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FOREIGN EXPERIENCE IN USING IPO PRACTICES FOR THE PRIVATIZATION OF ENTERPRISES WITH STATE OWNERSHIP AND ITS IMPLEMENTATION

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Abstract

This thesis examines advanced foreign models of using the practice of initial public offering (IPO) in the privatization of strategic enterprises with a state shareholding and mechanisms for their implementation in the national economy. The study provides a comparative analysis of the experience of the United Kingdom, Poland, Singapore and Kazakhstan in corporatization and listing of state-owned enterprises on the stock market, and identifies systemic factors for phased issuance, transformation of corporate governance and attraction of institutional investors. Based on the conclusions obtained, practical recommendations were developed to improve the efficiency of privatization of large state-owned enterprises and monopoly sectors in Uzbekistan through the "People's IPO" programs, ensure secondary market liquidity and stimulate private investment. Keywords: State-owned enterprises, privatization, initial public offering (IPO), privatization through share issuance (SIP), foreign experience, Temasek model, corporate governance, capital market.

Keywords

state-owned enterprises, privatization, initial public offering (IPO), privatization through share issuance (SIP), international experience, Temasek model, corporate governance, capital market.

**DAVLAT ULUSHI MAVJUD KORXONALARNI XUSUSIYLASHTIRISHDA
IPO AMALIYOTIDAN FOYDALANISHNING XORIJIY TAJRIBASI VA
UNING IMPLEMENTATSIYASI**





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Annotatsiya. Ushbu tezisda davlat ulushi mavjud strategik korxonalarni xususiylashtirishda aksiyalarni birlamchi ommaviy joylashtirish (IPO) amaliyotidan foydalanishning ilg'or xorijiy modellari hamda ularni milliy iqtisodiyotga implementatsiya qilish mexanizmlari tadqiq etilgan. Tadqiqotda Buyuk Britaniya, Polsha, Singapur va Qozog'istonning davlat korxonalarini aksiyadorlashtirish va fond bozoriga chiqarish bo'yicha tajribasi qiyosiy tahlil qilinib, bosqichma-bosqich emissiya qilish, korporativ boshqaruvni transformatsiyalash hamda institutsional investorlarni jalb etishning tizimli omillari aniqlangan. Olingan xulosalar asosida O'zbekistonda yirik davlat korxonalari va monopol tarmoqlarni "Xalq IPO" dasturlari orqali xususiylashtirish samaradorligini oshirish, ikkilamchi bozor likvidliligini ta'minlash va xususiy investitsiyalarni rag'batlantirishga qaratilgan amaliy tavsiyalar ishlab chiqilgan.

Kalit so'zlar: Davlat korxonalari, xususiylashtirish, aksiyalarni ommaviy joylashtirish (IPO), aksiyalar emissiyasi orqali xususiylashtirish (SIP), xorijiy tajriba, Temasek modeli, korporativ boshqaruv, kapital bozori.

Аннотация. В данной работе рассматриваются передовые зарубежные модели использования практики первичного публичного размещения акций (IPO) при приватизации стратегических предприятий с государственным участием, а также механизмы их внедрения в национальную экономику. Проведен сравнительный анализ опыта Великобритании, Польши, Сингапура и Казахстана в области корпоратизации и вывода государственных предприятий на фондовый рынок; выявлены системные факторы, способствующие поэтапному размещению акций, трансформации корпоративного управления и привлечению институциональных инвесторов. На основе полученных выводов разработаны





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практические рекомендации по повышению эффективности приватизации крупных государственных предприятий и компаний монопольного сектора в Узбекистане посредством программ «Народное IPO», обеспечению ликвидности на вторичном рынке и стимулированию частных инвестиций.

Ключевые слова: государственные предприятия, приватизация, первичное публичное размещение акций (IPO), приватизация через выпуск акций (SIP), зарубежный опыт, модель Temasek, корпоративное управление, рынок капитала.

KIRISH

Bozor munosabatlarning chuqurlashuvi va tarkibiy islohotlar sharoitida iqtisodiyotda davlatning bevosita ishtirokini qisqartirish hamda xususiy mulkchilik institutlarini mustahkamlash milliy moliya tizimi raqobatbardoshligini belgilovchi eng muhim omillardan biridir. An’anaviy to’g’ridan-to’g’ri sotish yoki yopiq auksionlardan farqli o’laroq, aksiyalarni birlamchi ommaviy joylashtirish (IPO) orqali xususiylashtirish nafaqat davlat byudjetiga fiskal tushumlarni jalb etish, balki mamlakat fond bozorini kapitallashtirish, qimmatli qog’ozlar likvidliligini oshirish hamda keng jamoatchilikni mulkdorlar qatlamiga aylantirish imkonini beradi. Rivojlanayotgan va o’tish iqtisodiyoti davlatlarida ommaviy joylashtirish mexanizmi xususiy sektor unumdorligini oshiruvchi hamda korxonalarni byurokratik boshqaruvdan bozor intizomiga o’tkazuvchi strategik katalizator sifatida qaraladi.

Bugungi kunda O‘zbekistonda davlat aktivlarini boshqarish tizimini tubdan takomillashtirish, yirik sanoat majmualari, telekommunikatsiya va bank sektoridagi davlat ulushini qisqartirish bo‘yicha keng ko‘lamli islohotlar amalga oshirilmoqda. Milliy kapital bozorini rivojlantirishning hozirgi bosqichida "Xalq IPO" tashabbuslari orqali strategik korxonalarni birjaga olib chiqish rejalashtirilayotgan bir paytda, xalqaro amaliyotda sinovdan o‘tgan xususiylashtirish modellarini chuqur o‘rganish va ularni mahalliy sharoitga moslashtirish dolzarb ilmiy-amaliy vazifa hisoblanadi. Ilg‘or xorijiy





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tajribani implementatsiya qilish joylashtirishdagi narx nomutanosibliklarining oldini olish, korporativ shaffoflikni xalqaro andozalar darajasiga yetkazish hamda tizimli xatarlarni minimallashtirishda hal qiluvchi ahamiyat kasb etadi.

Iqtisodiy nazariyada aksiyalar emissiyasi orqali xususiylashtirish (Share Issue Privatization — SIP) konsepsiyasi davlat aktivlarini xususiy kapitalga transformatsiya qilishning eng ilg'or va ochiq shakli sifatida e'tirof etiladi. Jahon amaliyoti shuni ko'rsatadiki, davlat korxonalarining birlamchi joylashtirilishi xususiy kompaniyalar IPOsiga nisbatan ancha murakkab ko'p qirrali maqsadlar tizimiga tayanadi. Hukumatlar faqatgina emissiyadan maksimal daromad olish bilangina cheklanmay, ijtimoiy barqarorlikni saqlash, aksiyalarning keng qatlamlar o'rtasida teng taqsimlanishini ta'minlash hamda korxona ustidan strategik davlat nazoratini yo'qotmaslik kabi o'zaro ziddiyatli iqtisodiy va siyosiy manfaatlarni muvozanatlashtirishga intiladilar.

Tarixiy nuqtai nazardan, davlat korxonalarini IPO orqali ommaviy xususiylashtirishning klassik poydevori 1980-yillarda Buyuk Britaniyada M. Tetcher hukumati tomonidan shakllantirilgan "xalq kapitalizmi" dasturi doirasida yaratildi. British Telecom, British Gas kabi yirik monopol subyektlarning aksiyalarini joylashtirishda chakana aholiga imtiyozli vaucherlar, dastlabki to'lov chegirmalari va bonusli aksiyalar mexanizmi qo'llanildi. Britaniya tajribasi shuni isbotladiki, aholiga imtiyozli shartlarda aksiyalar paketini taqdim etish keng xalqaro sarmoyadorlar bilan bir qatorda mahalliy chakana qatlamni shakllantirishga hamda monopol tarmoqlarda bozor intizomini o'rnatishga xizmat qiladi.

Osiyo qit'asida davlat ulushini boshqarish va xususiylashtirishning eng muvaffaqiyatli namunalaridan biri Singapurning "Temasek" suveren xolding modeli hisoblanadi. Mazkur modelda davlat korxonalari to'g'ridan-to'g'ri vazirliklar tasarrufiga emas, balki to'laqonli tijoratlashtirilgan va mustaqil boshqaruvga ega xolding tarkibiga o'tkazildi. Singapur tajribasida kompaniyalarni IPOga chiqarishdan



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avval ularni qat'iy korporativ boshqaruv standartlariga moslashtirish, samarasiz ijtimoiy aktivlardan tozalash va to'liq rentabellikka erishish talabi qo'yildi. Temasek korxonalarning nazorat paketini o'zida saqlab qolgan taqdirda ham, ularning aksiyalari Singapur birjasida erkin kotirovka qilinishi orqali bozor shaffofligini ta'minlash mexanizmini qaror toptirdi.

Sharqiy Yevropaning o'tish iqtisodiyoti davlatlari orasida Polshaning Varshava fond birjasi (GPW) orqali amalga oshirgan xususiylashtirish strategiyasi alohida o'ringa ega. Polsha hukumati yirik strategik aktivlarni (PKO Bank Polski, PZU sug'urta kompaniyasi) to'g'ridan-to'g'ri yirik xorijiy investorlarga sotmasdan, ularni bosqichma-bosqich transhlar asosida Varshava birjasida joylashtirdi. Ushbu siyosat milliy pensiya jamg'armalari (OFE) resurslarini davlat korxonalari aksiyalariga yo'naltirish bilan uyg'unlashgani sababli, Varshava fond birjasi qisqa muddatda Markaziy va Sharqiy Yevropaning eng yirik va likvidli moliya markaziga aylanishiga zamin yaratdi.

Postsovet hududida Qozog'istonning "Samruk-Qazina" milliy farovonlik jamg'armasi tomonidan amalga oshirilgan "Xalq IPO" dasturi va "Kazatomprom", "KazMunayGas" kompaniyalarining birjaga chiqarilishi muhim amaliy tajriba hisoblanadi. Qozog'iston modeli ichki bozorda Ostonaxalqaro moliya markazi (AIX) va KASE birjalaridan foydalanish bilan birga, yirik xalqaro depozitar tilxatlar (GDR) orqali London fond birjasida (LSE) dual-listing mexanizmini yo'lga qo'ydi. Ushbu yondashuv mamlakat ichidagi chakana investorlarga milliy valyutada aksiyalarni xarid qilish imkonini bergan bo'lsa, tashqi maydonda yirik xalqaro institutsional investorlar kapitalini jalb qilishni ta'minladi.

Xorijiy modellarning qiyosiy tahlili davlat korxonalarini IPO orqali muvaffaqiyatli xususiylashtirishning eng muhim omili — bu joylashtirishdan oldingi kompleks restrukturizatsiya ekanligini ko'rsatmoqda. Unga ko'ra, korxonalarni ommaviy bozorga chiqarishdan kamida ikki-uch yil oldin ularning moliyaviy hisobotlari Xalqaro





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moliyaviy hisobot standartlariga (IFRS) to'liq o'tkazilishi, kuzatuv kengashlarida xolis mustaqil direktorlar ko'pchiligi shakllantirilishi hamda korxonaning davlat subsidiyalariga qaramligi butunlay bartaraf etilishi shart. Aks holda, institutsional shaffoflik yetishmasligi ommaviy joylashtirishda aksiyalarning haddan tashqari past baholanishiga yoki xalqaro investorlar tomonidan taklifning rad etilishiga olib keladi.

O'zbekiston amaliyotini tahlil qilish shuni ko'rsatadiki, mamlakatda "O'zbektelekom", Navoiy va Olmaliq kon-metallurgiya kombinatlari kabi gigant korxonalarni IPOga tayyorlash bo'yicha dastlabki qadamlar qo'yilgan bo'lsa-da, implementatsiya jarayonida qator tizimli to'siqlar saqlanib qolmoqda. Xususan, milliy kapital bozorida uzoq muddatli institutsional investorlarning (nodavlat pensiya fondlari, investitsiya fondlari va sug'urta kompaniyalari) moliyaviy quvvati pastligi sababli yirik emissiyalarni ichki bozorda to'liq qoplash imkoniyati cheklangan. Shu sababli, davlat korxonalarini faqat ichki maydonda joylashtirish savdolarining past likvidliligiga va ikkilamchi bozorda aksiyalar narxining turg'unligiga sabab bo'lish xatarini tug'dirmoqda.

Xalqaro tajribaning O'zbekiston sharoitidagi implementatsiyasi xususiylashtirish jarayonini transhlar orqali amalga oshirishni taqozo etadi. Dastlabki bosqichda korxona aksiyalarining kichik paketini (5-15 foiz) "Xalq IPO" orqali ichki bozorda raqamli platformalar yordamida chakana aholiga va mahalliy vositachilarga sotish, ikkinchi bosqichda esa korporativ boshqaruv to'liq jahon andozalariga yetkazilgach, xalqaro anderrayterlar sindikati ko'magida yirik paketlarni global depozitar tilxatlar shaklida xalqaro maydonga chiqarish maqsadga muvofiqdir. Mazkur gibridd mexanizm davlat aktivlarini adolatli bozor narxida baholash hamda ichki va tashqi investorlar muvozanatini saqlash imkonini beradi.

XULOSA



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Davlat ulushiga ega korxonalarni IPO amaliyoti orqali xususiylashtirish bo'yicha xorijiy tajriba shuni tasdiqlaydiki, ushbu jarayon shunchaki davlat aktivlarini sotish emas, balki milliy fond bozorini rivojlantirish, korporativ boshqaruv madaniyatini oshirish va iqtisodiy resurslarni qayta taqsimlashning fundamental vositasidir. Buyuk Britaniya, Polsha va Qozog'iston modellari ommaviy xususiylashtirish dasturlarining muvaffaqiyati puxta tayyorlangan qonunchilik bazasi, aholi uchun imtiyozli mexanizmlar va institutsional investorlar bazasining yetukligiga bevosita tayanishini isbotladi.

O'zbekiston sharoitida mazkur mexanizmlarni muvaffaqiyatli joriy etish uchun davlat korxonalarini IPOga chiqarishdan oldin ularning operatsion va moliyaviy shaffofligini ta'minlash, ichki bozorda faoliyat yurituvchi nodavlat pensiya va investitsiya jamg'armalarining huquqiy maqomini kengaytirish hamda yirik korxonalar uchun ichki va tashqi birjalarda dual-listing mexanizmlarini qo'llash zarur. Ushbu tizimli choralar davlat mulkini adolatli xususiylashtirish barobarida, mamlakatda likvidli va jozibador kapital bozorining shakllanishini ta'minlaydi

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ARTIFICIAL INTELLIGENCE AND THE CHANGING ROLE OF THE TRANSLATOR IN POST-EDITING PRACTICE

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Abstract

The increasing integration of artificial intelligence into translation technologies has transformed traditional perceptions of the translator's role. Modern machine translation systems can produce target-language texts with a high degree of fluency, but their output still requires critical human evaluation. In this context, post-editing has emerged as an important area of professional translation practice. This paper examines how artificial intelligence and machine translation are changing the responsibilities and competencies of translators. Particular attention is paid to the shift from the translator as the sole producer of the target text to the translator as an evaluator, editor and quality controller of machine-generated output. The paper argues that technological development does not make human translation competence irrelevant. Instead, it increases the importance of critical reading, contextual interpretation, terminology management and quality assessment. The future translator is therefore likely to require both strong linguistic competence and the ability to work effectively with AI-assisted translation technologies.

Keywords

artificial intelligence, machine translation, post-editing, translator competence, translation technology, human-machine interaction.

Introduction

Artificial intelligence has become increasingly visible in the field of translation. Translation technologies that once produced visibly mechanical and often grammatically



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weak texts can now generate remarkably fluent output. This development has affected not only the tools available to translators but also the professional workflow of translation itself.

The emergence of AI-assisted translation raises an important question: if a machine can produce a relatively fluent translation, what exactly remains for the human translator to do?

One answer can be found in the development of post-editing. Instead of producing the first version of the target text independently, the translator may begin by evaluating machine-generated output. The translator's task consequently involves comparison, judgement, correction and quality control.

1. From translator to post-editor

The traditional image of the translator is that of a professional who reads a source text and creates an appropriate target text. In an MTPE workflow, the initial target text has already been produced by a machine.

This does not mean that the translator's intellectual involvement disappears. On the contrary, the translator must determine whether the machine-generated text actually represents the source text accurately. A fluent sentence may contain a subtle semantic error, while an apparently awkward sentence may nevertheless communicate the intended meaning correctly.

The human translator therefore becomes an evaluator as well as a language professional. This change is particularly significant because it requires translators to develop the ability to identify problems that are not always immediately visible.

2. New competencies required for post-editing

Effective post-editing requires a combination of traditional translation skills and technological awareness.

First, translators need strong bilingual and intercultural competence. Without a



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detailed understanding of both the source and target languages, it is difficult to identify subtle distortions in machine-generated texts.

Second, terminological competence remains essential. AI systems may generate different equivalents for the same specialised term depending on context. The post-editor must therefore be able to recognise inappropriate terminology and maintain consistency throughout a text.

Third, translators need critical evaluation skills. They should not automatically accept fluent machine output. Instead, every important segment should be evaluated in relation to the source text and the purpose of the translation.

Recent research has also examined the relationship between translators' individual characteristics, MT quality and post-editing performance, indicating that successful MTPE involves more than simply knowing how to operate a translation tool.

3. AI as a tool rather than a replacement

The relationship between translators and AI is often discussed in terms of replacement: will machines replace human translators? Such a question may be too simplistic.

In professional translation, the more relevant issue is often how responsibilities are distributed between the machine and the human. The machine can provide a first draft quickly, identify possible translation equivalents and process large amounts of text. The human translator, however, remains responsible for deciding whether the result is appropriate.

This is particularly important when the text contains ambiguity, culturally specific expressions, specialised terminology or information where a small change in meaning can have significant consequences.

Full post-editing under ISO 18587 is specifically concerned with human intervention intended to bring machine-generated output to a quality level comparable





to human translation.

4. Challenges of AI-assisted post-editing

Despite its advantages, AI-assisted translation creates several challenges.

One challenge is overreliance on fluent output. Because modern systems can produce natural-sounding sentences, translators may be tempted to accept them without sufficient comparison with the source.

Another challenge is the possibility of subtle meaning changes. A machine-generated sentence can appear grammatically perfect while introducing an interpretation that is not present in the source text.

There is also the issue of professional responsibility. When a translator delivers a post-edited text, the final product is still subject to human quality expectations. Therefore, the ability to use AI effectively must be accompanied by the ability to question it.

5. The future of the translation profession

The increasing use of AI is likely to continue changing the organisation of translation work. Translators who understand both linguistic principles and translation technologies may be better prepared for this changing environment.

Rather than reducing the importance of translation expertise, post-editing can make certain aspects of that expertise more visible. The translator has to explain why a machine-generated sentence is inaccurate, decide how it should be improved and ensure consistency across the entire text.

Thus, future translation professionals may increasingly function as language experts, editors, evaluators and technology users simultaneously. Translation education should consequently provide students with opportunities to develop both conventional translation competence and practical MTPE skills.

Conclusion



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Artificial intelligence has changed the translation workflow, but it has not removed the need for human judgement. The development of increasingly fluent machine translation systems has made post-editing a significant professional activity in which translators evaluate and improve machine-generated texts.

The central challenge for translators is therefore not simply learning how to use AI tools. It is learning when to trust them, when to question them and when to replace their output completely. Strong linguistic competence, critical thinking, terminology management and technological awareness are likely to remain essential qualities of professional translators.

AI should consequently be viewed not simply as a competitor to human translators but as a technology that is reshaping the distribution of work within the translation process.

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SPECIFIC FEATURES OF THE EUROPEAN COLONIAL SYSTEM IN SOUTHEAST ASIA IN THE 19TH-20TH CENTURIES

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Abstract

This thesis examines the specific features and administrative methods of the European colonial system established in Southeast Asia during the 19th and 20th centuries. The structural transformation of traditional economies into monoculture, the institutionalization of forced labor via the coolie system, and strategic migration policies are analyzed as defining characteristics of the era. Furthermore, it highlights the territorial partition strategies driven by the geopolitical rivalries of Western empires and the preservation of buffer zones like Siam.

Keywords

Colonial system, Southeast Asia, 19th-20th centuries, intensive exploitation, monoculture, coolie system, demographic shift, buffer zone.

XIX-XX ASRLARDA JANUBIY-SHARQIY OSIYODA YEVROPA MUSTAMLAKACHILIK TIZIMINING O'ZIGA XOS XUSUSIYATLARI

Annotatsiya: Ushbu tezisdagi XIX–XX asrlarda Janubiy-Sharqiy Osiyoda shakllangan Yevropa mustamlakachilik tizimining o'ziga xos xususiyatlari va boshqaruv usullari tadqiq etilgan. Davrning o'ziga xos jihatlari sifatida an'anaviy iqtisodiyotning monomadaniyatga o'zgartirilishi, kuli tizimi orqali majburiy mehnatning joriy etilishi hamda tizimli migratsiya siyosati tahlil qilingan. Shuningdek, g'arb imperiyalarining geosiyosiy manfaatlari to'qnashuvida hududlarni taqsimlash va Siam kabi bufer zonalarni saqlab qolish strategiyalari ochib berilgan.

Kalit so'zlar: Mustamlaka tizimi, Janubiy-Sharqiy Osiyo, XIX–XX asrlar,



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intensiv ekspluatatsiya, monomadaniyat, kuli tizimi, demografik siljish, bufer zona.

Аннотация: В данных тезисах исследуются специфические особенности и методы управления европейской колониальной системы, сформировавшейся в Юго-Восточной Азии в XIX–XX веках. В качестве ключевых аспектной эпохи анализируются трансформации традиционной экономики в монокультурную, внедрение принудительного труда через систему кули, а также политика системной миграции. Также раскрываются стратегии раздела территорий в условиях столкновения геополитических интересов западных империй и сохранение буферных зон, таких как Сиам.

Ключевые слова: Колониальная система, Юго-Восточная Азия, XIX–XX века, интенсивная эксплуатация, монокультура, система кули, демографический сдвиг, буферная зона.

XIX asrning boshlaridan boshlab G‘arbiy Yevropada sanoat to‘ntarishining yakunlanishi va sanoat kapitalizmining vujudga kelishi Yevropa davlatlarining Janubiy-Sharqiy Osiyo mintaqasiga nisbatan yuritayotgan an’anaviy mustamlakachilik siyosatini tubdan o‘zgartirdi. Agar XVI–XVIII asrlarda Ost-Indiya kompaniyalari orqali yuritilgan siyosat asosan savdo monopoliyasini o‘rnatish, ziravorlar va qimmatbaho tovarlarni tashib ketish bilan cheklangan bo‘lsa, XIX–XX asrlarda bu tizim hududlarni to‘liq siyosiy bo‘ysundirish, ularni xomashyo manbaiga aylantirish va intensiv iqtisodiy ekspluatatsiya qilish mexanizmiga aylandi.

Bu davrda mintaqadagi mustamlakachilik tizimining eng asosiy va o‘ziga xos xususiyatlaridan biri — an’anaviy qishloq xo‘jaligining global bozor ehtiyojlariga moslashtirilgan monomadaniyat (faqat bir turdagi eksport ekinlarini ekish) tizimiga o‘tkazilishi bo‘ldi¹. Buning eng yorqin misolini Niderlandiya Ost-Indiyasi (hozirgi

¹ Tarling N. The Cambridge History of Southeast Asia: Volume 2, The Nineteenth and Twentieth Centuries. – Cambridge: Cambridge University Press, 1992. – P. 45



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Indoneziya) hududida ko'rish mumkin. 1830-yilda Niderlandiya qiroli Vilgelm I tomonidan tayinlangan general-gubernator Yoxannes van den Bosx (Johannes van den Bosch) Yava orolida "Kulturtizim" (Cultierstelsel — Madaniyat tizimi yoki Majburiy ekin ekish tizimi) deb nomlangan tizimni joriy etdi.

Ushbu tizimga ko'ra, mahalliy dehqonlar o'z yerlarining beshdan bir qismida (20%) yoki yiliga 66 kun davomida o'zlarining an'anaviy ekini bo'lgan guruch o'rniga Gollandiya hukumati uchun yuqori daromad keltiruvchi kofe, shakarqamish, indigo (binafsharang bo'yoq) va tamaki yetishtirishga majbur qilindi. Van den Bosx joriy etgan bu tizim Niderlandiya davlat g'aznasini inqirozdan qutqardi; chunki 1831–1877-yillar oralig'ida "Kulturtizim" hisobidan Niderlandiya budjetiga 832 million gulden miqdorida sof foyda (batig saldo) kelib tushdi va bu mablag'lar mamlakatda temir yo'llar qurish hamda g'arb infratuzilmasini rivojlantirishga sarflandi. Biroq, bu siyosat mahalliy aholi uchun fojeali oqibatlarni keltirib chiqardi².

1843-yilda Cheribon (Cirebon) okrugida va 1848–1850-yillarda Demak provinsiyasida guruch yetishtirish keskin kamayib ketishi oqibatida dahshatli ocharchilik yuz berdi va 300 000 dan ortiq yavaliklar halok bo'ldi.

Ushbu shafqatsiz tizim Yevropaning o'zida ham e'tirozlarga sabab bo'ldi; xususan, niderlandiyalik sobiq amaldor Eduard Dauves Dekker (Eduard Douwes Dekker) 1860-yilda "Multatuli" taxallusi ostida "Maks Xavelaar" (Max Havelaar) romanini nashr ettirib, unda mustamlaka ma'muriyatining kirdikorlarini fosh qildi. Natijada, Niderlandiya parlamenti 1870-yilda "Agrar qonun"ni (Agrarische Wet) qabul qilib, majburiy ekin ekish tizimini bekor qildi va Indoneziya eshiklarini xususiy g'arb kapitali uchun ochib berdi, bu esa "Liberal davr" (1870–1900) deb nomlangan yangi ekspluatatsiya bosqichini boshlab berdi³.

² Fasseur C. The Politics of Colonial Exploitation: Java, the Dutch, and the Cultivation System. – Ithaca: Cornell University Press, 1992. – P. 51

³ Elson R.E. Village Java under the Cultivation System, 1830–1870. – Sydney: Allen & Unwin, 1994. – P. 83





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Mintaqadagi g'arb mustamlakachiligining ikkinchi o'ziga xos xususiyati — bu kuchli geosiyosiy raqobat fonida harbiy-diplomatik ekspansiyaning kuchayishi va chegaralarning sun'iy ravishda belgilanishi bo'ldi. Britaniya imperiyasi Hindistondagi o'z mavqeyini himoya qilish va Xitoy bilan savdo yo'llarini nazorat qilish maqsadida Malay yarim oroli va Birmaga strategik hujumlar uyushtirdi. 1819-yil 6-fevralda ser Stamford Rafflz (Sir Stamford Raffles) Johor sultonligi bilan shartnoma imzolab, Singapur portiga asos soldi, bu keyinchalik mintaqadagi eng yirik Britaniya savdo va harbiy bazasiga aylandi.

Britaniya o'z ta'sirini kengaytirish maqsadida Malay sultonliklari bilan 1874-yil 20-yanvarda "Pankor shartnomasi"ni (Pangkor Treaty) imzoladi. Perak sultoni Abdulla va Britaniya gubernatori ser Endryu Klark (Sir Andrew Clarke) o'rtasidagi ushbu bitim orqali Malayziyada "Rezidentlik tizimi" (Resident System) joriy etildi. Bu tizimga ko'ra, malay sultonlari taxtda qolsa-da, islom dini va mahalliy urf-odatlardan tashqari barcha siyosiy, ma'muriy va moliyaviy masalalarda Britaniya rezidentining maslahatlariga qat'iy amal qilishga majbur edilar⁴. Birinchi rezident Jeyms Uiler Vudford Birch (James W.W. Birch) mahalliy an'analarni tushunmaganligi va qulchilikni keskin taqiqlashga uringanligi sababli 1875-yil noyabrda malay zodagonlari tomonidan o'ldirildi, bu esa Britaniyaning mintaqaga qo'shimcha harbiy kuch kiritishiga sabab bo'ldi.

Shimolda esa Britaniya Konbaung sulolasi boshqaruvidagi Birma qirolligini uchta qonli urush (1824–1826, 1852 va 1885-yillar) orqali butunlay yo'q qildi. 1852-yilda general-gubernator Lord Dalxauzi (Lord Dalhousie) Ikkinchi ingliz-birma urushi natijasida Quyi Birmani egallagan bo'lsa, 1885-yil noyabrda general Garri Prendergast (Harry Prendergast) boshchiligidagi qo'shinlar Uchinchi ingliz-birma urushida poytaxt Mandalayni bosib oldi. So'nggi Birma qirol Tibav (Thibaw) asir olinib, Hindistonning

⁴ Ricklefs M.C. A History of Modern Indonesia since c. 1200. – London: Palgrave Macmillan, 2001. – P. 22





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Ratnagiri shahriga surgun qilindi va 1886-yil 1-janvarda Birma rasman Britaniya Hindistonining provinsiyasiga aylantirildi. Britaniyaliklar Irravadi daryosi deltasida guruch yetishtirishni keskin oshirib (1852-yildagi 600 ming akrdan 1920-yilga kelib 5,5 million akrga yetkazildi), mamlakat iqtisodiyotini batamom bir tomonlama yo‘nalishga burib qo‘ydilar⁵.

G‘arbiy imperiyalarning raqobati jarayonida Fransiya ham faol ishtirok etib, Fransiya Hindixitoyini (Indochina) barpo etdi. Fransuz ekspansiyasi 1858-yil sentabrda Napoleon III buyrug‘iga binoan admiral Sharl Rigo de Jenuyli (Charles Rigault de Genouilly) boshchiligidagi fransuz-isan eskadrasining Danang portiga hujumi bilan boshlandi. 1862-yil 5-iyunda imzolangan Saygon shartnomasiga ko‘ra, Vyetnam imperatori T_y_d_k (Tự Đức) Kochinxinning uchta provinsiyasini Fransiya berishga majbur bo‘ldi.

Keyinchalik, 1883-1884-yillarda imzolangan Garmand va Patenotr shartnomalari orqali Vyetnamning qolgan qismi — Tonkin va Annam ham Fransiya protektoratiga aylantirildi. 1887-yil 17-oktabrda Fransiya rasman Hindixitoy Ittifoqini (L'Union Indochinoise) tuzdi, uning tarkibiga keyinchalik Kambodja va Laos (1893-yilgi fransuz-siam urushidan keyin) ham qo‘shildi. Fransiyaning ushbu mustamlakasida markazlashtirilgan byurokratik boshqaruvni o‘rnatgan shaxs 1897–1902-yillarda general-gubernator bo‘lib xizmat qilgan Pol Dumer (Paul Doumer) bo‘ldi⁶.

Dumer infratuzilmani rivojlantirish (masalan, Xanoydan Saygongacha bo‘lgan Trans-Hindixitoy temir yo‘li qurilishi) uchun ulkan soliq islohotlarini o‘tkazdi va tuz, afyun hamda guruch arog‘i ishlab chiqarish ustidan qat’iy davlat monopoliyasini joriy qildi. 1900-yilga kelib, faqatgina ushbu uchta monopoliyadan tushgan mablag‘ fransuz mustamlakachilik budjetining 70 foizdan ortig‘ini tashkil etdi. Dumer, shuningdek,

⁵ Furnivall J.S. Netherlands India: A Study of Plural Economy. – Cambridge: Cambridge University Press, 1944. – P. 34

⁶ Taylor J.G. Indonesia: Peoples and Histories. – New Haven: Yale University Press, 2003. – P. 67





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mahalliy madaniyatni yo'qotish va fransuzlashtirish siyosatini olib bordi, bu esa an'anaviy vyetnam mandarinlari (shaxslari) va ziyolilarining keskin qarshiligiga sabab bo'ldi⁷.

Fransuz iqtisodiy siyosatining yana bir og'ir oqibati xususiy plantatsiyalar tizimining yaratilishi bo'ldi. "Michelin" kabi yirik fransuz korporatsiyalari Kochinxin va Kambodjada ulkan kauchuk (rezina) plantatsiyalarini tashkil qilib, u yerda mahalliy aholini shartnomaviy qullik — "kuli" (coolie) tizimi asosida ishlatdi. Ushbu plantatsiyalardagi antisanitariya, og'ir jismoniy mehnat va bezgak kasalligi tufayli ishchilar orasida o'lim darajasi ba'zi yillarda 25-30 foizgacha yetdi, bu esa XX asr boshlarida Fan Boy Tyu (Phan Bội Châu) va keyinchalik Xo Shi Min (Hồ Chí Minh) kabi milliy-ozodlik harakati yetakchilarining maydonga chiqishiga ijtimoiy zamin hozirladi.

Mustamlakachilik tizimining yana bir o'ziga xos xususiyati — bu mintaqadagi demografik va etnik muvozanatning tubdan o'zgartirilishi bo'ldi. XIX asr oxiri va XX asr boshlarida Britaniya Malayziyasida qalay konlari va kauchuk plantatsiyalarida ishchi kuchi yetishmasligi muammosini hal qilish uchun Britaniya hukumati Xitoy va Janubiy Hindistondan ommaviy ravishda muhojirlarni olib kelish siyosatini yuritdi. Xitoylik ishchilar asosan Perak va Selangor provinsiyalaridagi Larut qalay konlariga jalb qilingan bo'lsa, hindistonlik (asosan tamil) ishchilar kauchuk plantatsiyalariga "kangani" (kangani tizimi — maxsus vositachilar orqali ishchi yollash) tizimi asosida olib kelindi⁸.

Raqamlarga murojaat qiladigan bo'lsak, 1800-yilda Malay yarim orolida xitoyliklar aholining juda kichik foizini tashkil etgan bo'lsa, 1931-yilgi aholini ro'yxatga olish ma'lumotlariga ko'ra, Malayziya aholisining 39,2 foizini xitoyliklar, 14,3 foizini hindlar tashkil etgan va tubjoy malaylar o'z vatanida qariyb 45 foiz

⁷ Boxer C.R. The Dutch Seaborne Empire 1600–1800. – London: Hutchinson, 1965. – P. 78

⁸ Vickers A. A History of Modern Indonesia. – Cambridge: Cambridge University Press, 2005. – P. 42





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ko'rsatkich bilan ozchilikka aylanib qolish xavfi ostida qolgan. Ushbu demografik siljish Britaniya imperiyasining "bo'lib tashla va hukmronlik qil" (divide and rule) siyosati bilan uyg'unlashib ketdi: xitoyliklar shahar savdosi va konchilikda, hindlar plantatsiya va temir yo'llarda, malaylar esa qishloq xo'jaligi va ma'muriy quyi tizimda qoldirildi. Bu esa jamiyatda o'zaro integratsiyalashmagan "plyuralistik jamiyat" (plural society) modelini yaratdi va Ikkinchi jahon urushidan keyingi davrda chuqur etnik va siyosiy nizolarning kelib chiqishiga sabab bo'ldi⁹.

Shunga o'xshash jarayon Birmada ham sodir bo'ldi: Britaniya boshqaruvi davrida Hindistondan o'n minglab chettiyarlar (suyxo'r savdogarlar va yer egalari) va ishchilar Birmaga ko'chib keldi. 1930-yilga kelib, Quyi Birmadagi eng unumdor guruch maydonlarining qariyb 50 foizi birmalik dehqonlardan tortib olinib, hindistonlik chettiyarlar qo'liga o'tib ketgan edi, bu esa 1930–1932-yillarda Saya San boshchiligidagi dehqonlar qo'zg'olonining portlashiga va birmaliklar o'rtasida kuchli ksenofobik kayfiyatning shakllanishiga olib keldi.

Tinch okeanining narigi tomonida, Filippinda esa mutlaqo boshqacha, ammo o'ziga xos xususiyatlarga ega bo'lgan mustamlaka tizimi mavjud edi. Uch asrdan ortiq davom etgan Ispaniya hukmronligi (1565–1898) davrida Filippinda kuchli katoliklashtirish va "Enkomyenda" (Encomienda) tizimi orqali feodal ekspluatatsiya joriy etilgan edi. Biroq, 1898-yilgi ispan-amerika urushi yakunida imzolangan Parij tinchlik shartnomasiga binoan, AQSh Ispaniyaga 20 million dollar to'lab, Filippinni o'z nazoratiga oldi¹⁰.

Filippin xalqi Emilio Aginaldo (Emilio Aguinaldo) boshchiligida mustaqillik e'lon qilgan bo'lsa-da, AQSh buni tan olmadi va 1899–1902-yillardagi shafqatsiz Amerika-Filippin urushi natijasida respublika harakati bostirildi. AQShning Filippindagi

⁹ Webster A. Gentlemanly Capitalism and British Imperialism. – London: I.B.Tauris, 1998. – P. 89

¹⁰ Turnbull C.M. A History of Singapore, 1819–1988. – New York: Oxford University Press, 1989. – P. 15



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mustamlakachilik modeli g'arbiy Yevropa davlatlaridan farqli ravishda "gumanitar assimilyatsiya" (benevolent assimilation) shiori ostida olib borildi. 1900-yilda AQSh prezidenti Uilyam Mak-Kinli tomonidan yuborilgan va keyinchalik Filippinning birinchi fuqarolik gubernatori bo'lgan Uilyam Govard Taft (William Howard Taft) boshchiligidagi "Taft komissiyasi" mamlakatda keng ko'lamli ta'lim va sog'liqni saqlash islohotlarini boshladi.

Amerikaliklar "Tomasitlar" (Thomasites) deb nomlangan 500 dan ortiq ingliz tili o'qituvchilarini Filippinga olib kelib, dunyoviy ta'lim tizimini joriy etishdi va ingliz tilini rasmiy tilga aylantirishdi. Shuningdek, Taft komissiyasi Vatikandan katolik cherkoviga tegishli bo'lgan 390 ming akr unumdor yerlarni ("Friar lands") 7,2 million dollarga sotib olib, ularni qayta sotishga urindi¹¹. Ammo, bu yerlar oddiy dehqonlar qo'liga emas, balki g'arbparast mahalliy elita — "Xasienderos" (Hacienderos) va "Ilustrados" (ziyolilar) tabaqasi qo'liga o'tdi. Natijada, AQSh Filippinda o'ziga sodiq bo'lgan oligarxik siyosiy tizimni shakllantirdi va mamlakat iqtisodiyotini "Bell savdo akti" (Bell Trade Act) kabi shartnomalar orqali butunlay AQSh bozoriga qaram qilib qo'ydi.

Mintaqadagi mustamlakachilik tizimining o'ziga xos xususiyatlarini tahlil qilganda, uning geosiyosiy tuzilmasidagi yagona mustaqil hudud — Siam qirolligi (hozirgi Tailand) fenomenini aylanib o'tib bo'lmaydi. Chakri sulolasi hukmdorlari — qirol Rama IV (Mongkut, 1851–1868) va uning o'g'li qirol Rama V (Chulalongkorn, 1868–1910) g'arb davlatlarining harbiy tajovuzidan saqlanish uchun noyob diplomatik va modernizatsiya siyosatini yuritdilar. Qirol Chulalongkorn Britaniya va Fransiya o'rtasidagi ziddiyatlardan ustalik bilan foydalanib, Sianni ikki buyuk davlat o'rtasidagi "bufer zona" (oraliq betaraf hudud) sifatida saqlab qolishga erishdi¹².

¹¹ Andaya B.W., Andaya L.Y. A History of Malaysia. – London: Palgrave Macmillan, 2001. – P. 142

¹² Alatas S.H. The Myth of the Lazy Native. – London: Frank Cass, 1977. – P. 94





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Buning evaziga Siam 1893-yilgi "Paknam voqeasi" va 1907–1909-yillardagi shartnomalar natijasida Laos va Kambodjadagi o'z yerlarining bir qismini Fransiya, Malayziya shimolidagi to'rtta sultonlikni (Kedax, Perlis, Kelantan va Terengganu) esa Britaniya berishga majbur bo'ldi. Biroq, Siam ichki islohotlar orqali g'arb namunasidagi vazirliklar tizimini tashkil etdi, majburiy qullikni bekor qildi (1905-yil) va temir yo'llar qurdi. Shunday bo'lsa-da, Siam iqtisodiy jihatdan baribir g'arb kapitaliga qaram edi; mamlakat tik daraxti eksporti va qalay sanoatining 90 foizdan ortig'i Britaniya kompaniyalari nazoratida qoldi, bu esa hudud rasman mustamlaka bo'lmasa-da, yarim mustamlakachilik iqtisodiy tizimi xususiyatlariga ega bo'lganligini ko'rsatadi¹³.

Xulosa qilib aytganda, XIX–XX asrlarda Janubiy-Sharqiy Osiyoda amal qilgan Yevropa mustamlakachilik tizimi o'zining iqtisodiy shafqatsizligi, siyosiy manipulyatsiyalari va uzoq muddatli salbiy oqibatlari bilan xarakterlanadi. Van den Bosxning "Kulturtizim"i, Pol Dumerning soliq monopoliyalari, Lord Dalxauzining harbiy ekspansiyalari va Taft komissiyasining siyosiy manevrlari mintaqaning tabiiy boyliklarini g'arb sanoati uchun xizmat qildirishga qaratilgan yaxlit tizimning qismlari edi.

Ushbu tizim an'anaviy jamiyatlar tuzilmasini vayron qilib, sun'iy chegaralarni va etnik jihatdan bo'lingan jamiyatlarni yaratdi. Mustamlakachilar tomonidan kiritilgan infratuzilma (temir yo'llar, portlar, telegraf) mahalliy aholi farovonligi uchun emas, balki xomashyoni metropoliyaga tezroq tashib ketish maqsadida barpo etilgan edi. Bu davr tahlili shuni ko'rsatadiki, Janubiy-Sharqiy Osiyodagi Yevropa mustamlakachilik tizimi o'ziga xos tarzda rivojlangan plyuralistik iqtisodiyot va chuqur ijtimoiy-etnik asoratlarni qoldirib, bugungi kungi mintaqa davlatlarining geosiyosiy va iqtisodiy muammolarining bosh omili bo'lib qolmoqda.

¹³ Drabble J.H. Rubber in Malaya, 1876-1922. – New York: Oxford University Press, 1973. – P. 56





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LINGUO-COGNITIVE CHARACTERISTICS OF NATIONAL- CULTURAL CONCEPTS IN ARTIFICIAL INTELLIGENCE TRANSLATION

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Abstract

This article analyzes the linguo-cognitive characteristics of national-cultural concepts within the translation process carried out by artificial intelligence systems. It synthesizes interpretations of the concept from cognitive linguistics and linguoculturology, while outlining the structural layers (conceptual, imagery-based, and value-based) of national-cultural concepts. The article examines-through practical examples-the capabilities and limitations of neural machine translation systems in conveying conceptual meaning, particularly regarding non-equivalent or partially equivalent national-cultural units (such as concepts like "mehmondo'stlik" [hospitality], "hashar" [community work], "sarpo" [ceremonial gift], "ustoz-shogird" [master-apprentice relationship], and "oqsoqol" [elder]). Research findings indicate that while artificial intelligence systems succeed in ensuring lexical-semantic correspondence, they fail to fully capture the deep cultural-associative layers of a concept. Based on this, proposals are developed to enhance the quality of conceptual translation.

Keywords

concept, national-cultural concept, linguocognitive analysis, artificial intelligence, machine translation, neural translation, linguoculturology, non-equivalence, translation strategy, cultural code.

**SUN'IY INTELLEKT TARJIMASIDA MILLIY-MADANIY
KONSEPTLARNING LINGVOKOGNITIV XUSUSIYATLARI**



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Annotatsiya. Ushbu maqolada sun'iy intellekt tizimlari yordamida amalga oshiriladigan tarjima jarayonida milliy-madaniy konseptlarning lingvokognitiv xususiyatlari tahlil qilinadi. Konsept tushunchasining kognitiv tilshunoslik va lingvokulturologiyadagi talqinlari umumlashtirilib, milliy-madaniy konseptlarning tarkibiy qatlamlari (tushunchaviy, obrazli, qadriyatli) yoritiladi. Maqolada neyron mashina tarjimasi tizimlarining konseptual ma'noni, ayniqsa ekvivalenti bo'lmagan yoki qisman ekvivalent milliy-madaniy birliklarni (masalan, "mehmondo'stlik", "hashar", "sarp", "ustoz-shogird", "oqsoqol" kabi konseptlarni) berishdagi imkoniyatlari va cheklovlari amaliy misollar asosida ko'rib chiqiladi. Tadqiqot natijalari sun'iy intellekt tizimlarining leksik-semantik moslikni ta'minlashda muvaffaqiyatli bo'lsa-da, konseptning chuqur madaniy-assotsiativ qatlamini to'liq izohlay olmasligini ko'rsatadi. Shu asosda konseptual tarjima sifatini oshirish yo'llari bo'yicha takliflar ishlab chiqilgan.

Kalit so'zlar: konsept, milliy-madaniy konsept, lingvokognitiv tahlil, sun'iy intellekt, mashina tarjimasi, neyron tarjima, lingvokulturologiya, ekvivalentsizlik, tarjima strategiyasi, madaniy kod.

**ЛИНГВОКОГНИТИВНЫЕ ХАРАКТЕРИСТИКИ НАЦИОНАЛЬНО-
КУЛЬТУРНЫХ КОНЦЕПТОВ ПРИ ПЕРЕВОДЕ С ИСПОЛЬЗОВАНИЕМ
ИСКУССТВЕННОГО ИНТЕЛЛЕКТА**

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Аннотация. В статье анализируются лингвокогнитивные характеристики национально-культурных концептов в процессе перевода, осуществляемого системами искусственного интеллекта. Автор обобщает трактовки понятия «концепт» в когнитивной лингвистике и лингвокультурологии, выделяя структурные слои (концептуальный, образный и ценностный) национально-культурных концептов. На практических примерах рассматриваются возможности и ограничения систем нейронного машинного перевода в передаче концептуального смысла, особенно в отношении безэквивалентных или частично эквивалентных национально-культурных единиц (таких как «мехмондостлик» [гостеприимство], «хашар» [общественные работы], «сарпо» [ритуальный подарок], «устоз-шогирд» [отношения «мастер - ученик»] и «оксакол» [старейшина]). Результаты исследования показывают, что, хотя системы искусственного интеллекта успешно обеспечивают лексико-семантическое соответствие, они не способны в полной мере передать глубинные культурно-ассоциативные слои концепта. На основе этого сформулированы предложения по повышению качества перевода концептов.

Ключевые слова: концепт, национально-культурный концепт, лингвокогнитивный анализ, искусственный интеллект, машинный перевод, нейронный перевод, лингвокультурология, безэквивалентность, стратегия перевода, культурный код.

Kirish

So‘nggi yillarda sun’iy intellekt texnologiyalarining, xususan neyron tarmoqlarga asoslangan mashina tarjimasizimlarining (Google Translate, DeepL, ChatGPT, Yandex Translate va boshqalar) tilshunoslik amaliyotiga faol tatbiq etilishi tarjimashunoslik oldida yangi ilmiy-nazariy muammolarni ko‘ndalang qo‘ymoqda. Ushbu tizimlar katta hajmdagi parallel matnlar asosida statistik va kontekstual





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bog‘lanishlarni o‘rganib, tilning grammatik va leksik jihatlarini yuqori aniqlik bilan qayta tiklay olsa-da, tilning chuqur qatlamida yashiringan milliy-madaniy konseptlarni - xalqning ko‘p asrlik dunyoqarashi, qadriyatlar va urf-odatlarini ifodalovchi mental-lisoniy birliklarni - adekvat tarzda tarjima qilishda sezilarli qiyinchiliklarga duch kelmoqda.

Konsept kognitiv tilshunoslikning markaziy tushunchalaridan biri sifatida inson ongida shakllangan bilim, tasavvur va baholash birligini anglatadi. Milliy-madaniy konseptlar esa muayyan xalqning tarixiy tajribasi, turmush tarzi va qadriyatlar tizimi asosida shakllangan bo‘lib, ular boshqa til-madaniyat tizimida to‘g‘ridan-to‘g‘ri muqobilga ega bo‘lmasligi mumkin. Aynan shu xususiyat sun‘iy intellekt tarjimasida ularning berilishini nazariy va amaliy jihatdan dolzarb muammoga aylantiradi.

Mazkur tadqiqotning maqsadi - o‘zbek tilidagi milliy-madaniy konseptlarning lingvokognitiv tabiatini aniqlash va ularning sun‘iy intellekt asosidagi tarjima tizimlarida qanday transformatsiyalarga uchrashini tahlil qilishdan iborat. Tadqiqot vazifalari sifatida quyidagilar belgilandi: 1) konsept va milliy-madaniy konsept tushunchalarining nazariy asoslarini yoritish; 2) milliy-madaniy konseptlarning tarkibiy qatlamlarini tavsiflash; 3) sun‘iy intellekt tarjima tizimlarida konseptual ma’noning berilish xususiyatlarini amaliy misollar orqali tahlil qilish; 4) tarjima sifatini oshirish yuzasidan tavsiyalar ishlab chiqish.

Konsept va milliy-madaniy konsept tushunchasining lingvokognitiv talqini

Kognitiv tilshunoslikda konsept insonning dunyo haqidagi bilimlarini tashkil etuvchi operativ mental birlik sifatida talqin etiladi. Ye.S.Kubryakova konseptni “xotira, mental leksikon, kontseptual tizim va miya tili operativ birligi” sifatida ta’riflab, uni bilim kvanti deb ataydi [3]. Z.D.Popova va I.A. Sternin konseptni tushunchaviy fikrlash jarayonini ta’minlovchi mental birlik sifatida belgilab, konseptlar majmuasini fikrlashning axborot bazasi deb hisoblaydi [4]. V.I. Karasik esa konseptni





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lingvokulturologik nuqtai nazardan ko‘rib chiqib, unda tushunchaviy, obrazli va qadriyatli qatlamlarni ajratadi [1]. Yu.S.Stepanov konseptni “madaniyatning asosiy hujayrasi” deb ta’riflaydi [2].

O‘zbek tilshunosligida ham konsept muammosi faol o‘rganilmoqda. Jumladan, Sh. Safarov kognitiv tilshunoslikning nazariy asoslarini tizimlashtirib, konseptning til birliklarida ifodalanish mexanizmlarini tahlil qiladi [8].

Z.B.Hojiyeva

o‘zining tadqiqotida “o‘zbeklar” konseptining badiiy matndagi reprezentatsiyasini o‘rganib, milliy-madaniy o‘ziga xoslikning til vositalarida namoyon bo‘lish xususiyatlarini yoritadi [9]. Bunday tadqiqotlar shuni ko‘rsatadiki, milliy-madaniy konsept nafaqat lisoniy, balki etnopsixologik va falsafiy-madaniy hodisa sifatida ham talqin etilishi lozim.

Milliy-madaniy konseptning tarkibiy qatlamlari quyidagicha farqlanadi: birinchisi - tushunchaviy (denotativ) qatlam, ya’ni konseptning lug‘aviy-mantiqiy mazmuni; ikkinchisi - obrazli-assotsiativ qatlam, ya’ni konsept bilan bog‘liq metaforik va simvolik tasavvurlar; uchinchisi - qadriyatli-baholovchi qatlam, ya’ni konseptning jamiyat tomonidan qanday baholanishi va emotsional-ekspressiv munosabati. O‘zbek tilidagi “mehmondo‘stlik”, “hashar”, “ustoz-shogird”, “oqsoqol”, “sarpol”, “fotiha” kabi konseptlar aynan shu uch qatlamning uyg‘unligida namoyon bo‘ladi va ular boshqa til-madaniyatlarda to‘liq ekvivalentga ega emas.

Sun’iy intellekt tarjima tizimlarining konseptual ma’noni berish imkoniyatlari

Zamonaviy sun’iy intellekt asosidagi tarjima tizimlari transformer arxitekturasiga asoslangan neyron tarmoqlar yordamida ishlaydi. Bunday tizimlar katta hajmdagi korpus ma’lumotlari asosida so‘zlar va iboralar orasidagi statistik bog‘lanishlarni o‘rganadi, biroq ular til birligining ortida turgan madaniy-kognitiv kontekstni chuqur anglash imkoniyatiga to‘liq ega emas. A.Yo‘ldashev ta’kidlaganidek, sun’iy intellekt



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tabiiy tilni qayta ishlash (NLP) sohasida katta yutuqlarga erishgan bo‘lsa-da, uning semantik va pragmatik tahlil qilish salohiyati hali inson kognitiv tizimi darajasiga yetmagan [10].

S.I.Xolliyeva va G‘.N.Arapovning tadqiqotida ko‘rsatilganidek, sun’iy intellekt sohasiga oid terminlarning o‘zbek tiliga tarjimasida ham semantik buzilish, ma’no torayishi yoki ortiqcha izohlilik kabi hodisalar kuzatiladi, bu esa konseptual muvofiqlikning leksik moslikdan ustunligini ko‘rsatadi [13]. Xuddi shunday holat milliy-madaniy konseptlarning ingliz yoki rus tiliga tarjimasida yanada yaqqolroq namoyon bo‘ladi. Masalan, “hashar” so‘zi ko‘pincha “community work” yoki “collective work” tarzida tarjima qilinadi, biroq bu tarjima konseptning o‘zaro yordam, mahalla birdamligi va ma’naviy majburiyat kabi qadriyatli qatlamlarini to‘liq qamrab olmaydi. Xuddi shunday, “oqsoqol” konsepti “elder” so‘zi bilan berilganda, uning ijtimoiy-huquqiy vakolat va hurmat ma’nosidagi qo‘shimcha assotsiatsiyalari yo‘qolib ketadi.

M.A.Kasimova ta’kidlaganidek, sun’iy intellekt vositalari ta’lim va til o‘rgatish jarayonida shaxsiylashtirilgan yondashuvlarni ta’minlashi mumkin, biroq bu vositalarning samaradorligi ko‘p jihatdan foydalanuvchining tanqidiy fikrlash va madaniy kontekstni izohlash qobiliyatiga bog‘liq bo‘lib qoladi [12]. Bu fikr tarjima jarayoniga ham tatbiq etilishi mumkin: sun’iy intellekt tizimi tomonidan taklif etilgan tarjima variantini inson-tarjimon madaniy-kognitiv bilim asosida tahrir qilishi zarurati saqlanib qolmoqda.

Milliy-madaniy konseptlar tarjimasida lingvokognitiv nomuvofiqlik omillari

Sun’iy intellekt tarjimasida milliy-madaniy konseptlarning noadekvat berilishiga sabab bo‘luvchi asosiy omillarni quyidagicha tasniflash mumkin: birinchidan, ekvivalentsizlik omili - manba tildagi konseptga tarjima tilida to‘liq mos keluvchi birlik mavjud emasligi; ikkinchidan, korpusning nomutanosibli - o‘zbek tiliga oid parallel





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matnlar korpusining ingliz yoki boshqa yirik tillarga nisbatan kamligi, bu esa neyron tizimning konseptual bog‘lanishlarni to‘liq o‘rganishiga to‘sqinlik qiladi; uchinchidan, kontekstual chuqurlikning yetishmasligi - sun’iy intellekt tizimining matn ortidagi ijtimoiy-madaniy pragmatikani anglay olmasligi.

B.Aliyev falsafiy-lingvistik nuqtai nazardan sun’iy intellekt va til, ong munosabatlarini tahlil qilar ekan, mashina tizimlarining hozirgi bosqichda inson ongiga xos bo‘lgan chuqur semantik-pragmatik idrokka ega emasligini alohida ta’kidlaydi [14]. T.Muxtarova ham sun’iy intellektning falsafiy-axloqiy jihatlarini tahlil qilib, texnologik tizimlarning madaniy-qadriyat kontekstini to‘liq izohlash borasidagi cheklovlarini ko‘rsatadi [15]. Bunday xulosalar milliy-madaniy konseptlar tarjimasida inson omilining, xususan tarjimon-muharrirning ishtirokini hozircha muqarrar zarurat sifatida belgilaydi.

Tadqiqot davomida o‘tkazilgan qiyosiy tahlil shuni ko‘rsatdiki, sun’iy intellekt tizimlari denotativ (tushunchaviy) qatlamni nisbatan yuqori aniqlik bilan tarjima qiladi, biroq obrazli-assotsiativ va qadriyatli-baholovchi qatlamlarni ko‘pincha e’tiborsiz qoldiradi yoki neytrallashtiradi. Bu holat, ayniqsa, badiiy va publitsistik matnlar tarjimasida konseptning ekspressiv-emotsional kuchini pasaytirib yuboradi. Shu sababli konseptual tarjima sifatini oshirish uchun quyidagi yondashuvlar taklif etiladi: milliy-madaniy konseptlar lug‘atini (glossariyni) sun’iy intellekt tizimlariga integratsiya qilish; izohli-kontekstli tarjima strategiyasidan (transliteratsiya + qisqa izoh) foydalanish; tarjimon-muharrirning post-tahrir (post-editing) bosqichini majburiy tartibda saqlab qolish; o‘zbek-ingliz (yoki boshqa tillar) parallel korpusini milliy-madaniy konseptlar bo‘yicha maxsus boyitish.

Xulosa

Sun’iy intellekt asosidagi tarjima tizimlari zamonaviy tarjimashunoslikda katta imkoniyatlar ochgan bo‘lsa-da, milliy-madaniy konseptlarning lingvokognitiv tabiati -





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ularning tushunchaviy, obrazli va qadriyatli qatlamlarining o‘zaro uyg‘unligi - hozirgi neyron tarmoqlar uchun hali to‘liq hal etilmagan muammo bo‘lib qolmoqda. Konseptning faqat denotativ ma’nosini emas, balki uning madaniy-kognitiv “yukini” ham saqlab qolgan holda tarjima qilish sun’iy intellekt tizimlarining keyingi rivojlanish bosqichidagi ustuvor vazifalardan biri hisoblanadi.

Tadqiqot natijalari shuni ko‘rsatadiki, milliy-madaniy konseptlar tarjimasi sifatini oshirish uchun sun’iy intellekt texnologiyalarini lingvokulturologik bilim bazalari bilan boyitish, maxsuslashtirilgan korpuslar yaratish hamda inson-tarjimonning nazorat va tahrir funksiyasini saqlab qolish zarur. Kelgusi tadqiqotlarda milliy-madaniy konseptlarning turli janrlardagi (badiiy, ilmiy, publitsistik) matnlarda sun’iy intellekt orqali tarjima qilinishini korpusga asoslangan miqdoriy tahlil asosida chuqurroq o‘rganish maqsadga muvofiqdir.

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Development of Learners' Information and Communication Competence Based on Artificial Intelligence

Baqoyeva Maftuna Sulton Qizi

Abstract

The pedagogical opportunities for developing learners' information and communication competence through the use of artificial intelligence technologies in the educational process are continuously expanding. In the modern educational environment, the ability to search for information, critically evaluate, select, process, and effectively use it through digital tools, as well as properly organize information exchange, is regarded as one of the essential competencies of learners. From this perspective, artificial intelligence technologies serve as a modern pedagogical tool capable of promoting learners' independent inquiry, improving their information-handling skills, and enhancing their communicative activities. This thesis highlights the content of information and communication competence, its structural components, and the possibilities of integrating them with artificial intelligence tools.

Keywords

artificial intelligence, learners, information and communication competence, information culture, digital education, information handling, digital competence, communicative competence.

Sun'iy intellekt asosida ta'lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirish

Baqoyeva Maftuna Sulton Qizi

Annotatsiya. Sun'iy intellekt texnologiyalaridan ta'lim jarayonida foydalanish asosida ta'lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirishning pedagogik imkoniyatlari tobora kengayib bormoqda. Zamonaviy ta'limimizda muhitida axborotni izlash, uni tanqidiy baholash, saralash, qayta ishlash, raqamli vositalar





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yordamida undan samarali foydalanish hamda axborot almashinuvini to'g'ri tashkil etish ta'lim oluvchilarning muhim kompetensiyalaridan biri sifatida qaraladi. Shu nuqtayi nazardan, sun'iy intellekt texnologiyalari ta'lim oluvchilarning mustaqil izlanishi, axborot bilan ishlash ko'nikmalarini takomillashtirishi va kommunikativ faoliyatini faollashtirishi mumkin bo'lgan zamonaviy pedagogik vosita sifatida namoyon bo'ladi. Tezisimizda axborot-kommunikatsiya kompetensiyasining mazmuni, uning tarkibiy jihatlari hamda sun'iy intellekt vositalari bilan uyg'unlashtirish imkoniyatlari yoritilgan.

***Kalit so'zlar:** sun'iy intellekt, ta'lim oluvchilar, axborot-kommunikatsiya kompetensiyasi, axborot madaniyati, raqamli ta'lim, axborot bilan ishlash, raqamli kompetensiya, kommunikativ kompetensiya.*

Kirish. Tezisimizda sun'iy intellekt texnologiyalarining ta'lim jarayonidagi imkoniyatlari hamda ularning ta'lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirishdagi pedagogik ahamiyati yoritiladi. Bugungi kunda raqamli texnologiyalarning jadal rivojlanishi ta'lim oluvchilardan nafaqat tayyor axborotni o'zlashtirishni, balki uni mustaqil izlash, saralash, tahlil qilish, qayta ishlash va amaliy faoliyatda samarali qo'llash ko'nikmalariga ega bo'lishni talab etmoqda. Shu jihatdan axborot-kommunikatsiya kompetensiyasi zamonaviy ta'limning muhim tarkibiy qismlaridan biri sifatida namoyon bo'lmoqda. Tezisimizda sun'iy intellekt asosida ta'lim oluvchilarning axborot bilan ishlash jarayonini takomillashtirish, raqamli vositalardan maqsadli foydalanish, axborotni tahliliy baholash hamda kommunikativ faoliyatni rivojlantirish imkoniyatlari tahlil qilinadi. Ayniqsa, sun'iy intellektga asoslangan platformalar, mobil ilovalar va ChatGPT kabi vositalardan ta'lim jarayonida foydalanish o'quvchilarning mustaqil izlanishi, savol berishi, ma'lumotlarni taqqoslashi va yangi bilimlarni shakllantirishiga yordam berishi mumkin. Mazkur jarayonimizda sun'iy intellektidan foydalanish faqat texnik vositadan foydalanish bilan cheklanmasdan, ta'lim oluvchilarda axborotning ishonchliligini aniqlash, turli manbalarni solishtirish,





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raqamli muhitda to‘g‘ri muloqot qilish va olingan ma’lumotlardan mas’uliyatli foydalanish kompetensiyalarini shakllantirish bilan uyg‘unlashishi lozim. Shuning uchun sun’iy intellekt texnologiyalarini pedagogik jihatdan asoslangan holda ta’lim jarayoniga integratsiya qilish ta’lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirishning samarali yo‘nalishlaridan biri sifatida qaraladi. Tezisimizda mazkur masalaning pedagogik mohiyati, sun’iy intellekt vositalarining ta’lim oluvchilar faoliyatiga ta’siri hamda axborot-kommunikatsiya kompetensiyasini rivojlantirishdagi amaliy imkoniyatlari tahlil qilinadi. Bunda ta’lim jarayonining zamonaviy talablari asosida sun’iy intellektdan foydalanishning afzalliklari bilan bir qatorda, undan foydalanishda axborot xavfsizligi, tanqidiy fikrlash va akademik mas’uliyatni ta’minlash zaruriyati ham e’tiborga olinadi. Ushbu tezisning asosiy maqsadi sun’iy intellekt texnologiyalaridan ta’lim jarayonida samarali foydalanish orqali ta’lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirishning pedagogik imkoniyatlarini aniqlashdan iborat. Shuningdek, sun’iy intellekt vositalari yordamida axborotni izlash, tanlash, tahlil qilish, qayta ishlash va undan maqsadli foydalanish, raqamli texnologiyalar bilan ishlash hamda zamonaviy kommunikatsiya vositalaridan samarali foydalanish ko‘nikmalarini shakllantirish imkoniyatlarini asoslash tadqiqotning muhim maqsadlaridan biridir. Tadqiqotimning predmetini ta’lim jarayonida sun’iy intellekt texnologiyalaridan foydalanish asosida ta’lim oluvchilarning axborot-kommunikatsiya kompetensiyasini rivojlantirish mazmuni, pedagogik shart-sharoitlari, usul va vositalari tashkil etadi. Bunda sun’iy intellektga asoslangan ta’lim platformalari, mobil ilovalar va interaktiv raqamli vositalarning ta’lim oluvchilarning axborot bilan ishlash, raqamli muhitda muloqot qilish, mustaqil izlanish, tanqidiy fikrlash va o‘zlashtirilgan axborotni amaliy faoliyatda qo‘llash kompetensiyalarini rivojlantirishdagi o‘rni asosiy tadqiqot predmeti sifatida belgilanadi.

MUHOKAMA VA NATIJALAR



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Sun'iy intellekt texnologiyalarining ta'lim jarayoniga kirib kelishi axborot-kommunikatsiya kompetensiyasini rivojlantirish uchun yangi pedagogik imkoniyatlarni yuzaga keltirmoqda. Sun'iy intellekt asosidagi vositalar orqali ta'lim oluvchilar kerakli ma'lumotlarni tezkor izlash, o'quv materiallarini umumlashtirish, savollarga javob topish, matnlarni tahlil qilish, turli fikrlarni taqqoslash va o'z bilimlarini mustaqil tekshirish imkoniyatiga ega bo'lmoqda. Bunda sun'iy intellekt ta'lim oluvchining o'rnini bosuvchi vosita sifatida emas, balki uning mustaqil fikrlashi va axborot bilan ishlash faoliyatini qo'llab-quvvatlovchi texnologik vosita sifatida qaralishi maqsadga muvofiq. Axborot-kommunikatsiya kompetensiyasini rivojlantirishda sun'iy intellektning eng muhim imkoniyatlaridan biri individual ta'limni qo'llab-quvvatlashidir. An'anaviy ta'lim jarayonida barcha ta'lim oluvchilarga bir xil topshiriq va materiallar berilishi mumkin. Sun'iy intellekt asosidagi tizimlar esa ta'lim oluvchining bilim darajasi, ehtiyoji va faoliyat natijalariga mos ravishda qo'shimcha savollar, tushuntirishlar va topshiriqlar taklif qilishi mumkin. Masalan, biror mavzu bo'yicha ma'lumot izlayotgan ta'lim oluvchi sun'iy intellekt vositasidan asosiy tushunchalarni aniqlash, mavzuga oid savollar tuzish yoki murakkab tushunchalarni sodda shaklda izohlash uchun foydalanishi mumkin. Natijada ta'lim oluvchining mustaqil ishlash faolligi ortadi. Shuningdek, sun'iy intellekt ta'lim oluvchilarning axborotni tahlil qilish kompetensiyasini rivojlantirishda ham muhim ahamiyatga ega. Ta'lim oluvchi sun'iy intellekt tomonidan taqdim etilgan javobni tayyor va mutlaq haqiqat sifatida qabul qilmasligi, balki uni boshqa ishonchli manbalar bilan taqqoslashi zarur. Aynan shu jarayon tanqidiy fikrlash, axborotning ishonchliligini baholash va mustaqil xulosa chiqarish ko'nikmalarini shakllantiradi. Demak, sun'iy intellektidan samarali foydalanish nafaqat texnik ko'nikmani, balki axborotga nisbatan mas'uliyatli va tanqidiy munosabatni ham talab etadi.

Axborot-kommunikatsiya kompetensiyasining yana bir muhim jihati raqamli kommunikatsiyani tashkil etish bilan bog'liq. Bugungi ta'lim jarayonida elektron pochta,





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videokonferensiya, ta'lim platformalari, messenjerlar, elektron hujjatlar va boshqa raqamli aloqa vositalaridan foydalanish kengayib bormoqda. Sun'iy intellekt ushbu vositalardan foydalanishda ta'lim oluvchilarga matn yaratish, fikrlarni tizimlashtirish, savollar shakllantirish, taqdimot mazmunini tayyorlash va kommunikativ vazifalarni rejalashtirishda yordam berishi mumkin. Bunday faoliyat davomida ta'lim oluvchi raqamli muhitda o'z fikrini aniq, tushunarli va maqsadga muvofiq ifodalashni o'rganadi. Sun'iy intellekt asosida axborot-kommunikatsiya kompetensiyasini rivojlantirish jarayonini bir necha bosqichda tashkil etish mumkin. Dastlab ta'lim oluvchiga muayyan axborot muammosi yoki amaliy vazifa beriladi. Keyingi bosqichda u sun'iy intellekt vositasidan foydalanib dastlabki ma'lumotlarni izlaydi va oladi. Shundan so'ng mazkur ma'lumotlarning mazmuni tahlil qilinadi, boshqa manbalar bilan taqqoslanadi va muhim jihatlar ajratib olinadi. Yakuniy bosqichda esa ta'lim oluvchi o'z xulosasini shakllantirib, uni yozma, og'zaki yoki raqamli shaklda taqdim etadi. Mazkur jarayon axborotni izlashdan boshlab uni qayta ishlash va kommunikatsiya qilishgacha bo'lgan kompetensiyalarni kompleks rivojlantirish imkonini beradi.

XULOSA

Tezisning asosiy xulosasi shundan iboratki, sun'iy intellektning ta'limdagi haqiqiy samarasi undan qanchalik ko'p foydalanishda emas, balki undan qanday pedagogik maqsadda foydalanishda namoyon bo'ladi. Agar sun'iy intellekt faqat tayyor javob olish vositasiga aylantirilsa, ta'lim oluvchining mustaqil fikrlashi va izlanish faolligi pasayishi mumkin. Aksincha, undan savol qo'yish, muammoni tahlil qilish, turli qarashlarni taqqoslash va o'z xulosasini asoslash uchun foydalanish ta'lim oluvchining axborot-kommunikatsiya kompetensiyasini yanada samarali rivojlantiradi. Shunday qilib, sun'iy intellekt texnologiyalaridan pedagogik jihatdan asoslangan foydalanish ta'lim oluvchilarning axborot bilan ishlash, raqamli vositalardan foydalanish, tanqidiy fikrlash, mustaqil ta'lim olish va kommunikativ faoliyatini rivojlantirishga xizmat





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qiladi. Eng muhimi, sun’iy intellekt ta’lim jarayonida maqsadning o’zi emas, balki zamonaviy kompetensiyalarni shakllantirishga xizmat qiluvchi samarali pedagogik vosita sifatida qaralishi lozim.

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MYTHOPOETIC INTERPRETATION OF MARVELOUS OBJECTS IN FOLK EPICS

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Abstract

This thesis analyzes the mythopoetic nature of marvelous objects found in folk epics, as well as their artistic, aesthetic, and symbolic functions. It examines magical weapons, rings, swords, mirrors, horse equipment, enchanted objects, and other supernatural items depicted in epics, highlighting their connections with the fate of the hero, plot development, and mythological thought. Marvelous objects are interpreted not merely as artistic details, but as mythopoetic symbols expressing the ancient worldview, beliefs, and perceptions of people concerning good and evil, protection, power, trials, and salvation. The thesis also demonstrates the role of these images in the hero's epic journey, including their contribution to shaping the hero's passage through trials, achievement of goals, and interaction with supernatural forces. The study analyzes the archaic mythological layers of marvelous objects in folk epics and their artistic transformation based on comparative-typological and mythopoetic approaches.

Keywords

folk epic, marvelous object, mythopoetics, mythological thought, magical object, symbol, epic hero, archaic perception, artistic image, folklore.

XALQ EPOSLARIDA G'AROYIB BUYUMLARNING MIFOPOETIK TALQINI

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Annotatsiya. Ushbu tezisdagi xalq eposlarida uchraydigan g'aroyib buyumlarning



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mifopoetik tabiati, ularning badiiy-estetik va ramziy funksiyalari tahlil qilinadi. Eposlarda tasvirlangan sehrli qurol, uzuk, qilich, ko'zgu, ot anjomlari, tilsimli buyumlar va boshqa g'ayritabiiy predmetlarning qahramon taqdiri, syujet rivoji hamda mifologik tafakkur bilan aloqasi yoritiladi. G'aroyib buyumlar oddiy badiiy detal sifatida emas, balki xalqning qadimiy dunyoqarashi, e'tiqodi, yaxshilik va yovuzlik, himoya, kuch-qudrat, sinov va najot haqidagi tasavvurlarini ifodalovchi mifopoetik timsollar sifatida talqin etiladi. Shuningdek, mazkur obrazlarning qahramonning epik safaridagi funksiyasi, uning sinovlardan o'tishi, maqsadga erishishi va g'ayritabiiy kuchlar bilan munosabatini shakllantirishdagi o'rni ko'rsatib beriladi. Tadqiqotda xalq eposlaridagi g'aroyib buyumlarning arxaik mifologik qatlamlari hamda ularning badiiy transformatsiyasi qiyosiy-tipologik va mifopoetik yondashuvlar asosida tahlil qilinadi.

Kalit so'zlar: xalq eposi, g'aroyib buyum, mifopoetika, mifologik tafakkur, sehrli predmet, ramz, epik qahramon, arxaik tasavvur, badiiy obraz, folklor.

Kirish

Xalq eposlari xalqning tarixiy xotirasi, dunyoqarashi, mifologik tasavvurlari hamda estetik tafakkurini o'zida mujassam etgan muhim folklor janrlaridan biridir. Eposlarda qahramonning shakllanishi, sinovlardan o'tishi, ezgulik va yovuzlik o'rtasidagi kurash jarayoni ko'pincha g'ayritabiiy kuchlar, mifologik obrazlar va sehrli vositalar ishtirokida tasvirlanadi. Ana shunday poetik unsurlar orasida g'aroyib buyumlar alohida o'rin egallaydi.

G'aroyib buyumlar epik asarlarda oddiy predmet darajasida qolmaydi. Ular ko'pincha qahramonning maqsadga erishishiga ko'maklashuvchi, xavfdan himoya qiluvchi, sirli hodisalarni anglashga imkon beruvchi yoki uning alohida maqomini belgilovchi vosita sifatida namoyon bo'ladi. Sehrli qilich, uzuk, ko'zgu, tumor, kiyim, qurol va turli tilsimli predmetlar epik voqelikda muayyan mifologik ma'no kasb etib, xalqning qadimiy e'tiqod va tasavvurlarini badiiy shaklda saqlab qoladi.





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Mifopoetik yondashuv bunday buyumlarning faqat syujetdagi vazifasini emas, balki ularning ramziy va semantik qatlamlarini ham aniqlash imkonini beradi. Chunki g'aroyib predmetlar ko'pincha kuch-qudrat, himoya, taqdir, sinov, meros, sirli bilim va ikki olam o'rtasidagi aloqa kabi tushunchalarni ifodalovchi poetik belgilar sifatida shakllanadi.

Mazkur mavzuning dolzarbligi xalq eposlaridagi g'aroyib buyumlarni tizimli ravishda o'rganish orqali folklor matnlarida saqlangan arxaik mifologik qarashlarni, ularning badiiy transformatsiyasini hamda epik qahramon konsepsiyasidagi o'rnini aniqlash mumkinligi bilan belgilanadi. Shu jihatdan g'aroyib buyumlarning mifopoetik talqini xalq eposlarining ichki poetik tizimini chuqurroq anglashga xizmat qiladi.

Asosiy qism

Xalq eposlarida g'aroyib buyumlar mifologik tafakkurning badiiylashgan ko'rinishlaridan biri sifatida namoyon bo'ladi. Ularning asosiy xususiyati shundaki, predmet oddiy maishiy yoki jangovar vosita bo'lish doirasidan chiqib, g'ayritabiiy kuch, ramziy ma'no va alohida funksiyaga ega bo'ladi. Shu bois epik matnda qilich, uzuk, tumor, ko'zgu, kamon, zirh yoki boshqa predmetning "g'aroyib" sifat kasb etishi uning tashqi ko'rinishi bilan emas, balki qahramon taqdiri va mifologik makon bilan bog'liq funksiyasi orqali belgilanadi.

G'aroyib buyumlarning kelib chiqishida arxaik dunyoqarash izlari yaqqol seziladi. Qadimgi inson tafakkurida ayrim predmetlarga alohida kuch, himoya xususiyati yoki muqaddaslik nisbat berilgan. Keyinchalik ana shu qarashlar epik tafakkurga singib, predmetlarning badiiy obraz darajasiga ko'tarilishiga sabab bo'lgan. Natijada xalq eposlarida buyum shunchaki qahramon foydalanadigan vosita emas, balki uning taqdirini belgilovchi, sinovlardan o'tishiga yordam beruvchi yoki uning alohida maqomini tasdiqlovchi poetik belgiga aylanadi. Masalan, epik qahramonga tegishli qilich yoki boshqa qurol ko'pincha oddiy jang vositasi sifatida tasvirlanmaydi. Uning





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g‘ayrioddiy mustahkamligi, dushmanga qarshi mislsiz kuchi, faqat muayyan qahramon tomonidan ishlatilishi kabi belgilar qurolni mifopoetik timsolga aylantiradi. Bunday qurol qahramonning kuch-qudratini ifodalash bilan birga, uning adolatni tiklash vazifasini ham ramziy jihatdan mustahkamlaydi. Shu ma’noda sehrli yoki g‘aroyib qurol qahramonlik konsepsiyasining predmetlashgan shaklidir.

Uzuk, tumor, belbog‘, kiyim-kechak va boshqa kichik predmetlar esa ko‘proq himoya, tanib olish, nasl-nasab yoki taqdir belgisi sifatida namoyon bo‘ladi. Ayniqsa, qahramonga ajdodlardan meros bo‘lib qolgan yoki homiy obraz tomonidan berilgan buyumlarda “merosiy kuch” semantikasi kuchli kuzatiladi. Bunday predmet qahramonni o‘z avlodlari bilan bog‘lab, epik xotiraning davomiyligini ta’minlaydi. Demak, buyum orqali individual qahramon taqdiri jamoaviy va ajdodiy xotira bilan tutashtiriladi.

G‘aroyib ko‘zgu, sirli kitob yoki yashirin voqealarni ma’lum qiluvchi boshqa predmetlarda esa bilish motivi yetakchilik qiladi. Ular qahramonga odatiy sezgi va tajriba orqali anglab bo‘lmaydigan hodisalarni ko‘rish imkonini beradi. Bunday buyumlar xalqning sirli bilim, bashorat va noma’lum olam haqidagi mifologik tasavvurlarining badiiy ifodasi sifatida qaralishi mumkin. Ularning yordamida epik makon kengayadi, qahramonning oddiy insoniy imkoniyatlari g‘ayritabiiy darajaga ko‘tariladi.

G‘aroyib buyumlarning muhim jihatlaridan yana biri — ularning qahramon sinovi bilan bog‘liqligidir. Ko‘pincha bunday predmet qahramonga tasodifan nasib etmaydi. Uni olish uchun qahramon jasorat, sadoqat, aql-zakovat yoki ma’naviy yetuklikni namoyon qilishi talab etiladi. Shunday qilib, buyumning qo‘lga kiritilishi qahramonning yangi bosqichga o‘tishini bildiradi. Bu esa mifopoetik jihatdan “sinov — munosiblik — mukofot” modelini yuzaga chiqaradi.

Shu jihatdan xalq eposlaridagi g‘aroyib buyumlarni uch yo‘nalishda baholash mumkin: birinchidan, ular syujetni harakatga keltiruvchi badiiy vosita; ikkinchidan,





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qahramonning alohida maqomini ko'rsatuvchi ramziy belgi; uchinchidan esa xalqning qadimiy mifologik tasavvurlarini saqlab qolgan semantik koddir. Aynan mana shu uchlik g'aroyib buyumlarning epos poetikasidagi o'rnini belgilaydi.

Xulosa

Xalq eposlarida g'aroyib buyumlar epik tafakkurning muhim mifopoetik unsurlaridan biri sifatida namoyon bo'ladi. Ular voqealar rivojiga xizmat qiluvchi oddiy predmet emas, balki qahramonning maqomi, taqdiri, sinovlari va g'ayritabiiy olam bilan aloqasini belgilovchi ramziy vositalardir. Shu sababli g'aroyib buyumlarning semantikasi eposning umumiy poetik tizimi bilan uzviy bog'liq holda shakllanadi.

Tahlillar shuni ko'rsatadiki, bunday buyumlar bir necha asosiy funksiyani bajaradi: qahramonni himoya qiladi, unga qo'shimcha kuch beradi, yashirin bilimga yo'l ochadi, murakkab sinovlardan o'tishiga yordam beradi va epik makonlar o'rtasida vositachilik qiladi. Ayniqsa, buyumning qahramonga tasodifan emas, balki muayyan sinov, meros yoki homiylik orqali berilishi uning mifopoetik mazmunini kuchaytiradi.

G'aroyib buyumlarning arxaik ildizlari xalqning qadimiy e'tiqodlari, sehrli kuch, himoya, taqdir, nasl-nasab va sirli bilim haqidagi tasavvurlari bilan bog'liq. Epik matnda ushbu qadimiy qarashlar to'g'ridan to'g'ri emas, balki badiiy transformatsiyaga uchragan holda saqlanadi. Shu bois g'aroyib buyumlar xalq eposlarida mifologik tafakkur va badiiy tasvir o'rtasidagi muhim bog'lovchi vosita sifatida xizmat qiladi.

Demak, xalq eposlaridagi g'aroyib buyumlarni mifopoetik nuqtai nazardan o'rganish epik asarlarning semantik qatlamini chuqurroq anglash, qahramon obrazining shakllanish mexanizmlarini aniqlash hamda xalqning arxaik dunyoqarashi qanday qilib badiiy tizimga aylanganini ko'rsatishda muhim ilmiy ahamiyatga ega.

Keyingi qism — foydalanilgan adabiyotlar ro'yxati bo'ladi. Tezis uchun manbalarni mavzuga bevosita aloqador holda quyidagicha berish mumkin:

Foydalanilgan adabiyotlar



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IMPROVING CRITERIA FOR ASSESSING THE QUALITY OF EDUCATION IN A DIGITAL LEARNING ENVIRONMENT

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Abstract

This thesis analyzes issues related to improving criteria for assessing the quality of education in a digital learning environment. It substantiates that the widespread implementation of digital platforms, distance and blended learning, electronic resources, and artificial intelligence tools in the modern educational process requires new approaches to assessing educational quality. Alongside traditional assessment criteria, the study highlights the need to consider learners' digital competence, independent learning skills, activity on educational platforms, the dynamics of learning material acquisition, level of interactivity, quality of feedback, and effectiveness of using digital resources. Particular attention is also paid to learning outcomes, transparency, individual development trajectories, and the use of analytical data in assessing educational quality. The thesis interprets the development of comprehensive assessment criteria adapted to the digital learning environment as an important factor in improving the effectiveness of the educational process, identifying learners' individual needs, and enhancing management decisions.

Keywords

digital education, educational quality, assessment criteria, digital competence, learning analytics, interactivity, feedback, individual learning trajectory, distance learning, blended learning.

**RAQAMLI TA'LIM MUHITIDA TA'LIM SIFATINI BAHOLASH MEZONLARINI
TAKOMILLASHTIRISH**

Ismailov Azam Kuldashevich



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Annotatsiya. Ushbu tezisdagi raqamli ta'lim muhitida ta'lim sifatini baholash mezonlarini takomillashtirish masalalari tahlil qilinadi. Zamonaviy ta'lim jarayonida raqamli platformalar, masofaviy va aralash ta'lim, elektron resurslar hamda sun'iy intellekt vositalarining keng joriy etilishi ta'lim sifatini baholashga nisbatan yangi yondashuvlarni talab etayotgani asoslab beriladi. An'anaviy baholash mezonlari bilan bir qatorda o'quvchilarning raqamli kompetensiyasi, mustaqil ta'lim olish ko'nikmasi, platformadagi faolligi, o'quv materiallarini o'zlashtirish dinamikasi, interaktivlik darajasi, teskari aloqa sifati va raqamli resurslardan foydalanish samaradorligini hisobga olish zarurligi ko'rsatib beriladi. Shuningdek, ta'lim sifatini baholashda natijaviylik, shaffoflik, individual rivojlanish trayektoriyasi va analitik ma'lumotlardan foydalanish imkoniyatlariga alohida e'tibor qaratiladi. Tezisdagi raqamli ta'lim muhitiga mos kompleks baholash mezonlarini shakllantirish ta'lim jarayonining samaradorligini oshirish, ta'lim oluvchilarning individual ehtiyojlarini aniqlash va boshqaruv qarorlarini takomillashtirishning muhim omili sifatida talqin etiladi.

Kalit so'zlar: raqamli ta'lim, ta'lim sifati, baholash mezonlari, raqamli kompetensiya, ta'lim analitikasi, interaktivlik, teskari aloqa, individual ta'lim trayektoriyasi, masofaviy ta'lim, aralash ta'lim.

KIRISH

Raqamli transformatsiya ta'lim tizimining mazmuni, tashkiliy shakllari va natijalarini baholash mexanizmlariga sezilarli ta'sir ko'rsatmoqda. Elektron ta'lim platformalari, masofaviy va aralash ta'lim modellarining kengayishi, raqamli kontent hamda sun'iy intellektga asoslangan vositalarning ta'lim jarayoniga kirib kelishi natijasida ta'lim sifati tushunchasi ham murakkablashib bormoqda. Endilikda ta'lim sifatini faqat yakuniy nazorat natijalari yoki o'zlashtirish ko'rsatkichlari bilan baholash yetarli emas.



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Raqamli ta'lim muhitida ta'lim sifati ko'p komponentli tizim sifatida namoyon bo'ladi. Bunda o'quv materiallarining sifati, platformaning funksional imkoniyatlari, o'qituvchi va ta'lim oluvchi o'rtasidagi teskari aloqa, raqamli vositalardan foydalanish darajasi, ta'lim oluvchining mustaqil ishlash faolligi, individual rivojlanish dinamikasi hamda o'quv jarayonining moslashuvchanligi muhim mezonlarga aylanadi. Shu sababli baholash tizimini raqamli ta'limning real xususiyatlariga moslashtirish zarurati yuzaga keladi.

An'anaviy baholash yondashuvlarida ko'pincha natijaga yo'naltirilgan ko'rsatkichlar ustunlik qiladi. Raqamli muhit esa jarayon haqidagi katta hajmdagi ma'lumotlarni ham shakllantiradi. Masalan, platformaga kirish chastotasi, topshiriqlarni bajarish muddati, o'quv resurslaridan foydalanish faolligi, qayta urinishlar soni, test natijalarining o'zgarish dinamikasi va forum yoki muhokamalardagi ishtirok o'quv jarayonining sifatini chuqurroq tahlil qilish imkonini beradi. Bu esa ta'lim analitikasidan foydalanishga asoslangan yangi baholash modelini shakllantirish uchun zamin yaratadi.

Raqamli ta'lim sifatini baholashda yana bir muhim mezon — ta'lim oluvchining individual rivojlanish trayektoriyasini hisobga olishdir. Bir xil yakuniy natija turli o'quvchilar uchun turlicha pedagogik mazmunga ega bo'lishi mumkin. Shu bois baholashda faqat yakuniy ball emas, balki boshlang'ich daraja, rivojlanish sur'ati, o'zlashtirish dinamikasi va individual o'quv ehtiyojlari ham e'tiborga olinishi lozim.

Mavzuning dolzarbligi raqamli ta'lim muhitida ta'lim sifatini baholashga doir mezonlarni tizimlashtirish, ularni an'anaviy ko'rsatkichlar bilan integratsiya qilish va raqamli ma'lumotlardan foydalanishga asoslangan kompleks baholash modelini ishlab chiqish zarurati bilan belgilanadi. Bunday yondashuv ta'lim jarayonining real holatini aniqroq baholash, kamchiliklarni erta aniqlash va ta'lim sifatini oshirishga qaratilgan boshqaruv qarorlarini asosli qabul qilish imkonini beradi. Mazkur tezisning maqsadi raqamli ta'lim muhitida ta'lim sifatini baholash mezonlarining mazmunini tahlil qilish,





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mavjud yondashuvlarning cheklovlarini aniqlash hamda ularni takomillashtirishga doir pedagogik va tashkiliy mezonlarni asoslashdan iborat.

ASOSIY QISM

Raqamli ta’lim muhitida ta’lim sifatini baholash an’anaviy nazorat vositalaridan farqli ravishda ko’p mezonli yondashuvni talab etadi. Chunki raqamli muhitda ta’lim natijasi bilan bir qatorda o’quv jarayonining qanday tashkil etilgani, ta’lim oluvchining platformadagi faolligi, resurslardan foydalanish darajasi, topshiriqlarni bajarish sur’ati va teskari aloqaning sifati ham muhim ahamiyat kasb etadi. Shu sababli baholash mezonlari faqat “nimani o’zlashtirdi?” savoliga emas, balki “qanday o’rgandi?”, “qanday rivojlandi?” va “qaysi raqamli vositalar o’zlashtirishga ko’proq ta’sir ko’rsatdi?” kabi savollarga ham javob berishi lozim.

Ta’lim sifatini baholashda birinchi muhim yo’nalish o’quv natijalarining aniqligi va o’lchanuvchanligidir. Raqamli platformalarda test, topshiriq, loyiha va interaktiv mashqlar natijalari avtomatik qayd etiladi. Bu esa nafaqat yakuniy natijani, balki oraliq o’zgarishlarni ham kuzatish imkonini beradi. Masalan, bir mavzu bo’yicha dastlabki va keyingi natijalar o’rtasidagi farq ta’lim oluvchining rivojlanish dinamikasini ko’rsatadi. Demak, raqamli muhitda baholash bir martalik natijadan ko’ra rivojlanish jarayonini aks ettiruvchi dinamik mezonlarga tayanishi maqsadga muvofiq. Ikkinchi muhim mezon ta’lim oluvchining raqamli faolligidir. Bunda platformaga kirish chastotasi, topshiriqlarni o’z vaqtida bajarish, elektron resurslardan foydalanish, forum va muhokamalardagi ishtirok kabi ko’rsatkichlar hisobga olinishi mumkin. Biroq ushbu ko’rsatkichlarni to’g’ridan-to’g’ri ta’lim sifati bilan tenglashtirish to’g’ri emas. Masalan, platformaga ko’p kirish har doim ham chuqur o’zlashtirishni anglatmaydi. Shu sababli raqamli faollik o’quv natijalari bilan birgalikda kompleks tarzda baholanishi kerak.

Uchinchi mezon sifatida teskari aloqaning tezligi va sifati alohida ahamiyat kasb etadi. Raqamli ta’limda o’qituvchi tomonidan berilgan o’z vaqtida va mazmunli fikr-





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mulohaza ta’lim oluvchining xatolarini anglashiga, o’z faoliyatini qayta ko’rib chiqishiga va keyingi topshiriqlarda natijani yaxshilashiga xizmat qiladi. Shuning uchun faqat baho qo’yish emas, balki izohli, individual va konstruktiv teskari aloqa berilishi ham ta’lim sifati mezonlari sifatida qaralishi lozim.

To’rtinchi muhim ko’rsatkich ta’lim oluvchining raqamli kompetensiyasidir. Raqamli muhitda samarali ta’lim olish uchun axborotni izlash, saralash, tekshirish, elektron resurslardan maqsadli foydalanish, raqamli xavfsizlik qoidalariga rioya qilish va turli platformalarda mustaqil ishlash ko’nikmalari zarur. Shu sababli ta’lim sifatini baholash tizimiga raqamli kompetensiyani aniqlovchi mezonlarni kiritish o’quv natijalarini yanada to’liq baholash imkonini beradi.

Beshinchi yo’nalish o’quv kontentining sifati bilan bog’liq. Raqamli ta’lim muhitida matn, video, animatsiya, simulyatsiya va interaktiv topshiriqlardan foydalanish imkoniyati mavjud. Biroq raqamli kontentning ko’pligi uning sifatini anglatmaydi. Kontent o’quv maqsadlariga mos, ilmiy jihatdan ishonchli, tushunarli, foydalanuvchi uchun qulay va turli darajadagi ta’lim oluvchilar uchun moslashtirilgan bo’lishi kerak. Demak, raqamli resurslarning didaktik qiymati ham baholash mezonlari tarkibiga kiritilishi zarur.

Shuningdek, ta’lim sifatini baholashda individual ta’lim trayektoriyasiga e’tibor qaratish muhim. Raqamli platformalar har bir ta’lim oluvchi bo’yicha alohida ma’lumot to’plash imkonini beradi. Ushbu ma’lumotlar yordamida kuchli va zaif tomonlarni aniqlash, murakkab mavzularni belgilash va individual tavsiyalar ishlab chiqish mumkin. Bu esa baholashni standartlashtirilgan natijalarni qayd etishdan shaxsiy rivojlanishni qo’llab-quvvatlovchi mexanizmga aylantiradi.

Shu jihatdan raqamli ta’lim muhitida ta’lim sifatini baholash mezonlarini natijaviylik, faollik, teskari aloqa, raqamli kompetensiya, kontent sifati va individual rivojlanish kabi o’zaro bog’liq bloklar asosida shakllantirish maqsadga muvofiqdir.



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Bunday kompleks yondashuv ta’lim jarayonining faqat yakuniy natijasini emas, balki uning sifati va samaradorligini ham aniqroq baholash imkonini beradi.

TA’LIM SIFATINI BAHOLASH MEZONLARINI TAKOMILLASHTIRISH
YO’NALISHLARI

Raqamli ta’lim muhitida ta’lim sifati baholash tizimini takomillashtirish, avvalo, baholashning faqat yakuniy natijaga yo’naltirilgan modelidan voz kechib, jarayon va natijani birgalikda qamrab oluvchi integrallashgan yondashuvni shakllantirishni talab etadi. Bunda ta’lim oluvchining bilim darajasi bilan bir qatorda uning o’quv faolligi, mustaqil ishlash ko’nikmasi, raqamli resurslardan foydalanish sifati, teskari aloqa asosida rivojlanish dinamikasi va individual o’quv trayektoriyasi ham hisobga olinishi zarur.

Baholash mezonlarini takomillashtirishning birinchi yo’nalishi sifatida natijaviylik ko’rsatkichlarini diversifikatsiya qilish mumkin. Ya’ni ta’lim natijasi faqat test ballari yoki yakuniy baho orqali emas, balki topshiriqlarning murakkablik darajasi, amaliy vazifalarni bajarish sifati, muammoli vaziyatlarda bilimni qo’llash, ijodiy faoliyat va mustaqil qaror qabul qilish ko’rsatkichlari asosida ham baholanishi lozim. Bu yondashuv ta’lim sifati yanada obyektiv aniqlashga yordam beradi.

Ikkinchi yo’nalish — ta’lim analitikasidan foydalanishni kengaytirishdir. Raqamli platformalarda to’plangan ma’lumotlar o’quv jarayonining real holatini aniqlash uchun muhim manba bo’lib xizmat qiladi. Masalan, topshiriqlarni bajarish vaqti, qayta urinishlar soni, ayrim mavzularda kuzatilayotgan qiyinchiliklar, platformadagi faollik hamda o’zlashtirish dinamikasi tahlil qilinishi mumkin. Ushbu ma’lumotlar asosida o’qituvchi va ta’lim boshqaruvi subyektlari o’z vaqtida pedagogik qarorlar qabul qilishi mumkin.

Uchinchi yo’nalish — baholashning shaffofligini oshirishdir. Raqamli muhitda mezonlar oldindan aniq belgilanishi, ta’lim oluvchi qanday faoliyat uchun qanday ball





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olishini bilishi lozim. Bunda rubrikalar, elektron baholash jadvallari, avtomatik hisobotlar va individual natijalar monitoringidan foydalanish samarali hisoblanadi. Shaffof baholash ta’lim oluvchining o’z faoliyatiga nisbatan mas’uliyatini oshiradi va subyektiv baholash ehtimolini kamaytiradi.

To’rtinchi yo’nalish sifatida individual rivojlanishni baholash tizimini joriy etish muhimdir. Raqamli muhit har bir ta’lim oluvchining boshlang’ich darajasi va keyingi o’sishini alohida kuzatish imkonini beradi. Shu sababli baholashda umumiy standart bilan birga shaxsiy rivojlanish dinamikasi ham hisobga olinishi kerak. Bu, ayniqsa, turli tayyorgarlik darajasiga ega bo’lgan ta’lim oluvchilar bilan ishlashda muhim ahamiyat kasb etadi.

Beshinchi yo’nalish — teskari aloqani baholash tizimining ajralmas komponentiga aylantirishdir. Ta’lim sifati faqat natija bilan emas, balki xatolarni aniqlash, ularni tushuntirish va to’g’rilash jarayonining samaradorligi bilan ham belgilanadi. Shu sababli o’qituvchi tomonidan berilgan fikr-mulohazaning tezligi, mazmunliligi va individual yo’naltirilganligi ham sifat mezonlari tarkibida aks etishi zarur.

Oltinchi yo’nalish sifatida raqamli kompetensiyani baholashni kiritish mumkin. Raqamli ta’limda o’quvchi faqat fan mazmunini o’zlashtirishi emas, balki axborotni izlash, tahlil qilish, tekshirish, xavfsiz foydalanish, raqamli vositalar yordamida hamkorlik qilish va yangi kontent yaratish ko’nikmalarini ham egallashi kerak. Shu bois raqamli kompetensiya ta’lim sifatini ifodalovchi muhim indikator sifatida qaralishi lozim.

Bundan tashqari, raqamli ta’lim muhitida baholashning ishonchliligi va akademik halollik masalasi ham alohida ahamiyatga ega. Onlayn testlar, masofaviy topshiriqlar va sun’iy intellekt vositalaridan foydalanish sharoitida baholashning haqiqiylikini ta’minlash uchun autentik topshiriqlar, loyiha ishlari, reflektiv vazifalar va jarayonli baholash usullaridan keng foydalanish maqsadga muvofiq.





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Shunday qilib, raqamli ta'lim muhitida ta'lim sifatini baholash mezonlarini takomillashtirish natija, jarayon, raqamli faollik, individual rivojlanish, teskari aloqa, raqamli kompetensiya va akademik halollik kabi mezonlarni yagona tizimda birlashtirishni talab etadi. Ana shunday kompleks model ta'lim sifatini ancha to'liq va xolis baholash imkonini beradi.

XULOSA

Raqamli ta'lim muhitining jadal rivojlanishi ta'lim sifatini baholashga nisbatan an'anaviy yondashuvlarni qayta ko'rib chiqishni talab etmoqda. Chunki zamonaviy raqamli ta'limda natija faqat yakuniy baho yoki test ko'rsatkichlari bilan emas, balki ta'lim oluvchining o'quv jarayonidagi faolligi, individual rivojlanish dinamikasi, raqamli kompetensiyasi, teskari aloqa sifati va elektron resurslardan foydalanish samaradorligi bilan ham belgilanadi.

Tahlil shuni ko'rsatadiki, raqamli ta'lim sifatini baholashda kompleks va ko'p mezonli modeldan foydalanish maqsadga muvofiqdir. Bunday model natijaviylik, jarayon sifati, ta'lim analitikasi, raqamli faollik, individual ta'lim trayektoriyasi, teskari aloqa, raqamli kompetensiya va akademik halollik kabi o'zaro bog'liq indikatorlarni qamrab olishi kerak. Aynan shu yondashuv ta'lim oluvchining faqat yakuniy natijasini emas, balki uning o'quv jarayonidagi rivojlanishini ham obyektiv baholash imkonini beradi.

Raqamli platformalarda to'planadigan ma'lumotlardan samarali foydalanish baholash tizimini diagnostik va prognozlash xususiyatiga ega mexanizmga aylantiradi. O'quv faolligi, topshiriqlarni bajarish sur'ati, qayta urinishlar soni, o'zlashtirishdagi qiyinchiliklar va natijalar dinamikasini tahlil qilish orqali ta'lim jarayonidagi muammolarni erta aniqlash hamda individual pedagogik choralarni belgilash mumkin.

Shuningdek, baholash mezonlarini takomillashtirishda ularning shaffofligi, ishonchliligi va tushunarlilikini ta'minlash muhimdir. Ta'lim oluvchi baholash





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mezonlarini oldindan bilishi, o‘z natijalarini kuzatishi va teskari aloqa asosida o‘z faoliyatini takomillashtirish imkoniyatiga ega bo‘lishi zarur. Bu ta’lim sifatini oshirish bilan birga, ta’lim oluvchining mas’uliyati va mustaqilligini ham rivojlantiradi.

Demak, raqamli ta’lim muhitida ta’lim sifatini baholash mezonlarini takomillashtirish an’anaviy baholash usullarini raqamli analitika, individual rivojlanish va kompetensiyaviy yondashuvlar bilan integratsiya qilishni talab etadi. Mazkur yondashuv ta’lim sifatini aniqroq baholash, boshqaruv qarorlarini ilmiy asoslash va ta’lim jarayonini doimiy ravishda takomillashtirish imkonini beradi.

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FREQUENCY OF CLINICAL SYMPTOMS AND THEIR COMPARATIVE ANALYSIS IN WOMEN WITH NONSPECIFIC CERVICITIS

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Abstract

This thesis examines the characteristics, frequency, and comparative features of the main clinical symptoms observed in women with nonspecific cervicitis. The study analyzes the prevalence of pathological vaginal discharge, lower abdominal pain, discomfort or pain during sexual intercourse, contact bleeding, dysuric symptoms, and other clinical manifestations. Clinical signs are also comparatively assessed in relation to patients' age, disease duration, reproductive status, and characteristics of the clinical course of the inflammatory process. It is emphasized that nonspecific cervicitis may sometimes have a mild or asymptomatic course, increasing the need for early diagnosis and comprehensive assessment of clinical manifestations. The practical significance of the study lies in systematizing the clinical signs characteristic of nonspecific cervicitis, determining their diagnostic significance, and improving approaches to patient examination and follow-up.

Keywords

nonspecific cervicitis, cervical inflammation, clinical symptoms, frequency of occurrence, vaginal discharge, pelvic pain, contact bleeding, comparative analysis, diagnosis, reproductive health.

**NOSPETSIFIK SERVITSIT BILAN KASALLANGAN AYOLLARDA KLINIK
SIMPTOMLARNING UCHRASH CHASTOTASI VA ULARNING QIYOSIY
TAHLILI**



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*Sohibova Gulnoza Komilovna - Toshkent davlat tibbiyot universiteti Akusherlik
va ginekologiya kafedrasi tayanch doktoranti*

Annotatsiya. Ushbu tezisdanospetsifik servitsit bilan kasallangan ayollarda uchraydigan asosiy klinik simptomlarning namoyon bo'lish xususiyatlari, ularning uchrash chastotasi hamda qiyosiy tavsifi o'rganiladi. Tadqiqot doirasida patologik vaginal ajralmalar, qorin pastki qismidagi og'riq, jinsiy aloqada noqulaylik yoki og'riq, kontakt qon ketishi, dizurik belgilar va boshqa klinik simptomlarning uchrash darajasi tahlil qilinadi. Shuningdek, klinik belgilar bemorlarning yoshi, kasallik davomiyligi, reproduktiv holati va yallig'lanish jarayonining klinik kechish xususiyatlari bilan qiyosiy baholanadi. Nospetsifik servitsitning ayrim holatlarda kam simptomli yoki yashirin kechishi erta tashxis qo'yish va klinik belgilarni kompleks baholash zaruratini oshirishi ta'kidlanadi. Tadqiqotning amaliy ahamiyati nospetsifik servitsitga xos klinik belgilarni tizimlashtirish, ularning diagnostik ahamiyatini aniqlash hamda bemorlarni tekshirish va kuzatish taktikasini takomillashtirishga qaratilgan.

Kalit so'zlar: nospetsifik servitsit, bachadon bo'yni yallig'lanishi, klinik simptomlar, uchrash chastotasi, vaginal ajralma, tos sohasidagi og'riq, kontakt qon ketishi, qiyosiy tahlil, diagnostika, reproduktiv salomatlik.

KIRISH

Ayollar reproduktiv tizimi kasalliklari orasida bachadon bo'yni yallig'lanish jarayonlari, xususan nospetsifik servitsit, ginekologik amaliyotda keng uchraydigan patologiyalardan biri hisoblanadi. Mazkur kasallik bachadon bo'yni shilliq qavatining yallig'lanishi bilan tavsiflanib, turli klinik belgilar bilan namoyon bo'lishi yoki ayrim hollarda kam simptomli kechishi mumkin. Shu sababli nospetsifik servitsitni erta aniqlash va samarali davolash reproduktiv salomatlikni saqlashda muhim ahamiyat kasb etadi.

Nospetsifik servitsit ko'pincha opportunistik mikroorganizmlar, vaginal mikrobiotsenoz buzilishi, mahalliy himoya mexanizmlarining susayishi, mexanik ta'sirlar yoki





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boshqa yallig'lanish jarayonlari fonida rivojlanishi mumkin. Kasallikning klinik ko'rinishi bemorning individual xususiyatlari, immun holati, yallig'lanish jarayonining davomiyligi va unga hamroh bo'lgan ginekologik kasalliklarga bog'liq ravishda farqlanadi.

Mazkur patologiyada eng ko'p uchraydigan klinik belgilar qatoriga vaginal ajralmalar ko'payishi, qorin pastki qismida og'riq yoki noqulaylik hissi, jinsiy aloqa vaqtida og'riq (dispareuniya), bachadon bo'yniga tegish bilan bog'liq qon ketishlar, achishish va siydik chiqarish bilan bog'liq ayrim noqulayliklar kiradi. Biroq ushbu simptomlarning namoyon bo'lish darajasi barcha bemorlarda bir xil emas. Ayrim ayollarda kasallik yaqqol klinik belgilar bilan kechsa, boshqalarida faqat profilaktik ko'rik vaqtida aniqlanishi mumkin.

Nospetsifik servitsitda klinik simptomlarning uchrash chastotasini o'rganish kasallikning klinik xususiyatlarini chuqurroq tushunish, asosiy diagnostik belgilarni aniqlash va bemorlarni tekshirish algoritmlarini takomillashtirish imkonini beradi. Ayniqsa, turli klinik belgilarni qiyosiy tahlil qilish shifokorga kasallikning ehtimoliy kechishini baholash, qo'shimcha tekshiruvlarni belgilash va individual davolash yondashuvini tanlashda yordam beradi.

Mavzuning dolzarbligi shundaki, nospetsifik servitsit ko'pincha boshqa urogenital yallig'lanish kasalliklari bilan o'xshash klinik ko'rinishga ega bo'lib, differensial diagnostikada muayyan qiyinchiliklar tug'diradi. Shu sababli kasallikda kuzatiladigan simptomlarning chastotasi va o'zaro bog'liqligini aniqlash klinik amaliyot uchun muhim ilmiy-amaliy ahamiyatga ega. Ushbu tezisning maqsadi nospetsifik servitsit bilan kasallangan ayollarda asosiy klinik simptomlarning uchrash chastotasini aniqlash, ularni qiyosiy tahlil qilish hamda kasallikning klinik xususiyatlarini baholashdan iborat.

ASOSIY QISM

Nospetsifik servitsit bilan kasallangan ayollarda klinik simptomlarning namoyon bo'lishi kasallikning davomiyligi, yallig'lanish jarayonining faolligi, mikrobiologik



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omillar, bemorning immun holati va reproduktiv tizimning umumiy holatiga bog'liq holda turlicha kechadi. Shu sababli klinik belgilarni tizimli ravishda o'rganish va ularning uchrash chastotasini aniqlash kasallik diagnostikasi hamda davolash samaradorligini oshirishda muhim ahamiyatga ega.

Nospetsifik servitsitning eng ko'p uchraydigan belgilaridan biri patologik vaginal ajralmalarning kuzatilishidir. Ushbu simptom bachadon bo'yni shilliq qavatidagi yallig'lanish jarayoni natijasida sekretor faoliyatning oshishi bilan bog'liq bo'lib, bemorlarning asosiy shikoyatlaridan biri hisoblanadi. Ajralmalarning miqdori, rangi, konsistensiyasi va davomiyligi yallig'lanish jarayonining xususiyatlarini baholashda muhim diagnostik ko'rsatkich bo'lib xizmat qiladi.

Klinik kuzatuvlarda qorin pastki qismidagi og'riq yoki tos sohasidagi noqulaylik hissi ham nospetsifik servitsit bilan bog'liq tez-tez uchraydigan belgilar qatoriga kiradi. Ushbu simptom yallig'lanish jarayonining atrof to'qimalarga ta'siri, bachadon bo'yni va kichik chanoq a'zolaridagi reflektor o'zgarishlar bilan izohlanadi. Og'riq sindromi-ning kuchi va davomiyligi kasallikning kechish shakliga qarab farqlanishi mumkin.

Jinsiy aloqa vaqtida og'riq (dispareuniya) ham ayrim bemorlarda uchraydigan muhim klinik belgidir. Ushbu holat bachadon bo'yni shilliq qavatining yallig'lanishi, sezgirlikning oshishi va mahalliy to'qimalardagi o'zgarishlar bilan bog'liq bo'lishi mumkin. Dispareuniya bemorning hayot sifatiga ta'sir qiluvchi omillardan biri sifatida baholanadi.

Nospetsifik servitsitda kontakt qon ketishi ham diagnostik jihatdan ahamiyatli simptomlardan biridir. Bachadon bo'yni yallig'langan holatda uning shilliq qavati noziklashadi, qon tomirlarining mo'rtligi oshadi va mexanik ta'sir natijasida qon ajralishi kuzatilishi mumkin. Ushbu belgi boshqa bachadon bo'yni patologiyalari bilan differensial diagnostika o'tkazishni talab qiladi.

Bundan tashqari, ayrim bemorlarda siydik chiqarishda achishish, qichishish, tashqi jinsiy a'zolarida noqulaylik kabi simptomlar ham uchrashi mumkin. Ushbu belgilar



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ko'pincha urogenital tizimning boshqa yallig'lanish kasalliklari bilan birga kechishi yoki yallig'lanish jarayonining kengroq tarqalganligini ko'rsatishi mumkin.

Klinik simptomlarning uchrash chastotasini qiyosiy baholashda bemorlarni yosh guruhlari, kasallik davomiyligi va klinik kechish shakllari bo'yicha taqqoslash muhim hisoblanadi. Masalan, reproduktiv yoshdagi ayollarda vaginal ajralmalar va jinsiy aloqa bilan bog'liq noqulayliklar ko'proq qayd etilishi mumkin bo'lsa, uzoq davom etuvchi surunkali shakllarda simptomlar nisbatan sust namoyon bo'lishi mumkin.

Nospetsifik servitsitning klinik ko'rinishlarini o'rganishda simptomlarning alohida emas, balki o'zaro bog'liq holda baholanishi zarur. Chunki ayrim hollarda bitta simptom kasallikni to'liq tavsiflamaydi va faqat klinik belgilar majmuasi asosida dastlabki tashxisni shakllantirish mumkin. Shu sababli simptomlarning uchrash chastotasini aniqlash va ularni qiyosiy tahlil qilish amaliy ginekologiya uchun muhim diagnostik ahamiyatga ega.

KLINIK SIMPTOMLARNING QIYOSIY TAHLILI VA ULARNING DIAGNOSTIK AHAMIYATI

Nospetsifik servitsit bilan kasallangan ayollarda klinik simptomlarning uchrash chastotasini tahlil qilish kasallikning klinik kechish xususiyatlarini aniqlashda muhim ahamiyatga ega. Kuzatuvlar shuni ko'rsatadiki, bemorlarda simptomlarning namoyon bo'lish darajasi bir xil emas: ayrim hollarda kasallik aniq klinik belgilar bilan kechsa, ayrim bemorlarda yallig'lanish jarayoni minimal simptomlar bilan namoyon bo'ladi. Bu esa nospetsifik servitsitni aniqlashda kompleks yondashuv zarurligini ko'rsatadi.

Klinik belgilar orasida eng ko'p uchraydigan simptomlardan biri patologik vaginal ajralmalar hisoblanadi. Ushbu belgi bachadon bo'yni shilliq qavatidagi yallig'lanish jarayonining asosiy ko'rsatkichlaridan biri bo'lib, ko'pchilik bemorlarda asosiy shikoyat sifatida qayd etiladi. Ajrallarning xarakteri yallig'lanish darajasi va davomiyligiga qarab o'zgarishi mumkin. O'tkir jarayonlarda ajralmalar ko'proq va yaqqol namoyon bo'lsa, surunkali shakllarda ular kamroq ifodalanishi mumkin.



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Qorin pastki qismidagi og'riq va tos sohasidagi noqulayliklar ham nospetsifik servitsitda tez-tez uchraydigan klinik belgilar qatoriga kiradi. Ushbu simptomlar yallig'lanish jarayonining mahalliy ta'siri bilan bog'liq bo'lib, bemorning kundalik hayot faoliyatiga salbiy ta'sir ko'rsatishi mumkin. Og'riq sindromining intensivligi kasallikning davomiyligi va yallig'lanish jarayonining tarqalish darajasiga bog'liq holda farqlanadi.

Jinsiy aloqa vaqtida og'riq (dispareuniya) klinik jihatdan muhim simptomlardan biri bo'lib, u bemorning reproduktiv va psixoemotsional holatiga ta'sir qiladi. Ushbu belgining mavjudligi bachadon bo'yni to'qimalarida yallig'lanish va sezuvchanlikning oshganligini ko'rsatishi mumkin. Dispareuniya boshqa ginekologik kasalliklarda ham uchrashi sababli, uni boshqa klinik belgilar bilan birgalikda baholash talab etiladi.

Kontakt qon ketishi nospetsifik servitsitning muhim, ammo nisbatan kam uchraydigan belgilaridan biridir. Ushbu simptom bachadon bo'yni shilliq qavatining yallig'lanish natijasida shikastlanishga moyilligi oshishi bilan izohlanadi. Biroq kontakt qon ketishi bachadon bo'yni eroziyasi, poliplar yoki boshqa patologik jarayonlarda ham kuzatilishi mumkinligi sababli, differensial diagnostika jarayonida alohida e'tibor talab qiladi.

Klinik simptomlarning qiyosiy tahlili shuni ko'rsatadiki, nospetsifik servitsitda bir nechta belgilar birgalikda namoyon bo'lishi kasallik ehtimolini oshiradi. Masalan, vaginal ajralmalar, qorin pastidagi og'riq va jinsiy aloqa vaqtida noqulaylikning birgalikda kuzatilishi yallig'lanish jarayonining faol bosqichidan dalolat berishi mumkin. Shu bilan birga, faqat bitta simptom asosida yakuniy tashxis qo'yish yetarli emas.

Bemorlarning yoshiga qarab klinik belgilarni tahlil qilish ham muhim hisoblanadi. Reproktiv yoshdagi ayollarda simptomlar ko'proq faol namoyon bo'lishi mumkin, chunki bu davrda jinsiy va gormonal faollik yuqori bo'ladi. Katta yosh guruhlarida esa ayrim hollarda simptomlar sust kechishi yoki kech aniqlanishi mumkin. Shu sababli yosh omili klinik baholashda hisobga olinishi lozim.

Kasallikning davomiyligi ham simptomlarning namoyon bo'lishiga ta'sir qiladi.



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O'tkir nospetsifik servitsitda yallig'lanish belgilarining yaqqol namoyon bo'lishi kuzatilsa, surunkali shakllarda klinik belgilar kamayishi, ammo patologik jarayon saqlanib qolishi mumkin. Bu holat profilaktik ginekologik ko'riklarning ahamiyatini oshiradi.

Shunday qilib, nospetsifik servitsit bilan kasallangan ayollarda klinik simptomlarning qiyosiy tahlili kasallikning turli klinik shakllarini aniqlash, diagnostik mezonlarni takomillashtirish va bemorlarga individual yondashuvni shakllantirish imkonini beradi. Klinik belgilarni kompleks baholash erta tashxis qo'yish va samarali davolash strategiyasini tanlashda muhim omil hisoblanadi.

XULOSA

Nospetsifik servitsit ayollarning reproduktiv salomatligiga ta'sir ko'rsatuvchi keng tarqalgan ginekologik kasalliklardan biri bo'lib, uning klinik kechishi turli darajadagi simptomlar bilan namoyon bo'ladi. Kasallikda kuzatiladigan klinik belgilarni o'rganish va ularning uchrash chastotasini aniqlash erta tashxis qo'yish, bemorlarni to'g'ri baholash hamda samarali davolash taktikasini tanlashda muhim ahamiyatga ega.

Tahlillar shuni ko'rsatadiki, nospetsifik servitsitda eng ko'p uchraydigan klinik belgilar qatoriga patologik vaginal ajralmalar, qorin pastki qismidagi og'riq, jinsiy aloqa vaqtida noqulaylik, kontakt qon ketishi va mahalliy noqulaylik hissi kiradi. Ushbu simptomlarning namoyon bo'lish darajasi kasallikning davomiyligi, yallig'lanish jarayonining faolligi, bemorning yoshi va reproduktiv holatiga qarab farqlanishi mumkin.

Klinik simptomlarni qiyosiy baholash shuni ko'rsatadiki, nospetsifik servitsitda alohida bir simptom emas, balki bir nechta belgilar majmuasi diagnostik jihatdan muhim hisoblanadi. Ayniqsa, patologik ajralmalar bilan birga tos sohasidagi og'riq va jinsiy aloqa bilan bog'liq noqulayliklarning kuzatilishi yallig'lanish jarayonining faol kechayotganidan dalolat berishi mumkin.

Shuningdek, kasallikning ayrim holatlarda kam simptomli yoki yashirin kechishi klinik tekshiruvlarning, profilaktik ginekologik ko'riklarning va qo'shimcha laborator-



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diagnostik usullarning ahamiyatini oshiradi. Faqat bemorning shikoyatlariga asoslangan baholash ayrim holatlarda yetarli bo‘lmasligi mumkin, shu sababli klinik belgilarni kompleks tahlil qilish zarur.

Demak, nospetsifik servitsit bilan kasallangan ayollarda klinik simptomlarning uchrash chastotasi va ularning qiyosiy tahlili kasallikning klinik xususiyatlarini chuqurroq anglash, diagnostika mezonlarini takomillashtirish hamda reproduktiv salomatlikni muhofaza qilishga qaratilgan samarali tibbiy yondashuvlarni ishlab chiqishda muhim ilmiy-amaliy ahamiyat kasb etadi.

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FORMING PROFESSIONAL COMPETENCE THROUGH THE DEVELOPMENT OF COMBINATORIAL THINKING IN FUTURE MATHEMATICS TEACHERS

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Abstract

This thesis analyzes the development of combinatorial thinking in the process of forming the professional competence of future mathematics teachers. In modern mathematics education, teachers are required not only to possess theoretical knowledge but also to have competencies in analyzing mathematical situations, drawing logical conclusions, solving non-standard problems, and developing effective methodological approaches. From this perspective, combinatorial thinking is an important component of the professional and methodological training of future mathematics teachers.

The thesis highlights the essence of combinatorial thinking, its role in the process of mathematical reasoning, and its potential for developing the professional competence of future teachers. It substantiates the possibilities of developing students' skills in logical analysis, evaluating alternatives, creative thinking, and making effective decisions in problem-based situations through combinatorial problems. It is also demonstrated that an educational process organized on the basis of a combinatorial approach contributes to improving the methodological training of future mathematics teachers, as well as developing their abilities to design lessons and foster mathematical thinking among students.

Keywords

combinatorial thinking, future mathematics teacher, professional competence, mathematical thinking, methodological training, combinatorial problems, creative thinking, mathematics education.





**BO'LAJAK MATEMATIKA O'QITUVCHILARIDA KOMBINATORIK
TAFAKKURNI RIVOJLANTIRISH ORQALI KASBIY KOMPETENTLIKNI
SHAKLLANTIRISH**

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ixtisoslashtirilgan maktabi*

Annotatsiya

Ushbu tezisda bo'lajak matematika o'qituvchilarining kasbiy kompetentligini shakllantirish jarayonida kombinatorik tafakkurni rivojlantirish masalalari tahlil qilinadi. Zamonaviy matematika ta'limida o'qituvchidan nafaqat nazariy bilimlarga ega bo'lish, balki matematik vaziyatlarni tahlil qilish, mantiqiy xulosalar chiqarish, nostandart masalalarni yechish va samarali metodik yondashuvlarni ishlab chiqish kompetensiyalariga ega bo'lish talab etiladi. Shu nuqtai nazardan kombinatorik tafakkur bo'lajak matematika o'qituvchisining kasbiy-metodik tayyorgarligining muhim tarkibiy qismi sifatida namoyon bo'ladi.

Tezisdagi kombinatorik tafakkurning mohiyati, uning matematik fikrlash jarayonidagi o'rni hamda bo'lajak o'qituvchilarning kasbiy kompetentligini rivojlantirishdagi imkoniyatlari yoritiladi. Kombinatorik masalalar orqali talabalarni mantiqiy tahlil qilish, variantlarni baholash, ijodiy fikrlash va muammoli vaziyatlarda samarali qaror qabul qilish ko'nikmalarini rivojlantirish imkoniyatlari asoslab beriladi. Shuningdek, kombinatorik yondashuv asosida tashkil etilgan ta'lim jarayoni bo'lajak matematika o'qituvchilarining metodik tayyorgarligini oshirish, darslarni loyihalash va o'quvchilarda matematik tafakkurni shakllantirish qobiliyatlarini rivojlantirishga xizmat qilishi ko'rsatiladi.

Kalit so'zlar: kombinatorik tafakkur, bo'lajak matematika o'qituvchisi, kasbiy kompetentlik, matematik tafakkur, metodik tayyorgarlik, kombinatorik masalalar, ijodiy



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fikrlash, matematik ta'lim.

KIRISH

Bugungi kunda ta'lim tizimida yuz berayotgan o'zgarishlar bo'lajak matematika o'qituvchilaridan nafaqat chuqur nazariy bilimlarni, balki yuqori darajadagi kasbiy-metodik kompetentlikni ham talab qilmoqda. Zamonaviy o'qituvchi matematik bilimlarni yetkazib beruvchi mutaxassis bo'lish bilan birga, o'quvchilarda mustaqil fikrlash, mantiqiy tahlil qilish va muammoli vaziyatlarni hal etish ko'nikmalarini shakllantira olishi zarur.

Matematika fanini o'qitishda kombinatorik tafakkur alohida ahamiyatga ega bo'lib, u turli variantlarni tahlil qilish, mumkin bo'lgan yechimlarni izlash, umumlashtirish va mantiqiy xulosalar chiqarish qobiliyatlarini rivojlantiradi. Kombinatorik fikrlash nafaqat kombinatorika bo'limini o'zlashtirishda, balki matematik tafakkurning umumiy rivojlanishida ham muhim vosita hisoblanadi. Shu sababli bo'lajak matematika o'qituvchilarini tayyorlash jarayonida kombinatorik yondashuvdan samarali foydalanish ularning kasbiy kompetentligini shakllantirishning istiqbolli yo'nalishlaridan biri hisoblanadi.

Bo'lajak matematika o'qituvchisining kasbiy kompetentligi matematik bilimlar, metodik mahorat, pedagogik fikrlash, ta'lim jarayonini loyihalash va o'quvchilarning individual imkoniyatlarini hisobga olish kabi tarkibiy qismlardan tashkil topadi. Ushbu kompetensiyalarni rivojlantirishda kombinatorik masalalar va topshiriqlar tizimi muhim pedagogik vosita bo'lib xizmat qiladi. Chunki bunday masalalarni yechish jarayonida talaba turli yechim yo'llarini izlaydi, strategiyalarni taqqoslaydi va matematik fikrlashning moslashuvchanligini rivojlantiradi.

Kombinatorik yondashuv asosida tashkil etilgan ta'lim jarayoni bo'lajak o'qituvchilarda nafaqat matematik bilimlarni chuqurlashtiradi, balki kelajakdagi pedagogik faoliyat uchun zarur bo'lgan metodik ko'nikmalarni ham shakllantiradi.





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Xususan, kombinatorik masalalarni tanlash, ularni o‘quvchilarning yosh va bilim darajasiga moslashtirish, dars jarayonida samarali metodlardan foydalanish kabi ko‘nikmalar o‘qituvchining kasbiy tayyorgarligini oshiradi.

Mavzuning dolzarbligi shundaki, zamonaviy matematika ta’limida o‘quvchilarning algoritmik emas, balki ijodiy va mantiqiy fikrlash qobiliyatlarini rivojlantirishga katta e’tibor qaratilmoqda. Bunday vazifalarni samarali amalga oshirish uchun esa avvalo bo‘lajak matematika o‘qituvchilarining o‘zida yuqori darajadagi kombinatorik tafakkur va metodik kompetentlik shakllangan bo‘lishi zarur.

Ushbu tezisning maqsadi bo‘lajak matematika o‘qituvchilarida kombinatorik tafakkurni rivojlantirish orqali ularning kasbiy kompetentligini shakllantirish imkoniyatlarini tahlil qilish hamda kombinatorik yondashuvning pedagogik ahamiyatini yoritishdan iborat.

ASOSIY QISM

Bo‘lajak matematika o‘qituvchilarining kasbiy kompetentligini rivojlantirishda kombinatorik tafakkurni shakllantirish muhim pedagogik vazifalardan biridir. Chunki matematika o‘qituvchisi o‘z faoliyatida turli murakkab masalalarni tahlil qilish, o‘quvchilarga turli yechim strategiyalarini tushuntirish va matematik fikrlash jarayonlarini tashkil etish qobiliyatiga ega bo‘lishi kerak. Kombinatorik tafakkur aynan shu jarayonlarda zarur bo‘lgan mantiqiy, tahliliy va ijodiy fikrlash ko‘nikmalarini rivojlantirishga xizmat qiladi.

Kombinatorik tafakkur matematik obyektlar orasidagi bog‘lanishlarni aniqlash, mavjud imkoniyatlarni tizimli ravishda ko‘rib chiqish, turli variantlarni taqqoslash va optimal yechimni tanlash qobiliyatini ifodalaydi. Ushbu tafakkur turi faqat kombinatorika masalalarini yechish bilan chegaralanib qolmay, balki algebra, geometriya, ehtimollar nazariyasi va boshqa matematik yo‘nalishlarda ham samarali qo‘llaniladi. Shu sababli uni rivojlantirish bo‘lajak matematika o‘qituvchisining





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umumiy matematik kompetentligini oshirishga yordam beradi.

Bo'lajak o'qituvchilarda kombinatorik tafakkurni rivojlantirishda kombinatorik masalalar alohida o'rin tutadi. Bunday masalalar talabalarni tayyor formulalarni qo'llashdan ko'ra, muammoni chuqur tahlil qilishga, turli yechim usullarini izlashga va asoslangan xulosalar chiqarishga undaydi. Masalan, joylashtirish, o'rin almashtirish, guruhlash, ehtimollik bilan bog'liq masalalarni yechish jarayonida talabalar matematik modellashtirish, mantiqiy tahlil va strategik fikrlash ko'nikmalarini rivojlantiradilar.

Kombinatorik yondashuvning muhim jihatlaridan biri shundaki, u bo'lajak matematika o'qituvchisining metodik kompetentligini ham rivojlantiradi. Talaba nafaqat masalani yechishni, balki ushbu masalani o'quv jarayonida qanday qo'llash, uni qanday tushuntirish va o'quvchilarning yosh xususiyatlariga moslashtirish usullarini ham o'rganadi. Bu esa kelajakdagi pedagogik faoliyatda samarali dars tashkil etish imkonini beradi.

Kombinatorik topshiriqlar tizimidan foydalanish jarayonida bo'lajak o'qituvchilarda quyidagi kasbiy sifatlar shakllanadi:

analitik fikrlash — masalaning tarkibiy qismlarini ajratish va ular o'rtasidagi bog'lanishlarni aniqlash;

ijodiy yondashuv — bir masalaga turli yechim yo'llarini topish;

mantiqiy xulosa chiqarish — matematik dalillar asosida qaror qabul qilish;

metodik loyihalash qobiliyati — matematik topshiriqlarni ta'lim maqsadlariga mos ravishda tanlash va tashkil etish;

muammoli vaziyatlarni hal qilish kompetensiyasi — nostandart masalalarda samarali strategiyalar ishlab chiqish.

Shuningdek, kombinatorik tafakkurni rivojlantirishda interfaol metodlar, muammoli ta'lim, loyihaviy yondashuv va raqamli ta'lim vositalaridan foydalanish samarali natija beradi. Ushbu metodlar talabalarni faol fikrlashga, mustaqil izlanishga





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va matematik masalalarni turli nuqtayi nazardan tahlil qilishga yo'naltiradi.

Bo'lajak matematika o'qituvchilarining kombinatorik tafakkurini rivojlantirish jarayonida baholash mezonlarini ham to'g'ri belgilash muhimdir. Bunda faqat masalani to'g'ri yechish natijasi emas, balki yechim strategiyasini tanlash, fikrlash jarayonini asoslash, muqobil usullarni taklif qilish va metodik tushuntirish qobiliyatlari ham hisobga olinishi lozim.

Demak, kombinatorik yondashuv asosida tashkil etilgan ta'lim jarayoni bo'lajak matematika o'qituvchilarining matematik tafakkuri, metodik tayyorgarligi va kasbiy kompetentligini kompleks rivojlantirish imkonini beradi. Kombinatorik masalalar bilan ishlash jarayonida shakllangan tahliliy va ijodiy fikrlash ko'nikmalari kelajakdagi pedagogik faoliyatda samarali foydalaniladigan muhim kasbiy vositaga aylanadi.

**KOMBINATORIK YONDASHUV ASOSIDA KASBIY-METODIK
KOMPETENTLIKNI RIVOJLANTIRISH MEXANIZMLARI**

Bo'lajak matematika o'qituvchilarining kasbiy-metodik kompetentligini rivojlantirishda kombinatorik yondashuvdan foydalanish ma'lum pedagogik mexanizmlarni amalga oshirishni talab etadi. Mazkur jarayon nafaqat matematik bilimlarni chuqurlashtirish, balki talabalarni kelajakdagi kasbiy faoliyatga tayyorlash, matematik tushunchalarni o'qitish metodikasini egallash va o'quvchilarda mantiqiy tafakkurni shakllantirish qobiliyatlarini rivojlantirishga qaratiladi.

Kombinatorik yondashuvning asosiy mexanizmlaridan biri — muammoli ta'lim asosida matematik fikrlashni rivojlantirish hisoblanadi. Muammoli vaziyatlar yaratish orqali talabalar tayyor algoritmlardan foydalanish bilan cheklanmay, mustaqil ravishda yechim izlashga, turli variantlarni tahlil qilishga va eng samarali usulni tanlashga o'rganadilar. Bu jarayon bo'lajak o'qituvchilarda nafaqat matematik kompetensiyani, balki pedagogik vaziyatlarni hal qilish qobiliyatini ham shakllantiradi.

Ikkinchi muhim mexanizm — kombinatorik topshiriqlar tizimini ishlab chiqish va



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undan metodik maqsadlarda foydalanishdir. Bunda topshiriqlar oddiydan murakkabga tamoyili asosida tuziladi. Dastlab talabalar asosiy kombinatorik tushunchalarni o'zlashtiradilar, keyinchalik esa murakkab, nostandart va ijodiy yondashuvni talab qiluvchi masalalarni yechishga o'tadilar. Bunday tizim bo'lajak o'qituvchilarga kelajakda o'quvchilar uchun samarali topshiriqlar tanlash va ularni pedagogik jihatdan asoslash imkonini beradi.

Uchinchi mexanizm — matematik modellashtirish va strategik fikrlashni shakllantirish. Kombinatorik masalalarni yechishda vaziyatni matematik modelga aylantirish, mavjud imkoniyatlarni guruhlash, bog'lanishlarni aniqlash va natijani umumlashtirish talab etiladi. Bu ko'nikmalar bo'lajak matematika o'qituvchisining kasbiy faoliyatida muhim ahamiyatga ega bo'lib, murakkab mavzularni tushuntirishda samarali metodik vosita sifatida xizmat qiladi.

To'rtinchi mexanizm — refleksiv-metodik faoliyatni rivojlantirishdir. Bo'lajak o'qituvchi faqat masalani yechish bilan emas, balki ushbu jarayonni pedagogik jihatdan tahlil qilish bilan ham shug'ullanishi kerak. Ya'ni qaysi metod nima sababdan tanlangani, o'quvchilar qanday qiyinchiliklarga duch kelishi va masalani tushuntirishning samarali yo'llari aniqlanadi. Bu esa metodik kompetentlikning muhim tarkibiy qismi hisoblanadi

Shuningdek, kombinatorik yondashuvni amalga oshirishda raqamli texnologiyalardan foydalanish ham katta imkoniyat yaratadi. Matematik dasturlar, interaktiv platformalar va vizual modellashtirish vositalari yordamida kombinatorik jarayonlarni ko'rgazmali tushuntirish, turli variantlarni tezkor tahlil qilish va matematik fikrlash jarayonlarini faollashtirish mumkin. Bu esa bo'lajak o'qituvchilarning zamonaviy pedagogik texnologiyalarni qo'llash kompetentligini rivojlantiradi.

Kombinatorik tafakkurni rivojlantirish jarayonida baholash ham kompetensiyaviy yondashuv asosida tashkil etilishi lozim. Bunda talabaning faqat yakuniy javobi emas,





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balki masalani tahlil qilish usuli, yechim strategiyasi, mantiqiy asoslash qobiliyati va metodik izohi ham baholanadi. Bu yondashuv bo‘lajak o‘qituvchilarda chuqur matematik va pedagogik fikrlashni shakllantirishga xizmat qiladi.

Shunday qilib, kombinatorik yondashuv asosida kasbiy-metodik kompetentlikni rivojlantirish mexanizmlari matematik tafakkur, metodik mahorat va pedagogik faoliyatga tayyorgarlikni yagona tizimda shakllantirish imkonini beradi. Mazkur yondashuv bo‘lajak matematika o‘qituvchilarini zamonaviy ta’lim talablariga mos, ijodiy fikrlovchi va metodik jihatdan kompetent mutaxassis sifatida tayyorlashda muhim omil bo‘lib xizmat qiladi.

XULOSA

Bo‘lajak matematika o‘qituvchilarining kasbiy kompetentligini shakllantirishda kombinatorik tafakkurni rivojlantirish muhim pedagogik yo‘nalishlardan biri hisoblanadi. Chunki zamonaviy matematika o‘qituvchisi nafaqat matematik bilimlarga ega bo‘lishi, balki o‘quvchilarda mantiqiy, ijodiy va mustaqil fikrlash ko‘nikmalarini shakllantira oladigan metodik tayyorgarlikka ega bo‘lishi zarur.

Tahlillar shuni ko‘rsatadiki, kombinatorik yondashuv asosida tashkil etilgan ta’lim jarayoni bo‘lajak matematika o‘qituvchilarining analitik fikrlash, muammoli vaziyatlarni hal qilish, turli yechim strategiyalarini ishlab chiqish va matematik jarayonlarni metodik jihatdan tushuntirish kompetensiyalarini rivojlantirish imkonini beradi. Kombinatorik masalalar bilan ishlash jarayonida talabalar mavjud imkoniyatlarni tizimlashtirish, variantlarni taqqoslash va asoslangan xulosalar chiqarish ko‘nikmalarini egallaydilar.

Kombinatorik tafakkurni rivojlantirish orqali bo‘lajak o‘qituvchilarning kasbiy-metodik kompetentligini shakllantirishda muammoli ta’lim, topshiriqlar tizimi, matematik modellashtirish, refleksiv faoliyat va raqamli texnologiyalardan foydalanish samarali vosita hisoblanadi. Ushbu yondashuvlar talabalarning nafaqat matematik





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tayyorgarligini, balki kelajakdagi pedagogik faoliyat uchun zarur bo‘lgan metodik mahoratini ham rivojlantiradi.

Shuningdek, kombinatorik yondashuv bo‘lajak matematika o‘qituvchilarida o‘quvchilarning matematik tafakkurini rivojlantirishga yo‘naltirilgan samarali darslarni loyihalash, nostandart masalalarni tanlash va ta’lim jarayonini ijodiy tashkil etish qobiliyatlarini shakllantiradi. Bu esa ularning kasbiy kompetentligining muhim ko‘rsatkichlaridan biri hisoblanadi.

Xulosa qilib aytganda, kombinatorik tafakkurni rivojlantirish asosida tashkil etilgan ta’lim jarayoni bo‘lajak matematika o‘qituvchilarining matematik, metodik va pedagogik kompetensiyalarini kompleks rivojlantirishga xizmat qiladi. Kombinatorik yondashuvdan samarali foydalanish kelajakdagi matematika o‘qituvchilarini zamonaviy ta’lim talablariga javob beradigan, ijodiy fikrlovchi va kasbiy jihatdan yetuk mutaxassis sifatida tayyorlashning muhim shartlaridan biridir.

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Mazkur adabiyotlar **“BO‘LAJAK MATEMATIKA**



PEDAGOGICAL OPPORTUNITIES OF USING PROBLEM-BASED LEARNING TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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Abstract

This thesis examines the role of problem-based learning technologies in developing students' cognitive activity, independent thinking, and practical competencies. The pedagogical significance of the stages of creating a problem-based situation, identifying the problem, proposing a hypothesis, analyzing evidence, and drawing conclusions is highlighted.

Keywords

problem-based learning, pedagogical technology, independent thinking, cognitive activity, problem-based situation, competence, educational effectiveness.

TA'LIM JARAYONIDA MUAMMOLI TA'LIM TEKNOLOGIYALARIDAN FOYDALANISHNING PEDAGOGIK IMKONIYATLARI

Rustamova Gavhar G'ayrat qizi

Buxoro viloyati G'ijduvon tumani 4-maktab o'qituvchisi

Annotatsiya. Ushbu tezisda muammoli ta'lim texnologiyalarining o'quvchilarning bilish faolligi, mustaqil fikrlashi va amaliy kompetensiyalarini rivojlantirishdagi o'rni ko'rib chiqiladi. Muammoli vaziyatni yaratish, muammoni aniqlash, taxmin ilgari surish, dalillarni tahlil qilish va xulosa chiqarish bosqichlarining pedagogik ahamiyati yoritiladi.

Kalit so'zlar: muammoli ta'lim, pedagogik texnologiya, mustaqil fikrlash, bilish faolligi, muammoli vaziyat, kompetensiya, ta'lim samaradorligi.

Kirish. Ta'limning zamonaviy bosqichida o'quvchini darsning faol ishtirokchisiga aylantirish dolzarb vazifalardan biri hisoblanadi. O'quvchi tayyor ma'lumotni qabul





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qiluvchi emas, balki bilimni izlab topuvchi, tahlil qiluvchi va amaliyotda qo'llovchi subyekt sifatida shakllanishi lozim. Shu sababli ta'lim jarayonida muammoli vaziyatlardan foydalanish alohida pedagogik ahamiyatga ega.

Asosiy qism. Muammoli ta'lim o'quvchi oldiga ma'lum bilim va tajribalar yordamida darhol hal qilib bo'lmaydigan, biroq izlanish orqali yechish mumkin bo'lgan muammoni qo'yishga asoslanadi. O'qituvchi muammoli vaziyatni tashkil etadi va o'quvchilarni mustaqil fikrlashga yo'naltiradi.

Muammoli ta'limni tashkil etishning dastlabki bosqichida o'quvchilarning e'tiborini jalb qiladigan vaziyat yaratiladi. Keyin muammo aniq ifodalanadi. O'quvchilar muammoning ehtimoliy yechimlarini taklif qiladi, o'z taxminlarini dalillar bilan asoslashga harakat qiladi. Keyingi bosqichda takliflar tahlil qilinadi va eng asosli xulosaga kelinadi.

Bunday jarayonda o'quvchi mustaqil fikrlashga majbur bo'ladi. U mavjud bilimlarini yangi vaziyat bilan bog'laydi, sabab va oqibatlarni aniqlaydi hamda turli variantlarni taqqoslaydi. Natijada tahliliy va mantiqiy fikrlash ko'nikmalari rivojlanadi.

Muammoli ta'limning samaradorligi ko'p jihatdan o'qituvchi tomonidan tanlangan muammoning sifatiga bog'liq. Muammo o'quvchining yoshiga, bilim darajasiga va fan mazmuniga mos bo'lishi kerak. Juda oson topshiriq izlanishga ehtiyoj qoldirmaydi, haddan tashqari murakkab topshiriq esa o'quvchining qiziqishini pasaytirishi mumkin.

Muammoli vaziyatlarni fanlararo yondashuv asosida ham tashkil etish mumkin. Bir nechta fan mazmunini bog'laydigan topshiriqlar o'quvchilarga bilimlarning o'zaro aloqadorligini tushunishga yordam beradi. Masalan, real hayotdagi muammoni hal qilishda til, matematika, tabiiy fanlar va axborot texnologiyalariga oid bilimlardan birgalikda foydalanish mumkin.



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Guruhli muammoli topshiriqlar ham samarali vositalardan biridir. Guruh a'zolari muammoni turli nuqtayi nazardan ko'rib chiqadi, o'z fikrlarini bildiradi va umumiy qarorga keladi. Bunda hamkorlik, muloqot va fikrni asoslash ko'nikmalari shakllanadi.

O'qituvchi muammoli ta'lim jarayonida o'quvchilarga tayyor javobni bermasligi, zarur hollarda yo'naltiruvchi savollar orqali ularning fikrlashiga yordam berishi lozim. Dars yakunida refleksiya o'tkazish, ya'ni o'quvchining "Nimani bildim?", "Qanday xulosaga keldim?", "Muammoni hal qilishda qanday usuldan foydalandim?" kabi savollar ustida fikr yuritishi ham muhimdir.

Muammoli ta'lim o'quvchilarning bilimni yodlashidan ko'ra, uni anglash va qo'llashga ko'proq imkon beradi. Shu sababli mazkur texnologiyadan foydalanish ta'limning amaliy yo'nalishini kuchaytiradi.

Xulosa. Muammoli ta'lim texnologiyalaridan foydalanish o'quvchilarning bilish faolligi, mustaqil fikrlashi va muammoni hal qilish ko'nikmalarini rivojlantirish uchun samarali pedagogik imkoniyat yaratadi. Muammoli vaziyatlarni maqsadli tashkil etish, o'quvchilarga mustaqil izlanish uchun sharoit yaratish va natijalarni refleksiya qilish orqali ta'lim jarayonining samaradorligini oshirish mumkin. Mazkur yondashuv o'quvchini faol, fikrlovchi va o'z bilimini amaliyotda qo'llay oladigan shaxs sifatida shakllantirishga xizmat qiladi.

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ENHANCING EFL STUDENTS' ACTIVE PARTICIPATION THROUGH GENERATIVE AI-BASED LEARNING ACTIVITIES

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Abstract

The rapid development of generative artificial intelligence (GenAI) technologies has created new opportunities for improving students' active participation in English as a Foreign Language (EFL) learning environments. This thesis explores the role of generative AI-based learning activities in increasing learners' engagement, interaction, and involvement in the language learning process. The study examines how AI-supported activities, including conversational practice, personalized writing tasks, adaptive exercises, and interactive feedback mechanisms, contribute to creating more dynamic and learner-centered EFL classrooms. Generative AI tools provide students with opportunities for continuous language practice, immediate feedback, and individualized learning support, which can encourage active participation and reduce barriers related to language anxiety and limited classroom interaction. The research emphasizes that AI-based activities should be designed not as substitutes for traditional teaching methods, but as complementary instruments that stimulate communication, collaboration, critical thinking, and independent learning.

The thesis highlights the importance of pedagogically grounded integration of generative AI into EFL instruction. Effective implementation requires carefully designed tasks that motivate students to analyze, create, discuss, and reflect on AI-generated content. The findings suggest that generative AI-based learning activities can significantly contribute to increasing students' participation, improving learner autonomy, and developing more interactive foreign language learning environments.

Keywords



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generative artificial intelligence, EFL students, active participation, AI-based learning activities, learner engagement, language learning, interactive learning, learner autonomy.

INTRODUCTION

Active participation is considered one of the key factors determining the effectiveness of English as a Foreign Language (EFL) learning. Successful language acquisition requires not only the acquisition of linguistic knowledge but also students' continuous involvement in communication, problem-solving activities, collaborative tasks, and independent learning processes. However, many EFL classrooms still face challenges related to limited student interaction, lack of confidence, fear of making mistakes, and insufficient opportunities for individualized language practice.

The emergence of generative artificial intelligence (GenAI) technologies has introduced new possibilities for addressing these challenges. Unlike traditional digital learning tools, generative AI systems can create personalized learning materials, simulate real-life communication scenarios, provide immediate feedback, and adapt activities according to learners' needs. These capabilities allow educators to design more interactive and engaging learning environments where students can participate actively in various language activities. Generative AI-based learning activities can support EFL students' participation by increasing opportunities for communication practice and reducing psychological barriers. For example, AI-powered conversational agents enable learners to practice speaking skills in a low-pressure environment, while AI-assisted writing activities encourage students to revise, analyze, and improve their language production. Such activities promote greater involvement by allowing students to interact with learning materials and receive immediate responses to their efforts.

Active participation in language learning is closely connected with learner autonomy and motivation. When students are provided with opportunities to make





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decisions, explore different solutions, and receive personalized support, they become more responsible for their own learning process. Generative AI tools can contribute to this process by creating flexible learning pathways and encouraging students to engage with English beyond traditional classroom boundaries.

At the same time, the implementation of generative AI in EFL education requires careful methodological consideration. The effectiveness of AI-based activities depends on how they are designed and integrated into the learning process. If students use AI only to obtain ready-made answers, their active engagement and independent thinking may decrease. Therefore, teachers should develop tasks that require learners to critically evaluate AI-generated content, express their own ideas, and participate in meaningful communication. The relevance of this research is determined by the growing need to develop innovative approaches that enhance students' active participation in foreign language learning. Investigating the educational potential of generative AI-based activities can contribute to the development of more interactive, personalized, and learner-centered EFL methodologies.

The aim of this thesis is to analyze the role of generative AI-based learning activities in enhancing EFL students' active participation and to identify methodological principles for their effective integration into foreign language education.

THEORETICAL BACKGROUND OF ACTIVE PARTICIPATION IN EFL LEARNING AND THE POTENTIAL OF GENERATIVE AI

Active participation in foreign language learning is a multidimensional concept that includes students' behavioral, emotional, and cognitive involvement in the educational process. It is not limited to physical presence in the classroom but reflects learners' willingness to communicate, ask questions, collaborate with peers, solve language-related problems, and take responsibility for their own progress. In EFL contexts, active participation plays a crucial role because language competence develops primarily



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through meaningful interaction and continuous practice. Traditional approaches to foreign language teaching often emphasize teacher-centered instruction, where students mainly receive information and complete predetermined tasks. Although such methods can provide fundamental language knowledge, they may not always create sufficient opportunities for communication, creativity, and independent exploration. As a result, some learners remain passive participants who depend heavily on teacher explanations and have limited opportunities to apply language skills in authentic situations.

Contemporary learner-centered approaches emphasize the importance of creating interactive environments where students become active contributors to the learning process. Communicative language teaching, task-based learning, and blended learning models highlight the importance of meaningful activities that encourage students to use language for real purposes. Within these approaches, technology-supported learning environments have become increasingly important because they provide additional opportunities for interaction, personalization, and independent practice.

Generative artificial intelligence represents a new stage in technology-enhanced language learning by enabling more dynamic and responsive educational experiences. AI-based systems can generate learning materials, simulate conversations, provide explanations, and offer immediate feedback according to learners' individual needs. These functions create conditions for increasing students' involvement and encouraging them to participate more actively in language-related activities.

One of the main advantages of generative AI-based learning activities is the expansion of communication opportunities. In traditional classroom settings, limited lesson time may prevent all students from actively participating in speaking activities. AI conversational tools can provide additional practice opportunities outside the classroom, allowing learners to engage in dialogues, express opinions, and improve their communication skills at their own pace.



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Generative AI also contributes to active participation through personalized learning support. Students with different proficiency levels often require different types of assistance. AI systems can adapt tasks, provide additional examples, and explain complex concepts according to individual learners' difficulties. This personalized approach can increase students' confidence and encourage them to participate more actively in learning activities. Another important aspect is the role of immediate feedback. Feedback is essential for language development because it helps learners identify errors and improve their performance. Generative AI tools can provide instant responses to students' writing, vocabulary use, and grammatical structures. This continuous feedback loop encourages learners to revise their work, reflect on their progress, and become more engaged in the learning process. However, the effectiveness of generative AI in enhancing active participation depends on appropriate pedagogical design. AI should not replace human interaction or reduce learning to automated responses. Instead, it should be integrated into activities that require students to think critically, communicate ideas, collaborate, and create original language products.

Therefore, generative AI-based learning activities have significant potential to transform EFL learning by increasing interaction, personalization, and learner engagement. When supported by effective teaching strategies, these tools can contribute to the development of more active, confident, and autonomous language learners.

GENERATIVE AI-BASED LEARNING ACTIVITIES FOR ENHANCING EFL STUDENTS' ACTIVE PARTICIPATION

Generative AI-based learning activities provide new opportunities to transform EFL classrooms from teacher-centered environments into interactive and learner-centered spaces. The main educational value of these activities lies in their ability to increase students' involvement, encourage communication, and create continuous opportunities for meaningful language practice. By integrating AI tools into carefully





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designed pedagogical tasks, teachers can support students in becoming more active participants in the foreign language learning process. One of the effective forms of AI-based learning activities is conversational practice through generative AI dialogue systems. Speaking anxiety and fear of making mistakes are common barriers that prevent many EFL students from actively participating in classroom discussions. AI conversational agents can provide a supportive environment where learners can practice speaking, experiment with different expressions, and receive immediate responses without the pressure of social evaluation. This type of activity encourages students to communicate more frequently and gradually develop confidence in using English.

Another important activity is AI-assisted writing development. Writing in a foreign language requires learners to organize ideas, apply grammatical structures, and select appropriate vocabulary. Generative AI tools can support students by providing suggestions, identifying possible errors, and offering alternative expressions. However, the most effective approach is not for students to simply accept AI-generated corrections but to analyze them, compare alternatives, and make independent decisions about improving their texts. Such activities promote both active participation and critical thinking.

AI-supported project-based learning is another promising direction for increasing student engagement. Students can use generative AI tools to collect ideas, organize information, develop presentations, and create language products. For example, learners may work on projects involving research topics, digital storytelling, or problem-solving tasks where AI functions as a supportive resource. This approach encourages collaboration, creativity, and meaningful use of English in authentic contexts. Generative AI can also enhance vocabulary learning activities by creating personalized exercises based on students' individual needs. Instead of memorizing isolated words, learners can engage with AI-generated contextual examples, dialogues, and problem-solving tasks. Such activities help students understand vocabulary usage in real



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communication situations and increase their motivation to practice new language items.

Another significant area is adaptive assessment and feedback activities. Traditional assessment methods often provide limited information about students' learning processes. Generative AI allows teachers and learners to obtain continuous feedback through interactive quizzes, self-assessment tasks, and reflective activities. Students can monitor their own progress, identify difficulties, and adjust their learning strategies accordingly.

Despite these advantages, effective implementation of generative AI-based activities requires clear pedagogical principles. Activities should be designed in a way that encourages students to create, analyze, discuss, and reflect rather than depend entirely on AI-generated content. Teachers should establish guidelines for responsible AI use and ensure that students maintain their own intellectual contribution throughout the learning process.

Furthermore, the successful integration of AI-based activities depends on teachers' digital and methodological competence. Teachers need to understand both the possibilities and limitations of generative AI tools in order to select appropriate activities and align them with learning objectives. Professional preparation of educators is therefore an essential condition for maximizing the educational benefits of AI technologies.

Overall, generative AI-based learning activities can significantly enhance EFL students' active participation by increasing interaction, providing personalized support, and creating more engaging learning experiences. When combined with effective pedagogical strategies, these activities contribute to the development of motivated, confident, and independent language learners.

METHODOLOGICAL CONDITIONS FOR EFFECTIVE IMPLEMENTATION OF GENERATIVE AI-BASED LEARNING ACTIVITIES IN EFL EDUCATION

The effectiveness of generative AI-based learning activities in EFL education depends largely on the methodological conditions under which these technologies are



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implemented. Although generative AI provides various opportunities for enhancing interaction and engagement, its educational value is determined not only by technological capabilities but also by the quality of instructional design, teacher guidance, and students' readiness to use digital tools effectively.

One of the essential methodological conditions is the alignment of AI-based activities with learning objectives. Generative AI should be integrated into the learning process according to specific educational goals rather than being used as an additional technological element. For example, if the objective is to develop speaking competence, AI activities should focus on dialogue practice, pronunciation improvement, and communicative tasks. If the goal is to improve writing skills, AI-based activities should encourage learners to analyze, revise, and improve their written production. Such purposeful integration ensures that technology contributes directly to language development. Another important condition is the creation of a learner-centered environment. Generative AI tools provide opportunities for personalized learning by adapting materials and feedback according to individual learners' needs. Students with different levels of English proficiency can receive different types of support, allowing them to participate more actively according to their abilities. This personalization helps reduce learning difficulties and increases students' confidence in using English.

The development of students' AI literacy is also a crucial methodological requirement. Effective participation in AI-supported learning activities requires learners to understand how generative AI works, how to formulate effective instructions (prompts), how to evaluate AI-generated responses, and how to use information responsibly. Without these skills, students may become passive users who rely on AI-generated answers instead of developing their own language abilities.

Teacher competence represents another key condition for successful AI integration. Teachers should possess not only technical knowledge of AI tools but also





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methodological understanding of how to incorporate them into foreign language instruction. The teacher's role changes from being the primary source of information to becoming a learning facilitator who designs meaningful activities, guides students' interaction with AI, and ensures critical engagement with generated content.

The principle of active cognitive involvement should also guide AI-based learning activities. Students should be encouraged to analyze, compare, evaluate, and transform AI-generated materials. For instance, instead of asking AI to produce a complete essay, learners can be asked to identify strengths and weaknesses of AI-generated texts, revise them, and explain their own choices. Such tasks promote deeper learning and prevent technological dependence. Collaborative learning approaches can further enhance the effectiveness of generative AI activities. Although AI provides individual support, language learning remains a social process. Group discussions, peer review activities, and collaborative projects involving AI tools can encourage communication, negotiation of meaning, and shared knowledge construction. This combination of AI assistance and human interaction creates a balanced learning environment.

Assessment strategies should also be adapted to AI-supported learning conditions. Traditional assessment methods focused only on final outcomes may not fully reflect students' participation and learning processes. Therefore, formative assessment, self-reflection, portfolios, project-based evaluation, and process-oriented assessment methods should be applied. These approaches allow teachers to evaluate students' creativity, critical thinking, and individual contribution.

In addition, ethical principles should be incorporated into AI-based EFL activities. Students should understand the importance of academic honesty, responsible technology use, and verification of AI-generated information. Developing ethical awareness helps learners use AI as a supportive educational tool while maintaining their own intellectual independence. Therefore, effective implementation of generative AI-based learning





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activities requires a comprehensive methodological framework that combines technological opportunities with pedagogical principles. Purposeful integration, teacher guidance, AI literacy, active cognitive engagement, collaborative learning, and ethical responsibility are essential conditions for increasing EFL students' active participation and improving the quality of foreign language education.

CONCLUSION

The integration of generative artificial intelligence tools into EFL education provides new opportunities for enhancing students' active participation and creating more interactive learning environments. The analysis demonstrates that AI-based learning activities can increase learners' engagement by offering personalized support, continuous interaction, immediate feedback, and flexible opportunities for language practice. Generative AI tools contribute to active participation by reducing barriers that often limit students' involvement in foreign language learning. Conversational AI platforms create additional opportunities for communication practice, allowing learners to express their ideas, develop speaking confidence, and participate in language activities without excessive anxiety. Similarly, AI-assisted writing, vocabulary, and problem-solving tasks encourage students to become more involved in constructing and improving their language knowledge.

However, the educational effectiveness of generative AI depends on its methodological integration into the learning process. AI should not replace teachers or students' cognitive efforts but should function as a supportive instrument that stimulates communication, creativity, reflection, and independent learning. Carefully designed AI-based activities should encourage learners to analyze information, evaluate AI-generated content, and make their own decisions.

The successful implementation of generative AI in EFL education requires several important conditions, including clear learning objectives, teacher methodological





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competence, students’ AI literacy, ethical technology use, and appropriate assessment strategies. When these conditions are ensured, generative AI can become an effective tool for developing learner autonomy, increasing classroom interaction, and improving the overall quality of foreign language education. In conclusion, generative AI-based learning activities represent a promising direction for enhancing EFL students’ active participation. By combining technological possibilities with sound pedagogical approaches, educators can create learner-centered environments where students are motivated, engaged, and actively involved in their own language learning process.

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Ushbu manbalar **“ENHANCING EFL STUDENTS’ ACTIVE**



ACTIVITIES OF LOCAL MUSLIM INTELLECTUALS IN STATE ADMINISTRATION IN TURKESTAN IN THE LATE 19TH AND EARLY 20TH CENTURIES

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Abstract

This thesis analyzes the activities of local Muslim intellectuals within the state administration system in Turkestan in the late 19th and early 20th centuries, their role in socio-political processes, and their contribution to the development of society. This period is characterized as a complex historical stage in the history of Turkestan, marked by the strengthening of colonial administration alongside the emergence of new political, educational, and social ideas among local intellectuals.

The thesis examines the participation of local Muslim intellectuals in traditional administrative institutions, local administrative structures, and emerging socio-political processes. It also analyzes the initiatives of Jadid educators and progressive thinkers aimed at improving education, the press, legal awareness, and the administrative system.

The study considers the activities of Turkestan's Muslim intellectuals in state administration not only within the framework of political processes but also in connection with ideas of social modernization, national identity, and social progress. The participation of local intellectuals in the administrative system, as well as the opportunities and limitations they faced under the existing political conditions, are examined on the basis of historical sources.

Keywords

Turkestan, Muslim intellectuals, state administration, colonial administration, Jadidism, local administration, socio-political processes, late 19th century, early 20th century.





**XIX ASR OXIRI – XX ASR BOSHLARIDA TURKISTONDA MAHALLIY
MUSULMON ZIYOLILARINING DAVLAT BOSHQARUVIDAGI
FAOLIYATI**

Alimbekova Ruxsora Yusufbekovna

Namangan olimpiya va paralimpiya sport turlariga tayyorlash markazi

o'qituvchisi

Annotatsiya

Ushbu tezisda XIX asr oxiri – XX asr boshlarida Turkiston hududida mahalliy musulmon ziyolilarining davlat boshqaruvi tizimidagi faoliyati, ularning ijtimoiy-siyosiy jarayonlardagi o'rni va jamiyat taraqqiyotiga qo'shgan hissassi tahlil qilinadi. Mazkur davr Turkiston tarixida mustamlakachilik boshqaruvi kuchaygan, shu bilan birga mahalliy ziyolilar orasida yangi siyosiy, ma'rifiy va ijtimoiy qarashlar shakllangan murakkab tarixiy bosqich sifatida namoyon bo'ladi.

Tezisda mahalliy musulmon ziyolilarining an'anaviy boshqaruv institutlari, mahalliy ma'muriy tuzilmalar hamda yangi shakllanayotgan ijtimoiy-siyosiy jarayonlardagi ishtiroki yoritiladi. Shuningdek, jadid ma'rifatparvarlari va ilg'or fikrli vakillarning ta'lim, matbuot, huquqiy ong va boshqaruv tizimini takomillashtirishga qaratilgan tashabbuslari tahlil qilinadi.

Tadqiqotda Turkiston musulmon ziyolilarining davlat boshqaruvidagi faoliyati nafaqat siyosiy jarayonlar doirasida, balki jamiyatni modernizatsiya qilish, milliy o'zlikni anglash va ijtimoiy taraqqiyot g'oyalari bilan bog'liq holda ko'rib chiqiladi. Mahalliy ziyolilarning boshqaruv tizimidagi ishtiroki, mavjud siyosiy sharoitdagi imkoniyat va cheklovlar tarixiy manbalar asosida yoritiladi.

Kalit so'zlar: Turkiston, musulmon ziyolilari, davlat boshqaruvi, mustamlaka boshqaruvi, jadidchilik, mahalliy boshqaruv, ijtimoiy-siyosiy jarayonlar, XIX asr oxiri, XX asr boshlari.



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KIRISH

XIX asr oxiri – XX asr boshlarida Turkiston hududida yuz bergan siyosiy, ijtimoiy va madaniy jarayonlar jamiyat hayotining barcha sohalariga, jumladan, boshqaruv tizimiga ham sezilarli ta’sir ko’rsatdi. Ushbu davrda Turkiston Rossiya imperiyasi mustamlakachilik boshqaruvi ostida bo’lib, mahalliy aholi siyosiy va ma’muriy jarayonlarda cheklangan imkoniyatlarga ega edi. Shunga qaramay, mahalliy musulmon ziyolilari jamiyat manfaatlarini himoya qilish, boshqaruv tizimida ishtirok etish va ijtimoiy taraqqiyot yo’llarini izlashga intildilar.

Turkistonning an’anaviy boshqaruv tizimida qozilar, mingboshilar, oqsoqollar, ulamolar va boshqa mahalliy vakillar muhim o’rin egallagan. Rossiya imperiyasi tomonidan yangi ma’muriy boshqaruv tizimi joriy etilgach, mahalliy boshqaruv institutlari o’z faoliyatini yangi siyosiy sharoitga moslashtirishga majbur bo’ldi. Bu jarayonda bilimli, zamonaviy fikrlovchi musulmon ziyolilari jamiyatning siyosiy va madaniy hayotida faol ishtirok eta boshladilar.

XIX asr oxiri – XX asr boshlarida shakllangan musulmon ziyolilar qatlami o’z faoliyatini asosan ma’rifat, ta’lim, matbuot va ijtimoiy islohotlar orqali namoyon etdi. Ular jamiyat taraqqiyoti uchun yangi usul maktablarini tashkil etish, milliy matbuotni rivojlantirish, huquqiy va siyosiy ongni oshirish kabi yo’nalishlarda faoliyat olib bordilar. Ayniqsa, jadidchilik harakati vakillari mahalliy boshqaruv va jamiyatni yangilash masalalariga alohida e’tibor qaratdilar.

Mahalliy musulmon ziyolilarining davlat boshqaruvidagi faoliyati bir necha yo’nalishda namoyon bo’ldi. Birinchidan, ular mavjud ma’muriy tizim doirasida mahalliy aholi manfaatlarini ifodalashga harakat qildilar. Ikkinchidan, ular ta’lim va ma’rifat orqali jamiyatni rivojlantirish, yangi boshqaruv tamoyillarini shakllantirish g’oyalarini ilgari surdilar. Uchinchidan, XX asr boshlarida siyosiy jarayonlarning





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faollashuvi natijasida ayrim ziyolilar davlat va jamoat boshqaruvi masalalarida faol pozitsiyani egalladilar.

Mavzuning dolzarbligi shundaki, Turkiston tarixidagi mazkur davr mahalliy ziyolilarning jamiyat boshqaruvidagi o‘rni, ularning siyosiy va ijtimoiy jarayonlarga ta’sirini chuqur o‘rganishni talab etadi. Chunki ular faoliyati nafaqat o‘z davrining ijtimoiy ehtiyojlarini aks ettirdi, balki keyingi davrlardagi milliy taraqqiyot jarayonlariga ham muayyan ta’sir ko‘rsatdi.

Ushbu tezisning maqsadi XIX asr oxiri – XX asr boshlarida Turkistonda mahalliy musulmon ziyolilarining davlat boshqaruvidagi faoliyatini, ularning jamiyat hayotidagi o‘rni va tarixiy ahamiyatini tahlil qilishdan iborat.

**TURKISTONDA MAHALLIY MUSULMON ZIYOLILARINING
BOSHQARUV TIZIMIDAGI FAOLIYAT YO‘NALISHLARI**

XIX asr oxiri – XX asr boshlarida Turkistonda mahalliy musulmon ziyolilarining boshqaruv tizimidagi faoliyati bir necha asosiy yo‘nalishlarda namoyon bo‘ldi. Ularning faoliyati mavjud siyosiy sharoit, mustamlaka boshqaruvi tizimining xususiyatlari va jamiyatning ichki ehtiyojlari bilan chambarchas bog‘liq edi. Mahalliy ziyolilar davlat boshqaruvida bevosita mansabdor sifatida yoki jamoatchilik vakillari sifatida ishtirok etib, aholining manfaatlarini ifodalashga harakat qildilar.

Birinchi navbatda, musulmon ziyolilarining faoliyati mahalliy ma’muriy boshqaruv tizimi bilan bog‘liq edi. Rossiya imperiyasi Turkiston hududida o‘zining ma’muriy boshqaruv tizimini joriy qilgan bo‘lsa-da, mahalliy aholining kundalik hayotida an’anaviy boshqaruv institutlari ma’lum darajada saqlanib qoldi. Oqsoqollar, qozilar, ulamolar va boshqa mahalliy vakillar aholi bilan davlat hokimiyati o‘rtasidagi vositachi vazifasini bajardilar. Savodli va bilimli musulmon ziyolilari ushbu tizimda faoliyat yuritib, boshqaruv jarayonlarida ishtirok etdilar.



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Ikkinchi muhim yo'nalish — sud-huquq tizimidagi faoliyat edi. Mustamlaka boshqaruvi sharoitida mahalliy aholi o'rtasidagi ayrim ijtimoiy munosabatlar an'anaviy huquqiy me'yorlar asosida tartibga solingan. Qozilik tizimida faoliyat yuritgan bilimlilar vakillar jamiyatdagi huquqiy munosabatlarni boshqarishda muhim rol o'ynadilar. Shu bilan birga, ular adolat, qonuniylik va aholining huquqiy manfaatlarini himoya qilish masalalariga e'tibor qaratdilar.

Uchinchi yo'nalish — ma'rifiy va ta'lim sohasidagi boshqaruv faoliyati hisoblanadi. Musulmon ziyolilari jamiyat taraqqiyotining asosiy omili sifatida ta'limni ko'rdilar. Ayniqsa, jadid ziyolilari yangi usul maktablarini tashkil etish, o'quv dasturlarini takomillashtirish va zamonaviy bilimlarni keng joriy qilish orqali jamiyat boshqaruvi uchun zarur bo'lgan yangi avlodni shakllantirishga intildilar. Bu faoliyat bevosita davlat boshqaruvi bilan bog'liq bo'lmasa-da, jamiyatning siyosiy va ijtimoiy rivojlanishiga katta ta'sir ko'rsatdi.

To'rtinchi yo'nalish — jamoatchilik va siyosiy tashabbuslar edi. XX asr boshlariga kelib Turkistonda ijtimoiy-siyosiy jarayonlar faollashdi. Mahalliy ziyolilar turli yig'ilishlar, matbuot nashrlari va jamoat tashkilotlari orqali jamiyat muammolarini muhokama qila boshladilar. Ular boshqaruv tizimida mahalliy aholining ishtirokini kengaytirish, ta'lim va madaniyatni rivojlantirish, ijtimoiy muammolarni hal etish bo'yicha fikrlar bildirdilar.

Ayniqsa, jadidchilik harakati vakillari davlat boshqaruvini zamonaviylashtirish, xalqning siyosiy ongini oshirish va jamiyatda islohotlarni amalga oshirish zarurligini ilgari surdilar. Ularning qarashlarida boshqaruv samaradorligi, xalq manfaatlarini hisobga olish va ma'rifatli jamiyat qurish g'oyalari muhim o'rin egalladi.

Shuni ta'kidlash kerakki, Turkiston musulmon ziyolilarining boshqaruv tizimidagi faoliyati mustamlaka siyosiy sharoiti sababli muayyan cheklovlarga ega edi. Ular yuqori darajadagi davlat qarorlarini qabul qilish imkoniyatiga to'liq ega bo'lmagan bo'lsalar-



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da, mavjud imkoniyatlar doirasida jamiyat manfaatlarini himoya qilish, ma’rifiy islohotlarni amalga oshirish va mahalliy boshqaruv jarayonlariga ta’sir ko’rsatishga intildilar.

Shunday qilib, XIX asr oxiri – XX asr boshlarida Turkiston musulmon ziyolilarining boshqaruv tizimidagi faoliyati ma’muriy, huquqiy, ma’rifiy va jamoatchilik yo’nalishlarida namoyon bo’ldi. Ularning faoliyati o’sha davrdagi murakkab siyosiy sharoitga qaramay, jamiyat taraqqiyoti va milliy ong shakllanishida muhim tarixiy omil bo’lib xizmat qildi.

XULOSA

XIX asr oxiri – XX asr boshlarida Turkistonda faoliyat yuritgan mahalliy musulmon ziyolilari murakkab siyosiy sharoitga qaramay, jamiyatning ijtimoiy-siyosiy va ma’rifiy rivojida muhim o’rin egalladilar. Ularning davlat boshqaruvidagi ishtiroki mavjud ma’muriy tizim doirasida faoliyat yuritish, mahalliy aholi manfaatlarini ifodalash hamda jamiyatni isloh qilishga qaratilgan tashabbuslarda namoyon bo’ldi.

Tadqiqot natijalari shuni ko’rsatadiki, musulmon ziyolilari boshqaruv tizimida nafaqat amaliy faoliyat olib bordilar, balki zamonaviy boshqaruv tamoyillari, ma’rifatli jamiyat va ijtimoiy taraqqiyot g’oyalarini ilgari surdilar. Ayniqsa, jadid ziyolilarining ta’lim, matbuot va jamoatchilik faoliyati orqali jamiyatning siyosiy ongini shakllantirishdagi hissasi alohida ahamiyatga ega bo’ldi.

Shunday qilib, XIX asr oxiri – XX asr boshlarida Turkiston musulmon ziyolilarining faoliyati davlat boshqaruvi tarixida muhim bosqichlardan biri bo’lib, ular milliy tafakkur, ma’rifiy taraqqiyot va ijtimoiy islohotlar jarayonining shakllanishiga katta ta’sir ko’rsatdilar.

XULOSA

XIX asr oxiri – XX asr boshlarida Turkistonda faoliyat yuritgan mahalliy musulmon ziyolilari murakkab siyosiy sharoitga qaramay, jamiyatning ijtimoiy-siyosiy



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va ma'rifiy rivojida muhim o'rin egalladilar. Ularning davlat boshqaruvidagi ishtiroki mavjud ma'muriy tizim doirasida faoliyat yuritish, mahalliy aholi manfaatlarini ifodalash hamda jamiyatni isloh qilishga qaratilgan tashabbuslarda namoyon bo'ldi.

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UZBEKISTAN'S EDUCATION SYSTEM DURING THE YEARS OF THE SECOND WORLD WAR: PROBLEMS, ADAPTATION MECHANISMS, AND ORGANIZATIONAL CHANGES

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Abstract

The paper examines the reorganization of Uzbekistan's education system under wartime conditions from 1941 to 1945 using historical-comparative and problem-chronological methods. It focuses on teacher shortages, insufficient school premises and learning materials, the integration of evacuated children and academic institutions, and the adaptation of curricula to home-front needs. The findings show that multi-shift schooling, short-term teacher training, staff redeployment, and the expansion of vocational education functioned as emergency adaptation mechanisms rather than as a long-term reform. These measures preserved educational continuity but did not fully resolve problems of quality, attendance, and regional inequality.

Keywords

Second World War, Uzbekistan, education system, public education, schools, teachers, evacuation, vocational education, institutional adaptation.

**IKKINCHI JAHON URUSHI YILLARIDA O'ZBEKISTON TA'LIM TIZIMI:
MUAMMOLAR, MOSLASHUV MEXANIZMLARI VA TASHKILIY
O'ZGARISHLAR**

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Annotatsiya. Tezisda 1941–1945-yillarda O‘zbekiston ta’lim tizimining urush sharoitida qayta tashkil etilishi tarixiy-qiyosiy va muammoviy-xronologik metodlar asosida tahlil qilinadi. Pedagog kadrlar tanqisligi, maktab binolari va o‘quv vositalari yetishmasligi, evakuatsiya qilingan bolalar hamda ilmiy-ta’lim muassasalarini qabul qilish, o‘quv mazmunining front orti ehtiyojlariga moslashtirilishi asosiy yo‘nalishlar sifatida ko‘rib chiqiladi. Natijada ko‘p smenali ta’lim, qisqa muddatli pedagogik tayyorlov, kadrlarni qayta safarbar etish va kasbiy ta’limni kuchaytirish uzoq muddatli islohotdan ko‘ra favqulodda moslashuv mexanizmlari bo‘lgani asoslanadi. Ushbu choralar ta’lim uzluksizligini saqlagan bo‘lsa-da, sifat, davomad va hududiy tafovutlar bilan bog‘liq muammolarni to‘liq bartaraf eta olmagan.

Kalit so‘zlar: Ikkinchi jahon urushi, O‘zbekiston, ta’lim tizimi, xalq maorifi, maktab, pedagog kadrlar, evakuatsiya, kasbiy ta’lim, tashkiliy moslashuv.

Аннотация. В тезисе на основе историко-сравнительного и проблемно-хронологического методов анализируется реорганизация системы образования Узбекистана в условиях войны в 1941–1945 годах. Рассматриваются дефицит педагогических кадров, нехватка школьных зданий и учебных средств, прием эвакуированных детей и научно-образовательных учреждений, а также адаптация содержания обучения к потребностям тыла. Обосновано, что многосменное обучение, краткосрочная подготовка учителей, перераспределение кадров и усиление профессионального образования являлись механизмами экстренной адаптации, а не долгосрочной реформой. Эти меры обеспечили непрерывность обучения, но не устранили полностью проблемы качества, посещаемости и территориальных различий.

Ключевые слова: Вторая мировая война, Узбекистан, система образования, народное образование, школа, педагогические кадры, эвакуация, профессиональное образование, организационная адаптация.





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Ikkinchi jahon urushi O‘zbekistonning ijtimoiy-iqtisodiy va madaniy hayotini keskin o‘zgartirdi. 1941-yil iyunidan boshlab sovet hududida harbiy harakatlarning kengayishi respublika resurslarini front ehtiyojlariga bo‘ysundirdi. Bu jarayonda ta’lim tizimi ikki qarama-qarshi vazifani bir vaqtda bajarishi lozim edi: bolalar va yoshlarning o‘qishini uzluksiz davom ettirish hamda sanoat, qishloq xo‘jaligi, tibbiyot va mudofaa uchun zarur kadrlarni tezkor tayyorlash. O‘qituvchilarning safarbar etilishi, binolarning hospital va harbiy muassasalarga berilishi, darslik hamda o‘quv qurollari taqchilligi bu vazifalarni yanada murakkablashtirdi [1, 93–100-b.; 8, 490–494-b.].

Mavzuga oid dastlabki maxsus tadqiqotlarda urush yillaridagi xalq maorifi va maktab tizimining tashkiliy faoliyati batafsil yoritilgan [2; 5]. Mustaqillik davri tadqiqotlari esa sovet davri hisobotlarini tanqidiy baholash, ta’limdagi hududiy tafovutlar, majburiy mehnat va mafkuraviy yo‘naltirishning oqibatlarini aniqlash imkonini berdi [1; 4]. Shunga qaramay, urush davri ta’limini faqat inqiroz yoki faqat qahramonona safarbarlik sifatida talqin qilish hodisaning murakkabligini to‘liq ochmaydi. Uni resurslar keskin qisqargan sharoitda institutlarning qanday saqlangani va qayta vazifalantirilgani nuqtayi nazaridan o‘rganish muhimdir.

Tadqiqotning maqsadi 1941–1945-yillarda O‘zbekiston ta’lim tizimida yuzaga kelgan asosiy muammolarni, ularga javoban qo‘llangan moslashuv mexanizmlarini va tashkiliy o‘zgarishlarning natijalarini tahlil qilishdan iborat. Tezisning ilmiy yondashuvi urush davridagi o‘zgarishlarni to‘rtta o‘zaro bog‘liq yo‘nalish — resurslarni qayta taqsimlash, ta’lim jadvalini moslashtirish, pedagog kadrlar o‘rnini to‘ldirish va o‘quv mazmunini amaliy ehtiyojlarga yo‘naltirish — asosida izohlash bilan belgilanadi.

TADQIQOT METODOLOGIYASI VA MANBALARI

Tadqiqot tarixiylik, xolislik va tizimlilik tamoyillariga tayangan holda olib borildi. Tarixiy-qiyosiy metod urushgacha bo‘lgan ko‘rsatkichlar bilan 1941–1945-yillardagi



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holatni solishtirishga, muammoviy-xronologik metod esa kadrlar, moddiy ta’minot, evakuatsiya va o‘quv mazmunidagi o‘zgarishlarni ketma-ket tahlil qilishga xizmat qildi. Tizimli tahlil umumta’lim maktablari, pedagogika bilim yurtlari, texnikumlar va oliy ta’lim muassasalarini yagona kadrlar tayyorlash tizimining bo‘g‘inlari sifatida ko‘rish imkonini berdi. Manba bazasini nashr etilgan hujjatlar to‘plamlari, tarixiy-statistik ma’lumotlar, maxsus monografiyalar va zamonaviy ilmiy maqolalar tashkil etdi. Sovet davri nashrlaridagi mafkuraviy baholar va yutuqlarni bo‘rttirish ehtimoli hisobga olinib, ma’lumotlar turli tadqiqotlar bilan o‘zaro solishtirildi [2; 6; 7].

NATIJALAR VA MUHOKAMA

Ta’lim tarmog‘ining qisqarishi va moddiy taqchillik. Urushning dastlabki bosqichida maktab tarmog‘i hamda o‘quvchilar kontingenti sezilarli qisqardi. Tadqiqotlarda urush yillarida maktablar soni 4 797 tadan 4 470 taga, o‘quvchilar soni esa 1 223 369 nafardan 895 975 nafarga tushgani qayd etiladi [3, 94-b.]. Taxminan 180 ta maktab binosining mudofaa ehtiyojlariga ajratilishi va 1942/1943-o‘quv yilida qariyb 200 ta boshlang‘ich maktabning ish boshlay olmaganini moddiy inqiroz ko‘lamini ko‘rsatadi [6, 127-b.]. Bunday sharoitda maktablarni birlashtirish, mavjud binolardan navbat bilan foydalanish, darslarni ikki yoki uch smenada o‘tkazish hamda ayrim dasturlarni qisqartirish keng qo‘llandi. Demak, tarmoq to‘liq to‘xtamadi, biroq uning faoliyati kamroq bino va vosita bilan ko‘proq o‘quvchini qamrab olish zaruratiga bo‘ysundi.

Moddiy yetishmovchilik faqat bino masalasi bilan cheklanmagan. Isitish vositalari, parta, daftar, qog‘oz va darsliklarning kamligi darslarning muntazamligi hamda sifatiga ta’sir ko‘rsatdi. Bir darslikdan bir nechta o‘quvchining foydalanishi, qish oylarida mashg‘ulotlarning qisqarishi va sinflarning haddan tashqari to‘lishi pedagogik jarayonni murakkablashtirdi [2, 99–100-b.]. Shu sababli urush davridagi ta’lim uzluksizligini



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faqat maktablarning ochiq qolishi bilan emas, real o‘quv sharoiti va bilim sifati bilan birga baholash zarur.

Pedagog kadrlar tanqisligi va o‘rnini to‘ldirish siyosati. O‘qituvchilarning frontga, sanoat va boshqaruv ishlariga jalb qilinishi ayniqsa qishloq maktablarida mutaxassislar tanqisligini kuchaytirdi. Muammoni yumshatish uchun xotin-qizlar, nafaqadagi pedagoglar, pedagogika bilim yurtlari talabalari va qisqa muddatli kurs bitiruvchilari ishga jalb etildi. 1941–1943-yillarda qisqa muddatli kurslarda 16 mingga yaqin o‘qituvchi tayyorlangani qayd etiladi [6, 128-b.]. Mazkur yechim maktablarning yopilib ketishini chekladi, ammo tezkor tayyorlangan kadrlarning kasbiy saviyasi bir xil bo‘lmagani sababli ta’lim sifati bo‘yicha yangi tavakkallarni yuzaga keltirdi.

Kadrlar tarkibidagi o‘zgarish xotin-qizlarning ta’lim va jamoat hayotidagi ishtirokini kengaytirdi. Biroq bu jarayonni faqat ijobiy gender siljishi sifatida baholash yetarli emas: ayol pedagoglar o‘qituvchilik bilan bir qatorda ishlab chiqarish, qishloq xo‘jaligi va ijtimoiy yordam ishlarida ham qatnashgan. Natijada ularning mehnat yuklamasi ortgan, ta’lim sifati esa hududlar va fanlar bo‘yicha notekis bo‘lib qolgan.

Evakuatsiya va ta’lim muhitining kengayishi. O‘zbekiston janglar kechayotgan hududlardan ko‘chirilgan bolalar, pedagoglar, olimlar va ayrim ta’lim muassasalarini qabul qildi. Evakuatsiya qilingan bolalarni maktablarga joylashtirish o‘quvchilar sonini oshirib, sinfxona, yotoqxona va pedagoglarga bo‘lgan ehtiyojni kuchaytirdi. Til va dasturdagi farqlar hamda ruhiy-ijtimoiy moslashuv muammolari ta’limni tashkil etishni qiyinlashtirdi [2, 99–100-b.]. Shu bilan birga, ko‘chirib keltirilgan professor-o‘qituvchilar mahalliy oliy ta’limda yangi kurslar o‘qidi, ilmiy tadqiqotlarni davom ettirdi va mahalliy ilmiy-pedagogik kadrlar tayyorlashga ko‘maklashdi [1, 95–100-b.]. Evakuatsiya shu bois bir vaqtning o‘zida ham tizimga qo‘shimcha yuk, ham intellektual resurs olib kirgan ikki yoqlama jarayon edi.





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O'quv mazmunining qayta yo'naltirilishi. Urush sharoitida maktab ta'limi umumiy bilim berish bilan birga harbiy-jismoniy tayyorgarlik, sanitariya, birinchi tibbiy yordam va amaliy mehnat ko'nikmalarini shakllantirishga yo'naltirildi. O'quvchilar hosil yig'ish, dorivor o'simlik va ikkilamchi xomashyo to'plash, gospitallarga hamda frontdagi askarlar oilalariga yordam ko'rsatishga jalb etildi [6, 127–128-b.]. Bu faoliyatlar urush davri ehtiyojlariga javob bergan bo'lsa-da, ayniqsa qishloq joylarda davomadning pasayishi va o'quv vaqtining qisqarishiga olib keldi. Bundan tashqari, ta'lim mazmuni sovet davlatining mafkuraviy vazifalariga bo'ysundirilib, vatanparvarlik, intizom va jamoaviy mas'uliyat siyosiy talqin bilan berildi [4, 1–11-b.].

1943-yilda 8–15 yoshli bolalarni hisobga olish va majburiy ta'limga qayta jalb etishga qaratilgan choralar, 1944/1945-o'quv yilidan ayrim sinflarda bitiruv imtihonlari hamda yetuklik attestatini joriy etish ta'limni me'yorlashtirishga urinish bo'ldi [6, 127–128-b.]. Bu qarorlar urushning keyingi bosqichida tizim favqulodda saqlab qolish rejimidan nazorat va sifat mezonlarini qayta tiklash bosqichiga o'ta boshlaganini ko'rsatadi.

Kasbiy va oliy ta'limning front orti ehtiyojlariga moslashuvi. Ko'chirilgan sanoat korxonalari texnik, muhandis, tibbiyot xodimi va malakali ishchilarga talabni oshirdi. Shu sababli hunar maktablari, fabrika-zavod ta'limi muassasalari, texnikumlar va oliy o'quv yurtlarida o'qish muddatlari hamda dasturlar amaliy ehtiyojlarga moslashtirildi. Ayrim oliy ta'lim muassasalari vaqtincha birlashtirildi, bo'shagan binolar boshqa maqsadlarda foydalanildi, tibbiyot, muhandislik, qishloq xo'jaligi va pedagogika yo'nalishlariga ustuvorlik berildi [1, 100–108-b.; 7]. Natijada ta'lim va ishlab chiqarish o'rtasidagi aloqa kuchaydi, biroq fundamental tayyorgarlikning qisqarishi va talabalarning qo'shimcha mehnatga jalb etilishi o'quv sifatiga bosim o'tkazdi.



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Tahlil natijasida urush davri ta’lim tizimining moslashuvi to’rtta asosiy mexanizm orqali amalga oshgani aniqlandi: mavjud bino va jihozlarni qayta taqsimlash; ko‘p smenali va qisqartirilgan ta’limni joriy etish; pedagog kadrlar o‘rnini tezkor kurslar va yangi ijtimoiy guruhlar hisobiga to‘ldirish; ta’lim mazmunini ishlab chiqarish hamda mudofaa ehtiyojlariga yaqinlashtirish. Ushbu mexanizmlar o‘zaro bog‘liq bo‘lib, ta’limning institutsional davomiyligini saqladi. Ammo ular resurs yetishmovchiligi, bilim sifati, davomad va shahar-qishloq tafovutlarini to‘liq bartaraf etmadi. Shu ma’noda urush davridagi tashkiliy o‘zgarishlar yaxlit modernizatsiya dasturi emas, favqulodda sharoitga javoban shakllangan vaqtinchalik boshqaruv modeli edi.

XULOSA

Birinchidan, 1941–1945-yillarda O‘zbekiston ta’lim tizimidagi inqiroz faqat pedagog kadrlar tanqisligi bilan cheklanmagan; bino, moliya, o‘quv vositalari, davomad va boshqaruvdagi uzilishlar bir-birini kuchaytirgan tizimli muammo bo‘lgan.

Ikkinchidan, maktablarni birlashtirish, ko‘p smenali o‘qish, qisqa muddatli pedagogik kurslar va kasbiy tayyorgarlikni jadallashtirish ta’lim muassasalarining faoliyatini saqlab qoldi. Biroq uzluksizlikning ta’minlanishi yuqori sifat saqlanganini anglatmaydi.

Uchinchidan, evakuatsiya ta’lim tizimiga qo‘shimcha yuk tushirgan bo‘lsa-da, ko‘chirilgan olim va pedagoglarning faoliyati respublika oliy ta’limi hamda ilmiy muhitiga yangi tajriba va intellektual resurs olib kirdi.

To‘rtinchidan, urush davri ta’lim siyosatini baholashda rasmiy natijalar bilan birga pedagoglarning ortiqcha mehnati, o‘quvchilarning ishlab chiqarish va qishloq xo‘jaligi ishlariga jalb etilishi, mafkuraviy bosim hamda hududiy tengsizliklar ham hisobga olinishi kerak. Ana shundagina mazkur davr ta’lim tizimining barqarorligi va uning ijtimoiy qiymati xolis yoritiladi.





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High Recall and Weak Localization in Spatially Weighted Camera Soiling Segmentation

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Abstract

A vehicle camera soiling detector can achieve high recall by labelling most of an image as contaminated. This study re-examines recorded pixel counts from a U-Net baseline and two spatially weighted training runs, using a fixed 3×3 grid and a Gaussian priority map. Each evaluation contains 2,457,600 pixels at a decision threshold of 0.5. Recalculation shows that the Gaussian run detects 99.989% of labelled defect pixels but correctly retains only 0.055% of clean pixels. Its predicted defect area covers 99.972% of the evaluated pixels. Its Dice score of 0.761949 exceeds an all-defect predictor by only 0.00497 percentage points. The baseline Dice score, 0.762570, is slightly below its own all-defect reference; the grid run gives 0.675116. Balanced accuracy and Matthews correlation confirm weak discrimination in all three records. The baseline and weighted evaluations have different foreground totals, so these results are not treated as a controlled comparison of loss functions. An analytical examination also shows that unnormalized spatial weights change the balance between binary cross-entropy and Dice terms. The contribution is a retrospective failure analysis: it identifies extensive oversegmentation, separates this observation from unproven explanations, and specifies the controls needed before spatial weighting can support decisions about vehicle camera availability.

Keywords

vehicle camera; lens soiling; U-Net; spatially weighted loss; oversegmentation; Dice coefficient; camera health monitoring.



1 Introduction

A useful camera soiling mask must identify contaminated pixels while preserving clear parts of the image. Detecting nearly every contaminated pixel is insufficient if the same model rejects almost every clean pixel. For a car using cameras to observe lanes, surrounding vehicles, or parking obstacles, this distinction affects how much visual information remains available after a defect warning.

WoodScape includes fisheye imagery and perception tasks for automotive surround-view systems [1]. SoilingNet addresses contamination detection specifically for automotive cameras [2]. These studies establish the application context, but a particular implementation still requires evaluation of both missed contamination and unnecessary rejection of clear image regions. A segmentation mask is an intermediate measurement; its overlap score does not establish vehicle-level safety.

Spatial weighting offers an intuitive way to emphasize selected image locations. A central region may seem more important than an image corner, and a smooth Gaussian map avoids abrupt changes between regions. However, an image-coordinate preference does not by itself improve defect discrimination. It can change the training objective without resolving a model's tendency to predict contamination everywhere.

The present work revisits a published U-Net baseline [3] and recorded follow-up runs with grid and Gaussian weights. It asks a narrower question than whether spatial weighting is generally effective: what do these particular evaluation counts reveal when clean-pixel specificity, predicted area, and a trivial all-defect reference are examined alongside Dice and recall? The new contribution consists of this recalculation, an audit of comparability, and an analysis of the mixed loss. The baseline measurements are reused with attribution; no new network training is claimed.

2 LITERATURE REVIEW



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U-Net combines an encoder–decoder structure with skip connections to recover spatial detail [4]. Its architecture permits many training objectives, and those objectives address different problems. Generalised Dice uses class-volume information to handle imbalanced segmentation [5]. Focal loss reduces the relative influence of easy examples during detection training [6]. The Tversky formulation permits different penalties for false positives and false negatives [7]. These mechanisms differ from assigning a fixed multiplier to an image coordinate.

A coordinate weight is applied wherever a pixel lies, regardless of whether that pixel is clean or contaminated. It should therefore not be described as class balancing unless its construction explicitly accounts for class membership. In the present records, contaminated pixels comprise about 62% of the pooled labels. The defect class is not the minority class at this evaluation scale, although individual images may have different proportions.

Evaluation measures also answer different questions. Foreground Dice and intersection over union (IoU) omit true negatives from their formulas. Matthews correlation coefficient (MCC) incorporates all four entries of the confusion matrix and can expose imbalanced prediction behaviour that an isolated F1 score does not adequately describe [8]. Here, MCC is used together with recall, specificity, and balanced accuracy. No single measure substitutes for the full counts.

3 Materials and retrospective analysis

3.1 Evaluation records and their limits

The experiment records describe a WoodScape soiling subset with 499 development images and 150 test images, resized to 128×128 pixels. The development split is recorded as 399 training and 100 validation images. Masks are converted to a binary target, with nonzero values treated as defect pixels. This operational definition combines the retained nonzero mask categories; it does not distinguish contaminant



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types or opacity levels. A sigmoid output is thresholded at 0.5. Table 1 reports the retained pooled counts, where a positive prediction denotes a defect.

Table 1. Recorded pixel counts used for all recalculations.

Run	True negative	False positive	False negative	True positive
Baseline	47,520	891,471	33,390	1,485,219
3×3 grid	215,754	729,495	369,982	1,142,369
Gaussian	522	944,727	162	1,512,189

Each row sums to 2,457,600 pixels, equal to $150 \times 128 \times 128$. The baseline contains 1,518,609 positive labels, whereas both weighted records contain 1,512,351. The difference is 6,258 pixels, or 0.255% of the evaluation total. Equal image counts therefore do not establish identical processed masks. Matching totals for the two weighted runs also do not prove identical image and mask identities.

The retained baseline script resizes categorical masks using the image library's default interpolation before binarization; the weighted configuration records specify nearest-neighbour resizing. These procedures can produce different binary boundaries. They provide a plausible reason to investigate the label discrepancy, but the aggregate counts do not establish its cause. A checkpoint-linked list of processed image and mask hashes is needed to resolve it.

There are further configuration uncertainties. The published baseline describes Dice training, while a retained script combines binary cross-entropy with Dice. That script also supplies masks as the label argument of a single image augmentation generator, without an explicit synchronized mask transformation. This is an unresolved alignment concern for geometric augmentation. The surviving records do not establish which script version generated every checkpoint. Accordingly, the analysis does not attribute differences between runs solely to spatial weighting.

3.2 Spatial maps and recorded loss

The two weighted configurations use a U-Net family model and the same stated mixed-loss form. Let $y_i \in \{0,1\}$ be the target, p_i the predicted defect probability, w_i a positive spatial weight, and N the number of pixels over which the loss is reduced. Binary cross-entropy at a pixel is $\ell_i = -y_i \log p_i - (1 - y_i) \log(1 - p_i)$. The recorded mixing coefficient is $\lambda = 0.5$:

$$L = \frac{\lambda}{N} \sum_{i=1}^N w_i \ell_i + (1 - \lambda)(1 - D_w) \quad (1)$$

$$D_w = \frac{2 \sum_i w_i y_i p_i + \varepsilon}{\sum_i w_i y_i + \sum_i w_i p_i + \varepsilon} \quad (2)$$

The smoothing constant is $\varepsilon = 10^{-7}$. The grid assigns weights $[1, 1.5, 1]$ to the top row, $[1.5, 3, 1.5]$ to the middle row, and $[1, 2, 1]$ to the bottom row. The Gaussian map is $w(x,y) = 1 + 2 \exp\{-(x - 64)^2/(2 \times 32^2) + (y - 74.24)^2/(2 \times 24^2)\}$, for integer coordinates from 0 to 127. Its centre lies slightly below the image midpoint. Direct calculation gives a mean weight of 1.554279 and a maximum of 2.999900. Figure 1 depicts these training priorities; it does not show predicted contamination.

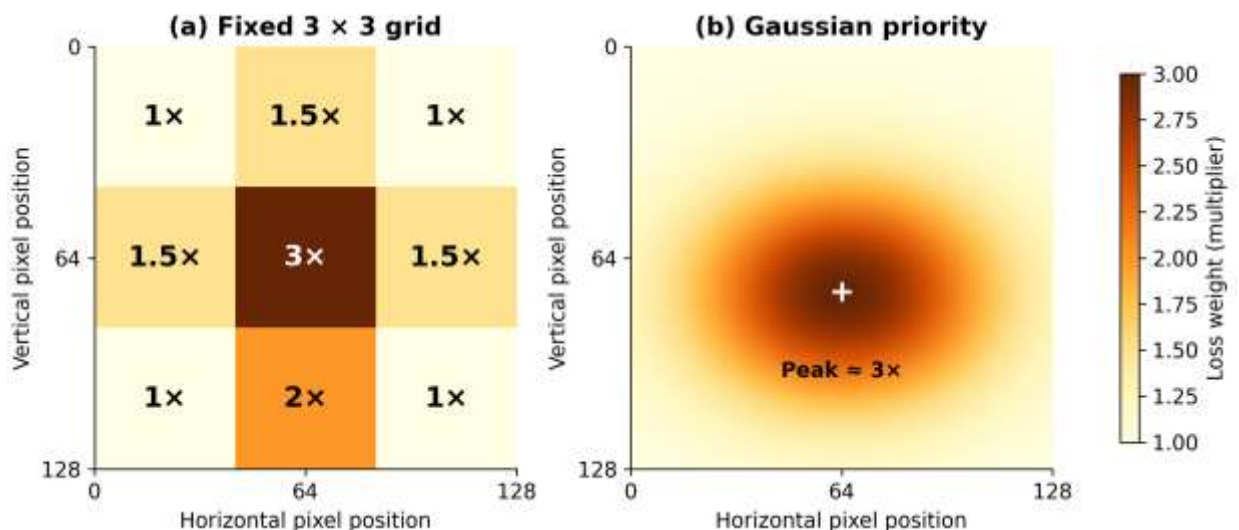


Figure 1. Spatial loss multipliers. Larger values increase the contribution of a location to the loss. The maps encode fixed image priorities, not measured driving risk.

3.3 Recalculated measures and a null reference

All evaluation measures are unweighted and calculated from the pooled counts in Table 1. Recall is $TP/(TP + FN)$, specificity is $TN/(TN + FP)$, and balanced accuracy is their arithmetic mean. Foreground IoU is $TP/(TP + FP + FN)$, and Dice is $2TP/(2TP + FP + FN)$. MCC is $(TP \cdot TN - FP \cdot FN)$ divided by the square root of $(TP + FP)(TP + FN)(TN + FP)(TN + FN)$. These pooled values are not averages of per-image scores.

A useful reference predicts every pixel as defective. If $\pi = (TP + FN)/N$ is the observed label prevalence, this predictor has recall 1, specificity 0, balanced accuracy 0.5, and the following foreground scores:

$$IoU_{all} = \pi, \quad Dice_{all} = \frac{2\pi}{1 + \pi} \quad (3)$$

The reference is calculated separately for each record because their label totals differ. Its MCC is undefined owing to a zero denominator. It is an evaluation check, not a candidate deployment method. A model close to this reference may receive a substantial foreground overlap score while contributing little useful separation of clean and contaminated pixels.

4 Results

4.1 High recall conceals rejection of clean pixels

Table 2. Metrics recalculated from pooled counts. Higher is better for all listed measures; MCC can be negative.

Measure	Baseline	3 × 3 grid	Gaussian
Precision	0.624911	0.610284	0.615483
Recall	0.978013	0.755360	0.999893
Specificity	0.050608	0.228251	0.000552

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Foreground IoU	0.616253	0.509566	0.615442
Foreground Dice	0.762570	0.675116	0.761949
Balanced accuracy	0.514310	0.491805	0.500223
MCC	0.077936	-0.018714	0.012982

The baseline detects 97.801% of labelled defect pixels, but preserves only 5.061% of clean pixels. The Gaussian record is more extreme: recall reaches 99.989%, while specificity is 0.055%. Of 945,249 clean pixels in that record, 944,727 are classified as defective. Only 684 pixels in the entire evaluation are predicted clean: 522 true negatives and 162 false negatives.

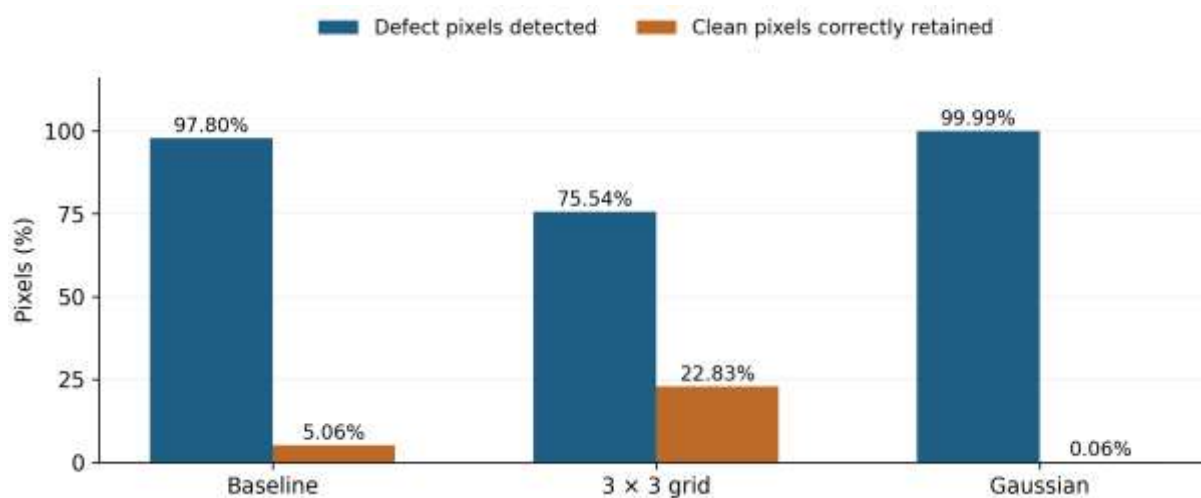


Figure 2. Defect detection and clean-pixel preservation at threshold 0.5. The Gaussian run's almost complete defect recall accompanies almost complete rejection of clean pixels.

The grid record preserves a larger fraction of clean pixels, 22.825%, but its defect recall is 75.536%. Its balanced accuracy is 0.491805 and MCC is -0.018714 . This describes weak pooled discrimination at the recorded threshold. Without matched evaluation inputs and repeated training runs, it is not evidence that the grid weighting itself caused the lower scores.

4.2 Predicted area and the all-defect comparison

The predicted foreground proportions are 96.708% for the baseline, 76.166% for the grid, and 99.972% for the Gaussian run. Each exceeds its corresponding labelled foreground proportion. Figure 3 makes this excess visible. It supports a conclusion of oversegmentation at the pooled pixel level, but cannot show where the excess occurs or whether individual masks are connected, fragmented, or displaced.

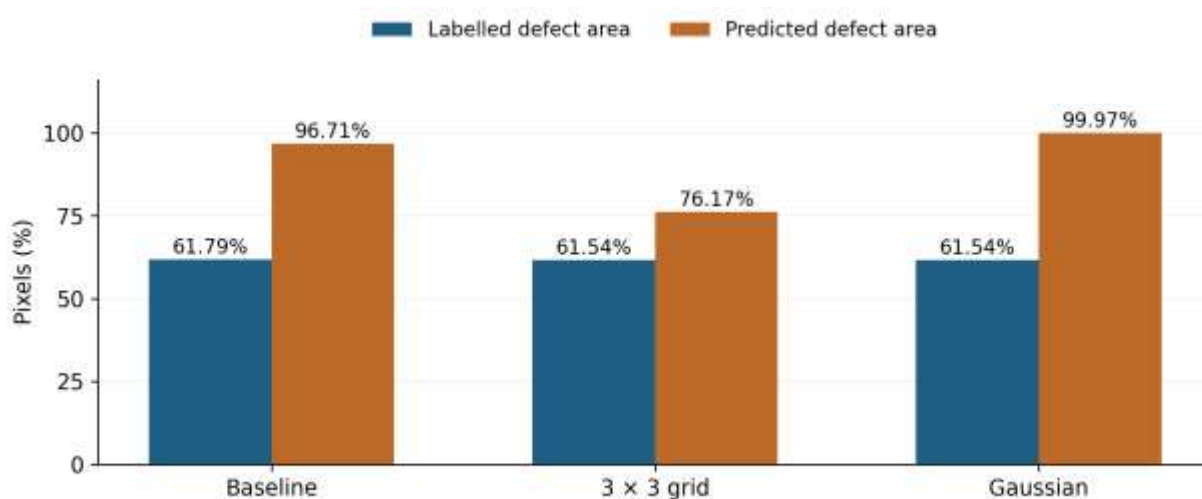


Figure 3. Labelled and predicted defect coverage. Bars summarize pooled pixels in each record; they do not imply that the three runs used identical processed masks.

Table 3. Dice relative to predicting every pixel as defective. pp denotes percentage points.

Run	Observed Dice	All-defect Dice	Difference (pp)
Baseline	0.762570	0.763848	-0.12777
3 × 3 grid	0.675116	0.761899	-8.67830
Gaussian	0.761949	0.761899	+0.00497

The Gaussian Dice score exceeds its all-defect reference by 0.00497 percentage points. Its predictions recover 522 clean pixels while losing 162 defect pixels, giving



only 360 additional correct classifications compared with the all-defect rule. The baseline Dice score is 0.12777 percentage points below its own reference. The grid score is 8.67830 percentage points below its reference. These comparisons expose how little the reported foreground scores establish about localization in these records.

This does not mean that an all-defect mask is preferable for a vehicle. It would discard the complete camera view. The comparison instead shows why a Dice value near 0.76, interpreted without label prevalence and specificity, can give an unduly favourable impression. Balanced accuracy near 0.5 and MCC near zero reinforce the same diagnosis using different summaries of the counts.

5 Interpretation and implications for vehicle cameras

5.1 Weight geometry is not the only changed quantity

In Equation (1), weighted cross-entropy is divided by N rather than by the sum of weights. Multiplying every weight by a constant therefore multiplies the cross-entropy term by that constant. The weighted Dice ratio is unchanged when ε is zero and approximately unchanged when the smoothing term is negligible. Consequently, increasing the mean weight changes the balance of the two loss components even when their nominal coefficients remain 0.5 and 0.5.

For the recorded Gaussian map, the mean multiplier is about 1.554. This does not imply a 55.4% increase in the realized cross-entropy loss, because large errors may occupy particular locations. It means that the weighting changes both spatial emphasis and overall scaling. A controlled test should compare the original map with a unit-mean version, or divide weighted cross-entropy by the sum of weights. Such normalization would isolate one confound; no improved segmentation result from that change is claimed here.

5.2 Why foreground overlap needs a background check



A restricted constant-output example helps explain the attraction of high foreground probabilities. Suppose every pixel has the same probability c , and let π_w be the weighted foreground proportion. Ignoring the negligible smoothing term for a nonempty foreground, Equation (2) becomes

$$D_w(c) = \frac{2c\pi_w}{c + \pi_w}, \quad \pi_w = \frac{\sum_i w_i y_i}{\sum_i w_i} \quad (4)$$

For positive π_w , this expression increases with c . Thus, within the constant-output family, foreground Dice alone rewards increasing the shared probability. This observation is not a proof that the trained network minimizes the combined loss by predicting all defects. Cross-entropy penalizes confident false positives and diverges as c approaches 1 when clean pixels have positive weight. The recorded behaviour may involve optimization, preprocessing, target alignment, or checkpoint selection. The present evidence does not separate those causes.

5.3 Consequences for camera availability decisions

A contamination detector may feed a cleaning request, a regional validity mask, or a decision to limit use of a vehicle camera. Excess false positives could remove clear image regions or produce unnecessary cleaning requests. Excess false negatives could leave contaminated regions in use. These are plausible consequences of the error types, not measured outcomes of this study: no object detector, driving controller, cleaning mechanism, or road trial was evaluated.

The location of an error also matters, but its importance depends on the camera and driving task. The centre of a forward-facing view and the centre of a side fisheye view do not necessarily carry the same information. A fixed central priority map is therefore a modelling assumption. The pooled counts cannot establish improved detection in a road corridor, better visibility of nearby cars, or a gain in parking performance. Those claims require spatially resolved predictions and a defined downstream task.



6 Limitations and requirements for a controlled follow-up

The analysis uses one aggregate evaluation record per configuration. It cannot estimate variation across training seeds, recover per-image scores, assess threshold sensitivity, or inspect defect boundaries. The large number of pixels must not be mistaken for millions of independent observations: neighbouring pixels share image content and prediction errors. Confidence intervals based on independent pixel trials would not be justified.

A follow-up should first freeze the test-image list and processed masks, record their hashes, and verify synchronized image–mask transformations. Categorical masks should use a documented interpolation and class mapping. The baseline and weighted models should then share architecture, data split, training budget, and checkpoint selection. Comparing repeated seeds on the same images would permit paired analysis at image or sequence level. Grouping related frames and camera views during splitting would also reduce the risk of information leaking between development and evaluation sets.

The next comparison should report both foreground and background behaviour, including per-image Dice, specificity, predicted area, and performance within predefined image regions. Weight normalization should be a separate experimental factor. Thresholds should be selected using validation data before test evaluation. Only after these checks would it be meaningful to ask whether a priority map improves a particular vehicle perception or camera-maintenance task.

7 Conclusion

The recorded runs demonstrate a failure of interpretation more clearly than a failure of spatial weighting as a general method. Near-perfect recall in the Gaussian run accompanies a mask that marks 99.972% of pixels as defective. Its Dice score is almost identical to an all-defect reference, while the baseline score falls slightly below its



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corresponding reference. Neither result provides convincing evidence of useful clean–defect separation. These findings support a practical requirement for vehicle camera research: report clean-pixel preservation and an all-defect reference whenever foreground overlap is used to evaluate soiling masks. They also identify two controls for future loss comparisons—identical processed labels and explicit normalization of spatial weights. The available counts justify the diagnosis of extensive oversegmentation; they do not establish its unique cause or rule out spatial weighting under a better controlled implementation.

Data and analysis statement

The baseline measurements originate from the author's published study [3]. The grid and Gaussian counts are retained records of follow-up experiments, reproduced in Table 1. All numerical results added in this article are deterministic recalculations from those counts or from the stated weight maps. The tables and equations provide the inputs needed to reproduce that analysis. No new trained model, additional camera dataset, or vehicle test result is introduced.

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LEGAL INDIVIDUALIZATION OF PARENTAL RELATIONS AFTER DIVORCE: MECHANISMS FOR ENSURING A STABLE FAMILY ENVIRONMENT FOR THE CHILD

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Abstract

This thesis examines the legal individualization of parental relations after divorce and mechanisms for ensuring a stable family environment for the child. Divorce terminates the marital relationship between spouses but does not terminate parental rights and obligations. The study analyzes disputes concerning the child's residence, contact with parents, participation in educational and medical decisions, and financial support. Official statistics record 46,914 divorces in Uzbekistan in 2025 and 24,815 in the first half of 2026, demonstrating the practical relevance of improving post-divorce parental relations. The author proposes introducing an individualized post-divorce parenting plan linked to the best interests of the child.

Keywords

divorce, parenting, child, right to contact, residence, parental responsibility, parenting plan, best interests of the child, family dispute.

NIKOHDA AJRATISHDAN KEYINGI OTA-ONALIK MUNOSABATLARINI HUQUQIY INDIVIDUALLASHTIRISH: BOLANING BARQAROR OILAVIY MUHITINI TA'MINLASH MEXANIZMLARI

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Annotatsiya. Mazkur tezis nikohdan ajratishdan keyingi ota-onalik munosabatlarini huquqiy tartibga solish masalasiga bag'ishlangan. Tadqiqotda nikohning tugatilishi ota-onalik huquq va majburiyatlarini tugatmasligi, biroq





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amaliyotda bolaning yashash joyi, ota-ona bilan muloqoti, ta’lim va tibbiy masalalarda qaror qabul qilish, moddiy ta’minot va boshqa masalalar bo’yicha yangi nizolarni yuzaga keltirishi tahlil qilinadi. O‘zbekiston Respublikasida nikohdan ajralishlar sonining 2025-yilda 46 914 taga, 2026-yil I yarim yilligida 24 815 taga yetgani mazkur munosabatlarni takomillashtirishning amaliy dolzarbligini ko‘rsatadi. Muallif tomonidan nikohdan ajratishdan keyingi ota-onalik rejasini joriy etish va uni bolaning eng ustun manfaatlari bilan bog‘lash taklif etiladi.

Kalit so‘zlar: nikohdan ajratish, ota-onalik, bola, muloqot huquqi, yashash joyi, ota-ona mas’uliyati, ota-onalik rejasi, bola manfaatlari, oilaviy nizo.

Аннотация. В тезисе исследуется правовая индивидуализация родительских отношений после расторжения брака и механизмы обеспечения стабильной семейной среды для ребенка. Расторжение брака прекращает брачные отношения между супругами, но не прекращает родительские права и обязанности. Анализируются вопросы места жительства ребенка, общения с родителями, участия родителей в принятии решений в сфере образования и медицинской помощи, а также материального содержания. Согласно официальным статистическим данным, в 2025 году в Узбекистане зарегистрировано 46 914 разводов, а в первом полугодии 2026 года — 24 815, что подтверждает практическую актуальность совершенствования постразводных родительских отношений. Предлагается внедрение индивидуального плана родительства после расторжения брака с учетом наилучших интересов ребенка.

Ключевые слова: расторжение брака, родительство, ребенок, право на общение, место жительства, родительская ответственность, план родительства, наилучшие интересы ребенка, семейный спор.

Kirish



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Nikohdan ajratish oilaviy-huquqiy munosabatlarning bir qismini tugatadi, biroq voyaga yetmagan farzand mavjud bo‘lgan holatda ota-onalik munosabatlari saqlanib qoladi. O‘zbekiston Respublikasida nikohdan ajralishlar sonining ko‘pligi mazkur institutning nafaqat nazariy, balki amaliy ahamiyatini ham oshirmoqda. Milliy statistika qo‘mitasining SIAT ma’lumotlariga ko‘ra, 2025-yilda mamlakatda 46 914 ta nikohdan ajralish qayd etilgan, 2026-yil I yarim yilligida esa bu ko‘rsatkich 24 815 tani tashkil qilgan [1].

Mazkur ko‘rsatkichlar nikohdan ajratishning o‘zidan tashqari, uning keyingi huquqiy oqibatlarini, xususan, ota-onalik munosabatlari individual va barqaror tartibga solish masalasini ham dolzarb qiladi.

Asosiy qism

Oila kodeksining 65-moddasiga ko‘ra, har bir bola oilada yashash va tarbiyalanish, o‘z ota-onasini bilish, ularning g‘amxo‘rligidan foydalanish, ular bilan birga yashash huquqiga ega bo‘lib, bolaning eng ustun manfaatlariga zid bo‘lgan holatlar bundan mustasnodir. 66-moddada esa bolaning ota-onasi va boshqa qarindoshlari bilan ko‘rishish huquqi hamda ota-onaning nikohdan ajralishi bolaning huquqlariga ta’sir qilmasligi belgilangan [2].

Mazkur normalar bolaning ikkala ota-ona bilan huquqiy aloqasini saqlashga qaratilgan. Biroq nikohdan ajratishdan keyingi real hayotiy munosabatlar faqat “bola kim bilan yashaydi?” degan savol bilan cheklanmaydi. Amaliyotda bolaning ikkinchi ota-onasi bilan uchrashuv va muloqot tartibi, ta’til va bayram kunlarini o‘tkazishi, ta’lim va tibbiy masalalarda ota-onalarning ishtiroki, bolaning boshqa hududga ko‘chirilishi, moddiy ta’minoti va ota-onalar o‘rtasidagi nizolarning bolaning rivojlanishiga ta’siri kabi masalalar ham muhim ahamiyatga ega.



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Shuning uchun nikohdan ajratishning huquqiy oqibatlarini faqat nikohning tugatilishi bilan chegaralash zamonaviy oilaviy-huquqiy munosabatlarning murakkabligini to‘liq aks ettirmaydi.

Ilmiy muammo

Nikohdan ajratishning huquqiy asoslari hamda ajralish jarayonida voyaga yetmagan bolalar huquq va manfaatlarini himoya qilish masalalari bo‘yicha ilmiy tadqiqotlar mavjud. Shu sababli yangi ilmiy izlanishda masalani yana umumiy tarzda “nikohdan ajratish” yoki “bola huquqlarini himoya qilish” doirasida takrorlashdan ko‘ra, nikohdan ajratishdan keyingi ota-onalik munosabatlarining individual huquqiy modelini tadqiq qilish ilmiy jihatdan alohida ahamiyat kasb etadi.

Mazkur yondashuvning asosiy g‘oyasi shundan iboratki, nikohdan ajratish to‘g‘risidagi qaror bilan bir vaqtda yoki alohida kelishuv asosida bolaning keyingi hayoti bilan bog‘liq muhim masalalarni aniq va individual belgilash ota-onalar o‘rtasidagi kelgusidagi nizolarni kamaytirishga xizmat qilishi mumkin.

Nikohdan ajratishdan keyingi ota-onalik rejasi

Mazkur tezisda “nikohdan ajratishdan keyingi ota-onalik rejasi” yangi huquqiy mexanizm sifatida taklif etiladi. Ota-onalik rejasida bolaning doimiy yashash joyi; bola bilan yashamaydigan ota-onaning muloqot tartibi; dam olish va bayram kunlaridagi uchrashuvlar; bolaning ta’limiga oid muhim masalalarda ishtirok; tibbiy masalalarda ota-onalarning huquq va majburiyatlari; bolaning moddiy ta’minoti; bolaning boshqa hudud yoki davlatga olib chiqilishi haqida xabardor qilish; nizolar yuzaga kelganda ularni hal qilish tartibi kabi masalalar individual tarzda belgilanadi.

Bunday hujjat ota-onalar tomonidan ixtiyoriy kelishuv asosida tuzilishi yoki nizo mavjud bo‘lsa, sud tomonidan bolaning eng ustun manfaatlaridan kelib chiqib belgilanishi mumkin. Bunda mazkur reja amaldagi ota-onalik huquq va majburiyatlarini





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almashtiruvchi emas, balki ularni aniq vaziyatga mos ravishda individuallashtiruvchi huquqiy vosita sifatida qaralishi lozim.

Huquqiy individuallashtirish zarurati

Ota-onalik rejasining asosiy xususiyati uning individual xarakteridir. Masalan, maktab yoshidagi bola uchun muntazam haftalik uchrashuv tartibi maqbul bo‘lishi mumkin, biroq boshqa hududda yashovchi yoki juda kichik yoshdagi bola uchun ayni tartib bolaning manfaatlariga mos kelmasligi mumkin. Shu sababli ota-onalik huquqlarini faqat formal tenglik asosida emas, balki bolaning yoshi, rivojlanish darajasi, sog‘lig‘i, ta’limi, yashash sharoiti, ota-onalar bilan munosabatlari va xavfsizligi asosida muvofiqlashtirish zarur.

Mazkur yondashuv 2026-yil 1-iyuldagi O‘RQ-1156-son Qonun bilan mustahkamlangan bolaning eng ustun manfaatlari va uning fikrini inobatga olish prinsipiga hamohangdir [3]. Oila kodeksining 75-moddasida ham ota-onalik huquqini amalga oshirish bolalarning eng ustun manfaatlarini ta’minlashga asoslanishi, bolalarning ta’lim-tarbiyasiga oid masalalar esa ularning fikri hisobga olingan holda hal etilishi belgilangan [2].

Zo‘ravonlik holatlarida alohida yondashuv

Nikohdan ajratish jarayonida oilaviy zo‘ravonlik mavjud bo‘lgan holatlarda “ota-onalarning tengligi” tamoyilini mexanik qo‘llash bolaning yoki jabrlanuvchining xavfsizligiga zid oqibatlarga olib kelishi mumkin. 2025-yil 9-apreldagi O‘RQ-1053-son Qonun bilan Oila kodeksining 40-moddasiga oilaviy (maishiy) zo‘ravonlikdan jabrlangan shaxsning talabiga ko‘ra sud yarashish uchun muhlat tayinlamasligi haqidagi qoida kiritilgan [4].

Bu norma oilani saqlab qolish maqsadi bolaning va jabrlanuvchining xavfsizligidan ustun qo‘yilmasligi kerakligini ko‘rsatadi. Shundan kelib chiqib, ota-onalik rejasini belgilashda ham zo‘ravonlik faktining mavjudligi alohida huquqiy mezon sifatida





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baholanishi, zarur hollarda muloqotning shakli, joyi va davomiyligiga xavfsizlik nuqtayi nazaridan tegishli cheklovlar belgilanishi lozim.

Ilmiy takliflar

1. Voyaga yetmagan farzandi mavjud bo‘lgan nikohdan ajratish ishlarida “nikohdan ajratishdan keyingi ota-onalik rejasi” institutini joriy etish.
2. Ota-onalik rejasini bolaning yoshi, fikri, sog‘lig‘i, ta’limi, yashash sharoiti va xavfsizligini hisobga olgan holda individual belgilash.
3. Ota-onaning bola bilan muloqot huquqini belgilashda faqat ota-onaning huquqi emas, balki bolaning eng ustun manfaatlarini asosiy mezon sifatida qo‘llanishini aniq belgilash.
4. Oilaviy zo‘ravonlik mavjud bo‘lgan holatlarda ota-onalik rejasini belgilashda bolaning xavfsizligi bo‘yicha maxsus cheklovlarni nazarda tutish.
5. Ota-onalik rejasini keyinchalik bolaning yoshi yoki hayotiy sharoitlari o‘zgarganda sud yoki kelishuv asosida qayta ko‘rib chiqish imkoniyatini yaratish.

Xulosa

O‘zbekistonda nikohdan ajratishlar sonining yuqoriligi mazkur institutning huquqiy oqibatlarini chuqurroq tadqiq etishni talab qiladi. Milliy statistika qo‘mitasi ma’lumotlariga ko‘ra, 2025-yilda 46 914 ta, 2026-yilning birinchi yarmida esa 24 815 ta nikohdan ajralish qayd etilgan [1].

Nikohdan ajratish bolaning ota-onalik munosabatlarini tugatmaydi. Aksincha, ajralishdan keyingi davrda bolaning yashash joyi, muloqoti, ta’limi, sog‘lig‘i va moddiy ta’minoti bilan bog‘liq yangi huquqiy munosabatlar yuzaga keladi. Shu sababli “nikohdan ajratishdan keyingi ota-onalik rejasi”ni joriy etish ota-onalar o‘rtasidagi keyingi nizolarni huquqiy jihatdan oldindan tartibga solish, bolaning ikki ota-ona bilan munosabatlarini muvozanatlashtirish va bolaning eng ustun manfaatlarini real huquqiy mezonga aylantirishga xizmat qilishi mumkin.





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Mazkur taklif O‘zbekistonda nikohdan ajratish institutini faqat “nikohni tugatish” modeli bilan cheklamasdan, nikoh tugatilgandan keyingi ota-onalik munosabatlarini ham kompleks tartibga soluvchi huquqiy modelni shakllantirishning ilmiy asoslaridan biri bo‘lishi mumkin.

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URINARY TRACT INFECTIONS IN CHILDREN: DIAGNOSIS, TREATMENT AND PREVENTION OF RECURRENCE

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Abstract

Urinary tract infections (UTIs) are among the most common bacterial infections in children and require timely diagnosis and appropriate treatment, particularly in infants and young children. UTIs may involve different parts of the urinary tract and clinically present as cystitis, pyelonephritis, or asymptomatic bacteriuria. This article reviews modern approaches to the diagnosis and treatment of pediatric UTIs and strategies for preventing recurrence. Urinalysis, urine culture, antimicrobial susceptibility testing, renal and bladder ultrasonography, and selected use of voiding cystourethrography are important diagnostic tools. Antibiotic selection should be individualized according to the child's age, clinical condition, infection site, previous microbiological findings, and local antimicrobial resistance patterns. In children with recurrent UTIs, underlying risk factors such as vesicoureteral reflux, urinary tract abnormalities, constipation, and bladder-bowel dysfunction should be assessed. Early diagnosis, rational antibiotic therapy, adequate hydration, and correction of modifiable risk factors are important for reducing recurrence and preventing long-term renal complications.

Keywords

children, urinary tract infection, pyelonephritis, cystitis, bacteriuria, urine culture, antibiotic therapy, vesicoureteral reflux, recurrent infection, prevention.

BOLALARDA SIYDIK YO'LLARI INFEKSIYALARI: DIAGNOSTIKA, DAVOLASH VA QAYTALANISHLARNING OLDINI OLISH

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Annotatsiya

Siydik yo'llari infeksiyalari (SYI) bolalar amaliyotida keng tarqalgan bakterial infeksiyalardan biri bo'lib, ayniqsa kichik yoshdagi bolalarda o'z vaqtida tashxislash va to'g'ri davolash muhim ahamiyatga ega. Kasallik siydik chiqarish tizimining turli qismlarini zararlashi mumkin bo'lib, klinik jihatdan sistit, pielonefrit va simptomsiz bakteriuriya ko'rinishida namoyon bo'ladi. Ushbu maqolada bolalarda SYI diagnostikasining zamonaviy yondashuvlari, laborator va instrumental tekshiruvlarning o'rni, antibakterial davolash tamoyillari hamda infeksiyaning qaytalanishini oldini olish strategiyalari yoritilgan. Siydik umumiy tahlili, siydik ekmasi, antibiotiklarga sezuvchanlikni aniqlash, ultratovush tekshiruvi va tanlangan holatlarda voiding cystourethrography (VCUG) diagnostikada muhim ahamiyatga ega. Davolashda antibiotik tanlovi bolaning yoshi, klinik holati, infeksiya joylashuvi va mahalliy antibiotik rezistentligi hisobga olingan holda individual belgilanadi. Qaytalanuvchi infeksiyalarda vezikoureteral reflyuks, siydik yo'llarining anatomik nuqsonlari, qabziyat va siydik chiqarish disfunktsiyasini aniqlash muhimdir. Erta diagnostika, oqilona antibiotikoterapiya va xavf omillarini bartaraf etish bolalarda SYI asoratlarini kamaytirishga yordam beradi.

Kalit so'zlar: bolalar, siydik yo'llari infeksiyasi, pielonefrit, sistit, bakteriuriya, siydik ekmasi, antibiotikoterapiya, vezikoureteral reflyuks, qaytalanuvchi infeksiya, profilaktika.

KIRISH

Siydik yo'llari infeksiyalari bolalar orasida uchraydigan eng keng tarqalgan bakterial infeksiyalardan biri hisoblanadi. Infeksiya buyraklar, siydik yo'llari va siydik pufagining turli qismlarini zararlashi mumkin.

Bolalarda SYI ning klinik ko'rinishi yoshga qarab sezilarli darajada farq qiladi. Kattaroq bolalarda dizuriya, tez-tez siyish, qorin pastida og'riq kabi tipik simptomlar





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kuzatilsa, chaqaloqlarda kasallik ko‘pincha o‘ziga xos bo‘lmagan belgilar — isitma, emishning yomonlashuvi, qusish, bezovtalik yoki tana vaznining yetarli oshmasligi bilan namoyon bo‘lishi mumkin.

Ayniqsa febril SYI muhim klinik ahamiyatga ega, chunki u yuqori siydik yo‘llari, xususan, buyrak parenximasining zararlanishi bilan bog‘liq bo‘lishi mumkin. Takroriy yoki davolanmagan pielonefrit ayrim bolalarda buyrak chandiqlanishiga olib kelishi va uzoq muddatda arterial gipertenziya yoki buyrak funksiyasining pasayishiga sabab bo‘lishi mumkin.

Shu sababli bolalarda SYIni erta aniqlash, etiologik tashxisni tasdiqlash va qaytalanish xavfini baholash pediatriyaning muhim vazifalaridan biridir.

TADQIQOT MAQSADI

Bolalarda siydik yo‘llari infeksiyalarining klinik va laborator diagnostikasi, zamonaviy davolash tamoyillari hamda qaytalanuvchi infeksiyalarning oldini olish strategiyalarini tahlil qilish.

MATERIALLAR VA USULLAR

Maqolani tayyorlashda pediatriya, bolalar nefrologiyasi, urologiya va infeksiyon kasalliklarga oid zamonaviy ilmiy adabiyotlar hamda xalqaro klinik tavsiyalar tahlil qilindi.

Siydik tahlili, siydik ekmasi, instrumental diagnostika, antibakterial terapiya, antibiotikoprofilaktika va qaytalanuvchi SYI xavf omillariga oid ma’lumotlar umumlashtirildi.

ASOSIY QISM

1. Siydik yo‘llari infeksiyalarining tasnifi

Bolalarda SYI anatomik va klinik jihatdan quyidagilarga bo‘linadi:

Sistit

Infeksiya asosan siydik pufagi bilan chegaralangan bo‘ladi.





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Asosiy simptomlar:

- tez-tez siyish;
- siyish vaqtida achishish;
- siydik chiqarishga imperativ ehtiyoj;
- qorin pastida og'riq;
- ba'zan gematuriya.

Pielonefrit

Buyrak parenximasi va yuqori siydik yo'llarining infeksiyasi hisoblanadi.

Ko'pincha:

- yuqori isitma;
- titroq;
- bel yoki yonbosh sohasida og'riq;
- qusish;
- holsizlik

bilan namoyon bo'ladi.

Simptomsiz bakteriuriya

Siydikda bakteriyalar aniqlanadi, biroq siydik yo'llari infeksiyasiga xos klinik simptomlar mavjud bo'lmaydi.

2. Bolalarda klinik xususiyatlari

Chaqaloqlarda

Chaqaloqlarda SYI ko'pincha nospetsifik belgilar bilan kechadi:

- isitma yoki tana haroratining beqarorligi;
- emishning yomonlashuvi;
- qusish;
- diareya;
- bezovtalik;



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- letargiya;
- sariqlik;
- vazn olishning sustligi.

Shu sababli sababi aniqlanmagan isitma bilan murojaat qilgan kichik yoshdagi bolalarda SYI ehtimolini hisobga olish zarur.

Katta yoshdagi bolalarda

Tipik simptomlar:

- dizuriya;
- pollakiuriya;
- siydikni tutib turolmaslik;
- qorin pastidagi og‘riq;
- bel og‘rig‘i;
- isitma;
- siydik rangining yoki hidining o‘zgarishi.

3. Diagnostika

Siydik umumiy tahlili

Siydik umumiy tahlili SYIga shubha qilingan bolalarni tekshirishda asosiy laborator usullardan biridir.

Quyidagi belgilar kuzatilishi mumkin:

- leykotsituriya;
- bakteriuriya;
- nitrit testi musbatligi;
- leykotsit esteraza musbatligi;
- ba’zan gematuriya.

Nitrit va leykotsit esteraza testlarining natijasi klinik simptomlar bilan birgalikda baholanadi.





Siydik ekmasi

Siydik ekmasi (urine culture) SYI diagnostikasida muhim ahamiyatga ega bo‘lib, infeksiyani chaqirgan mikroorganizmni aniqlash va uning antibiotiklarga sezuvchanligini baholash imkonini beradi.

Namuna olish usuli ham muhim:

- katta bolalarda — o‘rta oqim siydigi;
- kichik bolalarda — kateter orqali olingan namuna;
- ayrim maxsus holatlarda — suprapubik aspiratsiya.

Siydik ekmasi natijasi namuna olish usuli va bolaning klinik holati bilan birgalikda talqin qilinadi.

4. Etiologik omillar

Bolalarda SYI ning eng ko‘p uchraydigan qo‘zg‘atuvchisi **Escherichia coli** hisoblanadi.

Boshqa mikroorganizmlar:

- *Klebsiella pneumoniae*;
- *Proteus mirabilis*;
- *Enterococcus* spp.;
- *Pseudomonas aeruginosa*;
- boshqa grammanfiy bakteriyalar.

Antibiotik tanlashda mahalliy mikrobiologik ma’lumotlar va avvalgi siydik ekmasi natijalari hisobga olinishi kerak.

5. Instrumental diagnostika

Buyrak va siydik pufagi UTT

Ultratovush tekshiruvi nurlanishsiz va xavfsiz usul bo‘lib, ayniqsa qaytalanuvchi SYI yoki murakkab klinik holatlarda muhim.

UTT yordamida:



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- buyraklar o'lchami;
- gidronefroz;
- siydik yo'llari kengayishi;
- buyrak parenximasi;
- siydik pufagi;
- qoldiq siydik;
- ayrim anatomik anomaliyalar baholanishi mumkin.

Miktsion sistouretrografiya

VCUG asosan vezikoureteral reflyuks yoki ayrim anatomik anomaliyalarga shubha qilingan tanlangan bemorlarda qo'llanadi.

Ushbu tekshiruv invaziv bo'lgani va ionlashtiruvchi nurlanishni talab qilgani sababli barcha bolalarga rutin tarzda bajarilmaydi.

DMSA-skan

Tanlangan holatlarda DMSA sintigrafiyasi buyrak parenximasidagi o'choqli shikastlanish yoki keyinchalik rivojlangan chandiqlanishni baholashda qo'llanishi mumkin.

6. Davolash

Bolalarda SYI davolashining asosiy qismi **antibakterial terapiya** hisoblanadi.

Antibiotik tanlashda quyidagilar hisobga olinadi:

- bolaning yoshi;
- infeksiya lokalizatsiyasi;
- kasallik og'irligi;
- oldingi antibiotik qabul qilishi;
- siydik ekmasi natijalari;
- mahalliy antibiotik rezistentligi;



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- buyrak funksiyasi.

Sistit

Asoratsiz sistitda og‘iz orqali antibiotiklar bilan davolash ko‘pincha yetarli bo‘ladi.

Pielonefrit

Febril yoki umumiy holati og‘ir bolalarda yuqori siydik yo‘llari infeksiyasini hisobga olib, tizimli antibakterial terapiya talab qilinadi.

Og‘ir holatlarda dastlab parenteral antibiotik berilib, klinik yaxshilanishdan keyin og‘iz orqali davolashga o‘tilishi mumkin.

Antibiotik terapiyasining davomiyligi infeksiyaning lokalizatsiyasi va bolaning klinik holatiga qarab belgilanadi.

Muhim: antibiotiklarni aniq tanlash va dozasi bolaning yoshi, vazni, buyrak funksiyasi va mahalliy rezistentlik ma’lumotlariga asoslanishi kerak.

7. Qo‘llab-quvvatlovchi davolash

Davolash jarayonida:

- yetarli suyuqlik qabul qilish;
 - isitmani nazorat qilish;
 - og‘riqni kamaytirish;
 - qusish va suvsizlanishni korreksiya qilish
- muhim.

Og‘ir pielonefrit yoki sepsis belgilari mavjud bo‘lgan bolalar statsionar sharoitda davolanishi kerak.

8. Qaytalanuvchi siydik yo‘llari infeksiyalari

Qaytalanuvchi SYI bir necha marta takrorlangan infeksiyalar bilan tavsiflanadi.

Qaytalanishga olib keluvchi omillar:

- vezikoureteral reflyuks;



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- siydik yo‘llarining tug‘ma nuqsonlari;
- neyrogen qovuq;
- siydikni uzoq vaqt ushlab turish;
- qabziyat;
- qovuq-ichak disfunktsiyasi;
- gigiyena muammolari;
- ayrim bolalarda siydik yo‘llarining obstruksiya.

Qaytalanuvchi infeksiyada faqat antibiotikni qayta-qayta berish emas, balki asosiy sababni aniqlash muhim.

9. Qaytalanishlarning oldini olish

Profilaktikaning asosiy yo‘nalishlari:

Yetarli suyuqlik

Bola yoshiga mos miqdorda suyuqlik qabul qilishi va muntazam siyishi kerak.

Siydikni ushlab turmaslik

Bolani uzoq vaqt siyishni ushlab turishga odatlantirmaslik kerak.

Qabziyatni davolash

Qabziyat qovuq-ichak disfunktsiyasi bilan bog‘liq bo‘lishi va SYI qaytalanishiga hissa qo‘shishi mumkin.

Qovuqni muntazam bo‘shatish

Muntazam siyish siydik pufagining funksional faoliyatini yaxshilashga yordam beradi.

Antibiotikoprofilaktika

Ayrim yuqori xavfli, qaytalanuvchi SYI bo‘lgan bolalarda shifokor nazorati ostida uzoq muddatli past dozali antibiotik profilaktikasi ko‘rib chiqilishi mumkin.



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Biroq antibiotikoprofilaktika **har bir bolaga rutin tarzda tavsiya etilmaydi.** Qaror vezikoureteral reflyuks darajasi, qaytalanishlar soni, bolaning yoshi va boshqa xavf omillariga qarab individual belgilanadi.

MUHOKAMA

Bolalarda SYIn erta aniqlash ayniqsa chaqaloqlarda muhimdir, chunki bu yosh guruhida kasallikning klinik ko‘rinishi nospetsifik bo‘lishi mumkin. Sababi noma’lum isitma bilan murojaat qilgan bolalarda siydik yo‘llari infeksiyasini differensial diagnostikaga kiritish zarur.

Siydik umumiy tahlili diagnostik jarayonning muhim qismi bo‘lsa-da, yakuniy etiologik baholashda siydik ekmasi alohida ahamiyatga ega. Antibiotik terapiyasini mikrobiologik natijalar asosida moslashtirish antibiotiklarga rezistentlik rivojlanishini kamaytirishga yordam beradi.

Qaytalanuvchi SYI bo‘lgan bolalarda vezikoureteral reflyuks, siydik yo‘llari anatomik nuqsonlari va qovuq-ichak disfunktsiyasi kabi omillarni izlash kerak. Ayniqsa qabziyatni aniqlash va davolash qaytalanish xavfini kamaytirishda muhim bo‘lishi mumkin.

Instrumental tekshiruvlar ham barcha bemorlarga bir xil hajmda qo‘llanmasligi kerak. Buyrak va siydik pufagi UTTsi xavfsiz va nurlanishsiz usul sifatida birinchi bosqichda muhim o‘rin tutadi. VCUG va DMSA kabi tekshiruvlar esa klinik ko‘rsatmalarga asoslangan holda tanlanadi.

Shunday qilib, bolalarda SYIn boshqarish faqat infeksiyani davolashdan iborat emas. **Etiologik tashxis, individual antibiotik terapiyasi, anatomik va funksional xavf omillarini aniqlash hamda qaytalanishning oldini olish** kompleks yondashuvning asosiy qismlaridir.

FOYDALANILGAN ADABIYOTLAR





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FACTORS DETERMINING THE INVESTMENT ATTRACTIVENESS OF INDUSTRIAL ENTERPRISES AND CRITERIA FOR THEIR EVALUATION

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ABSTRACT

This thesis scientifically and theoretically analyzes the factors that determine the investment attractiveness of industrial enterprises and the criteria for their assessment. The study reveals the essence of the concept of investment attractiveness, the factors that shape it are classified into internal (financial-economic, production-technical, managerial and personnel potential) and external (market-competitive, institutional-legal) groups. Also, the main quantitative criteria used to objectively assess the investment attractiveness of an enterprise (financial stability, profitability, business activity, etc.), as well as methods for their determination (rating, analysis of financial coefficients, expert assessment, SWOT-analysis, integrated assessment) are systematically covered. The results of the study are visually confirmed through tables and diagrams, and are concluded with practical recommendations for industrial enterprise management and potential investors.

Keywords

investment attractiveness, industrial enterprise, investment, internal and external factors, evaluation criteria, financial stability, profitability, integral evaluation method, competitiveness, investment risk.

INTRODUCTION

In a market economy, the sustainable development, technological renewal, and increased competitiveness of industrial enterprises directly depend on their investment potential. Investment attractiveness is a complex concept that reflects not only the



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financial condition of an enterprise, but also its innovative, managerial, and market potential. The relevance of the topic is that investors need to comprehensively analyze many quantitative and qualitative indicators of an enterprise before directing funds. Therefore, it is of theoretical and practical importance to systematize the factors determining the investment attractiveness of industrial enterprises and to develop scientifically based criteria for their assessment.

The purpose of this thesis is to systematically identify the main factors affecting the investment attractiveness of industrial enterprises, as well as their assessment criteria and methods.

Investment attractiveness is an economic category that expresses the degree to which an enterprise is attractive to investors, that is, its convenience in terms of return on investment, profitability, and security. Many scientists believe that this concept is a combination of the financial stability of the enterprise, its production potential, market position, and the quality of management.

The following main characteristics of investment attractiveness should be highlighted:

- be complex and multifaceted;
- variability over time (dynamism);
- quantitative and qualitative indicators can be assessed;
- formed under the influence of the external environment and internal resources¹.

Factors affecting the investment attractiveness of industrial enterprises can be conditionally divided into two large groups: internal (formed within the enterprise) and external (arising under the influence of the macroenvironment). Each group, in turn, has several subcomponents.

¹ Abdurakhmonov Q.X. Investments and investment activities, theory and practice. – Tashkent: IQTISOD-MOLIYA, 2021.

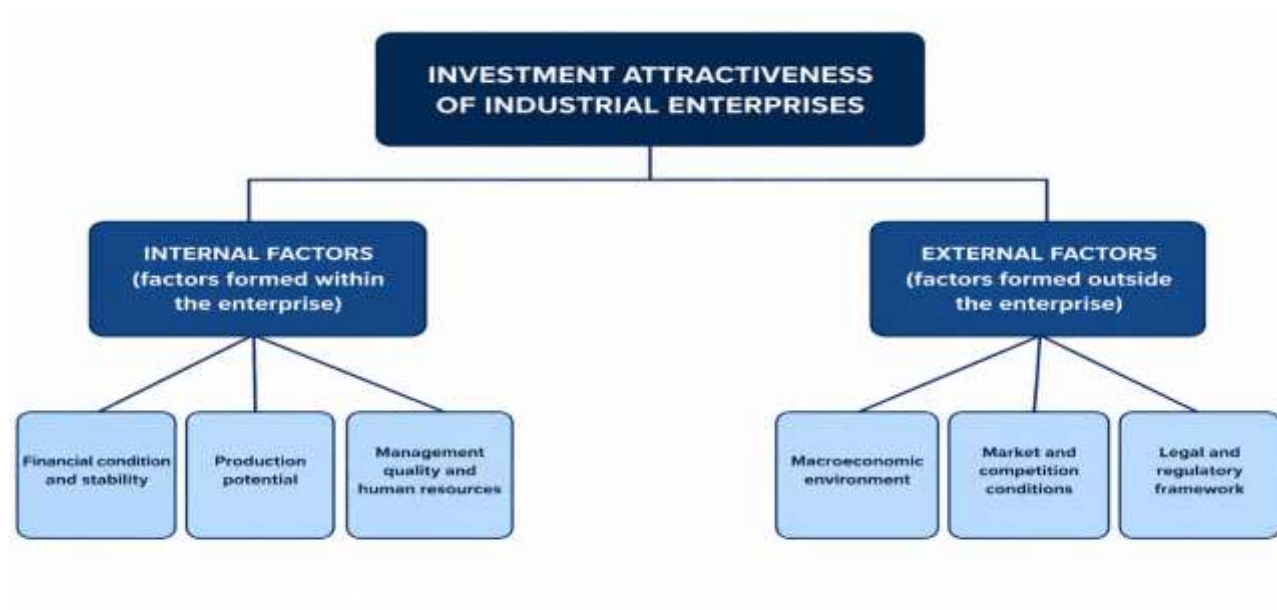


Figure 1. Classification of factors determining the investment attractiveness of an industrial enterprise²

Let's look at the above classification in a more comprehensive and systematic way in the table below, along with its structural elements and the impact it has on investment attractiveness.

Table 1. Structural description of factors determining investment attractiveness³

Group of factors	Structural elements	Impact on investment attractiveness
Financial and economic factors	Liquidity, financial stability, profitability, asset turnover	Determines the return on capital and the financial security of the investor
Production-technical factors	Level of technological equipment, production capacity,	Improves product competitiveness and

² Prepared by the author

³ Prepared by the author



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Group of factors	Structural elements	Impact on investment attractiveness
	innovative potential	production efficiency
Management and frame potential	Management quality, corporate governance, availability of qualified personnel	Affects the quality of strategic decisions and the stability of the enterprise
Market and competition factors	Market share, supply-demand ratio, brand value, customer base	Reflects future earnings stability and growth potential
Institutional-legal factors	Stability of the legal environment, tax policy, state support	Reduces investment risks and provides long-term confidence

As the table shows, financial and economic factors and production and technical factors reflect the internal potential of the enterprise, while market and institutional and legal factors reflect the influence of the external environment. Investors need to comprehensively assess all of these factors when making decisions⁴.

A system of specific quantitative criteria is used to objectively assess investment attractiveness. Such criteria are calculated on the basis of financial statements, statistics of the enterprise and market analysis. The table below lists the most commonly used evaluation criteria and their calculation formulas. According to the results of the conditional analysis conducted in practice, the indicators of the selected industrial enterprise on a 100-point scale for each criterion are reflected in the following diagram.

⁴ OECD. OECD Investment Policy Reviews: Uzbekistan 2022. – Paris: OECD Publishing, 2022.

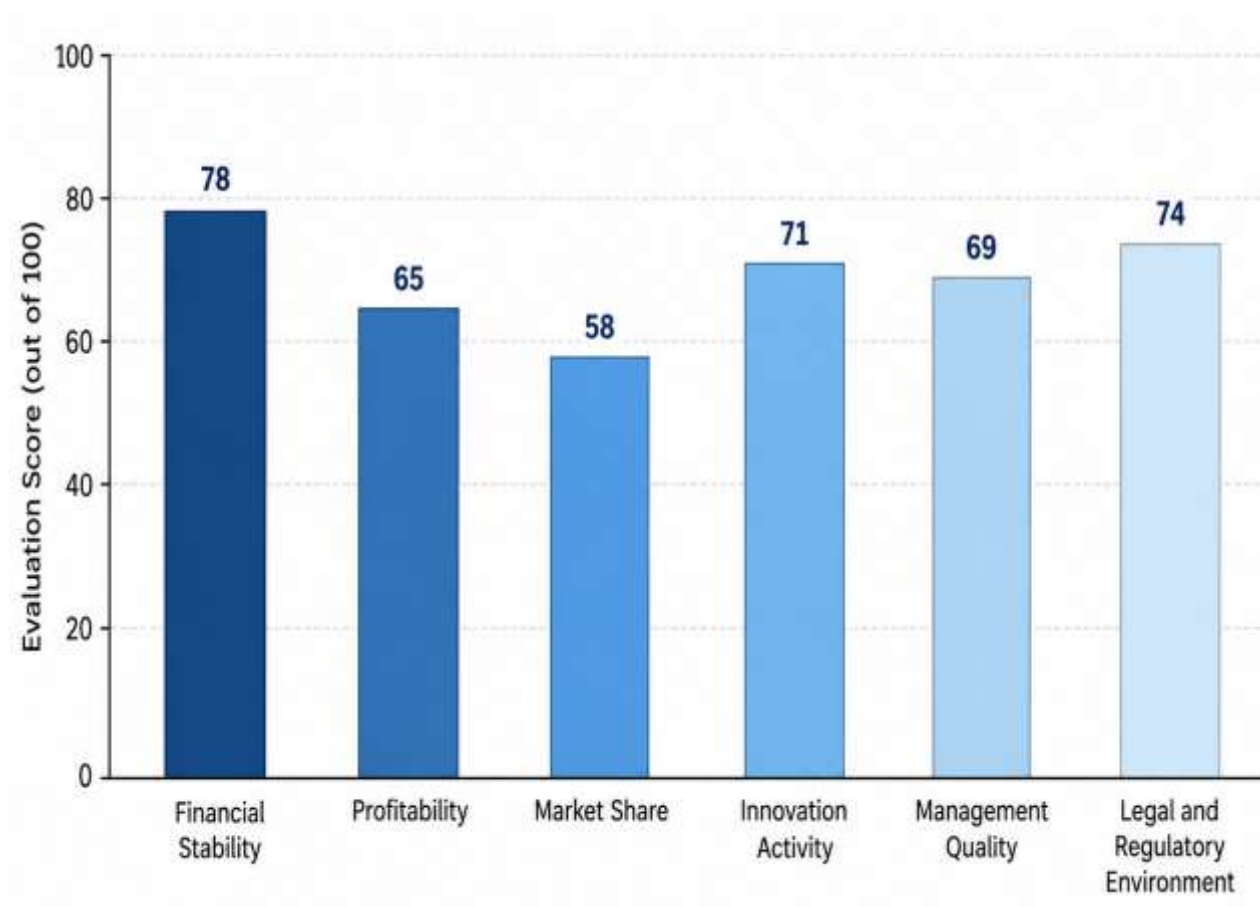


Figure 2. Results of assessment of the investment attractiveness of an industrial enterprise by criteria⁵

The chart shows that the company's financial stability (78 points) and legal and regulatory environment (74 points) are relatively high, while its market share (58 points) is rated lower than other criteria. This indicates the need to strengthen the company's marketing and sales strategy⁶. When assessing the investment attractiveness of industrial enterprises, various scientific and methodological approaches are used. Each of them has its own advantages and limitations, and the choice depends on the nature of the activities of the enterprise and the purpose of research.

⁵ Sharp UF, Alexander GD, Bailey DJ.V. Investments. – Moscow: INFRA-M, 2020. – 1028 pages.

⁶ Damodaran A. Investment Valuation: Tools and Methods for Determining the Value of Any Asset. – 3rd ed. – Hoboken: John Wiley & Sons, 2012. – 992 p.



Table 2. Main methods for assessing investment attractiveness⁷

Method	Brief description	Degree of application
Rating (scoring) method	Assign a score to each criterion and create a ranking based on the total score.	High
Analysis of financial coefficients	Calculation of liquidity and profitability indicators based on accounting reports	High
Expert assessment method	Relying on the conclusions of industry experts on quality indicators	Medial
SWOT-analysis	Comprehensive assessment of strengths/weaknesses, opportunities and threats	Medial
Integral (complex) evaluation	Creating a single integral indicator by weighted addition of all criteria	High

To achieve high accuracy, it is recommended to jointly apply several methods in practice, that is, to harmonize the analysis of financial coefficients with an expert assessment and an integrated method. This approach makes it possible to fully cover both quantitative and qualitative aspects of the enterprise⁸.

⁷ Blank IA Investment Management. – Kyiv: Nika-Centre, 2019. – 448 p.

⁸ U.Mustafakulov.USE OF DIGITAL PLATFORMS IN A STATISTICAL SYSTEM BASED ON INTERNATIONAL EXPERIENCE European Economy, Finance and ... magazine, 2024

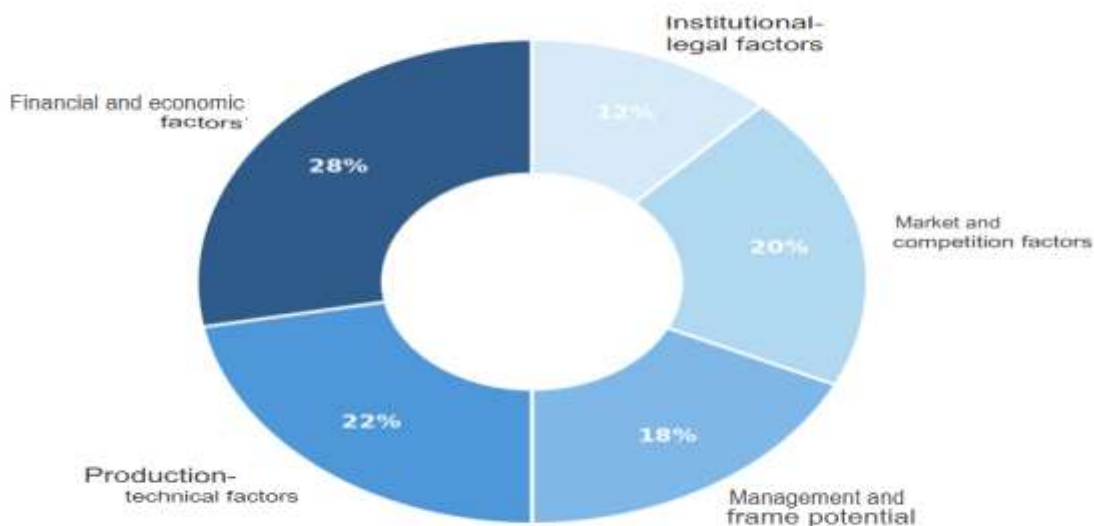


Figure 3. Share of groups of factors determining investment attractiveness⁹

The relative importance of groups of factors determining investment attractiveness (weighting coefficients) is shown in the diagram below, which serves as the basis for weighted addition in the integral assessment method.

CONCLUSION

The analysis conducted shows that the investment attractiveness of industrial enterprises is a multi-factor and dynamic category, and its correct assessment is important for investors to make informed decisions. Increasing investment attractiveness, which is formed as a result of the harmonious influence of internal and external factors, is one of the strategic tasks of the management of the enterprise.

Based on the results of the study, the following recommendations were developed:

- regular monitoring of liquidity and profitability indicators to ensure the financial stability of the enterprise;
- modernization of production and technical potential through increasing innovative activity;

⁹ Bodie Z., Kane A., Marcus AJ Investments. – 12th edition. – New York: McGraw-Hill Education, 2021. – Page 1088.



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-improvement of the management system and strengthening the potential of qualified personnel;

-review marketing strategies to strengthen market position;

-regular use of an integrated (comprehensive) approach to assessing investment attractiveness.

In conclusion, a systematic analysis of the factors determining investment attractiveness and their assessment based on objective criteria will significantly increase the investment attractiveness of industrial enterprises.

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**THE IMPACT OF EVACUATION HOSPITALS ON THE SOCIO-ECONOMIC
LIFE AND MEDICAL INFRASTRUCTURE OF UZBEKISTAN: A
HISTORICAL AND HUMANITARIAN ANALYSIS**

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Abstract

This article provides a historical and humanitarian analysis of the impact of evacuation hospitals operating in Uzbekistan during World War II on the socio-economic life and medical infrastructure of the republic. It also highlights the improvement of the local healthcare system, the enhancement of scientific medical potential, and the humanitarian assistance provided to wounded soldiers.

Keywords

Evacuation hospitals, World War II, Uzbekistan, socio-economic life, medical infrastructure, historical-humanitarian analysis, humanitarianism.

**ВЛИЯНИЕ ЭВАКОГОСПИТАЛЕЙ НА СОЦИАЛЬНО-
ЭКОНОМИЧЕСКУЮ ЖИЗНЬ И МЕДИЦИНСКУЮ ИНФРАСТРУКТУРУ
УЗБЕКИСТАНА: ИСТОРИКО-ГУМАНИТАРНЫЙ АНАЛИЗ**

ТУЛАНОВА НАИМА ФАРХАДЖОН КИЗИ

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Аннотация: В данной статье на основе историко-гуманитарного анализа рассматривается влияние эвакогоспиталей, действовавших в Узбекистане в годы Второй мировой войны, на социально-экономическую жизнь и развитие медицинской инфраструктуры республики. Также освещаются вопросы





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укрепления местной системы здравоохранения, повышения научного потенциала медицины и проявления гуманизма по отношению к раненым бойцам.

Ключевые слова: Эвакогоспитали, Вторая мировая война, Узбекистан, социально-экономическая жизнь, медицинская инфраструктура, историко-гуманитарный анализ, гуманизм.

Annotatsiya: Ushbu maqolada Ikkinchi jahon urushi yillarida O‘zbekistonda faoliyat ko‘rsatgan evakogospitallarning respublika ijtimoiy-iqtisodiy hayoti va tibbiyot infratuzilmasini rivojlantirishdagi o‘rni tarixiy-gumanitar jihatdan tahlil etiladi. Shuningdek, gospital bazasida mahalliy tibbiyot tizimining takomillashuvi, ilmiy salohiyatning oshishi hamda minglab yarador askarlarga ko‘rsatilgan insonparvarlik yordami yoritib berilgan.

Kalit so‘zlar: Evakogospitallar, Ikkinchi jahon urushi, O‘zbekiston, ijtimoiy-iqtisodiy hayot, tibbiyot infratuzilmasi, tarixiy-gumanitar tahlil, insonparvarlik.

Развертывание сети эвакуационных госпиталей (эвакогоспиталей) в Узбекской ССР в годы Второй мировой войны (1941–1945 гг.) представляет собой один из наиболее масштабных и многогранных процессов в истории отечественного здравоохранения и социально-экономического развития. В условиях глубокого тыла Узбекистан превратился в крупнейшую военно-медицинскую и реабилитационную базу, где за годы войны лечение и реабилитацию прошли сотни тысяч раненых и больных воинов. Однако значение эвакогоспитальной системы выходило далеко за рамки исключительно военно-санитарного обеспечения действующей армии. Размещение, материальное снабжение и научно-практическая деятельность десятков госпитальных учреждений оказали колоссальное, долговременное влияние на трансформация медицинской инфраструктуры, социально-демографические процессы, научно-образовательный потенциал и культурную жизнь республики.





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Историко-гуманитарный анализ этого явления позволяет осмыслить не только масштабы организационных усилий государства и медицинского сообщества, но и беспрецедентный уровень социальной мобилизации, гуманизма и эмпатии местного населения, взявшего на себя заботу о покалеченных войной людях.

С началом войны перед органами государственной власти и здравоохранения УзССР встала задача чрезвычайной сложности: в кратчайшие сроки сформировать материально-техническую и кадровую базу для приема огромных потоков эвакуированных раненых [1]. На территории республики было развернуто свыше 110 эвакуационных и военных госпиталей различного профиля с общим коечным фондом около 40 тысяч единиц [2]. Это потребовало кардинальной перестройки всей инфраструктуры региона. Под госпитали передавались лучшие и наиболее благоустроенные здания Ташкента, Самарканда, Ферганы, Андижана, Намангана, Бухары: учебные корпуса высших и средних учебных заведений, административные учреждения, гостиницы, школы, а также существующие санаторно-курортные объекты [3].

Данный процесс оказал двоякое влияние на социально-экономическую сферу. С одной стороны, изъятие зданий и ресурсов создавало серьезные бытовые и организационные трудности для системы просвещения и гражданских ведомств. С другой стороны, именно необходимость обеспечения госпиталей всем необходимым стала мощным импульсом для ускоренной модернизации коммунального хозяйства и инженерных сетей городов. В Ташкенте и Самарканде в экстренном порядке проводились работы по расширению водопроводных и канализационных сетей, модернизации электроснабжения, обустройству банно-прачечных комбинатов и дезинфекционных станций [4]. Эвакогоспитали стимулировали развитие местных производств: фабрики и артели республики в кратчайшие сроки освоили выпуск медицинского оборудования, специализированной мебели, перевязочных материалов, протезов и инструментария из местного сырья [5].



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Наиболее глубокие и долговременные изменения произошли в самой системе здравоохранения Узбекистана. До войны медицинская сеть республики, несмотря на успехи 1930-х годов, испытывала острый дефицит высококвалифицированных узких специалистов и специализированных стационарных коек. Эвакуация в Узбекистан ведущих медицинских вузов и научно-исследовательских институтов страны — в частности, профессорско-преподавательского состава и клиник Московского, Днепропетровского, Харьковского медицинских институтов, а также эвакуированных академических институтов — создала уникальный научно-практический симбиоз [6].

На базе госпиталей Ташкента и Самарканда под руководством выдающихся ученых и местных специалистов (таких как А.А. Аскарлов, С.А. Масудов, К.А. Зуев и др.) были сформированы высокоролклинические и стационарные центры узкого профиля: нейрохирургические, ортопедотравматологические, челюстно-лицевые, офтальмологические, торакальные [7].

Это привело к формированию новых для региона научных школ. Именно в госпитальный период были заложены основы узбекистанской школы восстановительной хирургии, травматологии, ортопедии и нейрохирургии. Созданная в 1943 году на базе одного из эвакуогоспиталей Ташкента специализированная больница восстановительной хирургии впоследствии трансформировалась в Научно-исследовательский институт травматологии и ортопедии — ведущее научное учреждение региона [8].

Аналогичным образом госпитальная база дала импульс развитию национальной офтальмологии, оториноларингологии и физиотерапии. Сотни местных врачей, медсестер и сандружиниц, пройдя через жесткую школу госпитальной практики и курсы ускоренной specialization, сформировали мощный кадровый костяк послевоенного здравоохранения Узбекистана [9].



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Особый научный и практический интерес представляет гуманитарная и реабилитационная составляющая работы эвакуогоспиталей. Узбекистан стал ареной внедрения инновационных, комплексных методик реабилитации, сочетавших хирургическое лечение с активным использованием уникальных природно-климатических и бальнеологических ресурсов региона. Широкое применение в практике госпиталей Ташкентской области, Ферганской долины и других регионов нашли лечебные грязи озера Яны-Курган, минеральные источники Чартака, сероводородные и термальные ванны [10].

Использование нативных природных факторов в сочетании с лечебной физкультурой, механотерапией и физиотерапевтическими процедурами позволило ускорить процессы заживления раневых поверхностей, снизить частоту тяжелых контрактур и инвалидизирующих осложнений. Подавляющее большинство тяжелораненых, проходивших лечение в эвакуогоспиталях УзССР, восстановили трудоспособность или вернулись в строй, что стало выдающимся достижением медицинской науки того времени [11].

Гуманитарный аспект функционирования эвакуогоспиталей ярко проявился в широком социальном движении шефской помощи и глубокой интеграции госпиталей в общественную жизнь республики. Население Узбекистана проявило высочайшие гуманистические качества, взяв на себя повседневную заботу о раненых бойцах. Предприятия, колхозы, совхозы, учебные заведения и творческие союзы брали шефство над конкретными госпиталями [12].

Несмотря на карточную систему и продовольственные трудности военных лет, колхозники республики регулярно поставляли в госпитальные кухни свежие овощи, фрукты, сухофрукты, виноград, мясо и молочные продукты, что играло важнейшую роль в борьбе с гиповитаминозами и истощением у раненых [13].



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Женские организации, комсомольские бригады и школьники дежурили у постелей тяжелораненых, помогали в стирке и ремонте белья, организовывали читальни, концертные бригады и творческие вечера. Это создавало особый психологический микроклимат, способствовавший преодолению тяжелейших депрессивных состояний и посттравматических расстройств у инвалидов войны [14].

Важнейшим социально-экономическим последствием работы эвакогоспиталей стала организация системы профессионально-трудовой ориентации и обучения раненых. При госпиталях функционировали разнообразные мастерские (столярные, слесарные, швейные, обувные, часовые, электротехнические), а также курсы бухгалтерского учета, делопроизводства и агрономии [15].

Воины, получившие тяжелые увечья и утратившие способность вернуться к прежней профессии, прямо в стенах госпиталя получали новые гражданские специальности. Это не только выполняло реабилитационную функцию (трудотерапия), но и решало важнейшую государственную задачу социальной адаптации инвалидов, предотвращая их социальную исключенность и обеспечивая экономику региона и страны в целом нужными кадрами в послевоенный период [16].

Размещение эвакуированных госпиталей и эвакуация сотен тысяч гражданских лиц из оккупированных и прифронтовых районов обусловили существенные социально-демографические сдвиги. В Узбекистане сформировалась уникальная полиэтническая социокультурная среда. Многие врачи, ученые, медицинские сестры, а также излечившиеся раненые, связывая свою дальнейшую судьбу с Узбекистаном, остались в республике после окончания войны, внося неоценимый вклад в развитие ее науки, образования, промышленности и культуры [17].

Взаимодействие эвакуированной интеллигенции и местного населения привело к взаимному обогащению культурных традиций, укреплению межнационального согласия и формированию особого «ташкентского духа»





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гостеприимства и взаимной поддержки. Вместе с тем, функционирование эвакуогоспиталей порождало и сложнейшие социальные проблемы, требовавшие непрерывного государственного реагирования. Огромная нагрузка на эпидемиологическую службу, необходимость предотвращения вспышек инфекционных заболеваний (тифа, дизентерии, малярии) среди эвакуированного контингента и гражданского населения требовали жесткого санитарного контроля [18]. Благодаря самоотверженной работе санитарно-эпидемиологических отрядов и институтов микробиологии в Узбекистане удалось избежать катастрофических эпидемий, что является ярким свидетельством эффективности созданной системы противоэпидемической защиты.

Подводя итог историко-гуманитарному анализу, следует подчеркнуть, что деятельность эвакуационных госпиталей в Узбекистане в 1941–1945 гг. являлась не просто эпизодом военно-медицинской истории, а мощным системным фактором, предопределившим векторы развития республики на многие десятилетия вперед.

Социально-экономические последствия проявились в ускоренной урбанизации, модернизации коммунальной и промышленной инфраструктуры, создании эффективных механизмов трудовой адаптации инвалидов.

В сфере здравоохранения работа госпиталей принесла качественный рывок: формирование сети специализированных институтов и клиник, развитие восстановительной хирургии и бальнеологии, подготовку квалифицированных национальных кадров. Наконец, в гуманитарном измерении эпоха эвакуогоспиталей стала ярчайшим примером милосердия, социальной солидарности и духовного единства народов, заложившим прочный фундамент гуманистических традиций современного Узбекистана.

Использованная литература и источники





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The Problem of "Due Notice" as a Ground for Refusing Enforcement of Arbitral Awards in B2C E-Commerce

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Abstract

Digital commerce has changed the method by which contractual and procedural information reaches consumers, but the legal concept of proper notice remains largely connected with traditional procedural assumptions. Article V(1)(b) of the New York Convention allows refusal of recognition and enforcement where the party against whom an award is invoked was not given proper notice of the appointment of the arbitrator or of the arbitration proceedings, or was otherwise unable to present its case. In B2C e-commerce, determining what constitutes proper notice is increasingly difficult. An email can be legally delivered but filtered as spam. A notification can appear inside a platform account that the consumer no longer uses. A push notification may technically reach a device without communicating that binding arbitration has begun. Requiring proof of actual subjective knowledge would make enforcement highly uncertain, but treating every electronically transmitted message as sufficient would reduce due process to a technical formality. This thesis proposes a standard of "digital due notice" based on reliable delivery, adequate prominence, understandable content and reasonable opportunity to respond. The proposed approach focuses not on whether a message was merely sent, but whether the communication system was reasonably designed to bring legally significant proceedings to the consumer's attention.

Keywords

due notice, New York Convention, consumer arbitration, e-commerce, digital communication, due process, enforcement.



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Introduction

A paper letter sent to a physical address has never guaranteed that the recipient actually reads it. Nevertheless, traditional procedural law developed relatively stable rules for deciding when notice is sufficient. Registered mail, personal service and other formal methods created evidence that a legally significant communication had been transmitted through an accepted channel.

Digital communication makes the same question more difficult.

A consumer can receive hundreds of emails, application notifications and commercial messages every week. Some are automatically filtered. Others appear briefly on a mobile screen. Platforms frequently use the same communication channel for advertising, delivery information, discounts, changes in terms and legally significant notices.

Against this background, the statement that "an email was sent" gives surprisingly little information about whether a consumer had a realistic opportunity to defend a claim.

Article V(1)(b) of the New York Convention addresses this problem at the enforcement stage. Recognition and enforcement may be refused if the party against whom the award is invoked was not given proper notice of the appointment of the arbitrator or the arbitration proceedings, or was otherwise unable to present its case.

Unlike Article V(2)(b), the defence under Article V(1)(b) must normally be raised and proved by the party resisting enforcement. The provision reflects a basic procedural



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principle: arbitral finality is legitimate only when the affected party had a meaningful opportunity to participate.

The UNCITRAL Model Law contains a closely related rule in Article 36(1)(a)(ii). Both instruments show that notice is not an administrative detail. It is connected with the right to be heard.

Digital B2C arbitration makes the standard uncertain because electronic delivery exists at several different levels. A message may reach a mail server but not the inbox. It may reach the inbox but remain unread. It may be opened but not understood as an arbitration notice. A platform notification may be available in the consumer's account while the consumer has stopped using the platform.

The research question is therefore not whether electronic notice should be accepted. It clearly can be. The more difficult issue is what conditions should make electronic notice legally sufficient for enforcement of a B2C arbitral award.

I argue that neither a strict actual-notice standard nor a purely technical constructive-notice standard provides a satisfactory answer. Digital due notice should instead depend on whether the communication method was reasonably capable of bringing the arbitration to the consumer's attention and whether the content gave a genuine opportunity to respond.

1. Article V(1)(b) and the Meaning of Proper Notice

Article V(1)(b) contains two connected protections. The first concerns proper notice of the appointment of the arbitrator or the arbitration proceedings. The second applies where a party was “otherwise unable to present his case.”

These protections are procedural rather than substantive. A court considering Article V(1)(b) should not decide whether the tribunal correctly interpreted the contract. Its concern is whether the procedure provided a fair opportunity to participate.



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This distinction is important in e-commerce. A consumer who deliberately ignores properly communicated arbitration cannot later convert personal inactivity into an enforcement defence. At the same time, a business should not be able to obtain an enforceable default award merely by placing a notice somewhere in a digital system and treating technical transmission as sufficient.

Traditional arbitration scholarship connects Article V(1)(b) with basic due process and natural justice. Born emphasizes the importance of the opportunity to present one's case, while van den Berg treats the Convention's procedural safeguards as exceptions that must be applied without transforming enforcement into a reconsideration of the merits.

Digital communication changes the evidence but should not change the basic objective.

An instructive domestic example is *Laura S. v James B.* (New York, 2013). The court considered email notice of a continued arbitration hearing. It found the method appropriate in circumstances where the parties and arbitrator had regularly communicated through email and the relevant email had actually been received.

The significance of the case lies not in a general rule that email always constitutes proper notice. The surrounding practice mattered.

A different problem appeared in *Emerald Aero, LLC v Kaplan*, a California appellate decision. Notice of a punitive damages claim was included in a late-filed arbitration brief transmitted by email. The court concluded that the notice was not reasonably calculated to inform the unrepresented party of the claim, particularly when combined with other procedural irregularities.

The contrast is useful. Digital transmission is not itself the legal test. Context determines whether the communication gave the recipient a fair opportunity to understand and react.



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Post-award cases concerning electronic service demonstrate the same point from another direction. In *Dalla-Longa v Magnetar Capital LLC*, the U.S. Court of Appeals for the Second Circuit held that consent to email communications during arbitration did not automatically constitute written consent to electronic service in later federal court proceedings concerning vacation of the award. The case concerns service in judicial proceedings rather than Article V(1)(b), but it shows why legal systems should not casually assume that consent to one form of electronic communication applies to every procedural stage.

For B2C arbitration, this problem is stronger because consumers may never consciously select the communication method in the first place.

2. Actual Notice, Constructive Notice and Digital Failure

Two broad approaches can be imagined.

Under an actual-notice standard, an arbitral award would be enforceable only if there were sufficient evidence that the consumer actually became aware of the proceedings.

This approach offers strong consumer protection but creates serious practical difficulties. A recipient can deny reading an email even where delivery records show that it reached the correct account. A platform cannot easily prove what a person mentally understood after opening a notification. Actual knowledge is therefore difficult to verify.

It can also reward deliberate avoidance. A consumer who receives repeated, clear arbitration notices should not be able to defeat enforcement simply by refusing to open them.

The opposite approach is constructive notice. Under a very broad version of this model, notice would be sufficient once it was transmitted according to the agreed procedure.



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That solution is efficient but can become formalistic in digital commerce.

Consider a consumer who purchased an inexpensive electronic device through an online marketplace. Six months later a dispute develops. The merchant initiates arbitration and the arbitration institution sends one email to the address used when the consumer created the marketplace account. The message enters the spam folder. A default award follows.

It would be difficult to say that the consumer actually received meaningful notice merely because an email server accepted the message.

A second scenario involves an in-platform notification. The consumer deleted the marketplace application after the original transaction but did not formally close the account. Arbitration documents are uploaded to the account and an automated notification is generated inside the application. Technically, the documents were "available." Functionally, the consumer never knew that proceedings existed.

A third situation is more complicated. The arbitration institution sends an email with a clear subject line stating that arbitration proceedings have been commenced. Delivery is confirmed. The same notice is sent through the platform and by SMS. The consumer opens the email but takes no action.

Here, refusal of enforcement would be difficult to justify. The legal system should protect an opportunity to participate, not guarantee that every recipient uses that opportunity.

A fourth example concerns comprehension rather than delivery. An international platform sends a consumer a message stating only that a "case has been opened under Rule 14.3 of the dispute resolution protocol." The consumer receives the message but is not told that an arbitrator may issue a legally binding award or that failure to respond may lead to a default decision.

Technically there is notice. Substantively, its value is questionable.



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This example demonstrates why digital due notice has at least two dimensions: transmission and intelligibility.

Katsh and Rabinovich-Einy have shown more broadly that digital justice cannot simply reproduce offline procedures on a screen. Technology changes the architecture through which disputes are created, communicated and resolved. UNCITRAL's Technical Notes on Online Dispute Resolution similarly emphasize fairness, transparency, due process and accountability.

A digital notice standard should reflect these characteristics.

3. A Proposed Standard of Digital Due Notice

In my view, Article V(1)(b) should not be interpreted as requiring proof of subjective actual knowledge in every consumer case. Such a rule would make default arbitration almost impossible. Yet simple technical dispatch should also be insufficient where the sender knows that digital communications can fail silently.

A better approach is a rebuttable standard based on reasonable digital communication.

Four elements are especially relevant.

The first is **reliable delivery**. The arbitration provider should use a communication channel previously used by the consumer or otherwise reasonably connected to the transaction. Where an email bounces, an account is inactive, or the system generates evidence of delivery failure, another channel should be attempted.

The second is **prominence**. An arbitration notice should not resemble routine marketing. Its subject line and presentation should indicate that legal proceedings have commenced and that failure to respond may have consequences.

The third is **intelligibility**. A consumer should be informed, in reasonably plain language, who has commenced the proceeding, what dispute is involved, what action is



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required, the relevant deadline and the possible consequences of non-participation. Providing only a hyperlink to complex procedural rules should not normally be enough.

The fourth is **reasonable opportunity to respond**. Proper delivery has little value if the consumer receives the notice too late to obtain information, prepare a defence or communicate with the tribunal.

These factors should not operate as rigid formalities. Their purpose is functional.

For higher-risk situations, a layered notification system would be preferable. Initial notice could be sent through the contractual email address and the platform account. If no interaction is recorded, an additional message through SMS or another verified channel could follow. The objective is not to prove psychological awareness. It is to show that reasonable steps were taken to bring the proceedings to the consumer's attention.

Such an approach also provides better evidence at the enforcement stage. Instead of presenting a court with a single statement that "notice was emailed," an arbitration provider could produce a digital notice record showing the address used, time of dispatch, delivery status, follow-up communications and the version of the notice sent.

Privacy law must of course be respected. A notice system should not become a mechanism for excessive tracking of consumers. It is not necessary to record every action performed on a device. Evidence of transmission, delivery failure and limited interaction with the notice can usually provide sufficient procedural information.

The proposed standard therefore lies between actual and constructive notice.

Actual knowledge remains strong evidence of proper notice, but it is not indispensable. Constructive notice remains possible, but only where the method and content of communication were reasonably designed to provide a genuine opportunity to participate.



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This interpretation is compatible with the purpose of Article V(1)(b). The Convention protects procedural fairness, not a particular technology.

Conclusion

The due-notice problem illustrates a wider difficulty in applying twentieth-century arbitration law to twenty-first-century digital transactions. Article V(1)(b) of the New York Convention remains sufficiently flexible to address electronic communication, but its application requires a more precise understanding of what digital communication actually means.

An email is not equivalent to knowledge. Neither is a push notification, a message inside an online account or the technical availability of a PDF document.

At the same time, enforcement cannot depend on proving the consumer's subjective state of mind. Such a requirement would create opportunities for strategic avoidance and would make default awards practically unenforceable.

The more appropriate question is whether the notification system was reasonably designed to make the consumer aware that binding legal proceedings had begun.

I therefore suggest a digital due-notice standard based on reliable delivery, prominence, intelligibility and a reasonable opportunity to respond. Where the first communication produces evidence of failure or inactivity, additional channels should be used when reasonably available.

Arbitration institutions and e-commerce platforms could support this approach by maintaining a limited procedural notification record. Such a record would give courts better evidence when Article V(1)(b) is later invoked.

This solution does not require amendment of the New York Convention. It requires adaptation of the way its existing standard is understood.

The issue also connects directly with the public-policy problem discussed in the first thesis. A consumer who never had a meaningful opportunity to participate may





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invoke Article V(1)(b), while more fundamental procedural failures may also raise public-policy concerns. The distinction between these grounds should nevertheless remain clear.

Without such adaptation, digital arbitration creates a paradox. Proceedings can become faster and technically more efficient while the resulting award becomes more difficult to enforce. Technology then solves the dispute-processing problem but creates a new enforcement problem.

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PROBLEMS AND PROSPECTS FOR THE DEVELOPMENT OF MOBILE PAYMENT SYSTEMS IN THE DIGITAL ECONOMY OF UZBEKISTAN

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Abstract

The thesis examines the main challenges hindering the development of mobile payment systems in Uzbekistan: the digital divide between urban and rural areas, increasing cyber risks, the lag of the regulatory and legal framework behind the pace of fintech development, as well as methodological problems in statistical accounting. Directions for addressing the identified problems are proposed.

Keywords

mobile payments, fintech, digital divide, cyber risks, regulation, digital economy,
Uzbekistan

ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ МОБИЛЬНЫХ ПЛАТЁЖНЫХ СИСТЕМ В УСЛОВИЯХ ЦИФРОВОЙ ЭКОНОМИКИ УЗБЕКИСТАНА

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Аннотация. В тезисах рассматриваются основные вызовы, сдерживающие развитие мобильных платёжных систем в Узбекистане: цифровое неравенство между городом и селом, рост киберрисков, отставание нормативно-правовой базы



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от темпов развития финтех-технологий, а также методологические проблемы статистического учёта. Предложены направления решения выявленных проблем.

Ключевые слова: мобильные платежи, финтех, цифровое неравенство, киберриски, регулирование, цифровая экономика, Узбекистан.

На фоне ускоренного роста мобильных платёжных сервисов в Узбекистане [1] дальнейшее развитие отрасли сопровождается рядом системных вызовов, требующих научного осмысления и выработки практических решений.

Во-первых, сохраняется выраженное цифровое неравенство между городскими и сельскими регионами. Качество мобильного интернета, доступность современных устройств и уровень технологической инфраструктуры распределены неравномерно: в крупных городах мобильные платежи стали повседневной практикой, тогда как в ряде районов наблюдаются недостаточная скорость передачи данных и ограниченность технической базы [2]. Это объективно снижает потенциал внедрения безналичных расчётов на национальном уровне.

Во-вторых, рост объёмов мобильных транзакций сопровождается увеличением киберрисков — активизацией мошеннических схем, фишинговых рассылок и попыток несанкционированного доступа к банковским приложениям. Несмотря на распространение двухфакторной аутентификации, сохраняется проблема низкой финансовой и цифровой грамотности части населения, что повышает уязвимость пользователей.

В-третьих, нормативно-правовая база развивается медленнее, чем финтех-технологии. Появление цифровых кошельков, сервисов рассрочки и моделей BNPL опережает обновление законодательства; отсутствие единых стандартов открытых API и гармонизированных правил взаимодействия участников рынка создаёт институциональные барьеры.





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В-четвёртых, остаются методологические проблемы статистического учёта: различия в подходах к классификации операций и несопоставимость данных между регулятором, банками и финтех-операторами затрудняют точную оценку состояния рынка и построение обоснованных прогнозов.

Для преодоления указанных проблем целесообразны комплексные меры: укрепление цифровой инфраструктуры в регионах и расширение покрытия мобильного интернета; внедрение более совершенных моделей аутентификации и технологий выявления мошенничества наряду с программами повышения цифровой грамотности населения; разработка унифицированных стандартов открытых API и нормативное закрепление новых финансовых продуктов; а также внедрение единой классификации операций и повышение прозрачности отчётности участников рынка.

Реализация данных мер позволит сформировать устойчивую, безопасную и конкурентоспособную экосистему мобильных платежей, способную выступить надёжным фундаментом дальнейшей цифровой трансформации экономики Узбекистана.

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**Role of Water Vapor in Plasma-Assisted Methane Conversion and Hydrogen
Production: A Review**

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Abstract

Water vapor plays a central role in plasma-assisted methane conversion for hydrogen production. As a reactant, it participates in methane steam reforming and the water–gas shift reaction. Its presence can also influence the formation of reactive species, the distribution of gaseous products, carbon deposition, and plasma discharge stability. However, these effects vary with the steam-to-methane ratio, reactor design, discharge power, gas temperature, residence time, and catalyst configuration.

This review examines published experimental and kinetic studies to assess how water vapor affects methane conversion and hydrogen production in plasma-assisted systems. The studies indicate that an adequate steam supply can suppress soot formation and maintain stable operation in certain microwave plasma reactors. Additional steam beyond the amount required for stability, however, does not necessarily increase hydrogen production or improve energy yield. In catalytic nonthermal plasma systems, changes in water feed and operating conditions can also alter CO and CO₂ selectivity.

The analysis shows that the effect of water vapor cannot be described by a single optimum applicable to all plasma reactors. Evaluating its contribution requires methane conversion to be considered alongside hydrogen yield, product composition, carbon formation, and energy consumption. Consistent measurement and reporting of these indicators are essential for comparing reactor systems and identifying operating conditions suitable for hydrogen production.

Keywords



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water vapor; plasma-assisted methane conversion; steam reforming; hydrogen production; carbon deposition; energy efficiency.

Introduction

Methane steam reforming is an established route for hydrogen production. In the principal reaction, methane and water vapor form carbon monoxide and hydrogen:



The resulting carbon monoxide can react with additional water vapor through the water–gas shift reaction:



Because steam reforming requires substantial heat input, researchers have investigated plasma-assisted processes as electrically driven routes for activating methane-containing feeds. Experimental work has examined microwave plasma and dielectric barrier discharge reactors, including systems combined with catalysts [2–5]

Water vapor has several functions in these systems. It supplies a reactant for reforming, affects the formation of CO and CO₂, and may influence carbon deposition and discharge stability. Its effect is closely linked to reactor configuration and operating conditions. In a microwave plasma study using a methane–carbon dioxide mixture, sufficient steam suppressed soot formation and maintained stable operation. Increasing steam flow beyond the amount needed for stability did not significantly improve hydrogen production under the tested conditions [5].

The aim of this review is to analyze the role of water vapor in plasma-assisted methane conversion and hydrogen production. The discussion focuses on reaction pathways, the influence of steam supply on reactor performance, and the measures required to compare published results. Particular attention is given to the distinction between methane conversion and hydrogen yield: converting more methane does not necessarily mean producing hydrogen more efficiently.



Main Body

Reaction pathways involving water vapor

In plasma-assisted methane reforming, hydrogen formation results from several interacting reactions. Methane can be activated in the plasma to form reactive fragments, including CH_3 . Water vapor participates in reforming and can contribute hydrogen- and oxygen-containing reactive species to the reaction network. These species influence whether carbon from methane appears mainly as CO , CO_2 , other gaseous products, or solid carbon. The relative importance of each pathway depends on the discharge conditions, gas temperature, and composition of the feed [1].

Water vapor may also contribute to hydrogen production through the water–gas shift reaction. Nevertheless, an increase in CO_2 concentration cannot, on its own, establish how much additional hydrogen this reaction produced. Both CO and CO_2 formation are affected by other reactions in the plasma. Determining the role of water vapor therefore requires measurements of the inlet and outlet gas flows and the amounts of the principal products.

Effect of steam supply on reactor operation

The steam-to-methane ratio is an important operating variable. Too little steam may limit reforming and, under certain conditions, allow carbon deposits to form. Adding steam can change the product mixture and help maintain stable operation, but its benefit is not unlimited. In a study of nonthermal plasma-assisted reforming with a nickel-based catalyst, water feed rate, plasma power, and gas temperature affected the relative formation of CO and CO_2 [4].

The effect of steam on stability was observed in a 915 MHz microwave plasma reactor processing a synthetic methane–carbon dioxide mixture. An appropriate amount of water vapor suppressed soot formation and allowed stable operation at higher methane contents. Once the minimum steam flow required for stable operation had been



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reached, further increases did not significantly improve hydrogen production rate, methane conversion, or energy yield within the investigated range [5]. This finding illustrates why the steam supply should be optimized for a particular reactor rather than increased without evaluating the result.

Catalysts introduce another variable. In plasma–catalyst systems, the catalyst and the discharge can jointly influence methane conversion and product selectivity. Consequently, results from a catalytic dielectric barrier discharge reactor cannot be directly compared with those from a microwave plasma reactor solely on the basis of methane conversion. Feed composition, catalyst, electrical input, and hydrogen yield must also be considered [3, 4].

Evaluation of hydrogen-production performance

Methane conversion is commonly used to assess plasma-assisted reforming, but it describes only the fraction of methane consumed. It does not show how much hydrogen is produced or how much electrical energy is required. A reactor can achieve substantial methane conversion while directing part of the carbon into unwanted products. Likewise, a high hydrogen concentration in the outlet gas does not necessarily represent a high production rate if the total gas flow is low.

A more complete assessment should report methane conversion, hydrogen production rate or yield, CO and CO₂ formation, and energy consumption under the same operating conditions. The steam-to-methane ratio, feed flow rate, catalyst, and absorbed plasma power should also be specified. These data make it possible to distinguish the effect of water vapor from the effects of changes in power or residence time. In the microwave plasma study discussed above, the researchers evaluated both hydrogen production and energy yield; their results showed that supplying steam beyond the amount needed for stable operation provided no clear performance benefit within the tested range [5].



The energy needed to generate water vapor is also relevant when assessing practical performance. Reporting only electrical power delivered to the plasma does not represent the energy demand of the complete process if steam must be produced separately. Thus, the contribution of water vapor should be evaluated through both its chemical effects and the energy required to supply it. This distinction is necessary before conclusions can be drawn about the suitability of plasma-assisted methane reforming for hydrogen production.

Conclusion

Water vapor is a key component of plasma-assisted methane reforming. It participates in hydrogen-producing reactions and can affect product distribution, carbon formation, and discharge stability. The reviewed studies show that these effects depend on feed composition, reactor design, plasma power, temperature, and catalyst use. Consequently, the amount of steam that is beneficial in one system cannot be assumed to be optimal in another.

An adequate steam supply can prevent soot formation and support stable reactor operation. However, the available experimental evidence also shows that adding steam beyond the amount needed for stable operation does not necessarily increase hydrogen production or energy yield. Steam flow should therefore be selected on the basis of measured performance, rather than methane conversion or discharge stability alone.

For reliable comparisons between plasma-assisted systems, future studies should report methane conversion, hydrogen yield, CO and CO₂ formation, carbon deposits, and electrical energy use under clearly defined conditions. The energy required to produce steam should also be included when evaluating the overall process. These measurements would help establish how water vapor contributes to hydrogen production and whether a proposed reactor offers a practical performance advantage.

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IMPROVING UZBEKISTAN'S BUSINESS ENVIRONMENT THROUGH B-READY INDICATORS: INSTITUTIONAL AND REGULATORY PRIORITIES

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Abstract

This thesis examines how the World Bank's Business Ready (B-READY) indicators can inform priorities for improving Uzbekistan's business environment. B-READY assesses the regulatory framework, public services, and operational efficiency across ten topics in the life cycle of a firm. This structure makes it possible to distinguish the quality of formal rules from the services and procedures businesses experience in practice.

The study aims to identify institutional and regulatory priorities by examining Uzbekistan's B-READY results alongside the methodology used to produce them. It applies document analysis and a comparative assessment of the three pillars, with attention to gaps between written requirements, access to public services, and implementation. The proposed approach treats indicator scores as diagnostic evidence rather than as a complete measure of business conditions. It argues that reform priorities should be selected by tracing low-performing indicators to specific procedures and responsible institutions, then assessing whether changes reduce the time, cost, and uncertainty faced by firms. The thesis offers an analytical framework for setting reform priorities; it does not claim that proposed measures have already improved business outcomes.

Keywords

Uzbekistan, B-READY, business environment, regulatory reform, public services, operational efficiency, institutional reform.





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Introduction

Improving the business environment requires more than changing laws. Firms also need accessible public services and predictable procedures when they register, obtain permits, pay taxes, resolve disputes, and carry out other routine activities. A regulation may be clear on paper yet difficult to follow in practice if information is hard to find, agencies apply requirements inconsistently, or a procedure takes longer than expected. For this reason, reform priorities should be based on both the content of regulations and businesses' experience of their implementation.

The World Bank's Business Ready (B-READY) framework offers a way to examine these issues together. It assesses ten topics related to the life cycle of a firm through three pillars: the Regulatory Framework, Public Services, and Operational Efficiency. The first pillar focuses largely on formal rules, while the other two help assess the services available to firms and how procedures work in practice. Uzbekistan is included in the B-READY assessment, making the framework relevant to an analysis of its current business environment.

For Uzbekistan, the central analytical question is how B-READY results can be translated into practical reform decisions. An indicator may point to a weakness, but its score alone does not explain which rule, administrative step, or institutional arrangement causes the difficulty. Identifying a priority therefore requires closer examination of the underlying indicator, the procedure it measures, the agency responsible, and the effect on firms. This distinction also helps avoid treating a higher score as the sole objective of reform.

This thesis aims to identify institutional and regulatory priorities for improving Uzbekistan's business environment using the B-READY framework. It compares the three pillars, considers where formal rules and practical implementation may diverge, and proposes criteria for selecting reforms. The analysis is based on published B-



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READY materials and official documents; it does not present a new firm survey or claim to measure the impact of reforms already undertaken.

Main Body

B-READY as a framework for identifying reform priorities

The B-READY framework evaluates the business environment across ten topics, from business entry to insolvency. Each topic is assessed through three pillars: the quality of the regulatory framework, the provision of public services, and operational efficiency. This design is useful for policy analysis because a strong legal framework does not necessarily mean that firms receive timely and effective services. Conversely, an efficient procedure may still require clearer or more consistent legal rules.

For Uzbekistan, the first step is to examine results within each topic, rather than relying on an aggregate score. A difference between pillar scores can help formulate a specific question. If regulatory quality is comparatively strong but operational efficiency is weaker, the next task is to examine how the relevant procedure is carried out. If public services are weaker, attention should turn to the availability of information, access to services, and coordination among responsible agencies. These are analytical starting points, not automatic explanations of why a score is low.

Institutional priorities

Institutional reform concerns the way public bodies deliver and coordinate services used by firms. Business procedures often involve more than one agency. Even where each agency has a defined role, repeated requests for the same information or unclear responsibility can make the overall process difficult to navigate. A B-READY-based review should therefore identify the full sequence a firm follows, including where it submits information, receives a decision, and seeks clarification when a problem arises.

The practical priority is to assign clear responsibility for each stage of a procedure and make requirements accessible to users. Where services are delivered digitally,



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attention should be paid to whether the system allows a firm to complete the procedure and track its outcome. Digital access alone is not sufficient if applicants must repeat the same steps on paper or visit an office to resolve routine issues. These matters should be assessed through the relevant B-READY indicators and, where available, administrative data and feedback from firms.

Regulatory priorities

Regulatory reform should focus on requirements that are unclear, duplicated, or difficult to apply consistently. For each selected topic, policymakers can compare the stated legal requirement with the documents and steps firms are asked to complete in practice. Such a comparison helps distinguish a problem in the wording of a rule from a problem in its implementation. The appropriate response may be to clarify a regulation, remove a redundant requirement, improve public guidance, or change how agencies administer an existing rule.

Reforms should also be assessed from the firm's perspective. A change in legislation is meaningful when it produces a clearer and more predictable process. Suitable measures include the number of steps required, the time needed to complete them, the transparency of decisions, and the availability of a way to correct errors or challenge a decision. The B-READY methodology's combination of formal rules and practical implementation provides a basis for this assessment.

Selecting and evaluating reforms

A reform priority should meet three conditions. First, it should address a clearly identified weakness in a B-READY topic or pillar. Second, the responsible institution and the procedure to be changed should be identifiable. Third, its effect should be measurable after implementation. Applying these conditions can turn an indicator into a testable policy proposal: what will change, who will implement it, and how will improvement be observed?





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B-READY results should be used alongside legal analysis, administrative records, and evidence from firms. The indicators can reveal where closer examination is needed, but they cannot by themselves establish the cause of every problem or prove that a particular reform will succeed. A regular review of implementation is therefore necessary to determine whether changes to rules and services improve the experience of businesses in Uzbekistan.

Conclusion

The B-READY framework provides a structured basis for identifying priorities in Uzbekistan's business environment. Its three pillars make it possible to examine whether a difficulty arises from the regulatory framework, the public services available to firms, or the way procedures operate in practice. Reform decisions become more precise when results are reviewed by topic and linked to a specific procedure and responsible institution.

The analysis indicates that institutional and regulatory changes should be planned together. Clearer rules have limited practical value if firms cannot obtain information or complete a procedure efficiently. Likewise, faster services require consistent legal requirements and transparent decisions. For each priority, policymakers should define the change to be made and assess its effect using observable measures, such as the steps and time required to complete a procedure.

B-READY indicators are a starting point for diagnosis, not proof of what causes a particular weakness. Further analysis of administrative processes and firms' experiences is needed before selecting a reform and evaluating its results. This approach would allow Uzbekistan to use B-READY data to improve the conditions businesses encounter in practice.

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