). *Digital evidence and computer crime: Forensic science, computers, and the internet* (3rd ed.). Academic Press.

3. Council of Europe. (2024). *Framework convention on artificial intelligence and human rights, democracy and the rule of law* (CETS No. 225). https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treatynum=225

4. INTERPOL & UNICRI. (2023). *Toolkit for responsible AI innovation in law enforcement*. INTERPOL. https://www.interpol.int/

5. National Institute of Standards and Technology. (2023). *Artificial intelligence risk management framework (AI RMF 1.0)* (NIST AI 100-1). U.S. Department of Commerce. https://doi.org/10.6028/NIST.AI.100-1

6. O‘zbekiston Respublikasi Oliy Majlisi. (1994, sentabr 22). *O‘zbekiston Respublikasining Jinoyat-protsessual kodeksi* [keyingi o‘zgartirishlar bilan, jumladan 2024-yil 21-noyabrdagi O‘RQ-1003-sonli Qonun bilan]. Lex.uz. https://lex.uz/

7. O‘zbekiston Respublikasi Oliy Majlisi. (2023, aprel 30). *O‘zbekiston Respublikasining Konstitutsiyasi* [umumxalq ovoz berishida qabul qilingan tahrirda]. Lex.uz. https://lex.uz/

8. O‘zbekiston Respublikasi Oliy Majlisi. (2024, noyabr 21). *O‘zbekiston Respublikasining ayrim qonun hujjatlariga raqamli dalillar bilan ishlash tizimini takomillashtirishga qaratilgan o‘zgartirish va qo‘shimchalar kiritish to‘g‘risida* (O‘RQ-1003-sonli Qonun). Lex.uz. https://lex.uz/

9. O‘zbekiston Respublikasi Prezidenti. (2023, noyabr 30). *Raqamli mahsulotlar (xizmatlar) iste'molchilari huquqlarini himoya qilish va raqamli texnologiyalar vositasida sodir etiladigan huquqbuzarliklarga qarshi kurashishni kuchaytirish choralari to‘g‘risida* (PQ-381-sonli qaror). Lex.uz. https://lex.uz/

10. O‘zbekiston Respublikasi Prezidenti. (2024, iyun 21). *Raqamli kriminalistika sohasida ilmiy-tadqiqot faoliyatini tashkil etish chora-tadbirlari to‘g‘risida* (PQ-229-sonli qaror). Lex.uz. https://lex.uz/

11. O‘zbekiston Respublikasi Prezidenti. (2025, yanvar 22). *Raqamli texnologiyalar vositasida sodir etiladigan jinoyatlarga qarshi kurashish sohasi uchun professional kadrlar tayyorlash tizimini joriy etish chora-tadbirlari to‘g‘risida* (PQ-17-sonli qaror). Lex.uz. https://lex.uz/

12. O‘zbekiston Respublikasi Prezidenti. (2025, aprel 30). *Ichki ishlar organlari tizimini raqamli transformatsiya qilish bo‘yicha kompleks chora-tadbirlar to‘g‘risida* (PQ-155-sonli qaror). Lex.uz. https://lex.uz/

13. O‘zbekiston Respublikasi Prezidenti. (2026, mart 10). *O‘zbekiston Respublikasining Kiberxavfsizlik strategiyasini belgilash va kiberjinoyatchilikning oldini olish tizimini takomillashtirish to‘g‘risida* (PF-38-sonli Farmon). Lex.uz. https://lex.uz/

14. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), 2024 O.J. (L 1689). https://eur-lex.europa.eu/eli/reg/2024/1689/oj

15. Surden, H. (2019). Artificial intelligence and law: An overview. *Georgia State University Law Review*, *35*(4), 1305–1337.

16. UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*. United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000381137

17. Wisconsin v. Loomis, 881 N.W.2d 749 (Wis. 2016).

18. Završnik, A. (2020). Criminal justice, artificial intelligence systems, and human rights. *ERA Forum*, *20*, 567–583. https://doi.org/10.1007/s12027-020-00602-0

The Role of Jadidism in the Cultural and Educational Development of Turkestan

Genjebaeva Dilnoza Bayrambay qizi
Student in the History Department at the University of Innovation Technologies
Nukus, Karakalpakstan, Uzbekistan

Annotation

This article analyzes the emergence, development, and historical significance of the Jadid movement in Turkestan at the end of the 19th and the beginning of the 20th centuries. Special attention is given to the educational, cultural, and social reforms promoted by Jadid intellectuals such as Ismail Gaspirali, Mahmudkhoja Behbudi, and Abdurauf Fitrat. The article also highlights the contribution of Karakalpak Jadids to the spread of secular education, national consciousness, and enlightenment ideas among the population. The activities of the Jadids played an important role in the modernization of society and the development of national identity in Central Asia.

Keywords

Jadidism, Turkestan, enlightenment, education, reform, cultural development.

It is well known that within the framework of their activities, our great Jadids set priority tasks not only for political issues but also for the improvement of education and upbringing, spiritual and educational work in Turkestan, and the upbringing of a harmoniously developed younger generation. The activities of our great Jadids, whom we speak of with pride, were carried out at the end of the 19th century and the first quarter of the 20th century. At the same time, the Jadid movement ushered in a new era of revival in Turkestan. That is, during this period, the opening of Jadid enlightenment schools, the development of literature and art, and the establishment of the press service created a fundamental turning point in the cultural and spiritual life of the population. For greater clarity, we will connect the roots of Jadidism with the meaning of the word

"Jadid." In his book "National Revival," the renowned Jadid scholar and professor Begali Kasimov provides a broad explanation of the word "Jadid": The original meaning of the word "Jadid" is "new," but it does not simply mean "new" or "a new supporter." Perhaps this term is actually a broad term such as "new thinking," "new person," "new generation." When discussing the Jadid movement, it should be noted that "Jadidism emerged as a new era of development and secularism, stimulating science in Islam." The Jadids preserved and developed Islam from various fanatical innovations," S. Kholboev expressed his opinion.

We must mention the merits of the Crimean Ismail Gaspirali, who made a great contribution to the emergence and development of the Jadid movement. Ismail Gaspirali can be considered the founder of the Jadid movement. Because in the Crimea in the 80s of the 19th century, in order to make the population literate among the Muslim countries conquered by Russia, Ismail Gaspirali founded the Jadid movement. He initially published the newspaper "Tajrimon" (1883-1914) in Turkish and Russian, and developed the works "The Balance of a Glance at European Culture" (1885) and "Muslimism of Russia" (1881), as well as substantiated manuals and textbooks for Jadid schools. His works quickly entered Turkestan and, as a result, became the foundation for the development of the Jadid movement.

Mahmudkhoja Behbudi and Munavvar-qori Abdurashidkhanov jointly led the Jadid movement in the Turkestan region. In the Khiva Khanate, the Jadid movement was led by Pahlavaniyaz Yusupov, while in Bukhara, it was led by Abdurauf Fitrat and Fayzulla Khojaev. These individuals made several proposals for the creation of the state of the people of Turkestan, the promotion of the ideological and theoretical directions of Turkestan Jadidism, and following the path of modern development.

Mahmudhoja Behbudi (1875–1919) was a founder of the Jadid movement, a playwright, and a public figure. Behbudi studied first in the madrasas of Samarkand,

then in Bukhara, at the age of 18 he learned Arabic from his younger uncle Adil and worked as a scribe in the qadi's office. From a young age, he read the magazines and newspapers published by Ismail Gaspirali, expanded his worldview, and engaged in personal reading. Behbudi founded his own printing house and "Behbudi Library," and in 1913, he published the newspaper "Samarkand" and the magazine "Oyna" in Samarkand. He considers the theater important in opening the eyes of the people, and the staging of his first dramatic work in Uzbek literature, the drama "Padarkush," on February 14, 1914, at the Colosseum Theater in Tashkent became the founding date of the Uzbek theater and the most important historical event in large-scale cultural and educational work in Turkestan.

Another prominent representative of the Turkestan Jadid movement, public figure Abdurauf Fitrat, paid great attention to the scientific and spiritual development of the people. He lived between 1886 and 1938, serving as the spiritual leader of the Bukhara Jadidism and the "Young Bukharans" party. Fitrat considered the ideas of modernization and independence, national revival as the most important aspects of his activity. It carries out important work in educational activities, such as the organization and development of new method schools and the updating of textbooks. In this regard, he wrote articles on the development of the nation, social problems, and the education system in the "Oyna" magazine, and in the "Grammar of the Uzbek Language," he paid special attention to language issues in his scientific work.

At the beginning of the 20th century, on the basis of enlightenment work, socio-political reforms, and national self-awareness, Jadid movements were also carried out in the territory of Karakalpakstan. Among the most important representatives of the Jadid movement were Sayfulgabit Majitov, Zholmirza Aymurzaev, Kasim Avezov, and Abdurakhmon Utepov. As a result of their activities, they contributed significantly to the self-awareness of the population, the education of youth, the teaching of secular

knowledge, the creation of new-method schools and educational facilities, the writing of textbooks and manuals, and the literacy of the population.

In conclusion, the Jadids, whom we speak of with pride, and the Jadidist actions they carried out are a huge factor in the education and upbringing of today's young generation, in their self-awareness, in our national statehood, and in our spiritual and educational development. It is necessary to always honor the courage of our Jadid ancestors, who, despite difficult conditions, sacrificed their lives for the upbringing of the younger generation. Indeed, during their activities, these Jadids carried out spiritual and educational work, actively contributed to the realization of national identity, the enlightenment of the people, the education of youth abroad, and the dissemination of their opinions and views to the general public.

REFERENCES

1. Milliy uyg‘onish – Toshkent: Ma’naviyat, 2002.
2. Ismoil Gaspirali. *Rossiya musulmonchiligi* – Toshkent, 1993.
3. Mahmudxo‘ja Behbudiy. *Tanlangan asarlar* – Toshkent: Ma’naviyat, 1999.
4. Abdurauf Fitrat. *Tanlangan asarlar* – Toshkent: Sharq, 2006.
5. O‘zbekiston tarixi. – Toshkent: Sharq, 2017.
6. History bo‘yicha O‘zbekiston Milliy Ensiklopediyasi. – Toshkent, 2000–2005.
7. Jadidchilik harakati tarixi. – Toshkent: Fan, 2006.

USE OF VIBRATION DATA FOR RAILWAY TRACK CONDITION ASSESSMENT VIA MOBILE PLATFORMS

Ergashev Qahramon Xushvaktovich
Tashkent state Transport university, Tashkent, Uzbekistan.
sharingam@mail.ru

Abstract. The article presents a comprehensive framework for railway track diagnostics based on the analysis of vibration signals. The principal objective of the study is to acquire detailed, data-driven insights into the actual technical condition of railway infrastructure through a passive experimental approach. This is achieved by utilizing mobile diagnostic platforms and advanced measurement techniques designed to assess the structural state of the track without interrupting regular rail operations. The research outlines the full spectrum of diagnostic procedures carried out in accordance with established railway regulations and emphasizes the advantages and operational capabilities of mobile diagnostics within railway transport systems.

Keywords: Railway transport, On-board monitoring (OBM), Rail defects, Vibration diagnostics, Mobile measurement platform, Structural health monitoring, Track condition assessment.

1. Introduction

Ensuring that railway lines meet appropriate quality standards, particularly in terms of track geometry and surface element diagnostics, is a key responsibility for infrastructure managers. Adherence to these standards is essential not only to guarantee safe operations but also to maintain passenger comfort. In Uzbekistan, statistics from the Office of Rail Transport indicate a steady increase in rail traffic, which accelerates the degradation of infrastructure components. This results in intensified fatigue processes, faster wear, and an increased risk of safety-critical failures.

2. Research methodology

2.1. Mobile measurement platform

For the purposes of this study, two mobile diagnostic configurations were employed on selected railway routes (see Section 3.2). The first configuration (Set A) consisted of a measurement platform of type Xk 03–0517 coupled with a rail vehicle DH–350.11 (Fig. 1). The second configuration (Set B) incorporated the same Xk 03–0517 platform but included an additional separating wagon positioned between the platform and the DH–350.11 rail vehicle (Fig. 2).

Fig. 1. Mobile measurement set in variant A

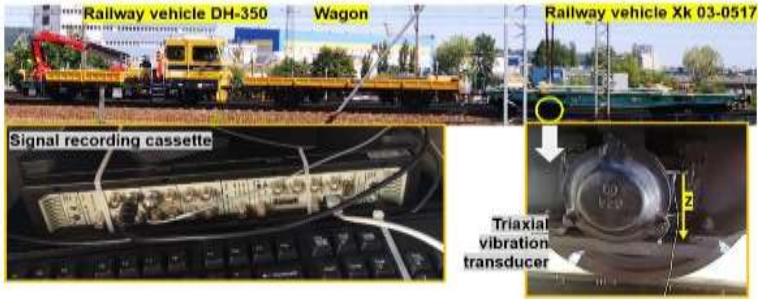


Fig. 2. Mobile measurement set, variant B

The measurement platform Xk 03–0517, with buffers, has an overall length of 12.240 m. It is constructed as a two-bogie vehicle, each bogie equipped with two axles and flanged wheels, and it operates without an independent propulsion system. The platform has a mass of 17,850 kg. The second element of the diagnostic set is the DH-350.11 hydraulic rail vehicle, measuring 12 m in length and equipped with a 350 kW drive engine, capable of reaching a maximum speed of 80 km/h.

In measurement set A, vibration signals were acquired using two 4504A triaxial accelerometers in combination with a 3050-A-060 B&K signal recording unit. Data were

sampled at a frequency of 51.2 kHz. The accelerometers were mounted on the bearing housings (axle boxes) of the second wheel of the first bogie, on both the left and right sides of the rail platform (Fig. 1).

Measurements were collected along three orthogonal directions:

x-axis: aligned with the longitudinal direction of vehicle motion,

y-axis: transverse to the vehicle's motion in the horizontal plane,

z-axis: vertical to the track, perpendicular to both the wheelset axis and the railway line.

The signal recording cassette was installed on the measurement platform itself and remotely controlled via Wi-Fi using a mobile phone interface (Fig. 3a).

Measurement set B consisted of two single-axis transducers of type 4508 and a signal recording cassette of type 7533 B&K. The single-axis transducers were mounted under the upper shelf of the side part of the axle box on the second wheel of the first bogie (in the direction of travel of the railway platform) on both sides of the railway platform (Fig. 2). Vibration signals were recorded in the z direction - vertical to the movement of the rail vehicle, separately for the right and left wheels. The signal recording cassette was placed on the measurement platform and con- trolled from a computer via LAN (Fig. 3b).

Measurement set B comprised two 4508-type single-axis accelerometers coupled with a 7533 B&K signal recording unit. The accelerometers were installed beneath the upper shelf of the lateral section of the axle box on the second wheel of the first bogie, aligned with the direction of platform travel, and mounted symmetrically on both sides of the railway platform (Fig. 2).

Vibration signals were captured in the z-direction—perpendicular to the rail vehicle's motion—independently for the right and left wheels. The recording unit was positioned on the measurement platform and operated remotely via a computer

connection through LAN (Fig. 3b)

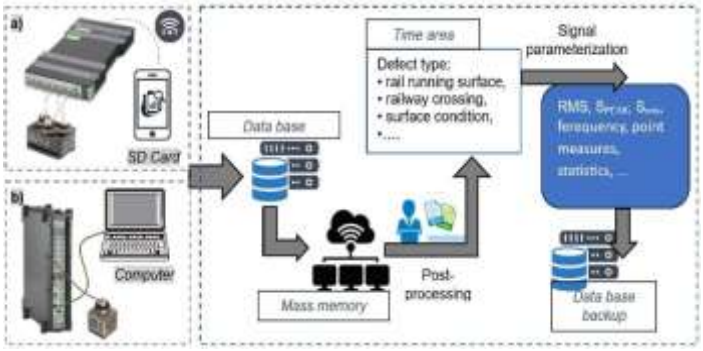


Fig. 3. Scheme of the architecture system for collecting and processing measurement data

In the subsequent stage, the pre-processed signals are **parameterized** separately for each vibration direction recorded from the two wheels of the vehicle. Signal parameterization, with respect to vibration directions, involves extracting characteristic features that are indicative of specific track surface conditions. In measurement variant (a), six vibration signals are available, enabling a broader spectrum of directional analyses compared to variant (b), which is limited to two signals. The results obtained from the parameterization process are then stored in a **backup database**, where they are systematically categorized into entities representing different defect types.

2. Data Processing Algorithms

This study examines three specific diagnostic cases: a) the identification of squat defects, b) the evaluation of railway crossing conditions in relation to the type of surface used, and c) the assessment of track surface conditions with consideration of fastening types and sleeper materials. The results of these analyses are presented in **Sections 4.1–4.3**. The corresponding data processing models are illustrated in **Figure 6**. For each case, a dedicated model was employed, enabling the determination of whether vibration signals can reliably support diagnostic identification.

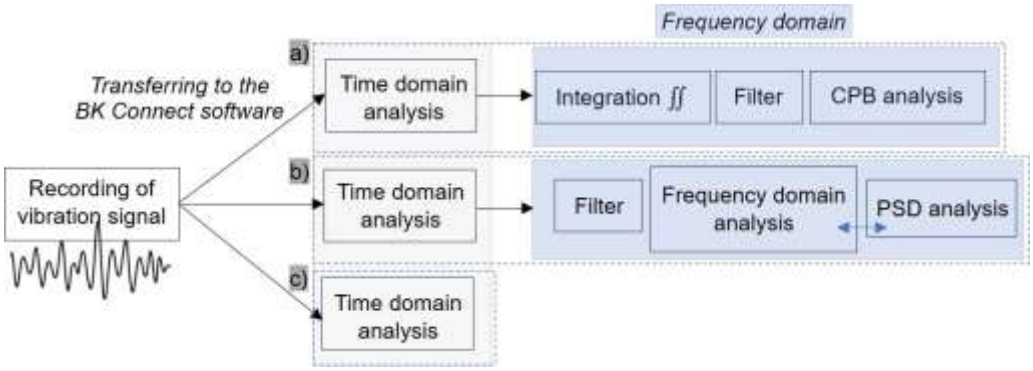


Fig. 4. Algorithm of data processing

In this study, the identification of rail surface defects (Fig. 5a) focused on detecting squat defect No. 227 from the official catalog of Polish Railway Lines. The recorded vibration signals were sampled at 51.2 kHz, ensuring sufficient resolution for subsequent spectral analysis. The operational frequency ranges of the 4504A vibration transducers were: x-axis: 1–11,000 Hz; y-axis: 1–9,000 Hz; z-axis: 1–18,000 Hz. Consequently, the Nyquist criterion was fulfilled for each axis,

Formally, the first and second derivatives of displacement x(t) with respect to time yield velocity (Eq. 1) and acceleration (Eq. 2), respectively:

$$v(t) = x'(t) \quad (1)$$

$$a(t) = x''(t) \quad (2)$$

where:

x(t) - displacement as a function of time,

v(t) - velocity as a function of time, the first derivative of displacement x(t) [m/s],

a(t) - acceleration as a function of time, the second derivative of displacement x(t) [m/s^2].

After performing a double integration of the vibration signal to obtain the corresponding vertical displacement, the next stage involved applying filtering techniques aimed at eliminating unwanted frequency components and suppressing noise. Since filtering operations are generally more effective in the frequency domain, the

signals were transformed from the time domain to the frequency domain prior to processing.

This transformation was achieved using the Fast Fourier Transform (FFT), which converts a discrete time signal $x(n)$ into its frequency spectrum $X(k)$ according to the following expression:

$$X(k) = \sum_{n=0}^{N-1} x(n) e^{-j \frac{2\pi}{N} kn} \quad (3)$$

where:

X(k) - value of the Fast Fourier Transform at fre- quency k (k=0,1,…,N-1),

x(n) - sample of displacement signal in the time do- main,

N - number of samples of the vibration signal,

j - imaginary unit ($j^2 = -1$).

After transforming the vibration signals into the frequency domain, a dedicated filtering procedure was applied. To enhance the amplitude of the waveform and eliminate low-frequency noise, a high-pass Infinite Impulse Response (IIR) filter was implemented, providing an accuracy level of approximately 0.1 dB. The primary function of the high-pass filter was to suppress the DC component and mitigate low-frequency drift. However, this approach introduced a reduction in accuracy for frequencies below fs/3000f_s / 3000fs/3000. Considering a squat defect analysis, where low-frequency components (up to 100 Hz) are of diagnostic significance, this resulted in diminished accuracy within the 0–6.7 Hz range.

3. Analysis of Research Results

3.1. Application of Vibration Signal Analysis for the Identification of Squat Defects on the Running Surface – a Case Study

An example of the squat defect No. 227 is illustrated in Figure 6a. Squats typically appear on the running surface of the rail and are initially manifested through localized peeling and microcracking of the material, forming a characteristic semicircular "dimple." The evolution of this defect is highly dependent on the specific operational and loading conditions of the railway line. As a point-type surface irregularity, the squat defect can significantly influence vehicle dynamics and safety. Its presence compromises the structural integrity of the track–vehicle interaction system, reduces overall operational reliability, and deteriorates ride comfort. In addition to squat defects, railway infrastructure is also affected by sectional surface anomalies such as wheel burns, which can extend over lengths of up to 1.5 meters

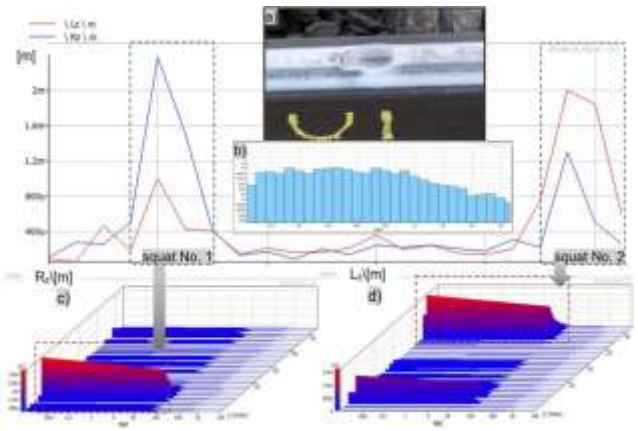


Fig. 5. Results of the analysis of the signal recorded at the squat defect: a – squat, b – CPB analysis, c,d - spectrum analysis for the vibration signal vertical direction for the right Rz and left Lz wheels

3.2. Evaluation of Railway Crossing Surface Conditions – Case Study

During the time-domain analysis of the vibration signal, an impulse-averaging method was employed, which enabled a precise examination of short-term variations occurring as the vehicle passed over a structural discontinuity, such as a crossing zone. The observed vibration acceleration amplitudes were notably higher for crossings with

small-format slabs, reaching up to 40 m/s², while for crossings with CBP slabs, the amplitudes did not exceed 16 m/s²

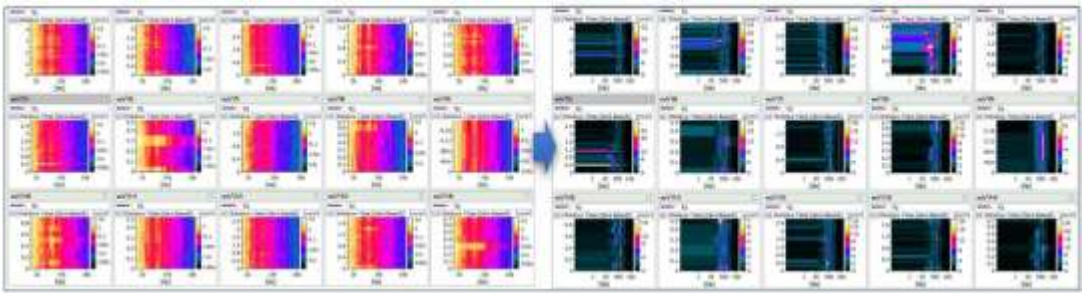


Fig. 6. Identification of the frequency trace resulting from the train's entry and exit from the railway crossing

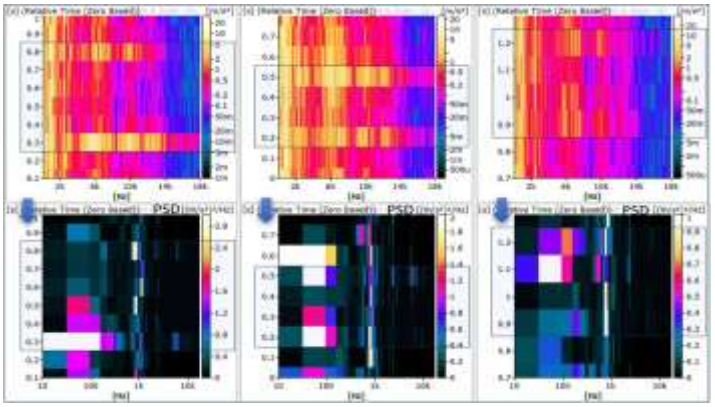


Fig. 7. Frequency spectrum and power spectral density for CBP slabs in the Lz vibration signal recording direction

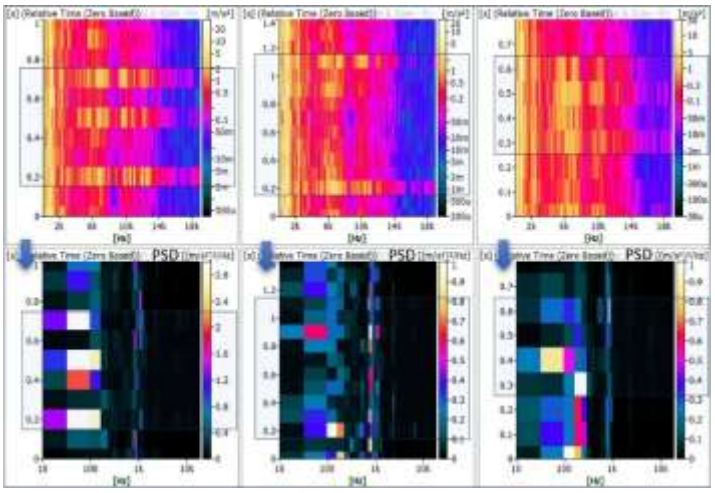


Fig. 8. Frequency spectrum and power spectral density for small sized slabs in the Lz vibration signal re- cording direction

Through the application of Power Spectral Density (PSD) analysis, it was possible to determine the distribution of signal energy in the frequency domain over the course of the vehicle's passage. The PSD results revealed that the regions corresponding to the entry and exit phases of the railway crossing exhibited the highest power levels throughout the entire observation window. The maximum spectral power was consistently observed around 200 Hz, regardless of the surface configuration. Moreover, elevated power levels were recorded within a narrow band near 800 Hz for crossings equipped with CBP slabs, and within the 700–900 Hz range for those utilizing small-sized slab elements. Further frequency-domain analysis demonstrated that the vibration spectra in both the vertical (z) and horizontal (y) directions featured distinctive amplitude characteristics. In the vertical direction, the dominant vibration acceleration amplitude reached approximately 10 m/s^2, while in the horizontal direction it averaged 2.5 m/s^2, both centered around 200 Hz. Additionally, secondary horizontal vibration components of roughly 1 m/s^2 were identified near 2000 Hz. A detailed examination of vibration signals recorded during crossings with small-sized slabs (within the track) and asphalt layers (on the outer sides) confirmed the presence of symmetrical amplitude peaks, similar to those identified for CBP slab crossings.

The spectral analysis (Figure 11b) focused on two representative cases of track surface transitions, analyzed exclusively along the vertical recording direction relative to the movement of the railway vehicle, and examined independently for the left (Lz) and right (Rz) wheel positions. Two sample signals—Signal 1 and Signal 2—were selected for comparative evaluation

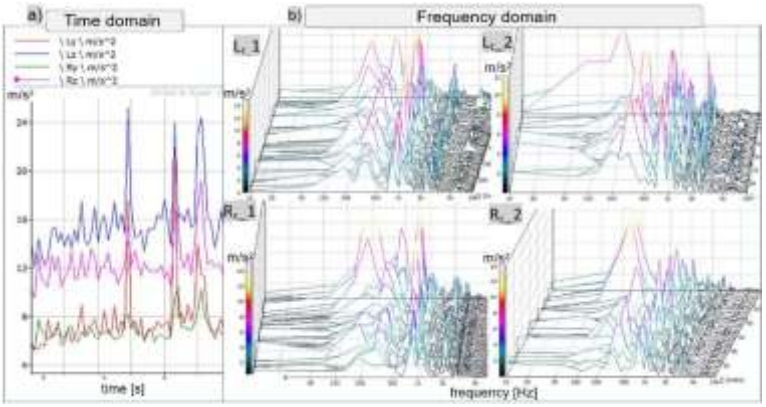


Fig. 9. Spectrum signal when changing the surface with wooden sleepers to concrete sleepers, where Lz_1 – vibration spectrum of signal No. 1 for the left wheel in the direction vertical to the vehicle movement; Lz_2 - vibration spectrum of signal No. 2 for the left wheel in the direction vertical to the vehicle movement; Rz_1 - vibration spectrum of signal No. 1 for the right wheel in the direction vertical to the vehicle movement; Rz_2 - vibration spectrum of signal No. 2 for the right wheel in the direction vertical to the vehicle movement

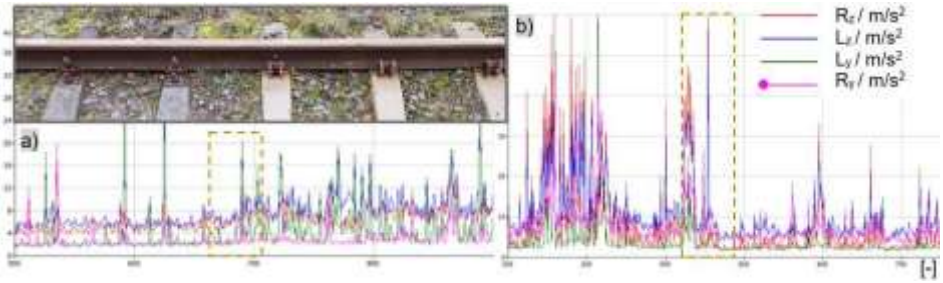


Fig. 10. Vibration signal when changing the type of fastening on concrete sleepers

Conclusion

The outcomes obtained in this study form a conceptual and methodological foundation for subsequent investigations across multiple domains of railway infrastructure diagnostics — including assessments of rail and level crossings and the continuous monitoring of track geometry and surface conditions. The application of vibration-based approaches to detect specific track irregularities has already been successfully demonstrated in onboard diagnostic systems, such as those employed in Japanese railway operations. The results of this research confirm the high diagnostic

value of vibration signals, particularly when coupled with advanced post-processing methods aimed at the identification of localized surface and structural defects. A comprehensive synthesis of the conducted experiments indicates that each diagnostic scenario within railway systems requires customized analytical techniques and dedicated tools. For instance, in the evaluation of rolling surface defects such as squats, the most relevant diagnostic parameter involves tracking vertical displacement components of vibration signals within the low-frequency range up to approximately 200 Hz. Meanwhile, the examination of railway crossings relies on the analysis of power spectral density of vibrations measured both vertically and laterally relative to the vehicle's direction of travel, particularly in the 200–800 Hz range. In contrast, investigations concerning track surface transitions reveal the necessity of examining vibration signals within a broader spectral range, extending up to 15,000 Hz, to capture the full dynamic response of the rail structure.

References

1. Arcieri, G., Hoelzl, C., Schwery, O., Straub, D., Papakonstantinou, K. G., & Chatzi, E. (2024). POMDP inference and robust solution via deep reinforcement learning: An application to railway optimal maintenance. *Machine Learning*, 1-29. https://doi.org/10.1007/s10994-024-06559-2.
2. Arcieri, G., Rigoni, T., Hoelzl, C., Haener, D., Chatzi, E. (2024). Zurich, E. T. H., & SBB, S. F. R. Ground penetrating radar for moisture assessment in railway tracks: An experimental investigation. *Journal of Physics Conference Series*. https://doi.org/ 10.58286/29747.
3. Avci, O., Abdeljaber, O., Kiranyaz, S., Hussein, M., Gabbouj, M., & Inman, D. J. (2021). A review of vibration-based damage detection in civil structures: From traditional methods to Machine Learning and Deep Learning applications. *Mechanical systems and signal processing*, 147, 107077.

https://doi.org/10.1016/j.ymssp.2020.107077.

4. Barbosa, B., Serrador, A., & Casaleiro, J. (2023). Condition Monitoring Maintenance in Train Bogie: A Low-Cost Acceleration Sensor Proposal. *In 2023 International Conference on Control, Automation and Diagnosis (ICCAD)* (1-4). IEEE. https://doi.org/10.1109/ICCAD57653.2023.10152337.
5. Carnevale, M., La Paglia, I., & Pennacchi, P. (2021). An algorithm for precise localization of measurements in rolling stock-based diagnostic systems. *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, 235(7), 827-839. https://doi.org/10.1177/0954409720965798.
6. Chrzan, M. (2022). Effect of uniform time on the transmission of signals in rail open systems. *Archives of Transport*, 61(1), 39-49. https://doi.org/10.5604/01.3001.0015.8150.
7. Chudzikiewicz, A., & Kostrzewski, M. (2013). Analiza sygnałów wibroakustycznych w procesie monitorowania stanu zawieszenia pojazdów szynowych oraz toru. *Pojazdy Szynowe*, 1(2013), 10-17. https://doi.org/10.53502/RAIL-139165.
8. De Rosa, A., Alfi, S., & Bruni, S. (2019). Estimation of lateral and cross alignment in a railway track based on vehicle dynamics measurements. *Mechanical Systems and Signal Processing*, 116, 606-623. https://doi.org/10.1016/j.ymssp.2018.06.041.
9. Di Summa, M., Griseta, M. E., Mosca, N., Patruno, C., Nitti, M., Renò, V., & Stella, E. (2023). A review on deep learning techniques for railway infrastructure monitoring. *IEEE Access*. https://doi.org/10.1109/ACCESS.2023.3309814.
10. Faccini, L., Karaki, J., Di Gialleonardo, E., Somaschini, C., Bocciolone, M., & Collina, A. (2023). A methodology for continuous monitoring of rail corrugation on subway lines based on axlebox acceleration measurements. *Applied Sciences*, 13(6), 3773. https://doi.org/10.3390/app13063773.

The Reflection of Friendship and Humanism in Alisher Navoiy's poetry

Abdumajidova Zarnigor Shukhrat qizi

second-year student of Tashkent State University of Oriental Studies

Annotation: This article investigates the core ethical concepts of humanism and friendship in literary heritage of the great Eastern poet Alisher Navoiy. Through the analysis his key philosophical views, the article demonstrates how he prioritized human dignity and social justice. Furthermore, the article examines the role and contemporary significance of his literary heritage in contemporary society.

Key words: Alisher Navoiy, Hirat, literature, friendship, humanism, bayt, eastern literature, poetry, literary work, Khamsa, kindness, generosity, help.

Annotatsiya: Ushbu maqolada ulug` sharq shoiri va mutafakkiri Alisher Navoiy ijodidagi do‘stlik va gumanizm g‘oyalarining asosiy axloqiy jihatlari tadqiq etiladi. Shoir shohasarlaridagi bosh falsafiy qarashlarni tahlil qilish orqali u zotning inson qadri va ijtimoiy adolatni qay darajada ustun qo‘ygani ko‘rsatib beriladi. Bundan tashqari, maqolada Navoiy adabiy merosining bugungi yoshlar hayotidagi o‘rni va zamonaviy ahamiyati atroflicha ko‘rib chiqiladi.

Kalit so’zlar: Alisher Navoiy, Hirot, adabiyot, do‘stlik, gumanizm (insonparvarlik), bayt, sharq adabiyoti, she’riyat, adabiy asar, Xamsa, ezgulik (yaxshilik), saxovat (karam), ko‘mak (yordam).

Аннотация: В данной статье исследуются ключевые этические темы дружбы и гуманизма в литературном творчестве великого восточного поэта Алишера Навои. На основе анализа главных философских взглядов, отраженных в его шедеврах, демонстрируется, как автор ставил во главу угла человеческое достоинство и социальную справедливость. Кроме того, в статье рассматриваются

роль и непреходящее значение его литературного наследия для современного поколения.

Ключевые слова: Алишер Навои, Герат, литература, дружба, гуманизм, бейт, восточная литература, поэзия, литературное произведение, Хамса (Пятерица), доброта, щедрость, взаимопомощь.

Introduction: Alisher Navoiy, the great Eastern poet, has profound influence in social thought, culture and in literature which continues to endure throughout history. Born in Herat where he spent the vast majority of his life, his full name was Nizomiddin Mir Alisher. Navoiy's intellectual curiosity was ignited from an early age, leading him to embark on his academic journey at the age of four. Throughout his illustrious literary career, he distinguished himself as a bilingual poet, composing profound poetry and prose in both the Turkic and Persian languages. Driven by an early infatuation with the literary arts, Alisher Navoiy immersed himself in the rigorous study of Eastern literature. His creative inclination was profoundly nurtured within his household from his youth. Being raised by prominent poets of the era, namely his maternal uncles Mirsaid (Kobuliy) and Muhammad Ali (G'aribiy), Navoiy grew up in an environment where his family home regularly served as a vibrant place for literary gatherings, poetry recitations, and intellectual discourses on art.[1]

Analysis of Alisher Navoiy's Literary Heritage: His literary heritage includes mostly epic, lyric, didactic works that includes ghazals, epic poems, Khamsa (Beshlik) and others. Those literary works reflect the social realities of the era, prioritizing philosophical themes and various social problems of the period. In his poetic works it is observed human dignity and moral perfection are achieved through justice and sincere

[1] Tafakkur.net. (n.d.). Alisher Navoiy hayoti va ijodi. Retrieved May 24, 2026, from https://tafakkur.net/alisher-navoiy/

friendship. As an example, 'Hayrat ul-Abrar' (the first part of his Khamsa) is a didactic-moral and philosophical epic poem which gives individuals understanding about how to be a true human. In this epic poem, there are 20 chapters and each of them are dedicated for one topic such as justice, moral virtues and ethics, mysticism and philosophy and others. An example from his work:

In Uzbek:

'*Kimki jahon ahliga aylar karam,*

Aylagusi dahr ahlini muhtaram.'

In English:

'Whoever extends generosity and kindness to the people of this world,

Elevates and honours the status of all humanity.'

This bayt [2] taken from the 6-chapter which is 'Discourse of generosity and Chivalry' of 'Hayrat ul-Abrar' and the meaning is that if a person performs an act of kindness, help and benevolence, that individual moral virtue contributes to the ethical improvement of society as a whole. In this bayt, Navoiy links individual responsibility and virtue to a goodness done for the whole humanity; also, these verses encourage people to embody the good qualities.

Second bayt on the theme of humanism is from 'Saddi Iskandariy' (Iskandar Devori):

In Uzbek:

'Kishi topsa olamda oliy maqom,

Insoniylik erur anga darsu tamom.'

In English:

'*Even if a person attains the highest status in this world,*

True humanism remains his ultimate lesson and supreme perfection.'

[2] Bayt refers to a couplet which is a pair of lines

In this profound bayt it is mentioned that even when the person becomes successful in terms of wealth and be well-known around the world, as such achievements lose their value without moral integrity because the greatest success that he or she should achieve is only humanism. For Navoiy humanism is a lifelong educational and moral pursuit and the given sentences are philosophical reminder meaning human worth, ultimately, lies not in domination or wealth but the capacity for service to mankind and empathy of the person.

Moreover, the theme of friendship is also considered one of the central themes of 'Hayrat ul-Abrar' because Alisher Navoiy appreciated it and mentioned many times in his literary works. In fact, the great poet created special works dedicated to his friends as he valued and respected them in real life. The following verses can be an example:

In Uzbek:

Jon qushidin qilma vafoni darig',

Do'st yo'lida asrama darig'.

In English:

Do not withhold loyalty, even if it costs your very soul,

And spare not your life when walking the path of a true friend.

In this specific bayt taken from 8-chapter namely Discourse of Loyalty and Fidelity, it can be seen that Alisher Navoiy prioritized and appreciated human relationships and this given example emphasizes sincerity in friendship.

Next bayt is from 'Saddi Iskandariy':

In Uzbek:

Do'st ulki, davlat uzoq bo'lsa sendan,

U ham yiroqlashmay, tursa yoningda.

In English:

A true friend is he who, when your wealth and fortune drift away,

Refuses to distance himself, standing firmly by your side.

In this bayt friendship is described as true when the one person never leaves the another even in hardship and poor conditions. This is considered common in almost all generation as people often establish relationships based on material benefit and social status and they may leave when the situation gets worse, so Navoiy is warning the society to be careful about fake friends.

Conclusion: Alisher Navoiy has had a great influence on Turkic literature and language and he prioritized philosophical themes such as friendship and humanism mentioned above. Navoiy advances the philosophy that the attainment of the highest human station is realized through spiritual perfection and selfless service to others, which ultimately elevates the status of all humanity. Furthermore, within his worldview,

friendship is conceptualized as a sacred, divine bond requiring unwavering loyalty from each companion, asserting that the true test of genuine friendship lies in remaining united through times of hardship and adversity.

References

1) Sirojiddinov, S. (2011). *Alisher Navoiy: Hayoti va ijodiy mero*si *[Alisher Navoiy: Life and literary heritage]*. Tamaddun.

2) Alisher Navoiy. (1993*). Mukammal asarlar to'plami: 20 jildlik* (Vol. 11: *Saddi Iskandariy*). Fan

3) Alisher Navoiy. (1991). *Mukammal asarlar to'plami: 20 jildlik* (Vol. 7: *Hayrat ul-abror*). Fan.

4)Tafakkur.net. (n.d.). *Alisher Navoiy hayoti va ijodi*. Retrieved May 24, 2026, from https://tafakkur.net/alisher-navoiy/

THE ROLE OF THE BAKHSHI IMAGE IN THE EPIC CREATIVITY OF TURKIC PEOPLES

Naurizbaeva Xanzada Oralbay qizi

2nd-year Student, Baxshichilik and Dostonchilik Program Nukus Branch of the Uzbekistan State Institute of Arts and Culture

ABSTRACT: This scientific article analyzes the formation, historical development, and artistic-aesthetic functions of the bakhshi image in the epic creativity of Turkic peoples. The study highlights the role of the bakhshi image in shaping historical memory, spiritual values, and national identity. It also examines the social functions, performance mastery, and transformation of bakhshi art in modern cultural processes from a folkloristic perspective. The findings demonstrate that the bakhshi image represents an important spiritual and aesthetic phenomenon in the common Turkic cultural heritage.

Keywords: bakhshi, epic creativity, folklore, oral tradition, Turkic peoples, cultural heritage, poetics, identity.

TURKIY XALQLAR EPIK IJODIDA BAXSHI OBRAZINING O‘RNI

NAURIZBAEVA XANZADA ORALBAY QIZI

O‘zbekiston davlat san’at va madaniyat instituti Nukus filiali “Baxshichilik va dostonchilik” mutaxasissligi 2-kurs talabasi

ANNOTATSIYA: Mazkur ilmiy maqolada turkiy xalqlar epik ijodida baxshi obrazining shakllanishi, tarixiy taraqqiyoti va badiiy-estetik funksiyalari tahlil qilinadi. Tadqiqot davomida baxshi obrazining xalqning tarixiy xotirasi, ma’naviy qadriyatlari va milliy identitetini shakllantirishdagi o‘rni yoritildi. Shuningdek, baxshining epik ijoddagi ijtimoiy vazifasi, ijrochilik mahorati va zamonaviy madaniy jarayonlardagi transformatsiyasi folklorshunoslik nuqtayi nazaridan o‘rganildi. Tadqiqot natijalari

baxshi obrazining umumturkiy madaniyatdagi muhim ma’naviy-estetik fenomen ekanligini ko‘rsatadi.

Kalit so‘zlar: baxshi, epik ijod, folklor, og‘zaki an’ana, turkiy xalqlar, madaniy meros, poetika, identitet.

РОЛЬ ОБРАЗА БАХШИ В ЭПИЧЕСКОМ ТВОРЧЕСТВЕ ТЮРКСКИХ НАРОДОВ

АННОТАЦИЯ: В данной научной статье анализируются формирование, историческое развитие и художественно-эстетические функции образа бахши в эпическом творчестве тюркских народов. В ходе исследования раскрывается роль образа бахши в формировании исторической памяти, духовных ценностей и национальной идентичности народа. Также рассматриваются социальные функции бахши, его исполнительское мастерство и трансформация в современных культурных процессах с точки зрения фольклористики. Результаты исследования показывают, что образ бахши является важным духовно-эстетическим феноменом обще-тюркской культуры.

Ключевые слова: бахши, эпическое творчество, фольклор, устная традиция, тюркские народы, культурное наследие, поэтика, идентичность.

KIRISH

Turkiy xalqlar epik ijodi xalqning tarixiy xotirasi, ma’naviy qadriyatlari va estetik tafakkurini aks ettiruvchi muhim madaniy hodisalardan biri hisoblanadi. Ushbu epik an’analar tarkibida baxshi obrazi markaziy o‘rin egallab, xalqning og‘zaki ijodiy merosini avloddan-avlodga yetkazuvchi asosiy ijodkor sifatida shakllangan. Baxshilar asrlar davomida xalqning ijtimoiy hayoti, tarixiy tajribasi va ma’naviy qarashlarini badiiy shaklda ifodalab kelgan. Tarixiy manbalarga ko‘ra, baxshilar qadimgi turkiy jamiyatlarda diniy-marosimiy va ma’naviy vazifalarni bajargan. Keyinchalik ular

professional epik ijrochilar sifatida shakllanib, xalqning ma’naviy hayotida muhim mavqega ega bo‘lgan [1, 19-bet].

Shu sababli baxshi obrazi nafaqat folklor qahramoni, balki tarixiy-madaniy fenomen sifatida ham ilmiy ahamiyat kasb etadi. Turkiy xalqlarning epik an’analarida baxshi xalqning ma’naviy ideallarini ifodalovchi timsol sifatida namoyon bo‘ladi. U xalq orasida donishmand, tarbiyachi va tarixiy xotira saqlovchisi sifatida qadrlangan. Baxshining poetik mahorati, musiqiy ijrochiligi va improvizatsion qobiliyati epik ijodning rivojlanishida muhim rol o‘ynagan.

Bugungi globallashuv davrida an’anaviy folklor shakllarining transformatsiyasi kuchaymoqda. Zamonaviy media vositalari va ommaviy madaniyatning keng tarqalishi natijasida baxshichilik san’ati yangi kommunikativ muhitga moslashmoqda. Shu sababli baxshi obrazining epik ijoddagi o‘rnini ilmiy jihatdan tahlil qilish dolzarb masalalardan biri hisoblanadi. Mazkur tadqiqotning maqsadi turkiy xalqlar epik ijodida baxshi obrazining tarixiy shakllanishi, poetik funksiyalari va zamonaviy madaniy jarayonlardagi ahamiyatini ilmiy jihatdan yoritishdan iboratdir.

METODOLOGIYA

Mazkur tadqiqotda kompleks metodologik yondashuv qo‘llanildi. Tadqiqotning nazariy asosini folklorshunoslik, etnologiya, madaniyatshunoslik va epik ijod nazariyasiga oid ilmiy qarashlar tashkil etdi. Tarixiy-qiyosiy metod yordamida baxshichilik an’anasining turkiy xalqlar madaniyatidagi shakllanish bosqichlari va rivojlanish xususiyatlari tahlil qilindi. Ushbu metod baxshi obrazining qadimgi marosimiy funksiyalardan professional ijodkor darajasigacha bo‘lgan taraqqiyotini o‘rganish imkonini berdi. Struktur-funksional yondashuv orqali baxshi obrazining epik tizimdagi vazifalari va funksional ahamiyati tahlil qilindi. Baxshining poetik nutqi, improvizatsion mahorati va tinglovchi auditoriyasiga ta’sir mexanizmlari ilmiy jihatdan o‘rganildi [2, 28-bet].

Shuningdek, qiyosiy folkloristik metod asosida turli turkiy xalqlarning epik ijrochilik an’analari o‘zaro solishtirildi. Baxshining badiiy ifoda vositalari, musiqiy ijro xususiyatlari va ijtimoiy vazifalari tahlil qilindi. Tadqiqot davomida empirik kuzatuv usuli ham qo‘llanildi. Zamonaviy baxshilar ijrosi, folklor festivallari va audio-video materiallar o‘rganildi. Bu esa baxshichilik san’atining zamonaviy transformatsiyasini aniqlash imkonini berdi. Metodologik jihatdan baxshi obrazi “madaniy vositachi”, “epik xotira tashuvchisi” va “ma’naviy tarbiyachi” sifatida talqin qilindi.

NATIJALAR

Tadqiqot natijalari baxshi obrazining turkiy xalqlar epik madaniyatida ko‘p funksiyali ma’naviy-estetik fenomen ekanligini ko‘rsatdi. Baxshi xalqning tarixiy xotirasini saqlovchi, ma’naviy qadriyatlarni targ‘ib qiluvchi va epik tafakkurni rivojlantiruvchi ijodkor sifatida namoyon bo‘ladi. Natijalar shuni ko‘rsatdiki, baxshi faqat epik matnni ijro etuvchi emas, balki uni qayta shakllantiruvchi ijodkor ham hisoblanadi. Baxshining improvizatsion mahorati har bir ijroning yangi poetik talqinda namoyon bo‘lishiga imkon yaratadi [3, 41-bet].

Shuningdek, baxshi obrazining ijtimoiy-ma’naviy vazifasi ham muhim ahamiyat kasb etadi. Baxshilar yosh avlodga jasorat, sadoqat, vatanparvarlik va insonparvarlik kabi qadriyatlarni singdirishda muhim vosita sifatida faoliyat yuritgan. Tadqiqot davomida baxshilar ijrosida musiqaning alohida o‘rin tutishi aniqlandi. Dutor, do‘mbira, dombra va qo‘biz kabi cholg‘ular baxshining poetik nutqi bilan uyg‘unlashib, tinglovchiga kuchli emotsional ta’sir ko‘rsatadi [4, 53-bet].

Natijalar zamonaviy media vositalari baxshichilik san’atining ommalashuviga katta ta’sir ko‘rsatayotganini ham ko‘rsatdi. Raqamli platformalar orqali baxshi ijrosi keng auditoriyaga yetib bormoqda. Bu esa baxshi obrazining yangi kommunikativ muhitda qayta shakllanishiga olib kelmoqda. Shuningdek, tadqiqot davomida globallashuv sharoitida baxshichilik an’analari ayrim transformatsion jarayonlarga

uchrayotgani aniqlandi. Zamonaviy sahnaviy talqinlar va media formatlar baxshichilikning an’anaviy shakliga ma’lum darajada ta’sir ko‘rsatmoqda [5, 37-bet].

NATIJALAR

Tadqiqot natijalari baxshi obrazining turkiy xalqlar epik madaniyatida ko‘p funksiyali ma’naviy-estetik fenomen ekanligini ko‘rsatdi. Baxshi xalqning tarixiy xotirasini saqlovchi, ma’naviy qadriyatlarni targ‘ib qiluvchi va epik tafakkurni rivojlantiruvchi ijodkor sifatida namoyon bo‘ladi. Natijalar shuni ko‘rsatdiki, baxshi faqat epik matnni ijro etuvchi emas, balki uni qayta shakllantiruvchi ijodkor ham hisoblanadi. Baxshining improvizatsion mahorati har bir ijroning yangi poetik talqinda namoyon bo‘lishiga imkon yaratadi [3, 41-bet].

Shuningdek, baxshi obrazining ijtimoiy-ma’naviy vazifasi ham muhim ahamiyat kasb etadi. Baxshilar yosh avlodga jasorat, sadoqat, vatanparvarlik va insonparvarlik kabi qadriyatlarni singdirishda muhim vosita sifatida faoliyat yuritgan. Tadqiqot davomida baxshilar ijrosida musiqaning alohida o‘rin tutishi aniqlandi. Dutor, do‘mbira, dombra va qo‘biz kabi cholg‘ular baxshining poetik nutqi bilan uyg‘unlashib, tinglovchiga kuchli emotsional ta’sir ko‘rsatadi [4, 53-bet].

Natijalar zamonaviy media vositalari baxshichilik san’atining ommalashuviga katta ta’sir ko‘rsatayotganini ham ko‘rsatdi. Raqamli platformalar orqali baxshi ijrosi keng auditoriyaga yetib bormoqda. Bu esa baxshi obrazining yangi kommunikativ muhitda qayta shakllanishiga olib kelmoqda. Shuningdek, tadqiqot davomida globallashuv sharoitida baxshichilik an’analari ayrim transformatsion jarayonlarga uchrayotgani aniqlandi. Zamonaviy sahnaviy talqinlar va media formatlar baxshichilikning an’anaviy shakliga ma’lum darajada ta’sir ko‘rsatmoqda [5, 37-bet].

XULOSA

Xulosa qilib aytganda, baxshi obrazi turkiy xalqlar epik ijodining eng muhim timsollaridan biri hisoblanadi. U xalqning tarixiy xotirasi, ma’naviy qadriyatlari va

estetik tafakkurini saqlash hamda avlodlarga yetkazishda muhim ahamiyat kasb etadi. Tadqiqot natijalari baxshi obrazining ko‘p funksiyali xarakterga ega ekanligini ko‘rsatdi. Baxshi nafaqat epik ijrochi, balki ijodkor, tarbiyachi va madaniy vositachi sifatida ham faoliyat yuritadi. Turkiy xalqlar baxshichilik an’analarida umumiy madaniy ildizlar mavjud bo‘lishiga qaramay, har bir xalqning tarixiy va etnomadaniy muhiti baxshi obrazining shakllanishiga o‘ziga xos ta’sir ko‘rsatgan.

Kelgusida baxshichilik san’atini chuqurroq o‘rganish, elektron folklor arxivlarini yaratish, baxshilar maktablarini qo‘llab-quvvatlash va xalqaro ilmiy hamkorlikni rivojlantirish muhim ilmiy vazifalardan biri bo‘lib qolmoqda.

FOYDALANILGAN ADABIYOTLAR:

1. Karimov A. *Turkiy xalqlar folklori.* Toshkent: Fan, 2019. [19–32-bet].
2. Yusupov B. *Baxshichilik san’ati va epik an’ana.* Toshkent: Ma’naviyat, 2021. [28-bet].
3. Nurmatov S. *Folklor poetikasi va epik tafakkur.* Toshkent: O‘zbekiston, 2020. [41-bet].
4. Abdurahmonov S. *Epik madaniyat va og‘zaki ijod.* Toshkent: Universitet nashriyoti, 2022. [53-bet].
5. UNESCO. *Intangible Cultural Heritage Reports.* Paris, 2023. [37–42-bet].

OPTIMIZATION OF THERAPY FOR MOTOR AND COGNITIVE DISORDERS IN CHRONIC CEREBRAL ISCHEMIA

Sodiqov Abduolim Abduxoshim o‘g‘li
Master’s Student Andijan State Medical Institute
Scientific Supervisor: Abramyan Arevik Armikovna
PhD, Associate Professor Andijan State Medical Institute

Abstract: This article analyzes the pathogenesis of motor and cognitive impairments in chronic cerebral ischemia (CCI) and approaches to optimizing their treatment. As a result of chronic cerebral blood flow disturbance, hypoxic neuronal damage, white matter degeneration, and weakening of synaptic connections are observed. This condition is manifested by a decline in cognitive functions, memory impairment, attention deficit, and motor coordination disorders. Modern therapeutic approaches are complex and include pharmacological, neuroprotective, and rehabilitation methods. The results of the study emphasize the importance of an individualized approach in improving functional recovery in patients with CCI.

Keywords: chronic cerebral ischemia, cognitive impairment, motor dysfunction, neuroprotection, rehabilitation, cerebral circulation.

SURUNKALI BOSH MIYA ISHEMIYASIDA HARAKAT VA KOGNITIV BUZILISHLAR TERAPIYASINI OPTIMALLASHTIRISH

ОПТИМИЗАЦИЯ ТЕРАПИИ ДВИГАТЕЛЬНЫХ И КОГНИТИВНЫХ НАРУШЕНИЙ ПРИ ХРОНИЧЕСКОЙ ИШЕМИИ ГОЛОВНОГО МОЗГА

Sodiqov Abduolim Abduxoshim o‘g‘li
Andijon davlat tibbiyot instituti magistranti
Ilmiy rahbar: PhD, dotsent Abramyan Arevik Armikovna

Annotatsiya: Ushbu maqolada surunkali bosh miya ishemiyasida (SBMI) yuzaga keladigan harakat va kognitiv buzilishlarning patogenezi hamda ularni davolashni

optimallashtirish yo‘llari tahlil qilinadi. Miya qon aylanishining surunkali buzilishi natijasida neyronlarning gipoksik shikastlanishi, oq modda degeneratsiyasi va sinaptik aloqalarning zaiflashishi kuzatiladi. Bu holat kognitiv funksiyalar pasayishi, xotira buzilishi, diqqat yetishmovchiligi hamda harakat koordinatsiyasi buzilishi bilan namoyon bo‘ladi. Zamonaviy terapiya yondashuvlari kompleks bo‘lib, farmakologik, neyroprotektiv va reabilitatsion usullarni o‘z ichiga oladi. Tadqiqot natijalari SBMI bemorlarida funksional tiklanishni yaxshilashda individual yondashuv muhimligini ko‘rsatadi.

Kalit so‘zlar: surunkali bosh miya ishemiyasi, kognitiv buzilish, harakat buzilishi, neyroproteksiya, reabilitatsiya, miya qon aylanishi.

Аннотация: В данной статье анализируются патогенез двигательных и когнитивных нарушений при хронической ишемии головного мозга (ХИГМ), а также пути оптимизации их лечения. В результате хронического нарушения мозгового кровообращения наблюдаются гипоксическое повреждение нейронов, дегенерация белого вещества и ослабление синаптических связей. Данное состояние проявляется снижением когнитивных функций, нарушением памяти, дефицитом внимания и расстройствами координации движений. Современные подходы к терапии являются комплексными и включают фармакологические, нейропротективные и реабилитационные методы. Результаты исследования показывают важность индивидуального подхода для улучшения функционального восстановления у пациентов с ХИГМ.

Ключевые слова: хроническая ишемия головного мозга, когнитивные нарушения, двигательные расстройства, нейропротекция, реабилитация, мозговое кровообращение.

Kirish: Surunkali bosh miya ishemiyasi (SBMI) zamonaviy nevrologiyada chuqur o’rganilishi kerak bo’lgan kasalliklardan biri bo‘lib, u miya to‘qimalarining uzoq

muddat davomida yetarli darajada qon bilan ta’minlanmasligi natijasida rivojlanadigan kompleks patologik holat hisoblanadi. Ushbu kasallikning asosiy patofiziologik mexanizmi miya perfuziyasining sekin-asta pasayishi, mikrosirkulyatsiyaning buzilishi hamda neyronlarning surunkali gipoksiyaga uchrashi bilan bog‘liqdir. SBMI klinik jihatdan asta-sekin rivojlanishi bilan ajralib turadi va dastlab funksional o‘zgarishlar — bosh og‘rig‘i, bosh aylanishi, tez charchash bilan boshlanadi. Keyingi bosqichlarda esa kognitiv buzilishlar (xotira pasayishi, diqqatning susayishi, fikrlash sekinlashuvi) hamda harakat tizimidagi buzilishlar (yurishning beqarorlashuvi, koordinatsiya pasayishi, bradikineziya) ustunlik qiladi. Ushbu o‘zgarishlar bemorning kundalik faoliyatini cheklab, ijtimoiy va professional moslashuviga jiddiy ta’sir ko‘rsatadi[1]. So‘nggi yillardagi ilmiy tadqiqotlarda keltirilishicha, SBMI nafaqat tomir etiologiyasiga ega kasallik, balki neyrodegenerativ jarayonlar bilan chambarchas bog‘liq kompleks sindrom ekanligini ko‘rsatmoqda. Shu sababli kasallikni davolash faqat simptomatik yondashuv bilan cheklanmasdan, patogenetik va neyroprotektiv yo‘nalishlarni ham qamrab olishi zarur[2,3].

Asosiy qism: Surunkali bosh miya ishemiyasida kognitiv buzilishlar miya to‘qimalarining uzoq muddatli gipoperfuziyasi natijasida rivojlanadigan murakkab neyrobiologik jarayonlar bilan bog‘liq. Miya qon oqimining kamayishi neyronlarning energetik ta’minotini izdan chiqaradi, natijada ATP sintezi pasayadi va hujayra metabolizmi buziladi.

Ushbu jarayonda quyidagi asosiy patogenetik mexanizmlar ishtirok etadi:[4].

- neyronlarning gipoksik shikastlanishi
- mitoxondrial disfunksiya
- oksidlovchi stressning kuchayishi
- glutamat eksitotoksikligi
- oq modda demiyelinizatsiyasi

- sinaptik plastiklikning pasayishi

Natijada miya po‘stlog‘i va subkortikal strukturalar o‘rtasidagi neyron aloqalar zaiflashadi. Klinik jihatdan bu xotira pasayishi, diqqatning susayishi, fikrlash sekinlashuvi va intellektual funksiyalarning umumiy kamayishi bilan namoyon bo‘ladi[5].

Harakat va kognitiv buzilishlarning patogenetik asoslari hamda terapiyani optimallashtirish: Surunkali bosh miya ishemiyasida (SBMI) harakat buzilishlari asosan miya subkortikal tuzilmalarining uzoq muddatli ishemik zararlanishi bilan bog‘liq bo‘lib, ayniqsa frontal-subkortikal neyron tarmoqlarning shikastlanishi motor funksiyalarni boshqarishda muhim rol o‘ynaydi. Ushbu patologik jarayonlar natijasida bazal gangliyalar faoliyati buziladi, dopaminergik tizimning faolligi pasayadi, nerv impulslarining o‘tish tezligi sekinlashadi hamda oq modda traktlarida degenerativ o‘zgarishlar rivojlanadi. Mazkur o‘zgarishlar harakat tizimining markaziy boshqaruv mexanizmlarini izdan chiqarib, klinik jihatdan harakatning sekinlashuvi (bradikineziya), yurishning beqarorlashuvi, postural muvozanatning buzilishi hamda koordinatsiya yetishmovchiligi kabi belgilar bilan namoyon bo‘ladi. Ushbu simptomlar ko‘pincha Parkinsonsimon sindromga o‘xshash klinik ko‘rinishlarni shakllantiradi. SBMI da kuzatiladigan kognitiv va motor buzilishlar murakkab patogenetik mexanizmlar asosida rivojlanadi, shuning uchun ularni davolashda zamonaviy tibbiyot kompleks va ko‘p yo‘nalishli yondashuvni talab qiladi. Hozirgi davolash strategiyalarining asosiy maqsadi nafaqat simptomlarni kamaytirish, balki kasallikning patogenetik asoslariga ta’sir etish va neyronlarning funksional holatini saqlab qolishdan iboratdir. Shu nuqtayi nazardan farmakologik terapiya muhim o‘rin egallaydi. Unda antiplatelet preparatlar trombozning oldini olish va mikrosirkulyatsiyani yaxshilash uchun qo‘llaniladi, antihipertenziv vositalar miya gemodinamikasini barqarorlashtiradi, statinlar lipid almashinuvini normallashtiradi, neyroprotektorlar neyronlarni gipoksik shikastlanishdan himoya

qiladi, antioksidantlar esa oksidlovchi stressni kamaytirishga hissa qo'shadi[6].

1 - jadval. Surunkali bosh miya ishemiyasida harakat va kognitiv buzilishlar hamda ularni davolash yondashuvlari

Patologik jarayon / buzilish	**Asosiy patogenetik mexanizm**	**Klinik namoyon bo'lishi**	**Terapeytik yondashuv**
Kognitiv buzilishlar	Neyron gipoksiyasi, oksidlovchi stress, sinaptik uzilishlar, oq modda degeneratsiyasi	Xotira pasayishi, diqqat susayishi, fikrlash sekinlashuvi	Neyroprotektorlar, antioksidantlar, kognitiv treninglar
Harakat buzilishlari	Frontal-subkortikal yo'llar ishemiyasi, bazal gangliya disfunksiyasi, dopamin kamayishi	Bradikineziya, yurish beqarorligi, koordinatsiya buzilishi	Fizioterapiya, reabilitatsiya mashqlari, dopaminergik qo'llab-quvvatlash
Mikrosirkulyatsiya buzilishi	Kapillyar perfuziya kamayishi, endotelial disfunksiya	Umumiy holsizlik, nevrologik sustlik	Antiplatelet vositalar, antihipertenziv terapiya
Oksidlovchi stress	Erkin radikallar ortishi, antioksidant himoya pasayishi	Neyron shikastlanishi, kognitiv pasayish	Antioksidantlar, metabolik terapiya

Bundan tashqari, neyroprotektiv terapiya SBMI davolashning muhim yo'nalishlaridan biri hisoblanadi. Ushbu yondashuv hujayra metabolizmini yaxshilash, energiya tanqisligini kamaytirish, sinaptik uzatish jarayonlarini tiklash hamda neyrodegenerativ jarayonlarni sekinlashtirishga qaratilgan bo'lib, neyronlarning uzoq muddatli funksional

saqlanishini ta’minlashga yordam beradi sababi, reabilitatsion davolash ham bemorlarning funksional tiklanishida muhim ahamiyatga ega. Kognitiv treninglar xotira va diqqatni yaxshilashga yordam beradi, fizioterapiya mashqlari harakat faolligini oshiradi, vestibulyar reabilitatsiya muvozanatni tiklashga xizmat qiladi, logopedik mashg‘ulotlar esa nutq buzilishlarini korreksiya qilishga qaratilgan bo‘ladi. Ushbu chora-tadbirlar bemorning ijtimoiy va funksional moslashuvini yaxshilashda muhim rol o‘ynaydi. [7]. Shuningdek, hayot tarzini modifikatsiya qilish SBMI rivojlanishini sekinlashtirishda asosiy profilaktik omillardan biridir. Muntazam jismoniy faollik miya qon aylanishini yaxshilaydi, to‘g‘ri ovqatlanish (yog‘ va tuz iste’molini cheklash) metabolik jarayonlarni barqarorlashtiradi, stressni kamaytirish va zararli odatlardan voz kechish esa umumiy neyrovaskulyar tizimga ijobiy ta’sir ko‘rsatadi. Uyqu rejimini tartibga solish ham miya regeneratsiyasi va neyron funksiyalarini tiklashda muhim ahamiyatga ega[8].

Xulosa: Surunkali bosh miya ishemiyasi (SBMI) zamonaviy nevrologiyada keng tarqalgan, murakkab patogenezga ega va asta-sekin progressiv kechuvchi kasalliklardan biri hisoblanadi. Tadqiqot natijalariga ko‘ra, ushbu patologiyada harakat va kognitiv buzilishlarning rivojlanishi miya qon aylanishining surunkali yetishmovchiligi bilan bevosita bog‘liq bo‘lib, asosiy patogenetik mexanizmlar sifatida neyron gipoksiyasi, oksidlovchi stress, oq modda degeneratsiyasi hamda sinaptik aloqalarning buzilishi muhim o‘rin egallaydi. Harakat buzilishlari asosan frontal-subkortikal tizimlar va bazal gangliyalar faoliyatining izdan chiqishi bilan izohlanadi. Bu holat klinik jihatdan bradikineziya, yurishning beqarorlashuvi va koordinatsiya buzilishlari bilan namoyon bo‘ladi. Kognitiv buzilishlar esa neyronlararo aloqa zaiflashuvi, metabolik yetishmovchilik va neyrodegenerativ jarayonlar natijasida rivojlanib, xotira, diqqat va fikrlash qobiliyatining pasayishiga olib keladi. Tadqiqotda shuningdek, SBMI ni davolashda kompleks yondashuv eng samarali strategiya ekanligi aniqlandi.

Farmakologik terapiya (antiplatelet vositalar, antihipertenzivlar, statinlar, neyroprotektorlar), neyroprotektiv davolash hamda reabilitatsion usullar birgalikda qo‘llanganda bemorlarning funksional holatini yaxshilash va kasallik progressiyasini sekinlashtirish mumkin. Bundan tashqari, hayot tarzini modifikatsiya qilish ham davolash samaradorligini oshiruvchi muhim omil sifatida qayd etildi.

Adabiyotlar ro’yxati

1 Иванов, П. С. (2020). *Хроническая ишемия головного мозга и когнитивные нарушения*. Москва: Медицина, 210–218 стр.

2 Нигматова, Л. Р. (2023). *Сосудистые когнитивные нарушения при хронической ишемии мозга*. Ташкент: Ilm Ziyo, 120–127 стр.

3 Williams, D. T. (2021). *Pathophysiology of chronic cerebral ischemia and neurodegeneration*. Boston: Harvard Medical Press, 160–168 pp.

4 Петрова, Е. В. (2019). *Нейродегенеративные процессы при сосудистых заболеваниях мозга*. Санкт-Петербург: Наука, 134–140 стр.

5 Smit, J. R., & Brown, L. M. (2023). *Cerebral ischemia and neurovascular dysfunction: Mechanisms and therapy*. New York: Springer, 175–183 pp.

6 Johnson, A. K. (2022). *Neuroprotection and brain hypoxia in chronic cerebral ischemia*. London: Oxford University Press, 201–209 pp.

7 Xasanov, B. B. (2020). *Miya qon tomir kasalliklarida diagnostika va davolash tamoyillari*. Samarqand: SamDU nashri, 88–94-betlar.

8 Lee, H. S., & Kim, J. Y. (2024). *Advances in neuroimaging and treatment of chronic brain ischemia*. Seoul: Medical Science Press, 190–198 pp.

THE IMPORTANCE OF INTERACTIVE METHODS IN DEVELOPING THE WRITTEN SPEECH OF PRIMARY SCHOOL STUDENTS

Ramazonova Munisa Hoshim qizi
1st-year Master's Student Bukhara State Pedagogical Institute
Tel: +998904030367 E-mail: munisahoshimovna@gmail.com

Annotation. This article discusses interactive methods used to develop the written language of primary school students.

Keywords: primary education, mother tongue education, written speech, interactive methods, students' speech competence, writing literacy, pedagogical technologies, active participation in the educational process, communicative approach, students' independent thinking.

BOSHLANG'ICH SINF O'QUVCHILARINING YOZMA NUTQINI O'STIRISHDA INTERAKTIV METODLARNING AHAMIYATI

Ramazonova Munisa Hoshim qizi
Buxoro davlat pedagogika institute 1-bosqich magistranti
+998904030367 munisahoshimovna@gmail.com

Annotatsiya. Ushbu maqolada boshlang'ich sinf o'quvchilarining yozma nutqini o'stirishda qo'llaniladigan interaktiv metodlar haqida so'z yuritilgan.

Аннотация. В статье рассматриваются интерактивные методы развития письменной речи учащихся начальной школы.

Kalit so'zlar: boshlang'ich ta'lim, ona tili ta'limi, yozma nutq, interaktiv metodlar, o'quvchilarning nutqiy kompetensiyasi, yozma savodxonlik, pedagogik texnologiyalar, ta'lim jarayonida faollik, kommunikativ yondashuv, o'quvchilarning mustaqil fikrlashi.

Kirish

Bugungi kunda mamalakatimizda uzluksiz ta'lim tizimida boshlang'ich ta'lim alohida ahamiyat kasb etadi. Boshlang'ich sinf o'quvchilarining yozma va og'zaki nutqini

baravar rivojlantirish muhim ahamiyat kasb etadi.Yozma nutq o‘quvchining tafakkur darajasi, til boyligi va mantiqiy fikrlash qobiliyatini aks ettiruvchi muhim ko‘rsatkich bo‘lib, u nafaqat ona tili darslarida, balki barcha fanlarni o‘zlashtirish jarayonida muhim ahamiyat kasb etadi. Shu sababli boshlang‘ich sinflarda yozma nutqni rivojlantirish masalasi pedagogik jihatdan dolzarb muammolardan biri sanaladi.

Boshlang‘ich sinflarda o‘quvchilarning yozma nutqini rivojlantirish usullari.

Yozma nutq — bu o‘quvchining tafakkuri, nutq madaniyati, so‘z boyligi va mantiqiy fikrlash darajasini namoyon etuvchi eng muhim vositadir. Boshlang‘ich ta’limda yozma nutqni rivojlantirish o‘quvchilarning keyingi ta’lim bosqichlarida o‘z fikrini erkin, aniq va mantiqiy ifoda etishga asos bo‘ladi. Bugungi kunda yangi pedagogik texnologiyalar, interaktiv metodlar va AKT (axborot-kommunikatsiya texnologiyalari) vositalari orqali bu jarayonni yanada samarali tashkil etish imkoniyatlari mavjud.

Boshlang‘ich sinf o‘quvchilarining yozma nutqini rivojlantirishda bir nechta yondashuvlar mavjud.Quyida ularning asosiylarini ko‘rishimiz mumkin:

1. Kompetensiyaviy yondashuv

Yozma nutq o‘rgatishda faqat grammatik bilimlarni emas, balki real hayotiy holatlar asosida o‘z fikrini bayon qilish, tahlil qilish va izohlash ko‘nikmalarini shakllantirish muhim. Bu yondashuvda o‘quvchi “biluvchi” emas, balki “yaratuvchi” sifatida qaraladi.

2. Shaxsga yo‘naltirilgan ta’lim

Har bir o‘quvchining individual rivojlanish darajasi, dunyoqarashi va qiziqishlariga qarab yozma topshiriqlarni moslashtirish, o‘quvchini rag‘batlantiruvchi, motivatsion muhit yaratish muhim hisoblanadi.

Bolalar nutqiy faoliyatining rivojlanishida leksik o‘yinlarning ahamiyati kattadir. Chunki bunday o‘yinlar bola nutqining o‘sishi, fikrlash qobiliyatining rivojlanishi, bilim saviyasining kengayishi va xotirasining yanada mustahkamlanishiga yordam beradi. Boshlang‘ich sinf o‘quvchilarining yozma nutqini o‘stirishda metodlardan foydalanish

muhim ahamiyat kasb etadi. O‘qituvchi o‘quvchilar bilan birgalikda interaktiv metodlarda ishtirok etishi maqsadga muvofiq bo‘ladi deb o‘ylayman. Yozma nutqni rivojlantirishga yordam beruvchi usullar va metodlar sifatida quyidagi metodlarni aytishimiz mumkin:

1. “Tasvir asosida hikoya tuzish” metodi.

O‘quvchilarga rasm yoki surat asosida hikoya tuzish topshirig‘i beriladi. Bu metod fantaziya va tafakkurni kuchaytiradi. Ushbu metodni avvalo o‘qituvchi boshlab bersa, o‘quvchilar uchun yanada qiziqarli tuyuladi.

Afzalliklari:

So‘z boyligini oshiradi;

Mantiqiy bog‘liqlikni rivojlantiradi;

Nutqni ifodali qilishga o‘rgatadi.

2. “Yarimta matnni to‘ldirish” usuli.

O‘quvchilarga boshlanishi yoki o‘rtasi yozilgan hikoya berilib, davom ettirish so‘raladi.

Afzalliklari:

Fikrni davom ettirish malakasi shakllanadi;

O‘quvchining mustaqil yozuv ko‘nikmalari kuchayadi;

Mantiqiy xulosa chiqarishga o‘rgatadi.

3. “5 ta gap bilan hikoya yoz” texnikasi.

O‘quvchidan faqat 5 ta gap yordamida aniq voqeani hikoya qilish so‘raladi.

Afzalliklari:

Qisqa, lo‘nda fikrlashga o‘rgatadi;

Mantiqiy tuzilishga ahamiyat berishni talab qiladi;

Muhim fikrlarni tanlay olish ko‘nikmasini rivojlantiradi.

4. “Qahramonga maktub yoz” usuli

O‘qilgan ertak yoki hikoyadagi qahramonga xat yozish topshiriladi.

Afzalliklari:

Empatiya va obraz bilan ishlash ko‘nikmasi shakllanadi;

Fikrlash va yozish jarayoni chuqurlashadi.

5. “O‘zgaruvchan yakun” metodi.

Berilgan matnning yakunini o‘quvchi o‘zicha yozadi. Bu metod tanqidiy fikrlashni faollashtiradi.

Afzalliklari:

Muqobil fikrlash rivojlanadi;

O‘quvchi mustaqil qaror chiqarishga o‘rganadi;

Matn mazmunini chuqur tushunadi.

Yozma nutqni rivojlantirishda ona tili bilan bir qatorda atrof-muhit, tasviriy san’at, texnologiya fanlari bilan integratsion darslar samarali bo‘ladi. Masalan, “Bahor fasli” mavzusida rasm chizish va shu asosda hikoya tuzish topshirig‘i berilsa, o‘quvchilarning ham ijodiy, ham nutqiy ko‘nikmalari yanada rivojlanadi.

Xulosa

Xulosa o‘rnida shuni ta'kidlash joizki,yozma nutqni rivojlantirish — bu faqat grammatikani o‘rganish emas, balki bolada mustaqil fikrlash, tahlil qilish, his-tuyg‘ularini ifodalash, tanqidiy fikrlash, ijtimoiy faol bo‘lishga yo‘naltirilgan keng qamrovli jarayondir. Boshlang‘ich sinfda bu ko‘nikmalarni shakllantirish uchun o‘qituvchi-pedagoglar zamonaviy yondashuvlarga tayangan holda turli metod va usullardan samarali foydalanishi lozim.

Foydalanilgan adabiyotlar ro‘yxati:

1.To‘xtayeva F.Sh. Ta’lim jarayoniga kompetensiyaviy yondashuvda pedagogning raqamli kompetentlikning ahamiyati. ISSN 2181-1717 (E) Образование и инновационные исследования (2022 год №7).

2. Bakiyeva H., G‘ulomova X., Yo‘ldosheva Sh., Xolboyeva G.. Boshlang‘ich sinflarda ona tili o‘qitish metodikasi. Darslik. Toshkent. – 2021-yil.

3. Olloqova O‘. Boshlang‘ich sinf ona tili darslarida o‘quvchilarning kompetensiyaviy yondashuvini tashkil etish. Pedagogik mahorat. Ilmiy-nazariy va metodik jurnal. 6-son (2021-yil, dekabr).

4. Parpiyev O. Ona tili darslarida ilg‘or pedagogik texnologiyalar asosida o‘quvchilarning yozma nutq savodxonligini oshirish.Жамият ва инновациялар – Общество и инновации –Society and innovations Special Issue – 02 (2024) / ISSN 2181-1415.

5. D.R. Babayeva. Nutq o‘stirish nazariyasi va metodikasi. (Darslik). – T.: «Barkamol fayz media», 2018

FEATURES OF SPEECH DEVELOPMENT IN CHILDREN WITH INTELLECTUAL DISABILITIES IN INCLUSIVE EDUCATION

Berdiyorov Khurshid Farxod ugli

Lecturer, Department of Special Pedagogy Jizzakh State Pedagogical University

E-mail: berdiyorovxurshid1@gmail.com

Abstract. This article analyzes the specific pedagogical and psychological features of the development of speech in children with mental retardation in inclusive education. Difficulties in the formation of phonetic, lexical and grammatical aspects of speech in students with mental retardation and their impact on the educational process are highlighted. Also, correctional and pedagogical approaches aimed at developing communicative competence, expanding vocabulary, improving coherent speech and ensuring social adaptation of this category of children in an inclusive education environment are considered. The results of the study serve to substantiate the effectiveness of innovative methods and individual approaches supporting speech development.

Keywords: inclusive education, children with mental retardation, speech development, communicative competence, correctional and pedagogical activities, coherent speech, vocabulary, social adaptation, special pedagogy, individual approach.

INKLYUZIV TA'LIMDA AQLI ZAIF BOLALAR NUTQINI RIVOJLANTIRISH XUSUSIYATLARI

Berdiyorov Xurshid Farxod o‘g‘li

Jizzax davlat pedagogika universiteti Maxsus pedagogika kafedrasi o‘qituvchisi

berdiyorovxurshid1@gmail.com

Annotatsiya. Mazkur maqolada inklyuziv ta’lim sharoitida aqli zaif bolalar nutqini rivojlantirishning o‘ziga xos pedagogik va psixologik xususiyatlari tahlil qilingan. Aqliy rivojlanishida nuqsoni bo‘lgan o‘quvchilarda nutqning fonetik, leksik va

grammatik tomonlarining shakllanishidagi qiyinchiliklar hamda ularning ta’lim jarayoniga ta’siri yoritilgan. Shuningdek, inklyuziv ta’lim muhitida ushbu toifadagi bolalarning kommunikativ kompetensiyasini rivojlantirish, lug‘at boyligini kengaytirish, bog‘lanishli nutqini takomillashtirish va ijtimoiy moslashuvini ta’minlashga qaratilgan korreksion-pedagogik yondashuvlar ko‘rib chiqilgan. Tadqiqot natijalari nutq rivojlanishini qo‘llab-quvvatlovchi innovatsion metodlar va individual yondashuvlarning samaradorligini asoslashga xizmat qiladi.

Kalit so‘zlar: inklyuziv ta’lim, aqli zaif bolalar, nutq rivojlanishi, kommunikativ kompetensiya, korreksion-pedagogik faoliyat, bog‘lanishli nutq, lug‘at boyligi, ijtimoiy moslashuv, maxsus pedagogika, individual yondashuv.

ОСОБЕННОСТИ РАЗВИТИЯ РЕЧИ У ДЕТЕЙ С ИНТЕЛЛЕКТУАЛЬНЫМИ НАРУШЕНИЯМИ В УСЛОВИЯХ ИНКЛЮЗИВНОГО ОБРАЗОВАНИЯ

Бердияров Хуршид Фарход угли
Преподаватель кафедры специальной педагогики Джизакского государственного педагогического университета E-mail: berdiyorovxurshid1@gmail.com

Аннотация. В данной статье анализируются специфические педагогические и психологические особенности развития речи у детей с умственной отсталостью в условиях инклюзивного образования. Выделены трудности в формировании фонетических, лексических и грамматических аспектов речи у детей с умственной отсталостью и их влияние на образовательный процесс. Также рассмотрены коррекционно-педагогические подходы, направленные на развитие коммуникативной компетентности, расширение словарного запаса, улучшение связной речи и обеспечение социальной адаптации этой категории детей в условиях инклюзивного образования. Результаты

исследования служат обоснованием эффективности инновационных методов и индивидуальных подходов, поддерживающих развитие речи.

Ключевые слова: инклюзивное образование, дети с умственной отсталостью, развитие речи, коммуникативная компетентность, коррекционно-педагогические мероприятия, связная речь, словарный запас, социальная адаптация, специальная педагогика, индивидуальный подход.

Kirish

Bugungi kunda inklyuziv ta’lim tizimini rivojlantirish va alohida ta’lim ehtiyojlariga ega bo‘lgan bolalarni umumta’lim muhitiga integratsiya qilish davlat ta’lim siyosatining ustuvor yo‘nalishlaridan biri hisoblanadi. Inklyuziv ta’lim nafaqat ta’lim olish imkoniyatlarini kengaytiradi, balki bolalarning ijtimoiylashuvi, kommunikativ kompetensiyalarini rivojlantirish va jamiyat hayotida faol ishtirok etishini ta’minlaydi. Aqli zaif bolalarda bilish jarayonlarining rivojlanishidagi o‘ziga xos xususiyatlar nutq faoliyatining shakllanishiga ham bevosita ta’sir ko‘rsatadi.

Mazkur toifadagi bolalarda lug‘at boyligining cheklanganligi, fonematik idrokning yetarli rivojlanmaganligi, grammatik tuzilmalardan foydalanishdagi qiyinchiliklar hamda bog‘lanishli nutqning sust rivojlanganligi kuzatiladi. Shu sababli inklyuziv ta’lim sharoitida ularning nutqini rivojlantirishga qaratilgan korreksion-pedagogik ishlarni ilmiy asosda tashkil etish muhim ahamiyat kasb etadi.

Maqolaning maqsadi inklyuziv ta’lim muassasalarida aqli zaif bolalar nutqini rivojlantirishning o‘ziga xos xususiyatlarini aniqlash hamda samarali pedagogik yondashuvlarni asoslashdan iborat.

Adabiyotlar tahlili va metodologiya

Aqli zaif bolalar rivojlanishining psixologik-pedagogik asoslari L.S.Vigotskiy, M.S.Pevzner, V.V.Lebedinskiy, A.R.Luriya, S.L.Rubinshteyn va boshqa olimlar tomonidan chuqur tadqiq etilgan. Ularning ilmiy qarashlariga ko‘ra, nutq

rivojlanishi bilish faoliyati, tafakkur va ijtimoiy tajribaning shakllanishi bilan uzviy bog‘liqdir.

L.S.Vigotskiy aqli zaif bolalarda mavjud rivojlanish imkoniyatlarini aniqlash va yaqin rivojlanish zonasiga tayangan holda korreksion ta’limni tashkil etish zarurligini ta’kidlagan. A.R.Luriya esa nutq faoliyatining neyropsixologik mexanizmlarini tahlil qilib, nutq buzilishlarini korreksiyalashda kompleks yondashuv muhimligini asoslagan.

Zamonaviy maxsus pedagogika va inklyuziv ta’lim nazariyalarida bolalarning individual ehtiyojlarini hisobga olgan holda differensial va shaxsga yo‘naltirilgan ta’lim texnologiyalaridan foydalanish tavsiya etiladi. Tadqiqot metodologiyasi sifatida tizimli, kompetensiyaviy, faoliyatga yo‘naltirilgan va inklyuziv yondashuvlar tanlandi.

Tadqiqot metodlari

Tadqiqot davomida quyidagi metodlardan foydalanildi: ilmiy-pedagogik va psixologik adabiyotlarni tahlil qilish; pedagogik kuzatuv; suhbat va savolnoma; diagnostik topshiriqlar; bolalar nutqini o‘rganish va baholash; pedagogik tajriba-sinov ishlari; olingan natijalarni statistik tahlil qilish. Mazkur metodlar aqli zaif bolalarning nutqiy rivojlanish darajasi hamda inklyuziv ta’lim muhitining ushbu jarayonga ta’sirini aniqlash imkonini berdi.

Natija va muhokamalar

Tadqiqot natijalari shuni ko‘rsatdiki, inklyuziv ta’lim muassasalarida tahsil olayotgan aqli zaif bolalarda nutq rivojlanishining quyidagi xususiyatlari kuzatiladi:

Birinchidan, faol va passiv lug‘at hajmi tengdoshlarga nisbatan kamroq bo‘lib, yangi so‘zlarni o‘zlashtirish jarayoni sekin kechadi. Bolalar ko‘pincha umumlashtiruvchi tushunchalarni qo‘llashda qiyinchilikka duch keladilar.

Ikkinchidan, grammatik qurilmalarni qo‘llashda xatolar ko‘p uchraydi. Gap tuzishda so‘zlarning tartibini saqlash, kelishik va zamon qo‘shimchalaridan to‘g‘ri foydalanish yetarli darajada shakllanmaganligi aniqlandi.

Uchinchidan, bog‘lanishli nutqning rivojlanish darajasi past bo‘lib, voqea-hodisalarni izchil bayon qilish, matn mazmunini qayta hikoya qilish va mustaqil fikr bildirishda qiyinchiliklar mavjudligi kuzatildi. Shu bilan birga, inklyuziv sinflarda tashkil etilgan maxsus korreksion mashg‘ulotlar, didaktik o‘yinlar, kommunikativ treninglar va guruhli faoliyatlar natijasida bolalarning lug‘at boyligi, muloqot faolligi hamda bog‘lanishli nutq ko‘rsatkichlarida ijobiy o‘zgarishlar qayd etildi.

Muhokama

Olingan natijalar maxsus pedagogika sohasidagi mavjud ilmiy tadqiqotlar bilan uyg‘unlik kasb etadi. Tadqiqotlar shuni ko‘rsatadiki, aqli zaif bolalarda nutq rivojlanishining sustligi asosan bilish faoliyatining o‘ziga xosligi bilan bog‘liq. Shu sababli nutqni rivojlantirish ishlari faqat til materialini o‘rgatish bilan cheklanmasligi, balki tafakkur, idrok, xotira va ijtimoiy muloqotni rivojlantirish bilan uzviy bog‘liq holda olib borilishi zarur.

Inklyuziv ta’lim muhiti bolalarning tengdoshlari bilan tabiiy muloqotga kirishishi uchun qulay sharoit yaratadi. Bu esa kommunikativ tajribaning boyishiga, nutqiy faollikning ortishiga va ijtimoiy moslashuvning yaxshilanishiga xizmat qiladi. Biroq mazkur jarayonning samaradorligi pedagoglarning kasbiy kompetensiyasi va individual yondashuvni ta’minlay olish darajasiga ham bog‘liqdir.

Xulosa

Inklyuziv ta’lim sharoitida aqli zaif bolalar nutqini rivojlantirish ularning ta’limiy va ijtimoiy muvaffaqiyatini ta’minlovchi muhim omillardan biridir. Tadqiqot natijalari aqli zaif bolalarda lug‘at boyligi, grammatik tuzilma va bog‘lanishli nutqning rivojlanishida muayyan qiyinchiliklar mavjudligini ko‘rsatdi.

Nutq rivojlanishini samarali tashkil etish uchun: individual va differensial yondashuvni qo‘llash; korreksion-rivojlantiruvchi mashg‘ulotlarni muntazam tashkil etish; didaktik o‘yinlar va interaktiv metodlardan foydalanish; ota-onalar va pedagoglar hamkorligini

kuchaytirish; kommunikativ faoliyatni rag‘batlantiruvchi inklyuziv muhit yaratish zarur. Mazkur yondashuvlar aqli zaif bolalarning nutqiy rivojlanishi, ijtimoiy moslashuvi va ta’lim jarayonidagi faolligini oshirishga xizmat qiladi.

Foydalanilgan adabiyotlar:

1. Vigotskiy L. S. Osnovy defektologii. Moskva : Pedagogika, 1983.
2. Pevzner M. S. Deti-oligofreny. Moskva : Akademiya, 2002.
3. Lebedinskiy V. V. Narusheniya psixicheskogo razvitiya u detey. Moskva : Akademiya, 2012.
4. Luriya A. R. Osnovy neyropsixologii. Moskva : Akademiya, 2006.
5. Rubinshteyn S. L. Osnovy obshchey psixologii. Sankt-Peterburg : Piter, 2003.
6. Ayupova M. Y. Maxsus pedagogika. Toshkent : Fan va texnologiyalar, 2020.
7. Muminova L. R. Maxsus pedagogika asoslari. Toshkent : O‘qituvchi, 2019.
8. Shoumarov G‘. B. Maxsus psixologiya. Toshkent : TDPU nashriyoti, 2017.
9. Po‘latova P. M. Inklyuziv ta’limning pedagogik asoslari. Toshkent : Tafakkur, 2021.
10. O‘zbekiston Respublikasining “Ta’lim to‘g‘risida”gi Qonuni.Toshkent, 2020.
11. O‘zbekiston Respublikasi Prezidentining PF–6084-son Farmoni. Toshkent, 2020.
12. Yusupova M. A. Mehnat faoliyati orqali maxsus ehtiyojli bolalarda ijtimoiy kompetensiyalarni rivojlantirishning pedagogik omillari // Uzluksiz ta’lim. 2021. № 4(2). B. 35–42.

Use of cloud technologies in Uzbekistan in 2020-2025

Imamova Odinaxon Jumaboy qizi

Denau Institute of Entrepreneurship and Pedagogy, basic doctoral student

e-mail: aydin.toh@mail.ru

Abstract

This thesis examines the state of use of cloud technologies in Uzbekistan for 2020–2025, stages of development and analysis of changes.

Keywords

Cloud technologies, cloud, cloud computing, IaaS, PaaS, SaaS, BaaS, DraaS.

O’zbekistonda 2020-2025 yillar mobaynida bulutli texnologiyalardan foydalanish

Imomova Odinaxon Jumaboy qizi

Denov tadbirkorlik va pedagogika instituti tayanch doktoranti

e-mail: aydin.toh@mail.ru

Annotatsiya

Mazkur tezisda 2020–2025 yillar davomida O‘zbekistonda bulutli texnologiyalardan foydalanish holati, rivojlanish bosqichlari hamda o‘zgarishlar tahlili ko‘rib chiqiladi.

Kalit so’zlar: Bulutli texnologiyalar, cloud, cloud computing, IaaS, PaaS, SaaS, BaaS, DraaS.

Kirish

So‘nggi yillarda axborot texnologiyalari va uni jamiyat sohasiga tatbiq qilishning rivojlanib borishi fonida butun dunyo miqyosida raqamli transformatsiya jarayonlari jadallashib, bulutli texnologiyalar (Cloud Computing) axborot infratuzilmasining muhim tarkibiy qismiga aylandi. O‘zbekistonda ham iqtisodiyotning turli tarmoqlarida raqamlashtirish siyosati kuchayishi natijasida bulutli xizmatlardan foydalanish ko‘lami

kengaydi. Bulutli texnologiyalarga bo'lgan talab ayniqsa, 2020-yildagi pandemiya sharoitida masofaviy ish, onlayn ta'lim va elektron xizmatlarga talabni keskin oshishi natijasida yanada kuchaydi deb ayta olamiz. Bu esa bulutli texnologiyalar rivojlanishiga kuchli turtki berdi.

1. Bulutli texnologiyalar tushunchasi va ahamiyati

Cloud (bulut) - virtual IT resurslari to‘plami. Aloqa kanallari, serverlar, disk maydoni, turli dasturlar, tarmoq uskunalari kiradi. Bulutli tizimning maqsadi bulutda joylashgan ma'lumotlarga kirishni masofaviy foydalanuvchilarga taqdim etishdir. Bulut ommaviy yoki shaxsiy bo‘lishi mumkin. Ikkala tur ham internetga ulangan holda mavjud. Ko‘pincha bunday yechimlar turli kompaniyalar tomonidan ichki vazifalar uchun qo‘llaniladi.[1]

Bulutli texnologiyalar — internet orqali serverlar, ma'lumotlar bazalari, dasturiy ta'minot va hisoblash resurslaridan masofadan foydalanish imkonini beruvchi model hisoblanadi.

“Bulutli texnologiyalar” tushunchasi (inglizcha “cloud computing”)ingliz va rus man'balarda keng ishlatiladi. O‘zbek tilida bu termin tarjimasidan muallif foydalangan.T.N.Nishonboyevning “Servisga yo‘naltirilgan arhitektura” monografiyasida ham ushbu termin ko‘p ishlatilgan.[3]

Asosiy xizmat turlari:

- **IaaS (Infrastructure as a Service)** — virtual server va infratuzilma xizmatlari;
- **PaaS (Platform as a Service)** — dastur yaratish platformalari;
- **SaaS (Software as a Service)** — tayyor dasturiy xizmatlar;
- **BaaS va DRaaS** — zaxiralash va avariyadan tiklash xizmatlari.

Bulutli texnologiyalarning asosiy afzalliklari:

- xarajatlarni kamaytirish;

- moslashuvchanlik;
- masofadan boshqarish;
- ma’lumotlarni xavfsiz saqlash;
- tezkor kengaytirish imkoniyati.

2. 2020–2025 yillarda bulutli texnologiyalarning rivojlanish bosqichlari

2.1. 2020-yil:

2020-yilda butun dunyo bo’ylab yirik pandemiyaga aylangan COVID-19 pandemiyasi tufayli:

- masofaviy ta’lim;
- onlayn bank xizmatlari;
- videokonferensiyalar;
- elektron hukumat tizimlariga talab oshdi.

Natijada Microsoft Teams, Google Classroom, Zoom, Moodle kabi bulutli platformalardan foydalanish kengaydi.[4]

2.2. 2021–2022 yillar: Faol integratsiya bosqichi

Mazkur davrda:

- davlat tashkilotlari;
- telekommunikatsiya kompaniyalari;
- xususiy biznes subyektlari bulutli xizmatlarni joriy etishni jadallashtirdi.

Asosiy tendensiyalar:

- virtual serverlarga o‘tish;
- elektron hujjat aylanishi;
- CRM va ERP tizimlarini cloud asosida ishlatish;
- data markazlar infratuzilmasining rivojlanishi;

Davlat tomonidan raqamli iqtisodiyotni rivojlantirish strategiyasi ham cloud texnologiyalarni ommalashtirishga xizmat qildi.

2.3. 2023–2025 yillar: Korporativ va sanoat miqyosidagi kengayish

2023-yildan boshlab:

- hybrid cloud;
- multi-cloud;
- sun’iy intellekt asosidagi bulutli xizmatlar,
- Big Data texnologiyalari

faol qo‘llanila boshladi.

Shuningdek:

- fintech,
- e-commerce,
- logistika,
- sog‘liqni saqlash,
- media sohalarida bulutli xizmatlarga talab ortdi.

2025-yilga kelib bulutli texnologiyalar korporativ boshqaruvning asosiy elementiga aylanmoqda. AWS, Google Cloud, Azure va mahalliy bulutli platformalardan foydalanish ko’rsatkichlari keskin oshdi.

Butun dunyoda bo’lgani kabi yurtimizda ham yildan–yilga internetdan foydalanuvchi abonentlar sonini oshib borayotganini ko’rishimiz mumkin. Bu ham o’z navbatida cloud computing tizimlaridan foydalanish ko’rsatkichlari oshishiga ta’sir qiladi. 2015–2024-yillar davomida O‘zbekistonda internet tarmog‘iga ulangan abonentlar soni va internetdan foydalanish darajasi sezilarli ravishda oshdi. Quyidagi jadvalda O’zbekiston Respublikasida 2015-2024 yillar mobaynida internet tarmog’iga ulangan abonentlar soni keltirilgan.[5]

1-jadval

O’zbekistonda internet tarmog’iga ulangan abonentlar soni, jismoniy shaxslar (hududlar kesimida, 100 ta o’rtacha doimiy axoliga nisbatan)

Klassifikator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
O‘zbekiston Respublikasi	25,8	29,1	33,2	39,1	46,9	56,2	63,3	70,6	77,4	80,1
Qoraqalpog‘iston Respublikasi	27,4	28,4	32,2	40,3	47,3	54	61,2	70,7	72,3	76,3
Andijon viloyati	20,9	24,2	27,5	31,8	39	46	54,4	58,4	66,4	69,6
Buxoro viloyati	23,1	25,3	28,2	35,7	42,5	49,7	58,5	69,9	71,5	76,9
Jizzax viloyati	20,9	22,9	27,4	33,7	39,7	45,6	53	111	64,1	69,9
Qashqadaryo viloyati	15,9	18,2	21,7	26,7	34,7	42,3	48,8	47,9	58,7	63,6
Navoiy viloyati	28,7	30,5	34,8	43,3	52,3	60,5	69,8	95,3	83,8	89,3
Namangan viloyati	19,7	23	27,3	34,4	41,9	47,3	54,7	58,9	64,7	70,7
Samarqand viloyati	21	23,5	27,1	31,9	38,3	44,6	51,9	51,2	63	68,7
Surxondaryo viloyati	15,2	17,3	21,5	27,6	35,9	42,3	47,5	47,3	57,9	61,8
Sirdaryo viloyati	26,5	28,2	34,4	41,3	50,9	57,2	65,5	89,2	78,5	80,3

Toshkent viloyati	9,4	11,7	11,1	16,5	32,8	40,6	48,7	61,1	63,1	65,9
Farg‘ona viloyati	20,8	24	28,2	33,2	40,4	49,7	72,8	80,9	91,3	85,9
Xorazm viloyati	22	24,8	31,2	38,1	45,8	52,4	60,2	73,9	72	76,7
Toshkent shahri	99,6	113,7	124,1	129,3	132	165,9	142,4	131,8	173,2	168,2

Statistik ma’lumotlarga ko‘ra, respublika bo‘yicha har 100 ta o‘rtacha doimiy aholiga to‘g‘ri keladigan internet abonentlari soni 2015-yildagi 25,8 ko‘rsatkichdan 2024-yilda 80,1 ga yetgan. Bu esa mamlakatda raqamli infratuzilma va telekommunikatsiya tarmoqlarining jadal rivojlanayotganini ko‘rsatadi.

Hududlar kesimida eng yuqori ko‘rsatkich Toshkent shahrida qayd etilgan bo‘lib, 2015-yilda 99,6 bo‘lgan ko‘rsatkich 2024-yilda 168,2 ga yetgan. Buning asosiy sababi sifatida poytaxtda internet infratuzilmasining rivojlanganligi, optik tolali aloqa tarmoqlarining kengligi, IT kompaniyalarning ko‘pligi va aholining raqamli xizmatlardan faol foydalanishini ko‘rsatish mumkin. Shuningdek, Navoiy, Farg‘ona va Sirdaryo viloyatlarida ham yuqori o‘sish sur’atlari kuzatilgan. Masalan, Farg‘ona viloyatida ko‘rsatkich 20,8 dan 85,9 ga, Navoiy viloyatida esa 28,7 dan 89,3 ga oshgan.

Toshkent viloyati, Qashqadaryo va Surxondaryo viloyatlarida dastlabki yillarda internet abonentlari soni nisbatan past bo‘lgan bo‘lsa-da, 2020-yildan keyin sezilarli o‘sish kuzatilgan. Ayniqsa, pandemiya davrida masofaviy ta’lim, onlayn xizmatlar va elektron tijorat rivojlanishi internetga bo‘lgan talabni keskin oshirdi. 2024-yil holatiga ko‘ra, O‘zbekistonda internet tarmog‘iga ulangan abonentlar soni 30,1 million nafarga yetgan va bu avvalgi yilga nisbatan 12,5 foizga ko‘paygan.

Internet foydalanuvchilari ulushining oshishi bulutli texnologiyalar rivojlanishiga bevosita ta’sir ko‘rsatmoqda. Bulutli texnologiyalar (Cloud Computing) internet orqali ma’lumotlarni saqlash, qayta ishlash va dasturiy xizmatlardan foydalanishni ta’minlaydi. Shu sababli internet qamrovining kengayishi cloud xizmatlarining ommalashuviga zamin yaratadi.

2020–2025-yillar davomida O‘zbekistonda davlat boshqaruvi, bank tizimi, ta’lim va biznes sohalarida bulutli texnologiyalardan foydalanish sezilarli darajada kengaydi. Elektron hukumat tizimlari, masofaviy ta’lim platformalari, onlayn bank xizmatlari va elektron savdo tizimlari aynan cloud texnologiyalar asosida faoliyat yuritmoqda. Internet tezligi va foydalanuvchilar sonining oshishi ushbu xizmatlardan samarali foydalanish imkoniyatini yaratdi.

2024-yilda O‘zbekistonda internetdan foydalanuvchi aholining ulushi 93,3 foizga yetgani mamlakatda raqamli xizmatlardan foydalanish darajasi yuqori ekanini ko‘rsatadi. Bu esa kelgusida bulutli texnologiyalar bozori yanada kengayishini anglatadi.

Shu bilan birga, ayrim hududlarda internet sifati va tezligi bilan bog‘liq muammolar hali ham mavjud. Bu esa cloud xizmatlardan foydalanishda ayrim cheklovlarni yuzaga keltirishi mumkin. Shuning uchun kelgusida hududlarda yuqori tezlikdagi internet infratuzilmasini rivojlantirish muhim vazifalardan biri bo‘lib qoladi. Bundan tashqari yana bir necha muammolar bulutli hizmatlardan foydalanishda bir qator kamchiliklarni keltirib chiqaradi:

- kiberxavfsizlik tahdidlari;
- malakali mutaxassislar yetishmasligi;
- ma’lumotlarni lokal saqlash talablari;
- ayrim hududlarda internet sifati pastligi;
- cloud infratuzilma xarajatlarining yuqoriligi.

Bu omillar ayrim tashkilotlarning cloud tizimlarga to‘liq o‘tishini sekinlashtirmoqda.

Xulosa

Umuman olganda, internet abonentlari sonining o‘sishi O‘zbekistonda bulutli texnologiyalar rivojlanishining asosiy omillaridan biri hisoblanadi. Internet infratuzilmasining takomillashuvi cloud xizmatlardan foydalanish imkoniyatlarini kengaytirib, mamlakatda raqamli transformatsiya jarayonlarini jadallashtirmoqda. 2020–2025 yillar davomida O‘zbekistonda bulutli texnologiyalar rivojlanishi sezilarli darajada jadallashdi. Pandemiya davri cloud xizmatlarning ommalashuviga boshlang‘ich turtki bergan bo‘lsa, keyingi yillarda davlat siyosati va biznes ehtiyojlari ushbu texnologiyalarni iqtisodiyotning turli tarmoqlariga chuqur integratsiyalashuviga olib keldi.

Kelgusida sun’iy intellekt, Big Data va gibrid bulut texnologiyalarining rivojlanishi O‘zbekistonda bulutli xizmatlar bozorining yanada kengayishiga xizmat qilishi kutilmoqda.

Foydalanilgan adabiyotlar:

1. Mamarajabov H.E., Abdiraimova Z.G’. Bulutli hisoblash tizimlarida ma’lumotlar havfsizligini ta’minlash.
2. R.Buyya, J.Broberg, A.Goscincki — Cloud Computing: Principles and Paradigms
3. T.E.Delov, Bulutli texnologiyalar (O‘quv qo‘llanma) .–T.: “Nihol print” OK, 2021 - 6 b Amazon Web Services Documentation
4. Imomova O.J. Bulutli hisoblash texnologiyalari va ularning samaradorligini baholash. www.innores.uz InnoRes Journal – Vol.2 No.5 (2026)
5. O‘zbekiston Respublikasi Statistika agentligi, https://stat.uz/uz/

Socio-Philosophical Analysis of Ensuring Employment of Unorganized Youth through Handicraft Activities

Mahmudjonov Javoxir Abduvoxidjon o‘g‘li
Lecturer, Department of History Kokand State University
Jo‘raqo‘ziyeva Umidabonu Muzaffar qizi
1st-year Student, History Education Program Kokand State University

Annotation

This article analyzes the socio-philosophical significance of national handicraft traditions in ensuring employment for unorganized youth. It examines the role of handicrafts in enhancing youth social activity, integrating them into society, and forming positive life strategies. It also explores the development of labor culture and social responsibility among young people based on the “master–apprentice” tradition and provides practical recommendations.

Key words

unorganized youth, social activity, handicrafts, employment, social rehabilitation, master–apprentice tradition, social philosophy, labor culture

HUNARMANDCHILIK ASOSIDA UYUSHMAGAN YOSHLAR BANDLIGINI TA’MINLASHNING IJTIMOIY-FALSAFIY TAHLILI

Mahmudjonov Javoxir Abduvoxidjon o‘g‘li
Qo‘qon davlat universiteti tarix kafedrasi o‘qituvchisi
Jo‘raqo‘ziyeva Umidabonu Muzaffar qizi
Qo‘qon davlat universiteti tarix ta’lim yo‘nalishi 1-kurs talabasi

Annotatsiya: Mazkur maqolada uyushmagan yoshlar bandligini ta’minlash jarayonida milliy hunarmandchilik an’analarining ijtimoiy-falsafiy ahamiyati tahlil qilingan. Unda hunarmandchilikning yoshlar ijtimoiy faolligini oshirish, ularni jamiyatga integratsiyalash va ijobiy hayot strategiyasini shakllantirishdagi o‘rni

yoritilgan. Shuningdek, “ustoz–shogird” an’anasi asosida yoshlarning mehnat madaniyati va ijtimoiy mas’uliyatini rivojlantirish imkoniyatlari ochib berilgan hamda amaliy tavsiyalar ishlab chiqilgan.

Kalit sozlar: uyushmagan yoshlar, ijtimoiy faollik, hunarmandchilik, bandlik, ijtimoiy, reabilitatsiya, ustoz–shogird an’anasi, ijtimoiy falsafa, mehnat madaniyati

Аннотация: В данной статье анализируется социально-философское значение национальных ремесленных традиций в обеспечении занятости неорганизованной молодежи. В ней рассматривается роль ремесленничества в повышении социальной активности молодежи, их интеграции в общество и формировании позитивной жизненной стратегии. Также раскрываются возможности развития трудовой культуры и социальной ответственности молодежи на основе традиции «устоз–шогирд» и предлагаются практические рекомендации.

Ключевые слова:неорганизованная молодежь, социальная активность, ремесленничество, занятость, социальная реабилитация, традиция «устоз–шогирд», социальная философия, трудовая культура

Kirish. Bugungi kunda uyushmagan yoshlar masalasi ijtimoiy siyosatning ustuvor yo‘nalishlaridan biriga aylangan bo‘lib, ularning jamiyat hayotidagi ijtimoiy faolligi, bandligi va mehnat bozoriga integratsiyasi murakkab muammolarga duch kelmoqda. Ayniqsa, yoshlarning ijtimoiy himoya tizimiga kirmay qolishi, turli ijtimoiy xavflar va marginal holatlar bilan yuzma-yuz bo‘lishi ijtimoiy barqarorlikni ta’minlashda yangi yondashuvlar zarurligini ko‘rsatmoqda. Shu kontekstda milliy hunarmandchilik an’analarining yoshlar bandligini ta’minlash va ularni ijtimoiy faollikka jalb etishdagi roli bilimdonlik bilan o‘rganilishi lozim bo‘lgan dolzarb ilmiy muammo hisoblanadi.

Ijtimoiy falsafa nuqtayi nazaridan bu masala yoshlarning ijtimoiylashuvi, mehnat etikasi, shaxsning jamiyatdagi o‘rni kabi fundamental tushunchalar orqali talqin qilinadi

va ularning hunarmandchilik faoliyatiga bog‘liq ijtimoiy funktsiyalari ilmiy tahlil obyekti bo‘lib xizmat qiladi. Shu bilan birga, hunarmandchilik an’analari nafaqat iqtisodiy faoliyat sifatida, balki yoshlarning ijtimoiy faolligini mustahkamlovchi ijtimoiy institut sifatida ham qaralishi kerak.

Maqola uyushmagan yoshlarni bandlik bilan ta’minlashda hunarmandchilikni ijtimoiy-falsafiy tahlil qilishni maqsad qilgan bo‘lib, mavjud ijtimoiy sharoitlar va milliy madaniy qadriyatlar asosidagi integratsion mexanizmlarni o‘rganadi. Tadqiqot jarayonida ijtimoiy falsafa yondashuvlari, mehnat va ijtimoiy faollikning aksiologik aspektlari, shuningdek, yoshlar va hunarmandchilik o‘rtasidagi uzviy aloqalar konseptual tahlil qilinadi.

Shu bilan birga, amaliy siyosat doirasida mamlakatimizda yoshlar bandligini ta’minlash va ularning ijtimoiy faolligini oshirishga qaratilgan davlat strategiyalari ahamiyat kasb etadi. Xususan, O‘zbekiston Respublikasi Prezidentining “Mahallada yoshlar bilan ishlash tizimini tubdan takomillashtirish chora-tadbirlari to‘g‘risida” [7]gi farmoni ijtimoiy faol yoshlarni qo‘llab-quvvatlash, ularni kasbga yo‘naltirish va mahalla darajasida ijtimoiy faoliyatni mustahkamlashga qaratilgan aniq vazifalarni belgilab beradi, bu esa tadqiqotning nazariy asosini mustahkamlaydi.

Ushbu maqolada keltiriladigan ilmiy tahlil va amaliy tavsiyalar mustahkam nazariy asosga tayanib, hunarmandchilik orqali uyushmagan yoshlar bandligini oshirish bo‘yicha ijtimoiy siyosat uchun amaliy ko‘rsatmalar ishlab chiqishga qaratiladi.

Asosiy qism. Zamonaviy jamiyat taraqqiyoti sharoitida uyushmagan yoshlar muammosi ijtimoiy barqarorlik va barqaror rivojlanish bilan bevosita bog‘liq bo‘lgan murakkab ijtimoiy hodisa sifatida namoyon bo‘lmoqda. Ijtimoiy falsafiy nuqtayi nazardan uyushmagan yoshlar jamiyatning asosiy ijtimoiy institutlari — ta’lim, bandlik, madaniyat va tarbiya tizimlari bilan yetarli darajada integratsiyalashmagan ijtimoiy qatlamni tashkil etadi. Bunday holat yoshlarning ijtimoiy faolligi pasayishiga, ularning

jamiyatdagi o‘z o‘rnini anglash jarayonining sustlashuviga va ijtimoiy chetlashuv (marginalizatsiya) jarayonlarining kuchayishiga olib keladi [5, 112-b.].

Bandlik ijtimoiy falsafada shaxsning jamiyat hayotidagi faol ishtirokini ta’minlovchi muhim ijtimoiy omil sifatida talqin qilinadi. Mehnat jarayoni orqali shaxs ijtimoiy munosabatlar tizimiga kiradi, ijtimoiy tajriba orttiradi va o‘zini jamiyatning to‘laqonli subyekti sifatida namoyon etadi. Uyushmagan yoshlarning band bo‘lmasligi ularning ijtimoiy faolligini cheklabgina qolmay, balki turli ijtimoiy xavf-xatarlar ta’siriga tushib qolish ehtimolini ham oshiradi [2, 41-b.]. Shu sababli uyushmagan yoshlar bandligini ta’minlash masalasi faqat iqtisodiy muammo emas, balki chuqur ijtimoiy-falsafiy mazmunga ega muammo sifatida qaralishi lozim [3, 58-b.].

Milliy hunarmandchilik ana shunday muammolarni hal etishda muhim ijtimoiy institut sifatida namoyon bo‘ladi. Hunarmandchilik tarixan mehnat madaniyati, milliy qadriyatlar va ijtimoiy tajribani o‘zida mujassam etgan faoliyat turi bo‘lib, u yoshlarning ijtimoiylashuvi jarayonida muhim o‘rin tutadi. Ijtimoiy falsafa nuqtayi nazaridan hunarmandchilikni shaxs va jamiyat o‘rtasidagi munosabatlarni uyg‘unlashtiruvchi, mehnat orqali ijtimoiy faollikni shakllantiruvchi mexanizm sifatida talqin qilish mumkin [4, 72-b.].

Hunarmandchilik faoliyatining muhim jihatlaridan biri “ustoz–shogird” an’anasidir. Mazkur an’ana yoshlarning nafaqat kasbiy ko‘nikmalarini rivojlantiradi, balki ularda mehnatga hurmat, mas’uliyat, intizom va ijtimoiy burch kabi axloqiy qadriyatlarni shakllantiradi. Bu jarayon yoshlarning ijtimoiy faolligini oshirish va ularni jamiyatga integratsiyalashda samarali ijtimoiy mexanizm bo‘lib xizmat qiladi [6, 63-b.]. Ayniqsa, uyushmagan yoshlar uchun hunarmandchilik faoliyati ijtimoiy reabilitatsiya vositasi sifatida muhim ahamiyat kasb etadi.

Hunarmandchilik asosida band bo‘lgan yoshlar o‘z mehnatining natijasini bevosita ko‘rish imkoniga ega bo‘ladilar. Bu holat ularning o‘ziga bo‘lgan ishonchini oshiradi,

shaxsiy mas’uliyatni kuchaytiradi va ijtimoiy faollikni rag‘batlantiradi. Ijtimoiy-falsafiy jihatdan bu jarayon shaxsning subyektiv faolligi bilan obyektiv ijtimoiy sharoitlar o‘rtasidagi dialektik uyg‘unlikni ifodalaydi [2, 45-b.].

Shuningdek, hunarmandchilik asosidagi bandlik uyushmagan yoshlarni ijtimoiy xavflardan himoyalashda ham muhim rol o‘ynaydi. Mehnat bilan band bo‘lish, bo‘sh vaqtning mazmunli tashkil etilishi yoshlarning turli salbiy ijtimoiy hodisalarga berilib ketish ehtimolini kamaytiradi. Bu jihatdan hunarmandchilik ijtimoiy profilaktika va ijtimoiy barqarorlikni ta’minlash vositasi sifatida ham talqin qilinadi [1, 25-b.].

Umuman olganda, hunarmandchilik asosida uyushmagan yoshlar bandligini ta’minlash masalasi ijtimoiy falsafa doirasida shaxs, jamiyat va mehnat o‘rtasidagi murakkab munosabatlarni ochib beruvchi muhim ilmiy muammo hisoblanadi [3, 60-b.].

O‘tkazilgan ijtimoiy-falsafiy tahlil shuni ko‘rsatadiki, uyushmagan yoshlar bandligini ta’minlash zamonaviy jamiyat taraqqiyotining muhim sharti bo‘lib, u nafaqat iqtisodiy, balki ijtimoiy, ma’naviy va madaniy omillar bilan ham uzviy bog‘liqdir. Uyushmagan yoshlarning jamiyat hayotidan chetlashuvi ularning ijtimoiy faolligi pasayishiga, ijtimoiy mas’uliyat hissining susayishiga va turli ijtimoiy xavf-xatarlarning kuchayishiga olib keladi [5, 114-b.].

Tadqiqot natijalari hunarmandchilik faoliyati uyushmagan yoshlarni bandlikka jalb etishda ijtimoiy-falsafiy jihatdan samarali vosita ekanini tasdiqlaydi. Hunarmandchilik yoshlar uchun nafaqat daromad manbai, balki ularning ijtimoiylashuvi, ijtimoiy faolligi va jamiyatga integratsiyalashuvini ta’minlovchi muhim ijtimoiy institut sifatida namoyon bo‘ladi. Ayniqsa, “ustoz–shogird” an’anasiga asoslangan hunarmandchilik faoliyati yoshlarning mehnat etikasi, mas’uliyat va ijtimoiy burch haqidagi tasavvurlarini shakllantirishda muhim rol o‘ynaydi [6, 66-b.].

Shuningdek, hunarmandchilik asosida band bo‘lish yoshlarning o‘z mehnati natijasini bevosita his etishiga imkon yaratadi, bu esa ularning o‘ziga bo‘lgan ishonchini

oshiradi va ijobiy hayot strategiyasini shakllantiradi. Ijtimoiy-falsafiy jihatdan bu jarayon shaxsning subyektiv faolligi bilan obyektiv ijtimoiy sharoitlar o‘rtasidagi uyg‘unlikni ta’minlaydi hamda jamiyatning barqaror rivojlanishiga xizmat qiladi [2, 47-b.].

Tadqiqot natijalaridan kelib chiqib, quyidagi amaliy tavsiyalarni ilgari surish mumkin:

- uyushmagan yoshlar bandligini ta’minlash maqsadida hunarmandchilikka asoslangan maxsus ijtimoiy dasturlarni ishlab chiqish va ularni mahalla hamda hududiy bandlik markazlari faoliyatiga integratsiya qilish;

- hunarmandchilik faoliyatida “ustoz–shogird” an’anasini tizimli ravishda qo‘llab-quvvatlash orqali yoshlarning kasbiy va ijtimoiy kompetensiyalarini rivojlantirish;

- hunarmandchilikni yoshlar ijtimoiy faolligini oshiruvchi barqaror mehnat modeli sifatida targ‘ib etish va uning ijtimoiy ahamiyatini ommaviy axborot vositalari orqali keng yoritish;

- hunarmandchilik markazlari faoliyatini uyushmagan yoshlarni ijtimoiy reabilitatsiya qilishning muhim instituti sifatida rivojlantirish va ularni moddiy-texnik jihatdan qo‘llab-quvvatlash;

- yoshlarni hunarmandchilik faoliyatiga jalb etishda milliy madaniy qadriyatlar va zamonaviy ijtimoiy ehtiyojlar uyg‘unligini ta’minlashga qaratilgan kompleks yondashuvlarni joriy etish.

Umuman olganda, hunarmandchilik asosida uyushmagan yoshlar bandligini ta’minlash masalasi ijtimoiy falsafa doirasida shaxs, jamiyat va mehnat o‘rtasidagi munosabatlarni uyg‘unlashtirishga xizmat qiluvchi muhim ilmiy va amaliy yo‘nalish hisoblanadi. Mazkur yondashuv yoshlar ijtimoiy faolligini oshirish, ularni jamiyat hayotiga faol jalb etish va barqaror ijtimoiy rivojlanishni ta’minlash uchun mustahkam nazariy asos bo‘lib xizmat qiladi [3, 60-b.].

Foydalanilgan adabiyotlar ro‘yxati

1. O‘zbekiston Respublikasi Prezidentining yoshlar bandligini oshirishga oid farmon va qarorlari. – Toshkent, 2021.

2. Abdurahmonov Q.X. Mehnat iqtisodiyoti va sotsiologiyasi. – Toshkent: Iqtisodiyot, 2019.

3. Jo‘rayev T., Tojiyev M. Ijtimoiy falsafa. – Toshkent: Fan va texnologiya, 2019.

4. Otamurodov S., Shermuhamedov S. Jamiyat falsafasi. – Toshkent: O‘zbekiston, 2018.

5. Qosimov B. Yoshlar ijtimoiy faolligi va bandlik muammolari. – Toshkent: Ma’naviyat, 2020.

6. Saidov U. Mehnat madaniyati va ijtimoiy mas’uliyat. – Toshkent: Ma’naviyat, 2019.

7. [1] https://lex.uz/uz/docs/-5831865

DEVELOPMENT OF A MOBILE APPLICATION FOR PROVIDING AUDIO TEXTBOOKS FOR THE VISUALLY IMPAIRED

Askarova Saodatxon Mamajanovna
Assistant Lecturer Andijan State Technical Institute
Jamoldinov Roziboy To‘ychiboy o‘g‘li
Student Andijan State Technical Institute
jamoldinovrozivoy@gmail.com

Abstract

This article discusses the development of a mobile application that provides audio textbooks for blind and partially sighted people. The role of mobile technologies in the development of inclusive education, text-to-speech (TTS) technologies, integration with screen readers, and creating a user-friendly interface are analyzed. The article provides detailed information about the application architecture, technologies used, and expected results. The proposed solution is designed to ensure equal access to education for blind students and support independent learning.

Keywords

blind, audio textbook, mobile application, TTS, screen reader, inclusive education, Flutter, VoiceOver, TalkBack.

KO‘ZI OJIZLAR UCHUN AUDIO DARSLIKLARNI TAQDIM ETUVCHI MOBIL ILOVA ISHLAB CHIQISH

Askarova Saodatxon Mamajanovna
assistant
Jamoldinov Roziboy To‘ychiboy o‘g‘li
talaba Andijon Davlat Texnika Instituti

Annotatsiya. Ushbu maqolada ko‘zi ojiz va zaif ko‘ruvchi shaxslar uchun audio darsliklarni taqdim etuvchi mobil ilovaning ishlab chiqilishi ko‘rib chiqiladi. Inklyuziv

ta'limni rivojlantirishda mobil texnologiyalarning roli, matnni ovozga aylantirish (TTS) texnologiyalari, ekran o‘quvchi dasturlar bilan integratsiya va foydalanuvchilarga qulay interfeys yaratish masalalari tahlil qilinadi. Maqolada ilova arxitekturasi, qo‘llaniladigan texnologiyalar hamda kutilayotgan natijalar haqida batafsil ma'lumot beriladi. Taklif etilayotgan yechim ko‘zi ojiz talabalar uchun ta'limga teng huquqli kirish imkoniyatini ta'minlash va mustaqil o‘qishni qo‘llab-quvvatlash maqsadida ishlab chiqilgan.

Kalit so‘zlar: ko‘zi ojizlar, audio darslik, mobil ilova, TTS, ekran o‘quvchi, inklyuziv ta'lim, Flutter, VoiceOver, TalkBack.

Аннотация. В данной статье рассматривается разработка мобильного приложения, предоставляющего аудиоучебники для слепых и слабовидящих людей. Анализируется роль мобильных технологий в развитии инклюзивного образования, технологий преобразования текста в речь (TTS), интеграции с программами чтения с экрана и создания удобного пользовательского интерфейса. В статье представлена подробная информация об архитектуре приложения, используемых технологиях и ожидаемых результатах. Предложенное решение призвано обеспечить равный доступ к образованию для слепых учащихся и поддержать самостоятельное обучение.

Ключевые слова: слепота, аудиоучебник, мобильное приложение, TTS, программа чтения с экрана, инклюзивное образование, Flutter, VoiceOver, TalkBack.

Kirish

Hozirgi kunda raqamli texnologiyalar ta'lim sohasida muhim o‘rin egallaydi. Biroq, Jahon sog‘liqni saqlash tashkilotining ma'lumotlariga ko‘ra, dunyo bo‘ylab 285 milliondan ortiq inson ko‘rish qobiliyati muammolaridan aziyat chekadi. Ushbu guruh vakillari an'anaviy kitob va o‘quv qurollaridan foydalanishda jiddiy qiyinchiliklarga

duch keladi. Shu sababli, maxsus texnologiyalar yordamida ularga sifatli ta'lim berish bugungi kun pedagogikasining dolzarb masalasiga aylandi.

Ko‘zi ojiz talabalar uchun yaratilgan audio darsliklar bu muammoning samarali yechimlaridan biri hisoblanadi. Mobil ilovalar orqali ushbu darsliklar istalgan vaqt va joyda foydalanishga qulay bo‘lib, ta'lim jarayonini yanada demokratlashtiradi. Zamonaviy sun'iy intellekt va ovoz texnologiyalari esa bunday ilovalarni yanada yuqori sifatli va interaktiv qilish imkonini beradi.

Muammoning dolzarbligi va tadqiqot maqsadi.

O‘zbekistonda ham ko‘zi ojiz va zaif ko‘ruvchi shaxslar soni ko‘p bo‘lib, ularning ta'lim olish imkoniyatlari cheklangan. Mavjud o‘quv adabiyotlarining aksariyati vizual formatda bo‘lib, Brayl yozuviga yoki audio formatga o‘girish jarayoni uzoq vaqt talab qiladi. Bundan tashqari, mavjud audio materiallar ko‘pincha eskirgan yoki cheklangan mavzularni qamrab oladi.

Ushbu tadqiqotning asosiy maqsadi - ko‘zi ojiz foydalanuvchilar uchun maxsus moslashtirilgan, keng qamrovli audio darsliklar bazasiga ega, qulay va foydalanish oson mobil ilovani ishlab chiqishdir. Ilova quyidagi vazifalarni hal etishga yo‘naltirilgan:

- ko‘zi ojiz talabalar uchun o‘quv materiallaridan mustaqil foydalanish imkoniyatini yaratish;
- ta'lim sifatini oshirish va bilim olish jarayonini qulaylashtirish;
- inklyuziv ta'lim tamoyillarini amaliyotda joriy etish.

Texnologik yechimlar va ilova arxitekturasi

Ilova ishlab chiqishda Flutter platformasi tanlab olindi. Flutter - Google tomonidan yaratilgan ochiq manbali freymvork bo‘lib, Android va iOS uchun bitta kod bazasidan ilovalar yaratish imkonini beradi. Bu esa ilovani keng auditoriyaga yetkazish nuqtai nazaridan ayniqsa muhimdir.

Ilovaning asosiy texnologik elementlari quyidagilardan iborat:

- Matnni ovozga aylantirish (TTS). Google Text-to-Speech va Amazon Polly xizmatlari yordamida har qanday matn yuqori sifatli ovozga aylantiriladi. Foydalanuvchi audio tezligini va ovoz balandligini o‘zi sozlay oladi.
- Ekran o‘quvchi dasturlar bilan integratsiya. Ilova Android uchun TalkBack va iOS uchun VoiceOver xizmatlari bilan to‘liq mos ishlaydi, bu esa navigatsiyani ovoz buyruqlari orqali amalga oshirish imkonini beradi.
- Oflayn rejim. Foydalanuvchilar audio darsliklarni qurilmaga yuklab olib, internet aloqasisiz foydalanishi mumkin. Bu ayniqsa internet tarmog‘i cheklangan hududlarda muhim ahamiyat kasb etadi.
- Brayl displey qo‘llab-quvvatlash. Ilova tashqi Brayl displey qurilmalari bilan Bluetooth orqali integratsiya qilingan bo‘lib, foydalanuvchilarga qo‘shimcha kirish imkoniyatini taqdim etadi.

Foydalanuvchi interfeysi va maxsus imkoniyatlar

Ko‘zi ojiz foydalanuvchilar uchun mo‘ljallangan interfeysni loyihalashda maxsus dizayn tamoyillari qo‘llanilgan. Barcha tugmalar va funksiyalar ovoz bilan tasvirlanadi, rang kontrastlari oshirilgan va shrift o‘lchamlari kattalashtirilgan. Sensorli ekranda swipe (surish) harakatlariga asoslangan navigatsiya tizimi joriy etilgan bo‘lib, bu an'anaviy tugmali interfeysga nisbatan ancha qulay hisoblanadi.

Ilovada quyidagi maxsus funksiyalar mavjud:

- ovozli qidiruv - foydalanuvchi darslikni ovoz buyrug‘i orqali qidiradi;
- yer belgisi (bookmark) - tinglanayotgan o‘rin belgilanadi va keyingi seanslarda davom ettiriladi;
- tezlikni sozlash - audio 0.5x dan 2.0x gacha tezlikda tinglash mumkin;
- bo‘limlar bo‘yicha navigatsiya - darsliktning istalgan bobiga tezkor o‘tish imkoniyati.

Texnologiyalar va asboblar.

Ilovaning texnik tarkibi quyidagi jadvalda keltirilgan:

Mobil platforma: Flutter (Android va iOS);

Ovoz texnologiyasi: Google TTS, Amazon Polly;

Backend: Firebase, Node.js;

Ma'lumotlar bazasi: SQLite (oflayn), Firebase Firestore (onlayn);

Maxsus imkoniyatlar API: TalkBack (Android), VoiceOver (iOS);

Brayl integratsiya: Bluetooth HID protokoli.

Kutilayotgan natijalar.

Ilovani tatbiq etish natijasida quyidagi ijobiy o‘zgarishlar kutilmoqda. Ko‘zi ojiz talabalar o‘quv materiallarini mustaqil ravishda, istalgan vaqt va joyda tinglay oladi. Bu ularning ta'lim jarayonidagi ishtirokini sezilarli darajada oshiradi. Bundan tashqari, audio darsliklarning ko‘lami kengayib, turli fanlar va ta'lim darajalari qamrab olinadi.

Inklyuziv ta'lim tamoyillari asosida yaratilgan ushbu ilova nafaqat ko‘zi ojizlar, balki dysleksiya yoki o‘qish qiyinchiliklariga duch keladigan boshqa foydalanuvchilar uchun ham foydali bo‘lishi mumkin. Ilova O‘zbekiston ta'lim tizimiga moslashtirilgan bo‘lib, mahalliy tildagi darsliklar ham qo‘shilishi rejalashtirilgan.

Ko‘zi ojizlar uchun audio darsliklar taqdim etuvchi mobil ilovani ishlab chiqish bugungi kunda inklyuziv ta'limni rivojlantirishning muhim yo‘nalishlaridan biridir. Flutter platformasi, TTS texnologiyalari, TalkBack va VoiceOver xizmatlari asosida qurilgan ushbu ilova ko‘zi ojiz foydalanuvchilarga ta'lim olishda teng huquqlilikni ta'minlaydi. Ilovaning oflayn ishlash imkoniyati, ovozli navigatsiya va Brayl displey qo‘llab-quvvatlashi uni keng qamrovli va foydalanuvchilarga qulay yechim sifatida ajratib turadi.

Xulosa

Kelgusida ilova sun'iy intellekt asosida shaxsiy o‘quv rejalarini tuzish, real vaqt rejimida tarjima qilish va interaktiv sinov tizimlarini o‘z ichiga olish orqali yanada

takomillashtirilishi rejalashtirilgan. Davlat va xususiy sektor hamkorligi ushbu texnologiyani keng ommalashtirishda muhim rol o‘ynashi mumkin.

Foydalanilgan adabiyotlar

1. O‘zbekiston Respublikasi prezidentining "Nogironligi bo‘lgan shaxslarning huquqlari to‘g‘risida"gi Qonuni. 2021 yil 16 noyabr.

2. World Health Organization. World Report on Vision. Geneva: WHO, 2019.

3. Flutter - Google's UI toolkit. URL: https://flutter.dev

4. Google Cloud Text-to-Speech API. URL: https://cloud.google.com/text-to-speech

5. W3C Web Accessibility Initiative (WAI). Mobile Accessibility Guidelines. 2022.

6. Abner, B. et al. "Assistive Technology for the Visually Impaired: A Review". Journal of Assistive Technologies, 2021, Vol. 15, pp. 45–58.

7. R. Zulunov, Z. Samatova. Bulutli texnologiyalarda kiberxavfsizlik ta'minlashda CASB yechimlari. Al-Farg‘oniy avlodlari, 2024, 1(1), s. 93–98.

The Theory of Segmental Units and Changes in the Digital Environment in Russian and Uzbek Internet Communication

Xojimatova Nigora

lecturer at the department of pedagogy and languages Andijan branch of Turon University E-mail: nigoraxon6792@mail.com Tel: (91) 495 22 11

Annotation: The article examines the problems and specific features of Internet communication. It highlights the significant influence of informational components on society and the individual. As a result, information as a value of a new type of society is defined not only, and not so much, by its mass character or accessibility, or by its economic or political potential, but rather by its capacity for personalization, which provides its possessor with new dimensions of self-identification. This capacity is most fully realized in computer-mediated communication via the internet. The transformation of linguistic personality, accompanied by the formation of a virtual worldview, including a linguistic one, reflects life within the internet space with its specific characteristics.

Key words: the Internet, communication, sociality, a person, slang, emojis, the virtual worldview, word formation, phonetics, graphology, the lexicological level and phraseology.

Introduction.

Modern society is characterized by the rapid development of digital technologies, which have a significant impact on language communication. The Internet has become the most important platform for communication among millions of users, leading to the emergence of new forms of verbal interaction. Analyzing the phenomenon of the Internet, Umberto Eco noted that “our societies will soon split (or have already split) into two classes: those who only watch television, that is, receive ready-made images and ready-made judgments about the world without the right to critically select

information, and those who look at a computer screen, who are capable of selecting and processing information." [4, p. 7]

The widespread use of the Internet has led to the emergence of an entirely new information community, where a person sitting in front of a computer not only immerses themselves in a special communicative space, virtual in its ontology, but can also actively express themselves within it, shaping and transforming it. Thus, with the help of a computer and immersion into the world of the Internet, modern individuals create a new environment for their existence and a new form of social interaction with other people and with the world as a whole.

The problems and peculiarities of Internet communication have attracted the attention of scholars since the late twentieth century. According to E. P. Belinskaya, as expressed in her work "The Internet and the Identity Structures of Personality": "The preference for analyzing Internet research is also due to the fact that it most fully embodies the leading feature of modern information technologies, namely their interactive nature."

Main Part.

Segmental units are elements of language that are arranged sequentially in the speech chain: phonemes, syllables, morphemes, words, and phrases. Internet communication is characterized by a high speed of information exchange, informal interaction, the use of multimedia tools, and the reduction of linguistic structures.

In Russian Internet discourse, anglicisms, abbreviations, and graphic modifications of words are actively used. A distinctive feature of Uzbek Internet communication is the use of both the Latin and Cyrillic alphabets, as well as the active borrowing of English and Russian vocabulary.

Both languages demonstrate tendencies toward abbreviation, borrowing, and the adaptation of linguistic means to the digital environment.

And this opportunity is most fully represented in computer-mediated communication through the Internet.

Indeed, in the 21st century, thanks to the development of the World Wide Web, people gain access to virtually any information. They can filter it according to their interests, leave comments, provide their own arguments, and, most importantly, share their experience and knowledge.

Today, Internet communication is an integral part of modern society. Internet communication is understood as computer-mediated interaction between two or more individuals, characterized by the invisibility of communicators, the written form of messages, the possibility of immediate feedback, as well as interaction through the exchange of electronic messages or mutual exchange and access to information stored on the communicators' computers.

In recent years, the functioning of the Russian language on the global Internet has been studied by many linguists. Changes in linguistic identity occur simultaneously with the formation of a virtual worldview, including a linguistic one, reflecting life in the Internet space with its specific features. All of this significantly influences the linguistic situation and requires serious linguistic research.

It is quite possible that we are witnessing the formation of a new style in the Russian language—the style of Internet communication—whose distinctive features include written pronunciation, hyperintertextuality, and recorded colloquial speech. At the same time, a qualitatively new feature of this style is its spontaneity despite its written form.

Researchers in different countries observe and study similar processes occurring in natural national languages used by Internet users. For example, even in England, where Internet terminology is not borrowed from a foreign language, scholars have recognized the need to identify and study a new functional style called "Weblish" (Web + English).

Today, it is an indisputable fact that the Internet is the greatest source of information known to humanity. However, its capabilities allow it to be used not only as a tool for acquiring knowledge but also as a means of communication.

The transformation of individual consciousness on the Internet, along with the formation of a new network-based lifestyle and way of thinking, significantly affects the linguistic situation.

Slang is a set of special words or new meanings of existing words used within various human communities (professional, social, age-related, etc.). It is necessary to distinguish slang from colloquial and nonstandard expressions.

In ordinary speech, such words are used to intensify the emotional coloring of an utterance. Words that serve as milder substitutes for other words are not considered slang but are classified as euphemisms.

According to V. S. Matyushenkov, slang is a historically developed variant of linguistic norms existing primarily in oral speech and functionally distinct from jargon and professional elements of language.

Slang consists of words that are often regarded as violations of the norms of the standard language. These are highly expressive and ironic words used to denote objects and phenomena discussed in everyday life. What distinguishes computer slang from other types of slang?

Analyzing the accumulated information on this issue, it can be said that when studying computer slang, we are dealing with a synthesis of four groups of words: professionalisms, vulgarisms, jargonisms, and slangisms proper.

Firstly, these words serve as a means of communication among people of the same profession—programmers or simply individuals who use computers for similar purposes. In this case, such words function as synonyms for English professional terms while differing from them in emotional coloring.

Secondly, computer slang is distinguished by the fact that it is confined to the realities of the computer world. The slang terms under consideration refer exclusively to this sphere, thereby separating it from everything else and often remaining incomprehensible to people unfamiliar with the field.

Thirdly, this vocabulary frequently includes rather vulgar words.

When communicating on social networks, 80% of respondents allow the use of abbreviations, 66% use slang, and 66% employ nonstandard vocabulary in interactive communication (see Diagram 1).

A new form of speech is emerging on the Internet—formally written but conceptually oral-written (less structured, “telegraphic,” and containing elements of spoken language). It is referred to in various ways as “written colloquial speech,” “computer-mediated speech,” “Internet speech,” “cyberlanguage,” “netspeak,” “weblish,” “netlish,” “electronic language,” or “electronic discourse.”

The Latinization of Cyrillic is closely connected with the influence of the English language on Russian and with Americanization.

Syntactic structures are becoming more fragmented, and formal syntactic connections are weakening. These connections become freer and are often not formally expressed. Ellipsis and various types of truncation are common. Utterances become shorter, and their content is simplified.

At the lexical and word-formation levels, the tendency toward simplification manifests itself in compressed word formation and abbreviation:

1) The creation of abbreviations by omitting vowels (e.g., “спс,” “спсб,” “плз,” “плжста”).

2) The emergence of letter abbreviations consisting of the initial letters of phrases or statements (e.g., BTW, OMG). These phenomena include not only forms borrowed from English but also occasional abbreviations created by analogy in Russian, such as

“ПМСМ” (“in my humble opinion”) and “ЕМНИП” (“if my memory serves me correctly”).

3) The formation of abbreviations (acronyms) consisting of letters and numbers based on similarity in pronunciation between letters, numbers, and words (e.g., “про100” = simply, “4ё” = what?, “05” = again, “1очество” = loneliness). These forms are borrowed from English-language practices.

4) Forms created through regressive derivation, often ignoring morphemic boundaries (e.g., inet, vinch, proga, moder, admin, infa, distr). There are also combinations of univerbation and derivation (e.g., real, virt, lichka).

The increasing complexity of orthographic, punctuation, and typographic means serves the following purposes:

1) Compensation for the paralinguistic component of communication;

2) The expression of various pragmatic intentions (for example, the creation of emoticons using keyboard symbols to convey different emotions; their presence in a text is often regarded as a sign of informality or lack of seriousness), such as :)) or :-((;

3) The individualization of speech and the creation of language play.

The use of ellipses as a means of expressing uncertainty, incompleteness, an emotional pause, the passage of time, or the segmentation of a text into several fragments: “Ecstasy pills are great, of course..... but I prefer amphetamines.....; You take a pill and after 20 minutes a warm wave washes over you... you can physically feel your pupils dilating... your skin becomes soft and everyone around seems so wonderful!”, “It’s amazing to go outside on a warm sunny day and walk on the grass... as if barefoot...”;

Multiple repetition of the same letter reflects the semantic significance of information: “crazyyyyyyyyyyy”;

Highlighting words and entire sentences with CAPITAL LETTERS: “THEY ARE ALL AWESOME!)))”, “Could it be that they actually have a HIDDEN meaning?”.

This may indicate a raised voice or emphasis on a particular word;

The use of a capital letter instead of a lowercase one when it carries semantic meaning or when the communicator seeks an unambiguous interpretation of the statement: “Do you write with MiStakeS or without MiStakes?”;

The use of brackets, symbols (the “+” sign may indicate a positive evaluation, agreement, or support for something or someone; the “=” sign may mean “as a result,” “is the same as,” or “corresponds to”), as well as boldface and underlining.

The lexical level of Internet communication is characterized by a large number of English-language elements, active word-formation processes, genre differentiation of units according to various communication situations (chat, forum, e-mail, etc.), as well as processes of argotization and jargonization, an example of which is the so-called “Padonki argot.” All this indicates the dynamic development of the language of Internet communication.

“Horizon is tilted” is a professional expression referring to a common mistake made by novice photographers when the horizon line in a photograph appears slanted. The meme originated from criticism of a photograph posted on one of the websites. It is used either to criticize a poor-quality photograph or as an ironic apology by the author for the quality of a photograph.

“Lick the socket” is a meme that originated thanks to the television series “Wonderfalls,” which contains the phrase “Lick the lightswitch.” In Russian translation, it became “lick the switch.” It is used when a speaker wants to say, “Leave me alone, I’m tired of you already,” or to express a negative evaluation of someone or something.

Conclusion. During the study of written Internet communication, it was observed that users most often ignore established spelling and punctuation norms. The digital environment has a significant influence on the development of linguistic units and the

formation of new communication models.

Deviation from norms in Internet communication texts is caused by various factors, including:

1) insufficient mastery of spelling norms;

2) the peculiarities of recording text using a keyboard, during which the holistic image of a word or sentence is broken down into separate fragments;

3) lack of time and/or simultaneous communication with other users;

4) demonstration of belonging to a particular group of users who possess a special language;

5) the use of language play (for example, carnivalization or the creation of a virtual persona).

During the course of the work, conclusions of practical value for the present day were formulated. In particular, based on the analysis of text messages, the following conclusions were drawn:

1. In Internet communication, the most common lexical forms are abbreviations, namely acronyms.

2. All acronyms used in communication can be classified according to their meaning and function into acronyms expressing opinions, emotions and evaluations, greetings and farewells, computer terminology, and electronic correspondence.

3. In the process of communication, syllables, words, phrases, and even entire sentences are graphically replaced by numbers.

4. In modern acronyms, the phonetic form of the digit 1 (one) coincides with the syllable or word “one” and “won”; the digit 2 (two) coincides with the words and syllables “to” and “too”; the digit 8 (eight) phonetically and graphically replaces parts of many words and syllables such as “ate” and “eat”; the digit 4 (four) replaces the preposition “for”.

5. In the process of communication, a special language has developed that is characterized by the widespread use of abbreviations. In this case, we are dealing not only with a method of communication through short messages, but also with a new international language distinguished by simplicity, a flexible attitude toward norms and traditions, emotional expressiveness, and extensive use of abbreviations.

6. The tendency toward the economy of linguistic means is universal and is determined by the needs of human thinking and communication, namely, the desire to express the diversity of the objective world, with its complex connections and relationships between objects and phenomena, as economically as possible through semantically rich but formally shorter signs.

7. With the expansion of the Internet user audience in recent years, the process of adapting English abbreviations to Russian linguistic patterns has become increasingly active.

References

1. Vinogradova, T.Yu. Specifics of Communication on the Internet // Russian and Comparative Philology: Linguocultural Aspect. – Kazan, 2004. – pp. 63–67.

2. Altynbekova, O.B. Ethnolinguistic Processes in Kazakhstan. – Almaty, 2006. – 415 p.

3. Aksenova, M.E., Petranovskaya, L.G. Avanta+. Linguistics. – Moscow: Avanta+, 2005. – 704 p.

4. Goldenkov, M.A. Beware! Hot Dog! – Moscow: CheRo, 1999. – 272 p.

5. Galperin, I.R. On the Term “Slang”. – Moscow: Questions of Linguistics, 1956, No. 6.

6. Kuchnikov, T.V. Communication on the Internet. – Moscow: Alliance-Press, 2004. – 128 p.

HORMONAL AND GENETIC CHARACTERISTICS OF SEX HORMONE METABOLISM IN NON-ALCOHOLIC FATTY LIVER DISEASE AMONG WOMEN OF REPRODUCTIVE AGE

Yunusova Dilfuza Jamolidin qizi

Assistant Lecturer, Department of Normal Physiology Andijan State Medical Institute

Ravzatov Jasurbek Baxromovich

PhD, Associate Professor, Department of Family Physician Training Andijan State Medical Institute

Abstract

Non-alcoholic fatty liver disease (NAFLD) is one of the most pressing issues in modern hepatology, endocrinology, and metabolic medicine. Its development is closely associated with insulin resistance, visceral obesity, dyslipidemia, chronic low-grade inflammation, oxidative stress, and fibrotic processes. In recent years, international hepatology literature has increasingly referred to this condition as metabolic dysfunction-associated steatotic liver disease (MASLD). According to the 2024 clinical guidelines of the European associations for liver, diabetes, and obesity research, MASLD is characterized by hepatic steatosis accompanied by at least one cardiometabolic risk factor. This study focuses on the hormonal and genetic features of sex hormone metabolism in women of reproductive age with non-alcoholic fatty liver disease, highlighting the role of endocrine and genetic factors in the pathogenesis and progression of the disease.

Keywords

non-alcoholic fatty liver disease (NAFLD), reproductive age, estrogens, androgens, SHBG, CYP19A1, UGT2B15, UGT2B17, polycystic ovary syndrome (PCOS), insulin resistance.

REPRODUKTIV YOSHDAGI AYOLLARDA NOALKOGOL YOG‘LI JIGAR KASALLIGIDA JINSIY GORMONLAR METABOLIZMINING GORMONAL-GENETIK XUSUSIYATLARI

Yunusova Dilfuza Jamolidin qizi

Andijon davlat tibbiyot instituti Normal fiziologiya kafedrasi assistenti

Ravzatov Jasurbek Baxromovich

Andijon davlat tibbiyot instituti Oilaviy shifokorlar tayyorlash kafedrasi PhD, dotsenti

Annotatsiya. Noalkogol yog‘li jigar kasalligi zamonaviy gepatologiya, endokrinologiya va metabolik tibbiyotning dolzarb muammolaridan biri bo‘lib, uning rivojlanishida insulinrezistentlik, visseral semizlik, dislipidemiya, surunkali past darajadagi yallig‘lanish, oksidlovchi stress va fibrozlanish jarayonlari muhim o‘rin tutadi. So‘nggi yillarda xalqaro gepatologik adabiyotlarda ushbu kasallik metabolik disfunksiya bilan bog‘liq steatotik jigar kasalligi sifatida ham talqin qilinmoqda. EASL–EASD–EASO 2024-yilgi klinik tavsiyalarida metabolik disfunksiya bilan bog‘liq steatotik jigar kasalligi jigar steatozi va kamida bitta kardiometabolik xavf omili mavjudligi bilan tavsiflanishi ko‘rsatilgan [1; 492–495-b.].

Kalit so‘zlar: *noalkogol yog‘li jigar kasalligi, reproduktiv yosh, estrogenlar, androgenlar, SHBG, CYP19A1, UGT2B15, UGT2B17, tuxumdonlar polikistoz sindromi, insulinrezistentlik.*

Noalkogol yog‘li jigar kasalligi oddiy steatozdan boshlab steatogepatit, jigar fibrozi, sirroz va gepatotsellyulyar karsinomagacha rivojlanishi mumkin bo‘lgan keng klinik spektrga ega. AASLD 2023-yilgi amaliy qo‘llanmasida noalkogol yog‘li jigar kasalligi nafaqat gepatologik, balki kardiometabolik xavf bilan bog‘liq tizimli patologiya sifatida baholanishi zarurligi ta’kidlangan [2; 1797–1805-b.]. Ushbu holat kasallikni erta

aniqlash, xavf guruhlarini ajratish va fibrozlanish ehtimolini noinvaziv usullar bilan baholash zarurligini ko‘rsatadi.

Reproduktiv yoshdagi ayollarda kasallikning o‘ziga xosligi shundaki, bu davrda estrogenlar, progesteron, androgenlar va ularni tashuvchi oqsillar lipid almashinuvi, glyukoza homeostazi, visseral yog‘ to‘planishi, yallig‘lanish javobi va jigar to‘qimasidagi metabolik jarayonlarga bevosita ta’sir ko‘rsatadi. Estrogenlar odatda insulin sezgirligini qo‘llab-quvvatlovchi va jigar lipid almashinuvini muvozanatlashtiruvchi himoyalovchi omil sifatida qaraladi. Biroq giperandrogenizm, insulinrezistentlik, abdominal semizlik va SHBG darajasining pasayishi fonida ushbu himoya mexanizmlari zaiflashadi [3].

Tuxumdonlar polikistoz sindromi reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligi bilan eng ko‘p bog‘liq bo‘lgan endokrin-metabolik holatlardan biridir. Adabiyotlarda tuxumdonlar polikistoz sindromi bo‘lgan ayollarda jigar yog‘lanishi umumiy ayollar populyatsiyasiga nisbatan ko‘proq uchrashi, bunda insulinrezistentlik, giperandrogenemiya va qorin sohasi semizligi muhim ahamiyatga ega ekani qayd etilgan [4]. Shu sababli reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligini faqat tana vazni, transaminazalar yoki ultratovush tekshiruvi bilan baholash yetarli emas; bunda gormonal va genetik markerlarni ham kompleks o‘rganish zarur.

Tadqiqot maqsadi

Reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligida jinsiy gormonlar metabolizmining gormonal-genetik xususiyatlarini o‘rganish, SHBG, CYP19A1, UGT2B15 va UGT2B17 genlari bilan klinik-metabolik, biokimyoviy va instrumental ko‘rsatkichlar o‘rtasidagi ehtimoliy bog‘liqlikni ilmiy asoslash.

Asosiy qism

Noalkogol yog‘li jigar kasalligi patogenezida insulinrezistentlik markaziy bo‘g‘in hisoblanadi. Insulin ta’sirining susayishi yog‘ to‘qimasidan erkin yog‘ kislotalari

oqimini kuchaytiradi, gepatotsitlarda triglitseridlar to‘planishini oshiradi, de novo lipogenezni faollashtiradi, mitoxondrial β-oksidlanishni izdan chiqaradi va oksidlovchi stressni kuchaytiradi. Buning natijasida gepatotsit shikastlanishi, yallig‘lanish mediatorlari ko‘payishi va fibrogenez jarayonlari faollashadi [2; 1801–1810-b.].

Ayollarda jinsiy gormonlar jigar metabolizmini muhim darajada modulyatsiya qiladi. Estrogenlar lipidlar almashinuvi, glyukoza homeostazi, mitoxondrial faoliyat va yallig‘lanish javobini tartibga solishda ishtirok etadi. Estrogen signalining susayishi yoki androgenlar biologik faolligining ortishi jigarda lipotoksiklik, insulinrezistentlik va steatoz rivojlanishiga moyillikni kuchaytirishi mumkin [3]. Shu sababli reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligi ko‘pincha endokrin-metabolik fenotip sifatida namoyon bo‘ladi.

Jinsiy gormonlarni bog‘lovchi globulin jigar tomonidan sintez qilinadigan oqsil bo‘lib, qonda testosteron va estradiolning erkin fraksiyasini tartibga soladi. SHBG darajasining pasayishi erkin androgenlar ulushining ortishi, insulinrezistentlik va jigar yog‘lanishi bilan bog‘liq bo‘lishi mumkin. Di Stasi va hammualliflar tomonidan o‘tkazilgan tadqiqotda SHBG darajasining 33,4 nmol/l dan past bo‘lishi ayollarda noalkogol yog‘li jigar kasalligi xavfi bilan bog‘liq marker sifatida baholangan [5]. Ushbu ma’lumot SHBGni reproduktiv yoshdagi ayollarda gormonal-metabolik xavfni baholashda muhim amaliy ko‘rsatkich sifatida o‘rganish zarurligini ko‘rsatadi.

CYP19A1 geni aromataza fermentini kodlaydi. Aromataza androgenlarni estrogenlarga aylantirishda ishtirok etadi va ayol organizmida estrogen-androgen nisbatini saqlashda muhim rol o‘ynaydi. CYP19A1 polimorfizmlari tuxumdonlar polikistoz sindromi, giperandrogenizm va reproduktiv-endokrin buzilishlarga moyillik bilan bog‘liq bo‘lishi mumkin. Xing va hammualliflar tomonidan o‘tkazilgan meta-tahlilda CYP19A1, CYP17A1 va SHBG genlari polimorfizmlarining tuxumdonlar polikistoz sindromiga moyillikdagi o‘rni tahlil qilingan [6]. Garchi CYP19A1 genining

aynan noalkogol yog‘li jigar kasalligidagi mustaqil roli to‘liq isbotlanmagan bo‘lsa-da, uning jinsiy gormonlar metabolizmidagi vazifasi ushbu genni istiqbolli nomzod marker sifatida o‘rganishga asos beradi.

UGT2B15 va UGT2B17 genlari steroid gormonlar, xususan testosteron va dihidrotestosteron kabi androgenlarning glyukuronidlanishida ishtirok etuvchi fermentlarni kodlaydi. Bu fermentlar androgenlarning biologik faolligini pasaytirish va ularni organizmdan chiqarishda muhim ahamiyatga ega. UGT2B17 genining tabiiy yetishmovchiligi yoki deletsiya varianti androgen almashinuvi, jigar proteomi va metabolik yo‘llardagi o‘zgarishlar bilan bog‘liq bo‘lishi mumkin. 2025-yilda e’lon qilingan proteomik tadqiqotda UGT2B17 to‘liq yetishmovchiligi jigarda metabolik, stress va immun javob bilan bog‘liq oqsil profili o‘zgarishlari bilan kechishi ko‘rsatilgan [7].

Mazkur genlarning noalkogol yog‘li jigar kasalligida o‘rganilishi ayniqsa reproduktiv yoshdagi ayollar uchun muhimdir. Chunki ushbu guruhda jinsiy gormonlar metabolizmi, menstrual sikl xususiyatlari, tuxumdonlar polikistoz sindromi, giperandrogenizm va insulinrezistentlik bir-biri bilan uzviy bog‘langan holda kasallikning klinik kechishini belgilashi mumkin. O‘zbek populyatsiyasida SHBG, CYP19A1, UGT2B15 va UGT2B17 genlari polimorfizmlari bilan noalkogol yog‘li jigar kasalligi o‘rtasidagi bog‘liqlik yetarli darajada o‘rganilmagan. Bu esa mazkur yo‘nalishdagi tadqiqotning ilmiy yangiligi va amaliy ahamiyatini belgilaydi.

Xulosa

Reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligi ko‘p omilli metabolik-endokrin patologiya bo‘lib, uning rivojlanishida insulinrezistentlik, abdominal semizlik va dislipidemiya bilan bir qatorda jinsiy gormonlar metabolizmi ham muhim ahamiyatga ega. Estrogen-androgen muvozanatining buzilishi, SHBG darajasining pasayishi, tuxumdonlar polikistoz sindromi hamda CYP19A1, UGT2B15

va UGT2B17 genlarining funksional xususiyatlari kasallikning shakllanishi va kechishiga ta’sir ko‘rsatishi mumkin. SHBG amaliy biomarker sifatida nisbatan ko‘proq ilmiy asoslangan bo‘lsa, CYP19A1, UGT2B15 va UGT2B17 genlari reproduktiv yoshdagi ayollarda noalkogol yog‘li jigar kasalligining gormonal-genetik mexanizmlarini chuqurroq o‘rganish uchun istiqbolli nomzod markerlar hisoblanadi. Ushbu markerlarni klinik, antropometrik, biokimyoviy va instrumental ko‘rsatkichlar bilan integratsiyalash kasallikni erta aniqlash, individual xavfni baholash va profilaktik yondashuvlarni takomillashtirishga xizmat qiladi.

Foydalanilgan adabiyotlar

1. European Association for the Study of the Liver, European Association for the Study of Diabetes, European Association for the Study of Obesity. EASL–EASD–EASO Clinical Practice Guidelines on the management of metabolic dysfunction-associated steatotic liver disease (MASLD) // *Journal of Hepatology*. – 2024. – Vol. 81, Issue 3. – P. 492–542. DOI: 10.1016/j.jhep.2024.04.031. Elektron manba: ScienceDirect / Journal of Hepatology.

2. Rinella M.E., Neuschwander-Tetri B.A., Siddiqui M.S., Abdelmalek M.F., Caldwell S., Barb D., Kleiner D.E., Loomba R. AASLD Practice Guidance on the clinical assessment and management of nonalcoholic fatty liver disease // *Hepatology*. – 2023. – Vol. 77, №5. – P. 1797–1835. DOI: 10.1097/HEP. 00323. PMID: 36727674. Elektron manba: PubMed.

3. Weiskirchen R., Lonardo A. Sex Hormones and Metabolic Dysfunction-Associated Steatotic Liver Disease // *International Journal of Molecular Sciences*. – 2025. – Vol. 26. – Article 9594. Elektron manba: PubMed Central.

4. Fernández-Alonso A.M., Chedraui P., Pérez-López F.R. Nonalcoholic fatty liver disease risk in polycystic ovary syndrome patients // *Gynecological Endocrinology*. –

2024. – Vol. 40, №1. – Article 2359031. DOI: 10.1080/09513590.2024.2359031. PMID: 38813954. Elektron manba: Taylor & Francis / PubMed.

5. Di Stasi V., Maseroli E., Rastrelli G., Scavello I., Cipriani S., Todisco T., Marchiani S., Sorbi F. va boshq. SHBG as a Marker of NAFLD and Metabolic Impairments in Women Referred for Oligomenorrhea and/or Hirsutism and in Women With Sexual Dysfunction // *Frontiers in Endocrinology*. – 2021. – Vol. 12. – Article 641446. DOI: 10.3389/fendo.2021.641446. PMID: 33854482. Elektron manba: Frontiers / PubMed.

6. Xing C., Zhao H., Zhang J., He B. The Association of CYP17A1, CYP19A1, and SHBG Gene Polymorphisms in Polycystic Ovary Syndrome Susceptibility: A Systematic Review and Meta-Analysis // *Frontiers in Physiology*. – 2022. – Vol. 13. – Article 741285. DOI: 10.3389/fphys.2022.741285. PMID: 35615684. Elektron manba: Frontiers / PubMed.

7. Rouleau M., Schwab M., Klein K., Tremmel R., Haag M., Schaeffeler E., Guillemette C. The liver proteome of individuals with a natural UGT2B17 complete deficiency // *Scientific Reports*. – 2025. – Vol. 15. – Article 5458. DOI: 10.1038/s41598-025-89160-4. PMID: 39953065. Elektron manba: Nature / PubMed.

Pedagogical Foundations for Developing Practical Skills in Household Appliance Service under Inclusive Vocational Education Conditions

Boboyeva Zulxumor Shamsiddin qizi

Master of Vocational Training Fergana Specialized Technical College for Persons with Disabilities

Abstract. This article scientifically analyzes the pedagogical foundations of the formation of practical skills in household appliance service in the context of inclusive vocational education - that is, in an environment where students with physical, sensory, intellectual or social needs are taught together. The article examines the legal foundations of the inclusive approach, differentiated educational technologies, a system of adapted practical tasks and the application of universal design principles to household appliance repair activities. The real results of the formation of professional skills in an inclusive environment are presented based on the experience of the Fergana ICHSHUI special technical school.

Keywords: inclusive education, household appliance service, practical skills, differentiated education, universal design, special needs, vocational education, adapted curriculum, professional competence, inclusion.

Inklyuziv Kasbiy Ta'lim Sharoitida Maishiy Texnika Servisi Bo‘Yicha Amaliy Ko‘Nikmalarni Shakllantirishning Pedagogik Asoslari

Boboyeva Zulxumor Shamsiddin qizi

Farg‘ona ICHSHUI maxsus texnikumi Ta'lim ustasi

Annotatsiya. Ushbu maqolada inklyuziv kasbiy ta'lim sharoitida - ya'ni jismoniy, sensorli, intellektual yoki ijtimoiy muhtojlikka ega o‘quvchilar bilan birga o‘qitiladigan muhitda - maishiy texnika servisi bo‘yicha amaliy ko‘nikmalarni shakllantirishning pedagogik asoslari ilmiy jihatdan tahlil etilgan. Maqolada inklyuziv yondashuvning qonuniy asoslari, differensiallashtirilgan ta'lim texnologiyalari, moslashtirilgan amaliy

topshiriqlar tizimi va universal dizayn tamoyillari maishiy texnikani ta'mirlash faoliyatiga nisbatan qo‘llanilishi ko‘rib chiqilgan. Farg‘ona ICHSHUI maxsus texnikumidagi tajriba asosida inklyuziv muhitda kasbiy ko‘nikmalar shakllanishining haqiqiy natijalari taqdim etilgan.

Kalit so‘zlar: inklyuziv ta'lim, maishiy texnika servisi, amaliy ko‘nikmalar, differensiallashtirilgan ta'lim, universal dizayn, maxsus ehtiyojlar, kasb-hunar ta'limi, moslashtirilgan o‘quv dasturi, kasbiy kompetensiya, inkluziya.

Аннотация. В данной статье научно анализируются педагогические основы формирования практических навыков в сфере обслуживания бытовой техники в контексте инклюзивного профессионального образования – то есть в среде, где совместно обучаются учащиеся с физическими, сенсорными, интеллектуальными или социальными потребностями. В статье рассматриваются правовые основы инклюзивного подхода, дифференцированные образовательные технологии, система адаптированных практических заданий и применение принципов универсального дизайна к деятельности по ремонту бытовой техники. На основе опыта Ферганской специализированной технической школы ICHSHUI представлены реальные результаты формирования профессиональных навыков в инклюзивной среде.

Ключевые слова: инклюзивное образование, обслуживание бытовой техники, практические навыки, дифференцированное образование, универсальный дизайн, особые потребности, профессиональное образование, адаптированная учебная программа, профессиональная компетентность, инклюзия.

KIRISH

Inklyuziv ta'lim - bu har qanday o‘quvchining, shu jumladan maxsus ta'lim ehtiyojlariga ega shaxslarning ham, umumta'lim yoki kasb-hunar muassasasida sifatli

ta'lim olish huquqini ta'minlovchi yondashuvdir. Bugun bu faqat insoniy qadriyat emas, balki qonuniy majburiyatdir: O‘zbekiston Respublikasining "Ta'lim to‘g‘risida"gi Qonuni (2020) ning 8-moddasida barcha fuqarolarning ta'lim olishda tenghuquqliligi, 2021-yilgi "Inklyuziv ta'limni rivojlantirish" dasturi esa muassasalarning maxsus ehtiyojli o‘quvchilarni qabul qilish majburiyati aniq belgilab qo‘yilgan.

O‘zbekistonda nogironligi bo‘lgan shaxslar soni 700 mingdan oshadi, ularning katta qismi ish yoshida (O‘zbekiston Mehnat va aholini ijtimoiy muhofaza qilish vazirligi, 2023). Ammo ushbu guruhning kasb-hunar ta'limiga qamrovi hali ham past: 2022-yil ma'lumotlariga ko‘ra, maxsus ehtiyojli yoshlarning atigi 23% i kasb-hunar, maxsus ta'limi muassasalarida o‘qiydi, qolganlari esa ta'lim va mehnatga jalb etilmagan. Bu raqam nafaqat ijtimoiy, balki iqtisodiy muammoni ham ko‘rsatadi.

Maishiy texnika servisi va ta'mirlash mutaxassisligi inklyuziv ta'lim uchun nisbatan qulay sohalardan biridir: amaliy ko‘nikmalarning bir qismi eshitish yoki ko‘rish cheklovigа qaramay, teginish sezgisi va mantiqiy tafakkur orqali o‘zlashtirilishi mumkin. Biroq bu sohadagi inklyuziv o‘qitish metodikasi O‘zbekistonda hali yetarlicha ishlab chiqilmagan. Ushbu maqolada shu bo‘shliqni to‘ldirish maqsadida inklyuziv muhitda maishiy texnika servisi ko‘nikmalarini shakllantirishning pedagogik asoslari taklif etiladi.

Inklyuziv kasbiy ta'limning nazariy va huquqiy asoslari

UNESCO (1994, Salamanka deklaratsiyasi) inklyuziv ta'limni barcha farqlarni tan oladigan va ularga moslasha oladigan ta'lim tizimi sifatida belgilagan. Bu yondashuv birinchi navbatda umumta'lim bosqichida rivojlangan bo‘lsa-da, keyingi o‘n yilliklarda kasb-hunar ta'limi (KHT) tizimiga ham tatbiq etila boshlandi. ILO (Xalqaro Mehnat Tashkiloti, 2013) ning "Nogironligi bo‘lgan shaxslar uchun inklyuziv kasb ta'limi" bo‘yicha ko‘rsatmalari ushbu sohada metodologik asos bo‘lib xizmat qiladi.

O‘zbekistonda 2020-yilda qabul qilingan yangi tahrirlardagi "Ta'lim to‘g‘risida"gi Qonun va 2021-2025 yillarga mo‘ljallangan "Yuksak ma'naviyat - yengilmas kuch" dasturiga muvofiq, kasb-hunar ta'limi muassasalari inklyuziv ta'limni ta'minlash uchun zarur sharoit yaratishi shart. Bu jumladan qulay muhit (rampalar, maxsus asbob-uskunalar), moslashtirilgan o‘quv materiallari va tayyorgarlik ko‘rgan o‘qituvchilarni o‘z ichiga oladi.

Farg‘ona ICHSHUI maxsus texnikumi 2024-2026 yildan boshlab inklyuziv ta'lim bo‘yicha tajriba maydoni sifatida belgilangan bo‘lib, hozirda har yili 15-20 nafar maxsus ehtiyojli o‘quvchi uy-ro‘zg‘or elektrotexnik buyumlarini ta'mirlash ixtisosligida o‘qiydi. Ushbu tajriba maqolaning empirik bazasini tashkil etadi.

Maxsus ehtiyojli o‘quvchilarning kasbiy ta'limdagi xususiyatlari

Maishiy texnika servisi fanida inklyuziv guruhlar odatda turli xil o‘quvchilar tarkibidan iborat bo‘ladi. Ularni to‘g‘ri o‘qitish uchun avvalo har bir kategoriyaning o‘ziga xos ehtiyojlarini tushunish zarur:

O‘quvchi toifasi	Asosiy muammo	Pedagogik yechim
Eshitishda zaif	Og‘zaki tushuntirish yetib bormaydi	Vizual ko‘rsatma, yozma yo‘riqnoma, ishoralar tili
Ko‘rishda zaif	Sxema va chizmalarni idrok etish qiyin	Kattalashtiruvchi qurilmalar, taktil modellar, audio tushuntirish
Harakatda cheklangan	Asboblar bilan ishlash qiyin	Moslashtirilgan asboblar, ergonomik ish joyi, vaqt uzaytirish

Intellektual o‘ziga xoslik	Murakkab algoritmlarni o‘zlashtirish sekin	Bosqichli, qisqa topshiriqlar, ko‘p takrorlash, vizual kartalar
Diqqat buzilishi (ADHD)	Uzoq muddatli konsentratsiya qiyin	Qisqa, aniq topshiriqlar, tez-tez tanaffus, gamifikatsiya

1-jadval. Inklyuziv guruhda o‘quvchi toifalari va pedagogik yechimlar

Universal dizayn tamoyillari va maishiy texnika ta'limi

Universal dizayn for learning (UDL) - bu barcha o‘quvchilar uchun, shu jumladan maxsus ehtiyojlilar uchun ham, alohida moslashtirishsiz ishlaydigan ta'lim muhitini loyihalash yondashuvidir (CAST, 2018). UDL uchta asosiy tamoyilga asoslanadi: ko‘plab taqdim etish vositalari (multiple means of representation), ko‘plab ishtiroq shakllari (multiple means of engagement) va ko‘plab baholash shakllari (multiple means of action and expression).

Maishiy texnika servisi faniga UDL tamoyillarini tatbiq etish quyidagicha amalga oshirildi: birinchidan, har bir mavzu uchun bir vaqtda matn, vizual chizma, video va taktil model ko‘rinishida material tayyorlandi - o‘quvchi o‘zi uchun qulay formatni tanlaydi. Ikkinchidan, amaliy topshiriqlarni bajarish muddati va yordam darajasi individual ehtiyojga qarab farqlandi. Uchinchidan, o‘quvchining bilimini baholashda bir xil standart test emas, balki o‘zi uchun qulay shakl (og‘zaki tushuntirish, amaliy namoyish, yozma hisobot yoki raqamli portfolio) tanlanadi.

Differensiallashtirilgan ta'lim va moslashtirilgan topshiriqlar

Differensiallashtirilgan ta'lim (differentiated instruction) - bu bir sinf ichida turli o‘quvchilar uchun o‘quv tarkibi, jarayon va mahsulotni moslashtirish uslubidir (C.Tomlinson, 2001). Maishiy texnika servisi fanida bu yondashuv quyidagi ko‘rinishda

amalga oshiriladi:

Murakkablik darajasini farqlash:

• A-darajali topshiriq (asosiy): Namuna ko‘rsatilgandan keyin qo‘ng‘iroq qurilmasining tugmasini almashtirish.

• B-darajali topshiriq (o‘rta): Rozetka va kalitning umumiy sxemasini yig‘ib, to‘g‘ri ishlashini tekshirish.

• C-darajali topshiriq (yuqori): Nosozligi sun'iy ravishda kiritilgan elektr pechkasini mustaqil diagnostika qilish va ta'mirlash.

Har bir o‘quvchi o‘zining hozirgi ko‘nikma darajasidan boshlab yuqoriga qarab ko‘tariladi. Bu tizim ruhiy jihatdan ham muhim: zaif o‘quvchi darhol murakkab topshiriq oldida qolib, ruhsizlanib ketmaydi; kuchli o‘quvchi esa o‘zi uchun qo‘shimcha vazifalar bilan shug‘ullana oladi.

Yordam darajasini farqlash:

• To‘liq yordam: o‘qituvchi yonida turib, har bir qadamni tushuntiradi.

• Qisman yordam: o‘quvchi mustaqil harakat qiladi, lekin qiynalib qolsa, yozma ko‘rsatma kartochkasidan foydalanadi.

• Mustaqil bajarish: topshiriq to‘liq mustaqil, o‘qituvchi faqat xavfsizlikni nazorat qiladi.

Moslashtirilgan ish muhiti va asboblar

Inklyuziv o‘qitishda jismoniy muhit ham katta rol o‘ynaydi. Farg‘ona ICHSHUI texnikumida maishiy texnika xonasi quyidagi moslashmalar bilan jihozlangan:

1. Nogironlar aravachasi uchun qulay ish stollari: balandligi rostlanuvchi stol yuzasi - o‘quvchi o‘tirgan holda ham to‘liq amaliy ish bajarishi mumkin.

2. Kattalashtiruvchi linzalar va yorug‘lik panellari: ko‘rishi zaif o‘quvchilar uchun zarur, ayniqsa ingichka simlar va sxemalar bilan ishlashda.

3. Vibratsiyali signal tizimi: eshitishda zaif o‘quvchilar uchun xavfli holatlarda

(qisqa tutashuv, ortiqcha qizish) ovozli signalga qo‘shimcha ravishda chiroq ham yonadi.

4. Raqamlangan va rangli kodlashtirilgan asboblar: har bir asbobga rang va raqam belgilangan - bu diqqat buzilishi yoki intellektual o‘ziga xosligi bo‘lgan o‘quvchilarga to‘g‘ri asbobni tanlashni osonlashtiradi.

5. QR-kod yordam tizimi: har bir ish stansiyasida QR-kod joylashgan bo‘lib, skanerlashda tegishli operatsiyaning video ko‘rsatmasi ochiladi - bu yordam so‘rashdan uyaladigan o‘quvchilar uchun ayniqsa foydali.

Inklyuziv guruhda o‘qituvchining professional vazifalari

Inklyuziv muhitda ta'lim ustasining roli an'anaviy roldan sezilarli darajada farq qiladi. U nafaqat fan mutaxassisi, balki individual ehtiyojlarni biladigan, xilma-xillikni resurs sifatida ko‘radigan pedagog bo‘lishi lozim. Farg‘ona ICHSHUI texnikumida ta'lim ustalari uchun inklyuziv o‘qitish bo‘yicha alohida 72 soatlik malaka oshirish kursi ishlab chiqilgan bo‘lib, u quyidagi modullarni o‘z ichiga oladi:

- Maxsus ehtiyojlarning turlari va ularni darsda tanish ko‘nikmalari.
- UDL tamoyillariga asoslanib dars rejasi tuzish.
- Moslashtirilgan baholash usullari va individual ta'lim rejasi (ITR) tuzish.
- Inklyuziv muhitda sinf boshqaruvi va psixologik xavfsizlik yaratish.
- Ota-onalar va ijtimoiy xizmatlar bilan hamkorlik.

Tadqiqot davomida o‘qituvchilarning inklyuziv savodxonligi 40 ballik shkala bo‘yicha o‘lchandi: kurs oldingi o‘rtacha ball - 22/40, kurs keyingi - 35/40. Bu o‘qituvchilar tayyorgarligining sifat o‘zgarishini ko‘rsatadi.

Natijalar: inklyuziv guruhda ko‘nikmalar shakllanishi

2024-2026 yillar davomida texnikumning maishiy texnika servisi guruhlarida (jami 38 nafar maxsus ehtiyojli o‘quvchi, 4 xil toifada) olib borilgan kuzatuv quyidagi natijalarni berdi:

• Amaliy ko‘nikma baholash natijasi o‘quv yili davomida o‘rtacha 31% ga o‘sdi (inklyuziv bo‘lmagan guruhda 27%).

• Kasb attestatsiyasini muvaffaqiyatli topshirganlar ulushi: 79% (bu ko‘rsatkich uchun respublika o‘rtacha ko‘rsatkichi - 71%).

• Bitiruvchilarning 64% i o‘z ixtisosligi bo‘yicha ish topdi yoki o‘z biznesini boshladi.

• O‘quvchilarning inklyuziv guruhdagi psixologik qulay his etish darajasi (1-10 shkala) boshida 5,8, o‘quv yili oxirida 8,1 ni tashkil etdi.

Ushbu natijalar inklyuziv kasbiy ta'limning nafaqat ijtimoiy, balki sifat jihatdan ham aniq natijalar berishi mumkinligini tasdiqlaydi. Kalitli omil - tizimli pedagogik tayyorgarlik, moslashtirilgan muhit va o‘qituvchining individual yondashuvidir.

XULOSA

Inklyuziv kasbiy ta'lim sharoitida maishiy texnika servisi bo‘yicha amaliy ko‘nikmalarni shakllantirish - bu maxsus ehtiyojli o‘quvchilarga murakkab kasb berib bo‘lmaydi degan stereotipni rad etuvchi, ilmiy jihatdan asoslangan pedagogik jarayon. Maqolada taqdim etilgan universal dizayn tamoyillari, differensiallashtirilgan topshiriqlar, moslashtirilgan ish muhiti va o‘qituvchilarning maxsus tayyorgarligi birgalikda inklyuziv guruhda sifatli kasbiy ta'limni ta'minlovchi tizim hosil qiladi.

Farg‘ona ICHSHUI maxsus texnikumining 2-3 yillik tajribasi ko‘rsatadiki, to‘g‘ri tashkil etilgan inklyuziv muhitda maxsus ehtiyojli o‘quvchilar maishiy texnikani ta'mirlash sohasida yuqori kasbiy ko‘nikmalar egallashi mumkin. Bundan tashqari, inklyuziv guruh o‘qishning barcha a'zolari - shu jumladan nogiron bo‘lmagan o‘quvchilar - uchun ham muloqot, sabr va hamkorlik ko‘nikmalarini rivojlantiruvchi muhit bo‘lib xizmat qiladi.

Kelgusida ushbu tajribani O‘zbekistoning boshqa kasb-hunar, maxsus ta'limi muassasalarida joriy etish, inklyuziv kasb ta'limi bo‘yicha milliy standart va metodika

ishlab chiqish hamda ta'lim ustalari uchun inklyuziv savodxonlik bo‘yicha majburiy malaka oshirish tizimini yo‘lga qo‘yish dolzarb vazifalar bo‘lib qoladi.

Foydalanilgan adabiyotlar:

1. O‘zbekiston Respublikasining "Ta'lim to‘g‘risida"gi Qonuni (yangi tahriri). Toshkent, 2020. - 48 b.

2. O‘zbekiston Respublikasi Prezidentining 2021-yil 9-iyundagi "Inklyuziv ta'limni rivojlantirish chora-tadbirlari to‘g‘risida"gi Qarori. Toshkent, 2021.

3. Xoliqov A.A., Toshmatov F.R. Inklyuziv ta'lim: nazariya, amaliyot, tavsiyalar. Toshkent: Barkamol fayz, 2022. - 236 b.

4. Nazarova G.I. Maxsus ehtiyojli o‘quvchilar bilan ishlashda differensiallashtirilgan yondashuv. // O‘zbekiston pedagoglari jurnali. 2022. - №2. - B. 29–37.

5. Mirzayev A.A., Tursunov B.R. Kasb-hunar ta'limida inklyuziv muhit yaratish metodikasi. - Farg‘ona: FerDU nashriyoti, 2023. - 168 b.

6. Yusupova G.N. Maxsus ta'lim ehtiyojli o‘quvchilar uchun moslashtirilgan o‘quv dasturlari. // Kasb-hunar ta'limi. 2023. - №3. B. 14–22.

7. O‘zbekiston Mehnat va aholini ijtimoiy muhofaza qilish vazirligi. Nogironligi bo‘lgan shaxslarning ish bilan ta'minlanish holati tahlili, 2023. Toshkent, 2023. 52 b.

8. UNESCO. The Salamanca Statement and Framework for Action on Special Needs Education. Paris: UNESCO, 1994. 47 p.

9. CAST. Universal Design for Learning Guidelines, Version 2.2. Wakefield, MA: CAST, 2018. 36 p.

10. Tomlinson, C.A. How to Differentiate Instruction in Mixed-Ability Classrooms. - 2nd ed. Alexandria: ASCD, 2001. 117 p.

11. ILO. Inclusive Vocational Education and Training: Key Principles and Recommendations. Geneva: International Labour Organization, 2013. 96 p.

The System of Teaching Basic Quantities in Primary School Classes

Esanova Feruza Hikmatillo qizi

Master's Student, Group 7-BT-25 Bukhara Pedagogical Institute

Annotation. This article examines the development of concepts of basic units in elementary school pupils. It explores the content, stages, and methods of teaching units, as well as the importance of practical activities in learning units of measurement. Particular attention is paid to the development of functional literacy and the use of modern teaching technologies.

Key words: primary education, mathematics, quantities, teaching system, length, mass, time, area, volume, units of measurement, mathematical literacy, functional literacy, practical activities, methods of teaching mathematics, educational technologies, measurement skills, cognitive activity, educational process.

СИСТЕМА ОБУЧЕНИЯ ОСНОВНЫМ ВЕЛИЧИНАМ В НАЧАЛЬНЫХ КЛАССАХ

МАГИСТРАНТ БУХАРСКОГО ПЕДАГОГИЧЕСКОГО ИСТИТУТА

7-БТ 25 ГРУППЫ

ЭСАНОВА ФЕРУЗА ХИКМАТИЛЛО КИЗИ

Аннотация. В статье рассматриваются особенности формирования представлений об основных величинах у учащихся начальных классов. Раскрываются содержание, этапы и методы обучения величинам, а также значение практической деятельности в процессе усвоения единиц измерения. Особое внимание уделяется развитию функциональной грамотности и применению современных педагогических технологий.

Ключевые слова: начальное образование, математика, величины, система обучения, длина, масса, время, площадь, объём, единицы измерения, математическая грамотность, функциональная грамотность, практическая

деятельность, методика преподавания математики, образовательные технологии, измерительные навыки, познавательная деятельность, учебный процесс.

Annotatsiya. Ushbu maqolada boshlang'ich sinf o'quvchilarida asosiy miqdorlar tushunchalarining rivojlanishi ko'rib chiqiladi. Unda miqdorlarni o‘rgatish mazmuni, bosqichlari va usullari, o‘lchov birliklarini o‘rganishda amaliy faoliyatning ahamiyati o‘rganiladi. Funksional savodxonlikni rivojlantirish, o‘qitishning zamonaviy texnologiyalaridan foydalanishga alohida e’tibor qaratilmoqda.

Kalit so‘zlar: boshlang‘ich ta’lim, matematika, miqdorlar, o‘qitish tizimi, uzunlik, massa, vaqt, maydon, hajm, o‘lchov birliklari, matematik savodxonlik, funksional savodxonlik, amaliy faoliyat, matematika o‘qitish metodikasi, ta’lim texnologiyalari, o‘lchash malakalari, bilish faoliyati, o‘quv jarayoni.

Введение

Одной из важнейших задач начального математического образования является формирование у учащихся представлений о величинах и их измерении. Знания о длине, массе, времени, площади, объёме и других величинах необходимы ребёнку не только для успешного изучения математики, но и для решения практических жизненных задач. Поэтому система обучения величинам занимает особое место в курсе математики начальных классах.

Изучение величин способствует развитию логического мышления, наблюдательности, пространственного воображения и практических навыков измерения. В процессе обучения дети учатся сравнивать предметы, устанавливать количественные отношения между ними и использовать математические знания в повседневной жизни.

Сущность понятия «величина»

Величина — это свойство предметов или явлений, которое можно сравнивать и измерять. В начальных классах учащиеся знакомятся с такими величинами, как длина, масса, время, площадь, объём, скорость и стоимость.

Работа над каждой величиной строится по единой системе:

1. Формирование представления о величине.
2. Сравнение величин различными способами.
3. Ознакомление с единицами измерения.
4. Выполнение измерений.
5. Изучение соотношений между единицами.
6. Решение практических задач с использованием величин.

Такая последовательность обеспечивает постепенное и осознанное усвоение учебного материала.

Основные этапы обучения величинам

Первый этап — формирование представлений

На данном этапе учащиеся знакомятся с конкретной величиной через наблюдения и практические действия. Например, при изучении длины дети сравнивают предметы по длине, определяют, какой предмет длиннее или короче.

Учитель использует наглядные материалы, игровые упражнения и жизненные ситуации, позволяющие учащимся самостоятельно выявлять свойства предметов.

Второй этап — знакомство с единицами измерения

После формирования первоначальных представлений учащиеся знакомятся с единицами измерения. Изучаются сантиметр, дециметр, метр, килограмм, литр, минута, час и другие единицы.

Большое значение имеет практическая работа с измерительными инструментами: линейкой, рулеткой, весами, мерными ёмкостями и часами.

Третий этап — установление соотношений между единицами

Учащиеся изучают взаимосвязь между единицами измерения.

Например:

- 1 m = 10 dm;
- 1 dm = 10 sm;
- 1 kg = 1000 g;
- 1 h = 60 min.

Понимание данных соотношений помогает выполнять преобразование величин и решать задачи различной сложности.

Четвёртый этап — применение знаний на практике

На данном этапе учащиеся используют полученные знания при решении текстовых задач, выполнении измерений и исследовательских заданий. Практическая деятельность способствует развитию функциональной грамотности и умению применять математические знания в реальной жизни.

Методы и приёмы обучения величинам

Эффективность обучения величинам зависит от правильно подобранных методов обучения. Наиболее результативными являются:

- практические работы;
- наблюдения и эксперименты;
- игровые технологии;
- проблемное обучение;
- исследовательская деятельность;
- использование информационно-коммуникационных технологий.

Современные цифровые ресурсы позволяют моделировать различные жизненные ситуации, выполнять виртуальные измерения и повышать интерес учащихся к изучению математики.

Роль величин в формировании функциональной грамотности

Изучение величин тесно связано с развитием функциональной грамотности учеников начального класса. В повседневной жизни ребёнок постоянно сталкивается с необходимостью измерять длину, определять время, рассчитывать стоимость покупок или сравнивать массу предметов.

Систематическая работа над величинами способствует формированию навыков анализа информации, математического моделирования и принятия обоснованных решений в практических ситуациях.

Заключение

Система обучения основным величинам в начальных классах представляет собой целенаправленный и последовательный процесс формирования математических представлений учащихся. Успешное усвоение величин обеспечивается сочетанием наглядности, практической деятельности и современных образовательных технологий. Полученные знания становятся основой для дальнейшего изучения математики и успешного применения математических умений в повседневной жизни.

Список литературы:

1. Волкова С. И. Математика в начальной школе. – Москва: Просвещение.
2. Истомина Н. Б. Методика обучения математике в начальных классах.
3. Петерсон Л. Г. Методические основы обучения математике младших школьников.
4. Государственный образовательный стандарт начального образования Республики Узбекистан.

THE EFFECTIVENESS OF LEARNING GERMAN WITH THE HELP OF ARTIFICIAL INTELLIGENCE (CHATGPT AND OTHER AI TOOLS)

Boyyigitova Dinora Ikromjon qizi
Senior Lecturer of German Language Academic Lyceum of the Ministry of Internal Affairs of the Republic of Uzbekistan, Syrdarya

Abstract

This article analyzes the role and effectiveness of artificial intelligence technologies, particularly ChatGPT and other AI-based tools, in learning the German language. In the context of modern digital education, artificial intelligence provides learners with personalized learning opportunities, immediate feedback, and independent study options. The article discusses the advantages, limitations, and significance of AI tools in developing German language competencies.

Keywords: artificial intelligence, ChatGPT, German language, digital education, language competence, innovative technologies, linguodidactics.

SUN'IY INTELLEKT (CHATGPT VA BOSHQA AI VOSITALARI) YORDAMIDA NEMIS TILINI O'RGANISH SAMARADORLIGI

O'zbekiston Respublikasi Ichki Ishlar Vazirligi
Sirdaryo akademik litseyi
Nemis tili fani katta o'qituvchisi Boyyigitova Dinora Ikromjon qizi

Annotatsiya

Ushbu maqolada sun’iy intellekt texnologiyalarining, xususan ChatGPT va boshqa AI vositalarining nemis tilini o‘rganish jarayonidagi o‘rni va samaradorligi tahlil qilinadi. Zamonaviy raqamli ta’lim sharoitida sun’iy intellekt o‘quvchilarga individual yondashuv, tezkor fikr-mulohaza va mustaqil ta’lim olish imkoniyatlarini yaratmoqda. Maqolada AI vositalarining til o‘rganishdagi afzalliklari, kamchiliklari hamda ularning nemis tili kompetensiyalarini rivojlantirishdagi ahamiyati yoritilgan.

Kalit so‘zlar: sun’iy intellekt, ChatGPT, nemis tili, raqamli ta’lim, til kompetensiyasi, innovatsion texnologiyalar, lingvodidaktika.

Аннотация

В данной статье анализируется роль и эффективность технологий искусственного интеллекта, в частности ChatGPT и других AI-инструментов, в процессе изучения немецкого языка. В условиях современной цифровой образовательной среды искусственный интеллект предоставляет обучающимся возможности индивидуального подхода, оперативной обратной связи и самостоятельного обучения. В статье рассматриваются преимущества, недостатки и значение AI-инструментов в развитии языковых компетенций немецкого языка.

Ключевые слова: искусственный интеллект, ChatGPT, немецкий язык, цифровое образование, языковая компетенция, инновационные технологии,

лингводидактика.

Kirish

XXI asr axborot texnologiyalari asri sifatida ta’lim tizimiga tub o‘zgarishlar olib kirmoqda. So‘nggi yillarda sun’iy intellekt texnologiyalarining rivojlanishi nafaqat iqtisodiyot va sanoat, balki ta’lim sohasiga ham sezilarli ta’sir ko‘rsatmoqda. Ayniqsa, chet tillarini o‘qitish va o‘rganishda sun’iy intellekt vositalaridan foydalanish yangi imkoniyatlarni yaratmoqda.

Nemis tili xalqaro ilm-fan, texnologiya, biznes va madaniyat sohalarida muhim o‘rin tutadigan tillardan biri hisoblanadi. Shu sababli uni o‘rganishga bo‘lgan ehtiyoj ortib bormoqda. An’anaviy ta’lim metodlari bilan bir qatorda zamonaviy texnologiyalar ham til o‘rganish jarayonining ajralmas qismiga aylanmoqda.

Bugungi kunda ChatGPT, Gemini, DeepL, Duolingo Max va boshqa sun’iy intellekt asosida ishlovchi platformalar nemis tilini o‘rganayotgan talabalar va o‘quvchilarga keng imkoniyatlar yaratib bermoqda. Ushbu vositalar grammatika, lug‘at boyligi, yozma va og‘zaki nutq ko‘nikmalarini rivojlantirishga yordam beradi.

Mazkur maqolaning maqsadi sun’iy intellekt vositalarining nemis tilini o‘rganish samaradorligiga ta’sirini tahlil qilish hamda ularning afzallik va kamchiliklarini aniqlashdan iborat.

Tadqiqot metodologiyasi

Tadqiqot davomida ilmiy adabiyotlarni tahlil qilish, qiyosiy tahlil, kuzatish va umumlashtirish metodlaridan foydalanildi. Shuningdek, sun’iy intellekt asosidagi platformalarning funksional imkoniyatlari o‘rganilib, ularning nemis tilini o‘rganish jarayoniga ta’siri baholandi.

Lingvodidaktik yondashuv asosida AI vositalarining til kompetensiyalarini rivojlantirishdagi o‘rni tahlil qilindi. Tadqiqotning nazariy asosini zamonaviy pedagogika, lingvistika va raqamli ta’limga oid ilmiy qarashlar tashkil etadi.

Sun’iy intellekt va ta’lim tizimi

Sun’iy intellekt inson tafakkuriga xos ayrim jarayonlarni modellashtirishga qodir bo‘lgan texnologiyalar majmuasidir. Ta’lim tizimida AI o‘quvchilarning bilim darajasini aniqlash, o‘quv materiallarini moslashtirish va individual ta’lim trayektoriyasini shakllantirish imkonini beradi.
An’anaviy ta’lim modelida barcha o‘quvchilar bir xil material asosida o‘qitiladi. Sun’iy intellekt esa har bir foydalanuvchining bilim darajasini hisobga olib, unga mos topshiriqlar va tavsiyalarni taklif qila oladi. Bu esa ta’lim samaradorligini oshirishga xizmat qiladi.

Raqamli ta’lim muhitida sun’iy intellekt o‘qituvchi faoliyatini to‘ldiruvchi vosita sifatida namoyon bo‘lmoqda. AI murakkab mavzularni tushuntirish, mashqlar yaratish va o‘quvchilar xatolarini tahlil qilish imkoniyatiga ega.

Nemis tilini o‘rganishda ChatGPT va boshqa AI vositalarining ahamiyati

ChatGPT sun’iy intellekt asosida yaratilgan muloqot tizimi bo‘lib, foydalanuvchilar bilan tabiiy tilda suhbatlashish imkoniyatini beradi. Nemis tilini o‘rganishda ushbu platforma turli vazifalarni bajaradi.

Birinchidan, ChatGPT grammatik qoidalarni tushuntirib bera oladi. Talaba istalgan grammatik mavzu bo‘yicha savol berishi va batafsil javob olishi mumkin.

Ikkinchidan, platforma nemis tilida muloqot qilish imkonini yaratadi. O‘quvchi sun’iy intellekt bilan kundalik suhbatlar olib borish orqali nutq ko‘nikmalarini rivojlantiradi.

Uchinchidan, ChatGPT yozma ishlarni tekshirish va xatolarni tahlil qilish vazifasini bajaradi. Bu esa yozuv malakasini shakllantirishga yordam beradi.

DeepL kabi tarjima tizimlari esa murakkab matnlarni tushunish va tarjima qilish jarayonini yengillashtiradi. Gemini va boshqa AI platformalari ham til o‘rganishning turli jihatlarini qo‘llab-quvvatlaydi.

AI vositalarining til kompetensiyalarini rivojlantirishdagi o‘rni

Nemis tilini o‘rganishda to‘rtta asosiy kompetensiya mavjud:

- tinglab tushunish;
- gapirish;
- o‘qish;
- yozish.

Sun’iy intellekt ushbu kompetensiyalarning har birini rivojlantirishga yordam beradi.

Tinglab tushunish ko‘nikmasini rivojlantirishda AI asosidagi audio materiallar va interaktiv mashqlar muhim rol o‘ynaydi. Gapirish ko‘nikmasi esa virtual suhbatlar orqali shakllanadi.

O‘qish kompetensiyasini rivojlantirish uchun AI murakkab matnlarni soddalashtirish, notanish so‘zlarni izohlash va qo‘shimcha materiallar tavsiya qilish imkoniyatini beradi.

Yozish ko‘nikmasi esa insho, xat va boshqa yozma topshiriqlarni tekshirish orqali takomillashtiriladi. Sun’iy intellekt xatolarni aniqlabgina qolmay, ularni tuzatish bo‘yicha tavsiyalar ham beradi.

Sun’iy intellekt vositalarining afzalliklari

Nemis tilini o‘rganishda AI vositalarining bir qator afzalliklari mavjud.

Birinchidan, ular 24 soat davomida foydalanish imkoniyatini yaratadi. O‘quvchi istalgan vaqtda mashq qilishi mumkin.

Ikkinchidan, individual yondashuv ta’minlanadi. Har bir foydalanuvchi o‘z ehtiyojlari va bilim darajasiga mos topshiriqlar oladi.

Uchinchidan, tezkor fikr-mulohaza olish imkoniyati mavjud. O‘quvchi o‘z xatolarini darhol ko‘rib chiqishi va tuzatishi mumkin.

To‘rtinchidan, motivatsiya oshadi. Interaktiv va qiziqarli mashg‘ulotlar o‘quvchilarni til o‘rganishga undaydi.

Beshinchidan, mustaqil ta’lim olish ko‘nikmalari rivojlanadi. Talaba o‘qituvchiga bog‘liq bo‘lmagan holda bilimlarini mustahkamlash imkoniyatiga ega bo‘ladi.

AI vositalarining kamchiliklari va muammolari

Sun’iy intellekt vositalarining ayrim cheklovlari ham mavjud.

Birinchidan, AI har doim ham mutlaqo to‘g‘ri javob bermasligi mumkin. Ayrim hollarda grammatik yoki mazmuniy xatolar uchraydi.

Ikkinchidan, sun’iy intellekt inson omilini to‘liq almashtira olmaydi. O‘qituvchining pedagogik tajribasi, psixologik yondashuvi va motivatsion ta’siri muhim ahamiyatga ega.

Uchinchidan, AI vositalaridan noto‘g‘ri foydalanish akademik halollik tamoyillariga salbiy ta’sir ko‘rsatishi mumkin. Ba’zi talabalar topshiriqlarni mustaqil bajarmasdan, to‘liq sun’iy intellekt yordamida tayyorlashga urinishi ehtimoli mavjud.

To‘rtinchidan, texnik vositalar va internetga bog‘liqlik ham muayyan muammolarni keltirib chiqaradi.

Xulosa

Tahlillar shuni ko‘rsatadiki, sun’iy intellekt texnologiyalari nemis tilini o‘rganish jarayonining samaradorligini sezilarli darajada oshiradi. ChatGPT va boshqa AI vositalari o‘quvchilarga individual ta’lim olish, xatolar ustida ishlash, lug‘at boyligini kengaytirish hamda muloqot ko‘nikmalarini rivojlantirish imkonini beradi.

Shu bilan birga, sun’iy intellekt vositalarini o‘qituvchi faoliyatining muqobili sifatida emas, balki qo‘shimcha va yordamchi ta’lim vositasi sifatida ko‘rish maqsadga muvofiqdir. Kelajakda AI texnologiyalarining rivojlanishi nemis tilini o‘qitish metodikasini yanada takomillashtirishga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Russell S., Norvig P. Artificial Intelligence: A Modern Approach. – Boston: Pearson Education, 2021.
2. Chapelle C. Computer Applications in Second Language Acquisition. – Cambridge University Press, 2019.
3. Warschauer M. Technology and Language Learning. – Cambridge University Press, 2020.
4. Richards J.C., Rodgers T.S. Approaches and Methods in Language Teaching. – Cambridge University Press, 2018.
5. Brown H.D. Principles of Language Learning and Teaching. – Pearson Education, 2017.
6. Jalolov J.J. Chet til o‘qitish metodikasi. – Toshkent: O‘qituvchi, 2012.
7. Saidahmedov N. Pedagogik mahorat va pedagogik texnologiya. – Toshkent, 2018.
8. Zamonaviy raqamli ta’lim va sun’iy intellekt texnologiyalariga oid ilmiy maqolalar va tadqiqotlar.

Development of Critical Thinking Skills in German Language Teaching

Boyyigitova Dinora Ikromjon qizi
German Language Teacher Syrdarya Academic Lyceum for Military Service

Abstract

This article examines the development of students' critical thinking competence in German language classes. Critical thinking plays an essential role in modern education as it enables learners to analyze information, solve problems, and make reasoned decisions. The article discusses theoretical foundations and practical methods for fostering critical thinking in foreign language teaching, especially through debates, project-based learning, problem-based instruction, and role-playing activities.

Keywords: critical thinking, German language teaching, foreign language education, communicative competence, innovative methods, project-based learning.

Entwicklung der kritischen Denkkompetenz im Deutschunterricht

Sirdarya Akademisches Lyzeum für Militärdienst
Deutschlehrerin Boyyigitova Dinora Ikromjon qizi

Zusammenfassung

In diesem Artikel wird die Entwicklung der kritischen Denkkompetenz der Studierenden im Deutschunterricht analysiert. Kritisches Denken spielt in der modernen Bildung eine zentrale Rolle, da es den Lernenden ermöglicht, Informationen zu analysieren, Probleme

zu lösen und fundierte Entscheidungen zu treffen. Der Artikel untersucht theoretische Grundlagen des kritischen Denkens sowie praktische Methoden zu seiner Förderung im Fremdsprachenunterricht. Besonderes Augenmerk wird auf Debatten, projektbasiertes Lernen, problembasierten Unterricht und Rollenspiele gelegt. Die Ergebnisse zeigen, dass diese Methoden die kommunikativen und kognitiven Fähigkeiten der Lernenden effektiv verbessern.

Schlüsselwörter: kritisches Denken, Deutschunterricht, Fremdsprachenunterricht, kommunikative Kompetenz, innovative Methoden, projektbasiertes Lernen.

Einleitung

Im 21. Jahrhundert steht das Bildungssystem vor der Aufgabe, nicht nur Wissen zu vermitteln, sondern auch Fähigkeiten zu entwickeln, die für das selbstständige Denken und Handeln notwendig sind. Eine der wichtigsten Kompetenzen in diesem Zusammenhang ist das kritische Denken.

Im Fremdsprachenunterricht, insbesondere im Deutschunterricht, reicht es nicht aus, nur grammatische Strukturen und Wortschatz zu erlernen. Studierende müssen in der Lage sein, Informationen zu analysieren, unterschiedliche Perspektiven zu vergleichen und eigene Meinungen zu formulieren. Daher gewinnt die Förderung des kritischen Denkens im Deutschunterricht zunehmend an Bedeutung.

Ziel dieses Artikels ist es, Methoden zur Entwicklung der kritischen Denkkompetenz im Deutschunterricht zu untersuchen und ihre Wirksamkeit zu bewerten.

Methodik der Forschung

Die vorliegende Untersuchung basiert auf der Analyse wissenschaftlicher Literatur,

vergleichender Analyse sowie pädagogischer Beobachtung. Darüber hinaus wurden Methoden des Fremdsprachenunterrichts untersucht, die speziell auf die Förderung des kritischen Denkens ausgerichtet sind.

Begriff des kritischen Denkens

Kritisches Denken ist die Fähigkeit, Informationen zu analysieren, zu bewerten und logisch zu interpretieren. Es bedeutet, nicht alle Informationen als gegeben zu akzeptieren, sondern sie zu hinterfragen und zu prüfen.

Die wichtigsten Elemente des kritischen Denkens sind:

Analyse von Informationen

Bewertung von Argumenten

Vergleich unterschiedlicher Perspektiven

logisches Schlussfolgern

Problemlösung

Entscheidungsfindung

Diese Fähigkeiten sind im modernen Bildungssystem unverzichtbar.

Bedeutung des kritischen Denkens im Deutschunterricht

Im Deutschunterricht trägt kritisches Denken wesentlich zur Entwicklung der kommunikativen Kompetenz bei. Lernende können ihre Gedanken klar ausdrücken, Argumente formulieren und aktiv an Diskussionen teilnehmen.

Die Förderung des kritischen Denkens führt zu:

selbstständigem Lernen

besserer Kommunikationsfähigkeit

höherer Motivation

kreativer Problemlösung

aktiver Sprachverwendung

Daher sollte der moderne Deutschunterricht über reine Sprachvermittlung

hinausgehen.

Methoden zur Förderung des kritischen Denkens

Debatten (Diskussionen)

Debatten gehören zu den effektivsten Methoden zur Entwicklung des kritischen Denkens. Studierende vertreten unterschiedliche Meinungen zu einem Thema und begründen ihre Positionen.

Beispiel:

„Soll künstliche Intelligenz im Unterricht eingesetzt werden?“

Die Lernenden argumentieren für oder gegen das Thema und lernen dabei, logisch zu denken und ihre Meinung sprachlich korrekt auszudrücken.

Problembasiertes Lernen

Beim problembasierten Lernen erhalten Studierende reale oder simulierte Probleme, die sie analysieren und lösen müssen. Diese Methode fördert analytisches und kreatives Denken.

Beispiel: Umweltprobleme in Deutschland analysieren und Lösungsvorschläge entwickeln.

Rollenspiele

Rollenspiele helfen den Studierenden, verschiedene Perspektiven einzunehmen und kommunikative Fähigkeiten zu verbessern.

Beispiele:

Bewerbungsgespräch

Arzt-Patient-Gespräch

Hotelreservierung

Konfliktsituationen im Alltag

Projektarbeit

Projektarbeit fördert selbstständiges Lernen und Teamarbeit. Studierende recherchieren Informationen, analysieren Daten und präsentieren Ergebnisse.

Beispiel:

„Deutschland und Usbekistan: ein kultureller Vergleich“

Brainstorming

Brainstorming ermöglicht die schnelle Sammlung von Ideen zu einem bestimmten Thema ohne Bewertung.

Beispiel:

„Wie kann man die Umwelt schützen?“

Rolle des Lehrers

Der Lehrer spielt eine entscheidende Rolle bei der Entwicklung des kritischen Denkens. Er ist nicht nur Wissensvermittler, sondern auch Moderator und Lernbegleiter. Seine Aufgaben umfassen:

Förderung offener Fragen

Organisation von Diskussionen

Unterstützung selbstständigen Lernens

Motivation der Studierenden

Förderung einer aktiven Lernumgebung

Ergebnisse und Diskussion

Die Analyse zeigt, dass der Einsatz interaktiver und schülerzentrierter Methoden die Entwicklung des kritischen Denkens deutlich verbessert. Besonders effektiv sind Debatten, projektbasiertes Lernen und Rollenspiele, da sie sowohl sprachliche als auch kognitive Fähigkeiten fördern.

Studierende zeigen mehr Motivation, aktiveres Sprachverhalten und eine bessere Fähigkeit zur Argumentation.

Fazit

Die Entwicklung der kritischen Denkkompetenz im Deutschunterricht ist ein wichtiger Bestandteil der modernen Fremdsprachendidaktik. Innovative Methoden wie Debatten, Projektarbeit und problembasiertes Lernen tragen wesentlich zur Förderung dieser Kompetenz bei.

Es ist wichtig, den Unterricht so zu gestalten, dass Lernende nicht nur Sprache erwerben, sondern auch lernen, kritisch zu denken und eigenständig Entscheidungen zu treffen.

Literaturverzeichnis

Brown, H. D. (2017). *Principles of Language Learning and Teaching*. Pearson.

Richards, J. C., Rodgers, T. S. (2018). *Approaches and Methods in Language Teaching*. Cambridge University Press.

Scriven, M., Paul, R. (2020). *Critical Thinking: Concepts and Tools*. Foundation for Critical Thinking.

Facione, P. (2022). *Critical Thinking: What It Is and Why It Counts*.

Jalolov, J. (2012). *Methodik des Fremdsprachenunterrichts*. Tashkent.

Moderne wissenschaftliche Artikel zur Fremdsprachendidaktik und digitalen Bildung.

TABLE OF CONTENTS | СОДЕРЖАНИЕ

1.	**THE ROLE OF HR MANAGEMENT IN THE INTEGRATION OF EDUCATIONAL INSTITUTIONS AND ENTERPRISES (BASED ON THE DUAL EDUCATION MODEL)** Qobiljon Majidov (Author)	3–7
2.	**The Formation of Uzbek-Language Broadcasting in Tajikistan Radio and Its Role in Covering Uzbekistan–Tajikistan Relations** Durdona Rasulova (Author)	8–22
3.	**THE CONCEPT OF PATRIOTISM IN LITERATURE** Munibakhon Sobirova (Author)	23–25
4.	**The Effect of the Fixed-Dose Combination of Telmisartan/Amlodipine on the Regression of Left Ventricular Hypertrophy and Arterial Stiffness in Arterial Hypertension** Khusanjon Pulatov (Author)	26–28
5.	**Environmental impact of sunflower oil production enterprises** Xadichabegim Samadova (Author)	29–30
6.	**PEDAGOGICAL-PSYCHOLOGICAL FEATURES OF THE USE OF DIGITAL EDUCATIONAL TECHNOLOGIES BY COMPUTER SCIENCE TEACHERS** Firuz Nurulloyev (Author)	31–37
7.	**Judicial System, Reforms and Results in Uzbekistan** Sevinch Majidova (Author)	38–49
8.	**ADAPTATION DIFFICULTIES IN PRESCHOOL CHILDREN: AN ANALYSIS OF SOCIAL AND PSYCHOLOGICAL ROOTS** Bekzod Choriyev (Author)	50–53
9.	**Developing the Mathematical Competence of Future Chemists Through an Adaptive–Integrative Approach** Yashnar Yusupova (Author)	54–65
10.	**ORGANIZING ENGLISH LANGUAGE LESSONS THROUGH INNOVATIVE AND CREATIVE METHODS** Avliyakulova Fotima (Author)	66–68

11.	**Application and Importance of Educational Technologies in Teaching Chemistry** Mashxura Sadikova , Gulchiroy Karimova , Tilloyeva Hulkar (Author)	**69–74**
12.	**Emergency care for asthma attacks in children** Khamzaeva Kamina, Turaeva Nafisa (Author)	**75–77**
13.	**STRATEGIC APPROACHES TO ESTABLISHING FRUIT AND VEGETABLE CLUSTERS AND ENHANCING THEIR ORGANIZATIONAL-ECONOMIC MANAGEMENT MECHANISMS** Mannopova Muazzamkhon (Author)	**78–86**
14.	**The Effectiveness of Communicative Approach in Teaching German as a Foreign Language** Abdullayeva Guljahon, Abdullayev Davron, Madyorov Shuhrat (Author)	**87–92**
15.	**ECONOMIC EFFICIENCY OF SMART TOURISM DEVELOPMENT IN THE CONDITIONS OF DIGITAL TRANSFORMATION** Nuraliyeva Feruza (Author)	**93–99**
16.	**Bridging the Gap: Integrating Short-Form Video Content (TikTok/Instagram) into the Uzbek EFL Speaking Classroom** Karimjonova Parvina (Author)	**100–105**
17.	**The Importance of Media Literacy in Modern Society** Yoqubboyeva Dinara (Author)	**106–114**
18.	**Study of technological processes of inter-row soil cultivation in vineyards** Ibrohim Jolbekov, Sardor Sherbekov (Author)	**115–133**
19.	**Communicative Competence in ESL Learning: Contemporary Issues and Practical Approaches** Nazarova Yorqinoy (Author)	**134–145**
20.	**Unification of Customs Valuation Processes with International Requirements** Shadmankulov Anvar (Author)	**146–158**
21.	**Colonial Authority and Muslim Law in Turkestan** N. Makhmudova (Author)	**159–167**

22.	**OPPORTUNITIES FOR BIOGAS PRODUCTION IN UZBEKISTAN** Nurmaxammadova Shaxlohon (Author)	**168–172**
23.	**SATELITE AND DRON MONITORING SYSTEMS FOR EFFICIENT LAND RESOURCE MANAGEMENT** MATKARIMOV Mansur (Author)	**173–180**
24.	**DTCESI METHOD FOR ASSESSING COMPETITIVENESS IN THE TRANSPORT NETWORK** Aymatov Sirojiddin (Author)	**181–186**
25.	**THE ROLE OF STOMA FORMATION IN THE MANAGEMENT OF BOWEL OBSTRUCTION IN RECTAL CANCER** Orifjonov Oltinbek (Author)	**187–188**
26.	**STUDY OF THE STRUCTURE AND PROPERTIES OF CEMENT COMPOSITES BASED ON MINERAL TECHNOGENIC ADDITIVES** R. Qodirov , S. Khodjamkulov (Author)	**189–196**
27.	**THE PEDAGOGICAL SIGNIFICANCE OF DEVELOPING COMMUNICATIVE COMPETENCIES IN VOCATIONAL EDUCATION** Turakulova Motabarkhon, Madoripova Dilzo (Author)	**197–204**
28.	**METHODS FOR IMPROVING THE EFFECTIVENESS OF LEARNING PROFESSIONAL TERMINOLOGY IN RUSSIAN LANGUAGE CLASSES** Matkarimova Husnida (Author)	**205–213**
29.	**POSSIBILITIES OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN EDUCATION** Turakulova Mutabarkhon, Madoripova Dilzoda (Author)	**214–223**
30.	**THE IMPORTANCE OF PROVIDING ECONOMIC EDUCATION IN THE PROFESSIONAL EDUCATION SYSTEM** Kuramatova Sanobarxon (Author)	**224–231**
31.	**CONSTITUTIONAL AND PROCEDURAL FOUNDATIONS AND LIMITS OF APPLYING ARTIFICIAL INTELLIGENCE TECHNOLOGIES TO DIGITAL FORENSICS** Shorasulova Gulnoza (Author)	**232–246**

32.	**The Role of Jadidism in the Cultural and Educational Development of Turkestan** Genjebaeva Dilnoza (Author)	**247–250**
33.	**USE OF VIBRATION DATA FOR RAILWAY TRACK CONDITION ASSESSMENT VIA MOBILE PLATFORMS** Ergashev Qahramon (Author)	**251–262**
34.	**The Reflection of Friendship and Humanism in Alisher Navoiy's poetry** Abdumajidova Zarnigor (Author)	**263–267**
35.	**THE ROLE OF THE BAKHSHI IMAGE IN THE EPIC CREATIVITY OF TURKIC PEOPLES** Naurizbaeva Xanzada (Author)	**268–273**
36.	**OPTIMIZATION OF THERAPY FOR MOTOR AND COGNITIVE DISORDERS IN CHRONIC CEREBRAL ISCHEMIA** Sodiqov Abduolim (Author)	**274–280**
37.	**THE IMPORTANCE OF INTERACTIVE METHODS IN DEVELOPING THE WRITTEN SPEECH OF PRIMARY SCHOOL STUDENTS** Ramazonova Munisa (Author)	**281–285**
38.	**FEATURES OF SPEECH DEVELOPMENT IN CHILDREN WITH INTELLECTUAL DISABILITIES IN INCLUSIVE EDUCATION** Berdiyorov Khurshid (Author)	**286–291**
39.	**Use of cloud technologies in Uzbekistan in 2020-2025** Imamova Odinaxon (Author)	**292–299**
40.	**Socio-Philosophical Analysis of Ensuring Employment of Unorganized Youth through Handicraft Activities** Mahmudjonov Javoxir, Jo'raqo'ziyeva Umidabonu (Author)	**300–306**
41.	**DEVELOPMENT OF A MOBILE APPLICATION FOR PROVIDING AUDIO TEXTBOOKS FOR THE VISUALLY IMPAIRED** Askarova Saodatxon, Jamoldinov Roziboy (Author)	**307–312**
42.	**The Theory of Segmental Units and Changes in the Digital Environment in Russian and Uzbek Internet Communication** Xojimatova Nigora (Author)	**313–321**

43.	**HORMONAL AND GENETIC CHARACTERISTICS OF SEX HORMONE METABOLISM IN NON-ALCOHOLIC FATTY LIVER DISEASE AMONG WOMEN OF REPRODUCTIVE AGE** Yunusova Dilfuza, Ravzatov Jasurbek (Author)	**322–328**
44.	**Pedagogical Foundations for Developing Practical Skills in Household Appliance Service under Inclusive Vocational Education Conditions** Boboyeva Zulxumor (Author)	**329–337**
45.	**The System of Teaching Basic Quantities in Primary School Classes** Esanova Feruza (Author)	**338–342**
46.	**THE EFFECTIVENESS OF LEARNING GERMAN WITH THE HELP OF ARTIFICIAL INTELLIGENCE (CHATGPT AND OTHER AI TOOLS)** Boyyigitova Dinora (Author)	**343–350**
47.	**Development of Critical Thinking Skills in German Language Teaching** Boyyigitova Dinora (Author)	**351–356**