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**TEACHING MEDIA LITERACY IN HIGHER EDUCATION: AN
INNOVATIVE METHODOLOGY FOR FORMING CRITICAL THINKING**

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Abstract

This thesis examines teaching media literacy in higher education through an innovative methodology aimed at developing critical thinking. It proposes integrating a competency-based approach with problem-based learning, case studies, and fact-checking practices. The scientific novelty lies in specifying assessment criteria for argumentation in media-text analysis, evaluating source credibility, and constructing logically grounded conclusions, thereby strengthening students' analytical judgment and responsible media consumption skills.

Keywords: media literacy; critical thinking; fact-checking; media text analysis; source credibility; competency-based learning; instructional methodology

**OLIY TA'LIMDA MEDIASAVODXONLIKNI O'QITISH: TANQIDIY
FIKRLASHNI SHAKLLANTIRISHNING INNOVATSION METODIKSI**

Annotatsiya

Ushbu tezis oliy ta'limda mediasavodxonlikni tanqidiy fikrlashni shakllantirishga yo'naltirilgan innovatsion metodika asosida o'qitish masalalarini yoritadi. Tadqiqotda kompetensiyaviy yondashuv, muammoli ta'lim, keys-stadi va faktcheking amaliyotlari integratsiyasi taklif etiladi. Metodikaning ilmiy yangiligi media matnlarni dalillash,

manba ishonchliligini baholash va mantiqiy xulosalash ko'nikmalarini baholash mezonlarini aniqlashdan iborat.

Аннотация

Данный тезис рассматривает преподавание медиаграмотности в высшей школе на основе инновационной методики формирования критического мышления. В исследовании предложена интеграция компетентностного подхода, проблемного обучения, кейс-стади и практик фактчекинга. Научная новизна заключается в уточнении критериев оценивания умений аргументации при анализе медиатекстов, проверки надежности источников и построения логически обоснованных выводов в учебном процессе.

Kalit so'zlar: mediasavodxonlik; tanqidiy fikrlash; faktcheking; media matn tahlili; manba ishonchliligi; kompetensiya; innovatsion metodika

Ключевые слова: медиаграмотность; критическое мышление; фактчекинг; анализ медиатекста; надежность источника; компетенция; инновационная методика

Oliy ta'lim tizimida bilimlar hajmining ortishi bilan bir qatorda axborot oqimining tezlashuvi, raqamli platformalarning ko'payishi va algoritmik tavsiyalashning kuchayishi talabalarning o'qish, tushunish va baholash amaliyotiga sifat jihatidan yangi talablarni qo'yimoqda. Endi talaba faqat ma'lumotni topish va qayta bayon qilish bilan cheklanmaydi, balki axborotning kelib chiqishi, maqsadi, auditoriyaga ta'sir mexanizmlari, dalillarning yetarliligi va mantiqiy izchilligi bo'yicha mustaqil hukm chiqara olishi zarur. Shu nuqtai nazardan mediasavodxonlik oliy ta'limda umumkasbiy kompetensiya sifatida namoyon bo'lib, u tanqidiy fikrlashning amaliy maydoni vazifasini bajaradi. Mediasavodxonlikni o'qitishning innovatsion metodikasini ishlab chiqish ixtisosligi doirasida ta'lim jarayonini loyihalash, o'qitish texnologiyalarini yangilash va baholash tizimini takomillashtirish bilan bevosita bog'liqdir.

Mediasavodxonlik tushunchasi ko‘pincha axborotni qabul qilish madaniyati bilan tor ma’noda izohlanadi, biroq oliy ta’lim kontekstida u ko‘p tarkibli kompetensiya sifatida talqin qilinishi maqsadga muvofiq: media matnni o‘qish va dekonstruksiya qilish, manbani verifikatsiya qilish, dalillarni tekshirish, statistik va vizual argumentlarni tahlil qilish, muallif pozitsiyasini ajratish, yashirin taxminlarni aniqlash, xolis xulosa chiqarish hamda o‘z mediastrategiyasini etik me’yorlarga tayangan holda qurish. Bunday ko‘nikmalar tanqidiy fikrlashning tayanch komponentlari hisoblangan tahlil, baholash va xulosa chiqarish amallari bilan uzviy birikadi. Demak, mediasavodxonlikni o‘qitish tanqidiy fikrlashni “o‘rgatish” emas, balki uni real media vaziyatlarida mashq qildirish orqali shakllantirishni anglatadi. Mazkur yondashuvda mediamatn o‘quv materialidir emas, balki tahliliy faoliyatni qo‘zg‘atuvchi muammo va dalillar maydoni sifatida talqin qilinadi.

Tadqiqotning metodologik asosi sifatida kompetensiyaviy yondashuv tanlanadi, chunki u natijani bilimlar ro‘yxati bilan emas, talabaning bajariladigan amaliy harakatlari bilan o‘lchashni talab etadi [1]. Shu bilan birga, tanqidiy fikrlashning o‘qitishdagi universal modeli sifatida mantiqiy dalillash, manba baholash va refleksiv qaror qabul qilish jarayonlarini ketma-ket tashkil etish zarurati e’tirof etiladi [4]. Mediasavodxonlik kontekstida esa bu ketma-ketlik faktcheking amaliyotlari bilan boyitiladi: da’vo (claim)ni ajratish, tekshiriladigan savolga aylantirish, birlamchi va ikkilamchi manbalarni qiyoslash, kontekstni tiklash, vizual materiallarning kelib chiqishini aniqlash va yakuniy hukmni dalillar bilan asoslash [6]. Bunday integratsiya talabaning “ishonish yoki inkor etish” kabi intuitiv reaksiyalarini metodik nazorat ostidagi analitik qarorga aylantiradi.

Taklif etilayotgan innovatsion metodikaning markazida muammoli ta’lim va keys-stadi yondashuvlari turadi. Muammoli ta’lim talabaning kognitiv ziddiyatini yuzaga keltirib, uni izlanishga majbur etadi; keys-stadi esa bu izlanishni real hayotga yaqin

media vaziyatlari orqali mantiqan boshqaradi [2]. Oliy ta'lim auditoriyasida keyslar yangilik sarlavhalari, ijtimoiy tarmoqlardagi postlar, qisqa videolar, infografikalar, reklama matnlari, blog yozuvlari, rasmiy bayonotlar va ekspert intervyulari kabi turli janrdagi media matnlardan tuziladi. Metodikaning innovatsionligi keyslarni "to'g'ri javob"ga olib boradigan yopiq masala sifatida emas, balki tekshiruv yo'li, dalil sifati va xulosa ishonchliligi turlicha bo'lishi mumkin bo'lgan ochiq tekshiruv vazifasi sifatida qurishdadir. Bu esa talabalarni natijadan ko'ra jarayon sifatiga mas'ul qiladi.

Metodika uch bosqichli o'quv sikli ko'rinishida asoslanadi. Birinchi bosqichda media matnni tahliliy o'qish tashkil etiladi: matnning janri, auditoriyasi, maqsadi, muallifning institutsional maqomi, emotsional markerlar, ritorik usullar va vizual-kompozitsion yechimlar aniqlanadi. Bu bosqichda talaba "nima deyilgan"ni emas, "qanday qurilgan va nimaga yo'naltirilgan"ni ajratishga o'rganadi; aynan shu ko'nikma manipulyativ ta'sirlarni erta sezish imkonini beradi. Ikkinchi bosqich faktcheking va manba verifikatsiyasiga bag'ishlanadi: da'volar ro'yxati tuziladi, ularning tekshirilish imkoniyati baholanadi, birlamchi manba topiladi, ma'lumotning yangiligi va konteksti tekshiriladi, raqamlar va grafiklar metodik savollar orqali tahlil qilinadi. Uchinchi bosqichda dalillash va xulosa chiqarish amalga oshiriladi: talaba argument xaritasini tuzadi, dalilning relevanti va yetarliligi bo'yicha asos keltiradi, qarama-qarshi nuqtai nazarni ko'rib chiqadi, ehtimollik va noaniqlikni ifodalash tilini to'g'ri qo'llaydi hamda qisqa analitik xulosa yozadi. Ushbu sikl takroriy qo'llanganda tanqidiy fikrlash odati shakllanib, u alohida mavzu sifatida emas, o'qish va ishlashning normal uslubiga aylanadi.

Metodikaning samaradorligi baholash tizimi bilan mustahkamlanmasa, u faqat faoliyatlar majmuasi bo'lib qoladi. Shuning uchun ilmiy yangilik sifatida mediasavodxonlik va tanqidiy fikrlashni baholash mezonlari uyg'unlashtiriladi. Birinchidan, manba ishonchliligini baholash mezonlari kiritiladi: mualliflik va

institutsional mansublik aniqligi, manbaning shaffofligi, birlamchi dalillarga tayanganlik, boshqa ishonchli manbalar bilan moslik, vaqt va kontekst ko'rsatkichlari. Ikkinchidan, dalillash sifati mezonlari belgilanadi: tezisning aniq qo'yilishi, dalil va xulosa o'rtasidagi mantiqiy bog'lanish, qarshi dalillarni hisobga olish, umumlashtirishdagi ehtiyotkorlik, xatolarga olib keladigan mantiqiy og'ishlarni aniqlash. Uchinchidan, analitik yozuv mezonlari taklif etiladi: terminlarning to'g'ri qo'llanishi, neytral va akademik uslub, dalilga tayanib yozish, iqtibos va qayta bayonning farqini saqlash, plagiatning oldini olish madaniyati [3]. Ushbu mezonlar rubrika ko'rinishida rasmiylashtirilganda talaba baholash talablarini oldindan biladi va o'z-o'zini nazorat qilish ko'nikmasi kuchayadi.

Oliy ta'lim sharoitida metodikani joriy etish uchun fanlararo integratsiya muhim omil hisoblanadi. Mediasavodxonlik alohida modul sifatida ham, mavjud fanlar tarkibiga singdirilgan ko'rinishda ham samarali bo'lishi mumkin. Masalan, pedagogika yo'nalishlarida media keyslar ta'lim kontenti sifatini baholash va tarbiyaviy ta'sirni tahlil qilishga xizmat qiladi; ijtimoiy fanlarda statistik da'volarni tekshirish, so'rov natijalarini talqin qilish va vizual manipulyatsiyani aniqlash markazga chiqadi; filologiyada diskurs tahlili, metaforalar va konnotatsiyalar orqali ta'sir mexanizmlarini ko'rsatish mumkin. Bu yondashuv mediasavodxonlikni "faqat jurnalistika uchun" degan stereotipdan chiqarib, uni universitet bitiruvchisining umumiy intellektual kapitali sifatida mustahkamlaydi [5].

Shuningdek, metodikani amalga oshirishda o'qituvchining roli an'anaviy bilim beruvchidan akademik fasilitatorga o'zgaradi. Fasilitator talabalarga tayyor hukm bermaydi, balki savol qo'yish madaniyatini, tekshiruv yo'lini va dalilni hujjatlashtirishni boshqaradi. Bu jarayonda auditoriyada bahs yuritish qoidalari, akademik halollik, shaxsga emas, fikrga munosabat bildirish me'yorlari qat'iy belgilanishi lozim, chunki media matnlar ko'pincha emotsional reaksiyalarni kuchaytiradi. Metodikaning ta'limiy

qiymati ham aynan shunda: talaba o'z pozitsiyasini dalil bilan himoya qilishni, noaniqlikni tan olishni va tekshirish tugamaguncha yakuniy xulosa bermaslikni o'rganadi. Natijada tanqidiy fikrlash shubha bilan tenglashtirilmaydi; u mas'uliyatli fikrlash, dalilga sodiqlik va intellektual intizom sifatida shakllanadi.

Tadqiqot natijalarini umumlashtirib aytganda, oliy ta'limda mediasavodxonlikni tanqidiy fikrlashni shakllantirishga yo'naltirilgan innovatsion metodika asosida o'qitish talabalarning media matnni tahlil qilish, manbani tekshirish va mantiqan asoslangan xulosa chiqarish ko'nikmalarini tizimli rivojlantiradi. Metodikaning asosiy ustunligi muammoli ta'lim, keys-stadi va faktchekingni yagona o'quv sikliga birlashtirib, natijani aniq baholash mezonlari orqali o'lchash imkonini berishidadir. Taklif etilgan yondashuv fanlararo integratsiyaga mos bo'lib, universitet bitiruvchisining akademik va kasbiy faoliyatida zarur bo'lgan tahliliy hukm yuritish madaniyatini mustahkamlaydi.

Foydalanilgan adabiyotlar ro'yxati

1. Xodjayev B. X. Ta'lim metodlari va texnologiyalari. Toshkent. O'qituvchi. 2018. 240 b.
2. Polat E. S. Novye pedagogicheskie i informatsionnye tekhnologii v sisteme obrazovaniya. Moskva. Akademiya. 2016. 272 s.
3. Zunnunov A. Akademik yozuv asoslari. Toshkent. Innovatsiya-Ziyo. 2020. 196 b.
4. Facione P. A. Critical Thinking: What It Is and Why It Counts. Milbrae. Insight Assessment. 2015. 28 p.
5. Buckingham D. Media Education: Literacy, Learning and Contemporary Culture. Cambridge. Polity Press. 2003. 232 p.
6. Wardle C., Derakhshan H. Information Disorder: Toward an Interdisciplinary Framework for Research and Policy Making. Strasbourg. Council of Europe. 2017. 112 p.

Comparison of Main Sensor Types for Nitrate vs Phosphate Water Monitoring

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Abstract—Real-time nutrient monitoring in surface water is increasingly important for understanding agricultural runoff, eutrophication risk, and regulatory compliance. Nitrate monitoring is more mature than phosphate monitoring because UV absorbance sensors can provide continuous, reagent-free measurements in the field, while phosphate monitoring still depends largely on wet-chemistry analyzers or surrogate models,. This paper compares the main sensor types used for nitrate and phosphate, highlighting operating principles, field performance, and deployment tradeoffs,.

Keywords—nitrate sensor, phosphate sensor, continuous nutrient monitoring, UV absorbance, wet chemistry, water quality.

I. INTRODUCTION

Excess nitrogen and phosphorus in surface water can drive algal blooms and ecosystem degradation, especially during storm-driven runoff events,. Continuous sensors capture the short-lived concentration changes that discrete grab samples often miss, improving load estimates and early warning capability. Nitrate is generally easier to monitor continuously than phosphate because mature optical sensors are available, while phosphate sensing in natural waters remains more challenging,.

II. MAIN SENSOR CLASSES

The main field sensor types are UV absorbance sensors, wet-chemistry/colorimetric analyzers, electrochemical sensors, and surrogate/model-based approaches,. UV absorbance is strongest for nitrate, wet chemistry is strongest for phosphate, and electrochemical sensors are emerging but less field-proven.

Sensor type	Nitrate suitability	Phosphate suitability	Strengths	Limitations
UV absorbance	Strong ,	Weak	Reagent-free, continuous	Turbidity and organic matter interference
Wet chemistry analyzer	Moderate	Strong ,	High specificity	Reagents and maintenance
Electrochemical	Emerging	Emerging	Small size, multi-analyte potential	Fouling and stability
Surrogate model	Common	Common for total P	Low cost for trends	Site-specific calibration

III.NITRATE SENSORS

Nitrate is commonly monitored with UV absorbance sensors because nitrate has a strong optical signature at specific wavelengths, enabling continuous in situ measurements,. These sensors are widely used for high-frequency river and stream monitoring,. Miniaturized wet-chemistry analyzers provide an alternative for higher precision but require reagents and more maintenance.

IV. PHOSPHATE SENSORS

Phosphate monitoring is less mature because direct optical sensors are not as robust in natural waters, so wet-chemistry analyzers remain the primary choice for orthophosphate measurement,. Surrogate models that estimate total phosphorus from orthophosphate, turbidity, or fluorescence are also common when continuous phosphate data are not feasible. Electrochemical phosphate sensors show promise but require further development for long-term field reliability.

V. FIELD TRADEOFFS

Nitrate sensors excel in low-maintenance continuous monitoring, making them ideal for remote deployments,. Phosphate analyzers offer better accuracy but increase operational costs due to reagent handling and calibration needs,. In fouling-prone or turbid waters, both types benefit from auto-wipers and compensation algorithms, but phosphate systems usually demand more frequent servicing,.

VI. RECOMMENDED STRATEGY

For most surface-water programs, deploy a UV nitrate sensor with periodic lab phosphate validation or a dedicated phosphate analyzer at priority sites,. This balances cost, maintenance, and data quality while capturing key nutrient dynamics.

VII. CONCLUSION

Nitrate monitoring is more field-ready than phosphate monitoring because UV absorbance sensors are commercially mature and operationally simple,. Phosphate monitoring still relies on wet-chemistry or surrogate methods, which are more complex and costly,. Future advances in electrochemical and optical phosphate sensors could close this gap and enable fully continuous dual-nutrient monitoring.

REFERENCES

- [1] B. A. Pellerin *et al.*, "Use of continuous water-quality time-series data to compute total phosphorus loads," U.S. Geological Survey, Reston, VA, USA,

- Scientific Investigations Rep. 2024-5097, 2024. Available:
<https://pubs.usgs.gov/publication/sir20245097/full>
- [2] National Oceanography Centre, "Nitrate sensor," Southampton, U.K., 2025.
Available: <https://noc.ac.uk/technology/technology-development/nitrate-sensor>
- [3] Satlantic, "Water quality monitor," Halifax, NS, Canada. Available:
https://ctandc.co.jp/MBARI-ISUS%20presentation_new/Water%20Quality%20Monitor%20Satlantic.pdf
- [4] USGS, "Continuous monitoring of sediment and nutrients in the Illinois River," U.S. Geological Survey, Scientific Investigations Rep. 2015-5040, 2015.
Available: <https://pubs.usgs.gov/publication/sir20155040>
- [5] P. M. Bradley *et al.*, "Continuous instream monitoring of nutrients and sediment in response to storm events," *Scientific Reports*, vol. 7, 2017. Available:
<https://pmc.ncbi.nlm.nih.gov/articles/PMC5752339/>
- [6] Catchment Based Approach, "In situ nutrient monitoring," U.K., 2023.
Available: <https://catchmentbasedapproach.org/learn/in-situ-nutrient-monitoring/>
- [7] Endress+Hauser, "Nutrient analyzers and sensors for ammonium, nitrate and more," Reinach, Switzerland, 2025. Available:
<https://www.endress.com/en/field-instruments-overview/liquid-analysis-product-overview/nutrient-analyzers-sensors>
- [8] M. Altahan *et al.*, "Phosphate and nitrate electrochemical sensor based on a nanostructured platform," *ACS Omega*, vol. 9, no. 19, pp. 20948-20957, 2024.
Available: <https://pubs.acs.org/doi/10.1021/acsomega.4c00717>
- [9] K. Harnsoongnoen *et al.*, "Water quality assessment using a portable UV optical absorbance nitrate sensor," *Water SA*, vol. 47, no. 1, pp. 92-100, 2021. Available:
<https://www.watersa.net/article/view/9453>

Strengthening students' pragmatic awareness by analyzing texts through Critical Discourse Analyses (CDA)

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Abstract

Developing pragmatic awareness is a major goal in language education because learners need to interpret implied meanings, recognize communicative intentions, and use language appropriately in social contexts. However, pragmatic instruction in many EFL classrooms often remains limited to formulaic expressions and speech act patterns. This conceptual article explores how Critical Discourse Analysis (CDA) can strengthen students' pragmatic awareness through the analysis of authentic texts. The article argues that integrating CDA into classroom practice helps learners analyze implicatures, presuppositions, politeness strategies, ideology, and power relations embedded in discourse. The paper discusses pedagogical implications for language teaching and concludes that CDA can serve as an effective linguodidactic tool for developing critical pragmatic awareness.

Keywords: *pragmatic awareness, critical discourse analysis, authentic texts, critical literacy, pragmatics*

Introduction

Pragmatic awareness refers to learners' ability to recognize how meaning is shaped by context, speaker intention, and sociocultural norms (Kasper & Rose, 2002).

It includes understanding speech acts, implicatures, politeness strategies, and indirect meanings.

In many EFL contexts, students may know grammar but struggle with interpreting implied meanings or identifying hidden assumptions in authentic discourse. This suggests the need for instructional approaches that move beyond structural language teaching.

Critical Discourse Analysis (CDA) offers such an approach. According to Fairclough (1995), discourse reflects and constructs social relations and ideology. Similarly, van Dijk (2008) emphasizes the connection between discourse, cognition, and power. Through CDA, students can analyze not only what texts say, but how they position readers, represent reality, and encode pragmatic meanings.

This article aims to examine how analyzing texts through CDA can strengthen students' pragmatic awareness.

Methods

This study uses conceptual analysis based on theoretical synthesis from pragmatics and CDA.

The framework combines:

Pragmatics Theory

- Speech Act Theory (Austin, 1962; Searle, 1969)
- Gricean implicature (Grice, 1975)
- Politeness theory (Brown & Levinson, 1987)

Critical Discourse Analysis

- Fairclough's three-dimensional model
- van Dijk's socio-cognitive approach

Students analyze authentic texts such as media articles, advertisements, and speeches through three stages:

1. Pragmatic noticing

Identifying speech acts, implicatures, presuppositions, and politeness strategies.

2. Critical discourse analysis

Examining lexical choices, framing, ideology, and power relations.

3. Reflective application

Using discussion, role-play, and response tasks to apply pragmatic interpretations.

Results

Conceptual analysis suggests several outcomes.

Enhanced Pragmatic Interpretation

CDA helps learners identify:

- implied meanings
- indirect intentions
- hidden assumptions
- pragmatic ambiguity

This improves inferential interpretation.

Development of Critical Pragmatic Awareness

Students learn not only what speakers mean but how discourse constructs power, ideology, and social positioning.

This expands pragmatic awareness beyond interpersonal appropriateness.

Improved Critical Thinking

CDA-based analysis promotes:

- interpretation
- evaluation
- reflection
- argumentation

Greater Intercultural Awareness

Authentic texts expose students to culturally embedded pragmatic norms and support intercultural communicative competence.

Discussion

The analysis suggests that CDA enriches pragmatic instruction by linking language use with ideology and discourse power.

Traditional pragmatics teaching often focuses on formulas and appropriateness. CDA broadens this by helping learners critically examine how meaning is shaped socially.

Pedagogically, teachers can use:

- discourse analysis tasks
- critical questioning
- pragmatic noticing activities
- authentic text discussions

Such tasks integrate pragmatics with critical literacy.

Challenges may include complexity of CDA concepts and teacher preparedness, but scaffolded instruction can address these issues.

Conclusion

This article has argued that analyzing texts through Critical Discourse Analysis can strengthen students' pragmatic awareness.

By combining pragmatics and CDA, learners can develop:

- pragmatic competence
- critical literacy
- discourse awareness
- intercultural sensitivity

Authentic texts become resources for both language learning and critical inquiry.

Future research may empirically investigate the effectiveness of CDA-based pragmatic instruction in EFL classrooms.

References

- Austin, J. L. (1962). *How to do things with words*. Oxford University Press.
- Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*. Cambridge University Press.
- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, 1(1), 1–47.
- Fairclough, N. (1995). *Critical discourse analysis: The critical study of language*. Longman.
- Fairclough, N. (2003). *Analyzing discourse: Textual analysis for social research*. Routledge.
- Grice, H. P. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Syntax and semantics* (Vol. 3, pp. 41–58). Academic Press.
- Kasper, G., & Rose, K. R. (2002). *Pragmatic development in a second language*. Blackwell.
- Searle, J. R. (1969). *Speech acts: An essay in the philosophy of language*. Cambridge University Press.
- Taguchi, N. (2015). Instructed pragmatics at a glance. *Language Teaching*, 48(1), 1–50.
- Thomas, J. (1983). Cross-cultural pragmatic failure. *Applied Linguistics*, 4(2), 91–112.
- van Dijk, T. A. (2008). *Discourse and power*. Palgrave Macmillan.
- Wodak, R., & Meyer, M. (Eds.). (2009). *Methods of critical discourse analysis* (2nd ed.). Sage.
- Yule, G. (1996). *Pragmatics*. Oxford University Press.

THE LEGAL FRAMEWORK FOR PROMOTING INTERFAITH HARMONY IN MODERN UZBEKISTAN

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Abstract. This article provides a comprehensive socio-philosophical and legal analysis of the principles of tolerance within the context of Islamic teachings and their implementation in the legislative framework of the Republic of Uzbekistan. The relevance of the study is driven by the need to strengthen interfaith harmony amidst globalization and migration processes, where tolerance becomes not only a moral duty but also a legal necessity to prevent conflicts. The purpose of the work is to identify the synthesis between Islamic spiritual values and modern secular legal mechanisms for ensuring freedom of conscience.

The methodology involves a comparative legal analysis of normative acts and a hermeneutic analysis of sacred texts. These principles are reflected in Articles 35 and 75 of the Constitution of the Republic of Uzbekistan, guaranteeing equality regardless of religion. The scientific novelty of the article lies in substantiating the «Uzbek Model of Tolerance» as a system that harmoniously combines centuries-old religious traditions with modern democratic norms of a secular state. The conclusion emphasizes that

educating youth in the spirit of tolerance is the cornerstone of political stability and civil society development in New Uzbekistan.

In the modern era, characterised by economic globalisation, rapid advances in communications and large-scale population movements, the issue of tolerance has become imperative. The escalation of acts of intolerance, xenophobia and religious discrimination in various regions of the world poses a serious threat to international peace and democracy. In these circumstances, tolerance ceases to be merely a moral duty and becomes a «political and legal necessity». And for Uzbekistan, situated at the crossroads of civilisations, issues of interfaith harmony form the foundation of state stability and security. Within the framework of the New Uzbekistan development strategy, fostering an atmosphere of tolerance has been identified as a priority area, which requires in-depth academic analysis of the harmony between the centuries-old spiritual heritage of Islam and modern norms of secular law. The theoretical foundations of religious tolerance date back to the works of Western thinkers such as John Locke and Voltaire, whose «Treatise on Tolerance» laid the foundations for the fight against religious fanaticism. At the international level, the key document is the «Declaration of Principles on Tolerance» adopted by UNESCO in 1995, which defines tolerance as «harmony in diversity».

However, despite the existence of a substantial body of work, the question of the mechanisms for the practical synthesis of Islamic ethical principles with specific articles of the secular Constitution of the Republic of Uzbekistan within the framework of a unified «Uzbek model» requires further theoretical systematisation.

The aim of this study is to identify and provide a scientific justification for the synthesis between the spiritual values of Islam and modern secular legal mechanisms for ensuring freedom of conscience in Uzbekistan.

It should be emphasised that to achieve this aim, the following tasks must be addressed: firstly, to examine the Qur'anic principles of recognition of religious pluralism and the human right to diversity. Secondly, to analyse the constitutional and legal guarantees of freedom of conscience in the Republic of Uzbekistan, enshrined in Articles 35 and 75 of the Constitution. Thirdly, to substantiate the role of education and upbringing in fostering a tolerant mindset among the younger generation. Fourthly, to formulate an integrative model for ensuring interfaith harmony, combining theological humanism with democratic legal norms.

In the modern era, the Development Strategy of New Uzbekistan plays a key role in this regard, exerting a systematic influence on the strengthening of inter-ethnic harmony by elevating this issue to the level of a priority for state policy and national security. According to the analysed sources, this influence is realised through the following mechanisms. Firstly, the fifth direction of the Development Strategy, «Ensuring spiritual development and bringing this sphere to a new stage», includes Objective No. 74, which is directly aimed at strengthening the atmosphere of inter-ethnic harmony and religious tolerance in society. To achieve this objective, the Strategy sets out specific practical tasks, such as improving the system of state subsidies and logistical support. Consistent implementation of the Concept of State Policy in the Field of Inter-ethnic Relations. Creation of additional favourable conditions for the self-realisation of young people of various nationalities. Additional state support for media outlets broadcasting in foreign languages and covering policies on inter-ethnic harmony. Revitalising and improving the activities of «friendship societies».

The strategy sets the direction for legislative reform. Within its framework, important documents have been adopted, such as the 2021 revised version of the Law «On Freedom of Conscience and Religious Organisations» and the 2025 Concept for Ensuring Freedom of Conscience. These acts guarantee the equality of all citizens

regardless of their national or religious affiliation, which is in line with international standards.

The Strategy's impact is reflected in the practical support for diversity; for example, there are 138 national cultural centres operating in the country. Education in state educational institutions is conducted in seven languages. The national television and radio company broadcasts programmes in 12 languages, whilst newspapers and magazines are published in more than 10 languages. Thus, the Strategy for the Development of New Uzbekistan transforms inter-ethnic harmony from an abstract ideal into a manageable model, underpinned by budgetary funding, legal safeguards and a well-developed network of public institutions.

In particular, it is worth noting the role of the «Uzbek model of tolerance», which constitutes a unique system in which the centuries-old religious traditions of Islam are harmoniously integrated into the secular legal framework of a democratic state. This combination helps to ensure stability and interfaith harmony within a multi-ethnic society. This synthesis is achieved through the following key areas: Firstly, the model is based on the humanistic essence of Islam, which is viewed not merely as a religion, but as the foundation of the culture and morality of the majority of the population. The Qur'anic principle «There is no compulsion in religion» (Sura al-Baqara, verse 256) guarantees freedom of belief. The principle «To you your faith, and to me mine!» (Sura al-Kafirun, verse 6) serves as the spiritual justification for the right of every faith to exist. Islamic texts, specifically Sura «Al-Mumtahanah», verse 8, prescribe fairness and kindness towards adherents of other religions provided they do not cause conflict, thereby laying the ethical foundation for civil peace. Secondly, spiritual values have been transformed into clear legal norms of a secular state.

Article 35 of the Constitution of the Republic of Uzbekistan guarantees the right of every person to practise any religion or to practise none, and prohibits the forced

imposition of religious views. Under Article 75 of the Constitution, religious organisations are separate from the state and equal before the law, which precludes discrimination and state interference in their internal affairs. Article 19 of the Constitution enshrines equal rights and freedoms regardless of one's attitude towards religion. Thirdly, the combination of traditions and the law is realised through state and public institutions. In the Development Strategy of New Uzbekistan (Objective 74), the strengthening of inter-ethnic harmony and religious tolerance is defined as a priority of state policy and national security. Institutions combining science and education have been established, such as the International Islamic Academy of Uzbekistan and the UNESCO Chairs in the Comparative Study of World Religions. The state provides financial and organisational support to 138 national cultural centres, ensuring schooling in seven languages and television broadcasting in 12 languages. Fourthly, Muslims, Christians, Jews and Buddhists have coexisted peacefully in Samarkand and Bukhara for centuries, creating a historical precedent of tolerance.

Contemporary law draws on this experience to combat extremism, contrasting «jahalat» (ignorance) with «ma'rifat» (enlightenment). Thus, the Uzbek model shifts tolerance from the category of passive endurance to that of active recognition of universal human rights, where Islamic values serve as a «moral compass» and secular legislation as a reliable guarantee of security and equality for all citizens.

The socio-philosophical and legal analysis presented in this article allows us to draw the following conclusions. Islamic doctrine contains the fundamental principles of religious pluralism and tolerance. The Qur'anic verses of the surahs «Al-Baqarah», «Al-Kafirun» and «Al-Mumtahanah» prohibit coercion in matters of religion and prescribe kindness and justice towards adherents of other faiths. These principles recognise every person's right to preserve their individuality, which is fully consistent with Article 1.1 of the UNESCO Declaration. In modern Uzbekistan, the spiritual principles of tolerance

have been transformed into robust legal guarantees. Article 35 of the Constitution of the Republic of Uzbekistan guarantees the right of every person to practise any religion or to practise none, whilst Article 75 enshrines the secular nature of the state through the separation of religious organisations and their equality before the law.

Strengthening interfaith harmony is a priority of state policy under Objective 74 of the New Uzbekistan Development Strategy. This is reflected in the support provided to 138 national cultural centres and the activities of 16 different religious denominations across the country. The paper argues that the «Uzbek model of tolerance» represents a unique synthesis of theological humanism and secular democratic law, where religion acts as a moral regulator and the law as a guarantor of security and equality. Fostering a tolerant mindset among young people through the education system, the introduction of specialised courses and interactive methods is a necessary condition for maintaining political stability in the context of globalisation.

BIBLIOGRAPHY

1. Конституция Республики Узбекистан. — Т.: Узбекистан, 2023.
2. Декларация принципов толерантности. Утверждена резолюцией 5.61 Генеральной конференции ЮНЕСКО от 16 ноября 1995 года.
3. Мирзиёев Ш.М. Стратегия развития Нового Узбекистана на 2022–2026 годы. — Т.: Узбекистан, 2022.
4. Шейх Мухаммад Садик Мухаммад Юсуф. Тафсири Хилал (Толкование смыслов Священного Куръана). — Т.: Hilol-Nashr, 2017.
5. Алиева Б.Э. Millatlararo totuvlik va diniy bag'rigenglik // SPR. — 2025.
6. Давлатов Д. Islom dinida tolerantlik tamoyillari va ularning zamonaviy talqini. — Т.: МИАУ, 2024.
7. Кенжаева Д.Р. Insoniyat tarixi va diniy bag'rikenglik // SPR. — 2025. — Т. 5, № 11. — С. 135–139.

8. Султонов И.К. Talaba yoshlarda tolerantlik tafakkurini rivojlantirish // SPR. — 2025. — № 11 (5). — С. 47–51.
9. Файзиев Х.Ж. Volter va bag'rigenglik genezisi // SPR. — 2025. — Т. 5, № 6. — С. 195–199.
10. Кириллов Д.А., Сеченова Е.Г. Конституционно-правовое исследование понятия «tolerance» в документах ООН // Вестник КГУ. — 2020. — № 4. — С. 227–232.
11. Бозорбоева Н. Tolerantlikni shakllantirishning nazariy asoslari // Лучшие интеллектуальные исследования. — 2024. — С. 4–10.
12. Тожибоев Ф.О. Қонун ҳужжатлари мониторинги тизими ва ҳуқуқий асослари // Материалы семинара МГУ. — Т., 2019. — Т. V. — С. 4–8.
13. Музаффарова Ш.Р., Режаметова И.И. Ajdodlarimiz merosi — qadriyatlarimiz asosi // SPR. — 2025. — С. 89–91.
14. Нарзуллаева Н. Yunesko faoliyatida tolerantlik siyosati (talim sohasida) // Материалы семинара МГУ. — Т., 2019. — С. 95–98.
15. Декларация о ликвидации всех форм нетерпимости и дискриминации на основе религии или убеждений. Резолюция ГА ООН 36/55 от 25 ноября 1981 г.
16. Уолцер М. О терпимости. — М.: Идея-Пресс, 2000.
17. Отамуродов С.С. Национальное самосознание социально активной части молодежи // Автореф. дис... канд. социол. наук. — Т., 2000.
18. Ильинская С.Г. Толерантность как принцип политического действия: история, теория, практика. — М.: Праксис, 2007.
19. Закон Республики Узбекистан «О свободе совести и религиозных организациях» (новая редакция). — Т., 2021.
20. Асмолов А.Г. Толерантность: от утопии к реальности. — М.: Смысл, 2011.

Cognitive Biases and Their Impact on Decision-Making Under Uncertainty

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Abstract

This article provides a comprehensive analysis of cognitive biases as a significant psychological phenomenon influencing decision-making processes under conditions of uncertainty. The study explores theoretical approaches to understanding cognitive biases, their nature, and the mechanisms of their formation within the framework of modern cognitive psychology. Particular attention is paid to common types of biases, such as the anchoring effect, availability heuristic, confirmation bias, overconfidence effect, and loss aversion. The paper examines how these biases affect rational thinking, behavioral strategies, and the overall quality of decisions made in situations characterized by limited information, risk, and uncertainty. It also discusses real-life examples of cognitive biases across various domains, including education, social interactions, and professional contexts. Special emphasis is placed on strategies for reducing the negative impact of cognitive biases, such as the development of critical thinking skills, reflective practices, the use of analytical tools, and increased cognitive awareness. The findings highlight the importance of considering human cognitive limitations in the analysis of decision-making processes.

Keywords

cognitive biases, uncertainty, decision-making, heuristics, rationality, thinking, behavioral economics, psychology, critical thinking, risk, information analysis.

ОСНОВНАЯ ЧАСТЬ

Когнитивные искажения представляют собой сложный и многогранный феномен, который оказывает существенное влияние на процесс принятия решений, особенно в условиях неопределенности. В современном мире человек постоянно сталкивается с ситуациями, в которых отсутствует полная, достоверная и однозначная информация. В подобных условиях когнитивная система вынуждена функционировать в режиме ограниченных ресурсов, что неизбежно приводит к использованию упрощённых стратегий обработки информации, известных как эвристики. Именно эти эвристические механизмы, с одной стороны, способствуют ускорению мыслительных процессов, а с другой — становятся источником систематических ошибок, называемых когнитивными искажениями. Неопределенность выступает ключевым фактором, усиливающим проявление когнитивных искажений. Когда человек не обладает достаточными данными для объективного анализа ситуации, он склонен опираться на субъективные оценки, прошлый опыт и интуитивные суждения. В результате происходит смещение восприятия реальности, что отражается на качестве принимаемых решений. В данном контексте особую роль играет ограниченная рациональность, согласно которой человек не способен учитывать все возможные альтернативы и последствия, а значит, его решения изначально носят компромиссный характер. Одним из наиболее распространённых когнитивных искажений является эффект якоря, который проявляется в чрезмерной зависимости от первоначально полученной информации. Даже если эта информация не имеет объективной значимости, она задаёт своеобразную точку отсчёта, относительно которой формируются дальнейшие суждения. В условиях неопределенности эффект якоря приобретает особую силу, поскольку человек стремится найти хотя бы минимальную опору для принятия решения.



Не менее значимым является подтверждающее предубеждение, выражающееся в склонности индивида искать и интерпретировать информацию таким образом, чтобы она подтверждала уже существующие убеждения. Это приводит к игнорированию альтернативных точек зрения и снижает объективность анализа. В результате человек оказывается в своеобразной «когнитивной ловушке», ограничивая собственные возможности для принятия взвешенных решений. Эвристика доступности также оказывает значительное влияние на процесс мышления. Она заключается в том, что человек оценивает вероятность события на основе лёгкости, с которой соответствующие примеры приходят ему на ум. Как правило, более яркие, эмоционально насыщенные или недавно произошедшие события воспринимаются как более вероятные, даже если это не соответствует действительности. В условиях неопределенности данный механизм может приводить к искажённой оценке рисков и угроз. Особого внимания заслуживает эффект избыточной уверенности, который выражается в переоценке человеком собственных знаний и способностей. Индивид склонен считать свои решения более обоснованными и точными, чем они есть на самом деле. Это снижает уровень критического анализа и увеличивает вероятность ошибок, особенно в сложных и неопределённых ситуациях. Склонность к

избеганию потерь также играет важную роль в принятии решений. Согласно данному эффекту, люди сильнее реагируют на возможные потери, чем на эквивалентные выгоды. Это приводит к иррациональным стратегиям поведения, таким как отказ от потенциально выгодных решений из-за страха потерять уже имеющиеся ресурсы. Следует подчеркнуть, что когнитивные искажения оказывают влияние не только на индивидуальный уровень, но и на социальные процессы. В коллективных решениях данные искажения могут усиливаться за счёт групповой динамики, приводя к эффекту «группового мышления», при котором стремление к консенсусу подавляет критическое восприятие информации. В результате принимаемые решения могут быть неэффективными или даже ошибочными. В профессиональной деятельности влияние когнитивных искажений проявляется особенно ярко. В образовательной сфере они могут влиять на оценивание знаний, в экономике — на инвестиционные решения, в управлении — на стратегическое планирование.

Когнитивные искажения в программировании



Таким образом, их воздействие носит междисциплинарный характер и затрагивает различные области человеческой деятельности. Несмотря на то что полностью исключить когнитивные искажения невозможно, существуют подходы, позволяющие снизить их негативное влияние. К ним относится развитие критического мышления, предполагающего способность анализировать информацию, выявлять логические ошибки и учитывать альтернативные точки зрения. Важную роль играет также рефлексия — осознание собственных мыслительных процессов и их ограничений. Использование структурированных методов принятия решений, таких как анализ рисков, сценарное планирование и математическое моделирование, позволяет повысить объективность оценок и снизить влияние субъективных факторов. Кроме того, значительное значение имеет обучение и повышение уровня когнитивной грамотности, что способствует более осознанному подходу к обработке информации. Таким образом, когнитивные искажения являются неотъемлемой частью человеческого мышления, оказывающей как адаптивное, так и деструктивное влияние на процесс принятия решений. В условиях неопределенности их роль существенно возрастает, что требует более глубокого понимания механизмов их функционирования и разработки эффективных стратегий их коррекции. Учет данных факторов позволяет повысить качество принимаемых решений и способствует более рациональному поведению в сложных жизненных ситуациях.

Список литературы

1. Канеман Д. Думай медленно... решай быстро. — Москва: АСТ, 2014.
2. Тверски А., Канеман Д. Суждение в условиях неопределенности: эвристики и предубеждения // Психологический журнал. — 1974.

- 3.Ариели Д. Предсказуемая иррациональность. — Москва: Манн, Иванов и Фербер, 2013.
- 4.Талер Р. Новая поведенческая экономика. — Москва: Эксмо, 2017.
- 5.Плаус С. Психология оценки и принятия решений. — Москва: Инфра-М, 1998.
- 6.Gigerenzer G. Thinking, Fast and Slow: A Critique // Trends in Cognitive Sciences. — 2015.
- 7.Kahneman D., Tversky A. Prospect Theory: An Analysis of Decision under Risk Econometrica. — 1979.
- 8.Sunstein C. R., Thaler R. H. Nudge: Improving Decisions About Health, Wealth, and Happiness. — Yale University Press, 2008.
- 9.Hastie R., Dawes R. Rational Choice in an Uncertain World. — Sage Publications, 2010.
- 10.Stanovich K. Rationality and the Reflective Mind. — Oxford University Press, 2011.

**PEDAGOGICAL CONDITIONS FOR FORMING STUDENTS'
INDEPENDENT WORK SKILLS BASED ON AN INTEGRATIVE
APPROACH**

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Abstract: This article examines the pedagogical conditions for forming students' independent work skills based on an integrative approach. The theoretical aspects of organizing learning activities aimed at developing students' independence, cognitive activity, and responsibility are analyzed.

Keywords: independent work, integrative approach, pedagogical conditions, learning activity, cognitive activity, educational environment, competency-based approach.

**ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ ФОРМИРОВАНИЯ НАВЫКОВ
САМОСТОЯТЕЛЬНОЙ РАБОТЫ УЧАЩИХСЯ НА ОСНОВЕ
ИНТЕГРАТИВНОГО ПОДХОДА**

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Аннотация: В статье рассматриваются педагогические условия формирования навыков самостоятельной работы учащихся на основе интегративного подхода. Анализируются теоретические аспекты организации учебной деятельности, направленной на развитие самостоятельности, познавательной активности и ответственности обучающихся.

Ключевые слова: самостоятельная работа, интегративный подход, педагогические условия, учебная деятельность, познавательная активность, образовательная среда, компетентностный подход.

Современные тенденции развития системы образования ориентированы на формирование личности, способной к самостоятельному мышлению, принятию решений и непрерывному самообразованию. В этих условиях особую актуальность приобретает проблема формирования у учащихся навыков самостоятельной работы как одного из ключевых компонентов их учебной и будущей профессиональной деятельности.

Самостоятельная работа выступает не только как средство усвоения знаний, но и как важнейший фактор развития познавательной активности, критического мышления и личностной ответственности обучающихся. В то же время эффективность ее формирования во многом определяется педагогическими условиями, в которых осуществляется образовательный процесс.

В последние годы особое значение приобретает интегративный подход, предполагающий объединение различных компонентов содержания образования, методов и форм обучения в единую систему. Такой подход способствует более глубокому усвоению знаний, развитию межпредметных связей и формированию целостного восприятия окружающего мира.

Проблема самостоятельной работы учащихся занимает важное место в педагогической теории и практике. В научной литературе самостоятельная работа рассматривается как особая форма организации учебной деятельности, направленная на активное усвоение знаний без непосредственного участия преподавателя.

Сущность самостоятельной работы заключается в способности учащихся самостоятельно ставить цели, планировать деятельность, выбирать способы решения учебных задач и оценивать полученные результаты. Формирование данных умений требует системного и целенаправленного педагогического воздействия.

Интегративный подход в образовании предполагает объединение различных учебных дисциплин, методов и технологий обучения. Он ориентирован на формирование целостного знания, развитие универсальных учебных действий и обеспечение взаимосвязи теории и практики. В контексте формирования самостоятельной работы данный подход позволяет создать условия для комплексного развития личности учащегося.

Одним из ключевых факторов успешного формирования навыков самостоятельной работы является создание благоприятных педагогических условий. К числу таких условий относится организация образовательной среды, способствующей развитию познавательной активности учащихся.

Важным условием выступает целенаправленное планирование учебного процесса с учетом индивидуальных особенностей обучающихся. Это предполагает вариативность заданий, дифференциацию обучения и использование разнообразных методов педагогического воздействия.

Существенное значение имеет применение активных и интерактивных методов обучения, стимулирующих самостоятельную деятельность учащихся. К ним относятся проблемное обучение, исследовательская деятельность, проектные технологии и другие формы организации учебного процесса, направленные на развитие инициативы и самостоятельности.

Не менее важным условием является формирование мотивации к самостоятельной работе. Мотивационный компонент играет определяющую роль в активизации учебной деятельности и способствует устойчивому интересу к обучению.

Также следует отметить необходимость систематического контроля и оценки результатов самостоятельной работы. Обратная связь позволяет

корректировать учебную деятельность учащихся и способствует развитию навыков самоконтроля и самооценки.

Интегративный подход выступает эффективным средством формирования навыков самостоятельной работы, так как обеспечивает целостность и взаимосвязанность образовательного процесса. Он предполагает интеграцию содержания обучения, объединение различных учебных дисциплин и формирование межпредметных связей. Это способствует развитию аналитического мышления, способности к обобщению и переносу знаний в новые ситуации. В условиях интегративного подхода самостоятельная работа учащихся приобретает более осмысленный и системный характер. Обучающиеся получают возможность применять знания из разных областей, что способствует формированию комплексных умений и навыков.

Кроме того, интеграция методов обучения позволяет использовать разнообразные педагогические технологии, направленные на развитие самостоятельности. Это создает условия для активного включения учащихся в образовательный процесс и повышения их учебной мотивации.

Педагог играет ключевую роль в формировании навыков самостоятельной работы учащихся. Его деятельность направлена на создание условий, стимулирующих активную познавательную деятельность обучающихся. Современный педагог выступает не только как источник знаний, но и как организатор, консультант и наставник. Он обеспечивает методическую поддержку, направляет деятельность учащихся и способствует развитию их самостоятельности.

Важным аспектом педагогической деятельности является умение проектировать образовательный процесс с учетом принципов интегративного подхода. Это требует высокого уровня профессиональной компетентности,

владения современными образовательными технологиями и готовности к инновационной деятельности.

В заключении можно сказать, что формирование навыков самостоятельной работы учащихся является одной из приоритетных задач современной системы образования. Эффективность данного процесса во многом определяется созданием соответствующих педагогических условий и использованием интегративного подхода. Интеграция содержания, методов и форм обучения способствует развитию познавательной активности, формированию целостного мышления и повышению качества образовательного процесса.

Таким образом, реализация интегративного подхода в сочетании с продуманной организацией педагогических условий позволяет обеспечить успешное формирование навыков самостоятельной работы учащихся, что является важным условием их дальнейшего личностного и профессионального развития.

Список использованной литературы

1. Маркова, А.К. Психологические критерии и ступени профессионализма учителя // Педагогика. – 1995. №6.
2. Тенищева В.Ф. Интегративно-контекстная модель формирования профессиональной компетенции: Дис. ... д-ра пед. наук / В.Ф. Тенищева. – М., 2008. – 399 с.

EMPIRICAL ANALYSIS AND ASSESSMENT OF THE LEADERSHIP COMPETENCE OF GENERAL SECONDARY SCHOOL PRINCIPALS

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Abstract. This article examines the issues of analysing and assessing the leadership competence of general secondary school principals on the basis of empirical research. In the course of the study, the principal components of leadership competence were identified, and the degree of their manifestation in practical activity was investigated. Based on the obtained results, recommendations have been developed for improving the management effectiveness of school principals.

Keywords: *school principal, leadership competence, empirical research, education management, professional qualification, demographic factors, statistical analysis.*

Introduction. Globalisation processes are exerting a considerable influence on the field of education and are placing ever new tasks before school leaders. Today, a principal must act not merely as an administrative manager but also as a strategic leader, an organiser of innovative processes and a professional specialist responsible for the development of the pedagogical staff. This very aspect has transformed the issue of leadership competence into a significant scientific direction within education management. The educational reforms being implemented in Uzbekistan demand a new approach to the professional capacity of school principals. Aligning the quality of education with international indicators, widely introducing digital technologies into the learning process, and forming an open pedagogical environment — all of these require a complex of contemporary competencies on the part of the leader.

The aim of the present research is to study, by empirical means, the structural components of the leadership competence of general secondary school principals and to identify, through statistical analysis, the demographic factors that influence it.

Degree of study of the topic. The problem of leadership competence has been analysed in foreign and domestic scientific literature on the basis of various approaches. R. Boyatzis [1], in his well-known concept of "The Competent Manager", systematised behavioural patterns associated with effectiveness and defined competence as a deep, internal characteristic of the personality. L. Spencer and S. Spencer [2], in turn, divided competence into visible and hidden layers and proposed the famous "iceberg" model.

In the area of management philosophy, P. Drucker [3] emphasised that the effectiveness of a leader depends on the precise definition of organisational goals and on their unhindered achievement. H. Mintzberg [4], having studied managerial activity on the basis of empirical observations, has revealed in detail the complex and multifaceted nature of leadership practice.

In domestic scientific literature, B. Xodjayev [7] adapted the concepts and methodology of education management to the conditions of Uzbekistan. J. Yuldashev [8], in his work on the foundations of pedagogical management, has illuminated the ways of developing the professional and pedagogical capacity of the leader. Nevertheless, studies devoted to the empirical investigation of the competence of local school principals cannot be considered sufficient.

Research methodology. The research was based on a descriptive-correlational design, and a quantitative approach was applied. In order to determine the relationship between the professional competencies of school principals and their leadership practice with regard to job performance, the method of stratified random sampling was used. The empirical study involved 44 respondents from the Republic of Karakalpakstan and the Khorezm, Kashkadarya, Surkhandarya, Samarkand, Bukhara, Navoi, Jizzakh,

Namangan, Andijan and Tashkent regions, as well as the city of Tashkent. The following instruments were used for data collection: a specially designed questionnaire (based on a five-point Likert-type scale), individual interviews and direct observation. The questionnaire items were validated by expert pedagogues. In the statistical analysis, the T-test, the Pearson correlation coefficient and regression analysis were applied, and significant differences were assessed on the basis of the criterion $p < 0.05$.

The competence of school principals was investigated within the framework of seven structural components:

1. Instructional supervision — the ability of the principal to assist teachers in preparing lesson plans, in selecting learning materials and in assessing students' results. This area serves to monitor the pedagogical process and to ensure the quality of education.

2. Professional development practice — encompasses the ability to create opportunities for raising the qualifications of teachers, to apply assessment as a developmental tool and to encourage professional growth.

3. Collaborative ability — includes setting a personal example within the team, discussing pedagogical trends and supporting the team through innovative solutions.

4. Resource and change management — a complex of strategic actions aimed at the rational use of the school's material and technical resources, adaptation to new conditions and improvement of the quality of educational services.

5. Goal achievement - the ability to define clearly the strategic tasks of the educational institution and to ensure their practical implementation.

6. Team coordination -the skill of consistently organising the activity of the pedagogical team, distributing work tasks and forming an effective working environment.

7. Use of digital resources - the ability to apply information and communication

technologies effectively in the educational process and in management activity.

Analysis and discussion of results. According to the results of the analysis, the demographic profile of the respondents was, in particular, distributed as follows: by gender - 60 per cent women and 40 per cent men. Among the age categories, those aged 46–60 constituted the leading group (53.3%), while the youngest segment, namely those aged 25–35, accounted for only 4.4 per cent. From the perspective of educational level, principals with a bachelor's degree formed the majority (60%), while the remaining 40 per cent held a master's degree.

Analysis by length of service showed that principals with six or more years of experience accounted for 60.2 per cent of the respondents, whereas those with less than two years of experience accounted for 15.5 per cent. Thus, the study mainly involved experienced management personnel.

The influence of demographic factors on the competencies was assessed by means of the T-test. A summary view of the results obtained is presented in Table 1.

Table 1. Examination of significant differences in the competencies of school principals according to the demographic profile (p-value / result)

Profile	Instructio nal	Profession al	Collabora tive	Resource managem	Change managem	Goal achieve	Team coordinati	Use of digital
Gender	0.001 / R	0.007 / R	0.01 / R	0.29 / A	0.006 / R	0.01 / R	0.95 / A	0.08 / A
Age	0.001 / R	0.002 / R	0.02 / R	0.26 / A	0.001 / R	0.002 / R	0.37 / A	0.60 / A
Position	0.33 / A	0.68 / A	0.96 / A	0.59 / A	0.25 / A	0.55 / A	0.62 / A	0.58 / A

Profile	Instructio nal	Profession al	Collabora tive	Resource managem	Change managem	Goal achieveme	Team coordinati	Use of digital
Education level	0.01 / R	0.01 / R	0.02 / R	0.05 / A	0.001 / R	0.001 / R	0.95 / A	0.001 / R
Location	0.07 / A	0.32 / A	0.45 / A	0.02 / R	0.08 / A	0.01 / R	0.08 / A	0.001 / R
Work experience	0.001 / R	0.07 / A	0.001 / R	0.10 / A	0.02 / R	0.03 / R	0.30 / A	0.07 / A

Note: R — the null hypothesis is rejected (a significant difference exists, $p < 0.05$); A — the null hypothesis is accepted (no significant difference is detected).

The factor of gender produced statistically significant differences in four areas — instructional supervision ($p = 0.001$), professional development practice ($p = 0.007$), collaborative ability ($p = 0.01$) and change management ($p = 0.006$). On the contrary, no significant gender difference was found for the indicators of resource management, team coordination and use of digital resources. This finding indicates that, in pedagogical and communicative respects, certain distinctions exist between female and male leaders. The age indicator was likewise expressed by significant differences in a number of areas: instructional supervision ($p = 0.001$), professional development ($p = 0.002$), collaboration ($p = 0.02$), change management ($p = 0.001$) and goal achievement ($p = 0.002$). This picture empirically confirms that, with advancing age, managerial skills and strategic thinking deepen. It is particularly noteworthy here that the age factor does not exert a significant influence on the use of digital resources — this shows that the mastery of contemporary technologies is connected not only with age but also with personal aspiration and inclination to learning.

In all areas relating to the position indicator, a value of $p > 0.05$ was recorded. In other words, the formal position held by the leader does not exert a significant influence on the level of his or her competence. This conclusion is an important result, confirming that, in the formation of competence, personal experience and intrinsic motivation are more important than formal factors.

Analysis by educational level showed that significant differences exist in six out of seven areas. The most pronounced differences were observed in the indicators of change management ($p = 0.001$), goal achievement ($p < 0.001$) and use of digital resources ($p < 0.001$). Thus, principals holding a master's degree surpass holders of a bachelor's degree in the application of contemporary management methods and technologies.

Territorial location produced significant differences in the areas of resource management ($p = 0.02$), goal achievement ($p = 0.01$) and use of digital resources ($p < 0.01$). This result is explained by the disparities between regions in infrastructure, material provision and the level of digitalisation.

Work experience formed significant differences in four areas — instructional supervision ($p = 0.001$), collaborative ability ($p = 0.001$), change management ($p = 0.02$) and goal achievement ($p = 0.03$). It is natural that, with the growth of experience, leadership skill and the culture of strategic thinking are also strengthened.

In conclusion, the results of the empirical research conducted have demonstrated that the leadership competence of general secondary school principals possesses a complex structure and is formed in different ways under the influence of demographic factors. Age, educational level and work experience play a decisive role in the formation of leadership competence. By contrast, the formal position indicator does not exert a significant influence. Territorial location, in turn, mainly produces differences in those competencies that are associated with resources and digital opportunities.

These results substantiate the necessity of building professional development programmes for school principals on the basis of a differentiated approach. In particular, it is expedient to group leaders according to age and work experience and to develop special modules for each category. It is also necessary to pursue a policy aimed at developing master's-level education and at strengthening digital competencies, taking regional differences into account.

The present study serves to enrich the empirical base concerning the competence of local school principals and creates a theoretical and practical foundation for further investigations.

References

1. Boyatzis, R. E. (1982). *The Competent Manager: A Model for Effective Performance*. New York: John Wiley & Sons.
2. Spencer, L. M., & Spencer, S. M. (1993). *Competence at Work: Models for Superior Performance*. New York: John Wiley & Sons.
3. Drucker, P. F. (2008). *Management*. New York: HarperCollins Publishers.
4. Mintzberg, H. (2009). *Managing*. San Francisco: Berrett-Koehler Publishers.
5. Bush, T. (2011). *Theories of Educational Leadership and Management*. London: Sage Publications.
6. Leithwood, K., & Jantzi, D. (2005). Transformational leadership. *Educational Administration Quarterly*, 41(3), 496–528.
7. Xodjayev, B. X. (2017). *Ta'lim menejmenti [Education management]*. — Tashkent: Fan va texnologiya Publishing House.
8. Yuldashev, J. G. (2019). *Pedagogik boshqaruv asoslari [Foundations of pedagogical management]*. — Tashkent: O'qituvchi Publishing House.

Methods for assessing the effectiveness of marketing activities in an enterprise

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Abstract: This article is devoted to a comprehensive study of the theoretical and practical aspects of assessing the effectiveness of marketing activities in an enterprise. The article analyzes the main methods used to determine the effectiveness of marketing activities, including the content of indicators such as KPI (key performance indicators), ROI (return on investment), ROMI (profitability of marketing investments), CTR, CPC, and methods for calculating them. During the study, the importance of an analytical approach, digital marketing tools, and modern monitoring systems in assessing marketing effectiveness was widely covered. Also, mechanisms for assessing marketing activities based on factors such as advertising campaigns, sales volume, customer engagement, and brand awareness were considered. The article analyzes ways to

improve marketing efficiency, existing problems, and opportunities to eliminate them using the example of enterprises operating in Uzbekistan. As a result, scientifically based proposals and recommendations were developed for more effective organization of marketing activities, rational use of resources, and increased competitiveness.

Keywords: Marketing effectiveness, KPI, ROI, ROMI, marketing analytics, advertising effectiveness, CTR, CPC, marketing strategy, digital marketing, customer engagement, sales volume, brand awareness, marketing monitoring, analytical approach.

Annotatsiya: Ushbu maqola korxonada marketing faoliyati samaradorligini baholashning nazariy va amaliy jihatlarini kompleks o'rganishga bag'ishlangan. Maqolada marketing faoliyatining natijadorligini aniqlashda qo'llaniladigan asosiy metodlar, jumladan, KPI (asosiy samaradorlik ko'rsatkichlari), ROI (investitsiya qaytimi), ROMI (marketing investitsiyalari rentabelligi), CTR, CPC kabi ko'rsatkichlarning mazmuni va ularni hisoblash usullari tahlil qilingan. Tadqiqot davomida marketing samaradorligini baholashda analitik yondashuv, raqamli marketing vositalari va zamonaviy monitoring tizimlarining ahamiyati keng yoritilgan. Shuningdek, reklama kampaniyalari, savdo hajmi, mijozlar jalb etish darajasi va brend xabardorligi kabi omillar asosida marketing faoliyatini baholash mexanizmlari ko'rib chiqilgan. Maqolada O'zbekiston sharoitida faoliyat yuritayotgan korxonalar misolida marketing samaradorligini oshirish yo'llari, mavjud muammolar va ularni bartaraf etish imkoniyatlari tahlil etilgan. Natijada, marketing faoliyatini yanada samarali tashkil etish, resurslardan oqilona foydalanish va raqobatbardoshlikni oshirish bo'yicha ilmiy asoslangan taklif va tavsiyalar ishlab chiqilgan.

Kalit so'zlar: Marketing samaradorligi, KPI, ROI, ROMI, marketing tahlili, reklama samaradorligi, CTR, CPC, marketing strategiyasi, raqamli marketing, mijoz jalb etish, savdo hajmi, brend xabardorligi, marketing monitoringi, analitik yondashuv.

Kirish

Bozor iqtisodiyoti sharoitida korxonalar o'rtasidagi raqobatning keskinlashuvi marketing faoliyatini nafaqat samarali tashkil etish, balki uning natijadorligini aniq baholash zaruratini ham yuzaga keltirmoqda. Hozirgi davrda marketing korxonaning faqat savdo hajmini oshirish vositasi emas, balki uning uzoq muddatli rivojlanishini ta'minlovchi strategik boshqaruv elementiga aylangan. Shu sababli marketing faoliyatining samaradorligini baholash va uni ilmiy asosda tahlil qilish muhim ahamiyat kasb etadi.

Amaliyotda ko'plab korxonalarda marketing xarajatlari amalga oshirilishiga qaramay, ularning natijadorligi yetarli darajada tahlil qilinmaydi. Natijada marketingga yo'naltirilgan mablag'larning qay darajada foyda keltirayotgani aniq bo'lmaydi. Bu esa resurslardan samarasiz foydalanish va noto'g'ri strategik qarorlar qabul qilinishiga olib keladi. Shu bois marketing faoliyatini baholashda aniq ko'rsatkichlar va zamonaviy metodlardan foydalanish dolzarb vazifa hisoblanadi. Zamonaviy marketing amaliyotida samaradorlikni aniqlash KPI, ROI, ROMI, CTR va CPC kabi ko'rsatkichlar asosida amalga oshiriladi. Ushbu ko'rsatkichlar marketing faoliyatining turli jihatlarini o'lchash, reklama kampaniyalarining natijasini baholash hamda marketing strategiyalarini takomillashtirish imkonini beradi. Ayniqsa, raqamli marketing vositalarining kengayishi ushbu ko'rsatkichlarning ahamiyatini yanada oshirmoqda.

O'zbekiston iqtisodiyotida tadbirkorlik faoliyatini rivojlantirish, raqobatbardoshlikni oshirish va biznes muhitini yaxshilashga qaratilgan islohotlar marketing faoliyatining rolini kuchaytirmoqda. Xususan, **PF-5653** Farmoni korxonalar faoliyatini rivojlantirish, ularning bozorga moslashuvchanligini oshirish va marketing imkoniyatlarini kengaytirishda muhim huquqiy asos bo'lib xizmat qilmoqda. Shuningdek, **PF-60** doirasida raqamli iqtisodiyotni rivojlantirish, zamonaviy boshqaruv usullarini joriy etish va korxonalar samaradorligini oshirish vazifalari belgilangan

bo‘lib, bu marketing faoliyatini baholash tizimini takomillashtirishni taqozo etadi. Shu bilan birga, ayrim korxonalarda marketing faoliyatini baholash tizimi yetarli darajada shakllanmaganligi, zamonaviy analitik vositalardan foydalanish darajasining pastligi hamda marketing xarajatlari va natijalari o‘rtasidagi bog‘liqlikning yetarli tahlil qilinmasligi kuzatilmoqda. Bu esa marketing faoliyatining samaradorligini pasaytiruvchi asosiy omillardan biri hisoblanadi.

Mazkur maqolaning asosiy maqsadi korxonada marketing faoliyati samaradorligini baholash metodlarini o‘rganish, ularning nazariy asoslarini tahlil qilish hamda amaliy qo‘llash imkoniyatlarini aniqlashdan iboratdir.

Tadqiqotning vazifalari quyidagilardan iborat:

1. Marketing faoliyati samaradorligi tushunchasini ochib berish;
2. KPI, ROI, ROMI, CTR, CPC kabi baholash metodlarini tahlil qilish;
3. Marketing samaradorligini aniqlashda zamonaviy usullarni o‘rganish;
4. Korxonalarda marketing faoliyatini baholash bilan bog‘liq muammolarni aniqlash;
5. Marketing faoliyatini samarali baholash bo‘yicha ilmiy-amaliy tavsiyalar ishlab chiqish.

Adabiyotlar sharhi

Korxonada marketing faoliyati samaradorligini baholash masalasi zamonaviy marketing nazariyasi va amaliyotida muhim o‘rin egallaydi. Ushbu yo‘nalishda olib borilgan ilmiy tadqiqotlar marketing faoliyatining natijadorligini aniqlash, uni o‘lchash ko‘rsatkichlarini ishlab chiqish hamda baholash metodlarini takomillashtirishga qaratilgan. Marketing samaradorligini baholashga oid yondashuvlar dastlab an’anaviy

iqtisodiy tahlil asosida shakllangan bo'lsa, hozirgi kunda ular raqamli texnologiyalar va analitik usullar bilan boyitilgan.

Marketing nazariyasining rivojlanishida Philip Kotler muhim o'rin tutadi. U marketingni boshqarish jarayonida segmentatsiya, targeting va pozitsiyalash orqali samaradorlikka erishish mumkinligini asoslab bergan. Uning tadqiqotlarida marketing faoliyatining natijadorligini oshirish uchun mijozlarga yo'naltirilgan strategiyalarni ishlab chiqish zarurligi ta'kidlanadi. Shuningdek, Kevin Lane Keller tomonidan ilgari surilgan brend kapitali nazariyasi marketing faoliyatining samaradorligini baholashda muhim omil sifatida qaraladi. Unga ko'ra, iste'molchi ongida shakllangan brend qiymati marketing natijalarining asosiy ko'rsatkichlaridan biri hisoblanadi.

Zamonaviy ilmiy adabiyotlarda marketing samaradorligini baholashda iqtisodiy va analitik yondashuvlar keng qo'llanilmoqda. Xususan, ROI (investitsiya qaytimi) va ROMI (marketing investitsiyalari rentabelligi) ko'rsatkichlari marketing xarajatlari va ularning natijalari o'rtasidagi bog'liqlikni aniqlashga xizmat qiladi. Ushbu yondashuvlar marketing faoliyatini moliyaviy nuqtai nazardan baholash imkonini beradi. Shu bilan birga, KPI tizimi marketing jarayonlarini monitoring qilish va ularning samaradorligini doimiy nazorat ostida ushlab turish imkonini yaratadi. Raqamli marketingning rivojlanishi bilan marketing samaradorligini baholash usullari yanada takomillashdi. Ilmiy tadqiqotlarda CTR (Click-Through Rate), CPC (Cost Per Click), konversiya darajasi kabi ko'rsatkichlar reklama kampaniyalarining natijadorligini aniqlashda muhim vosita sifatida e'tirof etilmoqda. Ushbu ko'rsatkichlar yordamida marketing faoliyatining turli bosqichlari tahlil qilinib, samarali va samarasiz yo'nalishlar aniqlanadi. Shuningdek, bir qator tadqiqotlarda marketing samaradorligini baholashda kompleks yondashuv zarurligi ta'kidlanadi. Ya'ni, marketing faoliyatini faqat moliyaviy natijalar asosida emas, balki mijozlar qoniqishi, brend xabardorligi va bozor ulushi kabi

ko'rsatkichlar orqali ham baholash lozim. Bu esa marketing faoliyatining uzoq muddatli ta'sirini aniqlash imkonini beradi.

Marketing samaradorligini baholashning amaliy ahamiyati shundan iboratki, u korxonaga marketing strategiyalarini takomillashtirish, resurslardan oqilona foydalanish va raqobatbardoshlikni oshirish imkonini beradi. Shu sababli zamonaviy marketing tadqiqotlarida ushbu masala alohida e'tibor markazida bo'lib, yangi metod va yondashuvlar ishlab chiqilmoqda.

Tadqiqot metodologiyasi

Ushbu tadqiqotda korxonada marketing faoliyati samaradorligini baholash metodlarini o'rganishda kompleks va tizimli yondashuvdan foydalanildi. Tadqiqot jarayonida marketing nazariyasi va amaliyotiga oid ilmiy adabiyotlar monografik tahlil usuli asosida o'rganildi hamda mavjud ilmiy qarashlar umumlashtirildi. Tadqiqot davomida statistik tahlil usullari qo'llanilib, marketing samaradorligini baholashda keng foydalaniladigan KPI, ROI, ROMI, CTR va CPC kabi asosiy ko'rsatkichlarning mazmuni va ularning o'zaro bog'liqligi tahlil qilindi. Ushbu ko'rsatkichlar yordamida marketing faoliyatining natijadorligini aniqlash va baholash imkoniyatlari o'rganildi.

Shuningdek, mantiqiy tahlil usuli orqali marketing faoliyatini baholash jarayonining asosiy bosqichlari, jumladan reklama samaradorligi, mijozlar jalb etilishi, savdo hajmi va brend xabardorligi o'rtasidagi bog'liqlik tahlil qilindi. Bu esa marketing faoliyatining samaradorligini kompleks baholash imkonini berdi. Tadqiqotda taqqoslash (komparativ) usulidan ham foydalanilib, turli marketing baholash yondashuvlari o'zaro solishtirildi va ularning afzallik hamda kamchiliklari aniqlanib chiqildi. Bundan tashqari, analitik va sintez usullari asosida marketing faoliyatini baholashning yaxlit modeli shakllantirildi.

Empirik ma'lumotlarni tahlil qilish jarayonida raqamli marketing vositalari va bozor ko'rsatkichlari asosida korxonalarda marketing samaradorligini baholashning

amaliy jihatlari o'rganildi. Natijada, marketing faoliyatini yanada samarali tashkil etish va baholash bo'yicha ilmiy asoslangan xulosalar ishlab chiqildi.

Tahlil va natijalar muhokamasi

Korxonada marketing faoliyati samaradorligini baholash bugungi kunda korxonalarning raqobatbardoshligini oshirishda muhim ahamiyat kasb etadi. O'zbekiston sharoitida so'nggi yillarda raqamli iqtisodiyotning rivojlanishi, internet savdosining kengayishi hamda marketing vositalaridan foydalanish darajasining ortishi marketing samaradorligini aniq baholash zaruratini yanada kuchaytirmoqda.

Tahlillar shuni ko'rsatadiki, korxonalarda marketing faoliyatining samaradorligini baholashda eng ko'p qo'llaniladigan ko'rsatkichlar KPI, ROI, ROMI, CTR va CPC hisoblanadi. Ushbu ko'rsatkichlar orqali marketing xarajatlari va olingan natijalar o'rtasidagi bog'liqlik aniqlanadi. Ayniqsa, raqamli reklama kampaniyalarida CTR va CPC ko'rsatkichlari reklamaning qanchalik samarali ishlayotganini ko'rsatadi.

O'zbekistonda kichik va o'rta biznes korxonalari misolida o'tkazilgan kuzatuvlar shuni ko'rsatadiki, marketing samaradorligi yuqori bo'lgan korxonalarda quyidagi omillar ustunlik qiladi:

- marketing strategiyasining aniq belgilanganligi;
- raqamli platformalardan faol foydalanish (Instagram, Telegram, TikTok);
- mijozlar segmentatsiyasining to'g'ri amalga oshirilishi;
- reklama xarajatlarining KPI asosida boshqarilishi.

Quyida O'zbekiston sharoitidagi shartli korxona marketing ko'rsatkichlari tahlil qilinadi:

Korxonada marketing samaradorligi ko'rsatkichlari (2023–2025)

Yillar	Marketing xarajatlari (mln so'm)	Sotuvdan tushgan daromad (mln so'm)	ROI (%)	CTR (%)
2023	200	500	150	2.1
2024	300	850	183	3.4
2025	450	1300	189	4.2

Jadvaldan ko'rinadiki, 2023–2025-yillar davomida marketing xarajatlarining oshishi bilan birga daromad ham sezilarli darajada oshgan. Bu esa marketing faoliyatining samaradorligi yaxshilanayotganini ko'rsatadi. Ayniqsa, ROI ko'rsatkichining 150% dan 189% gacha oshishi marketing investitsiyalarining foydali ishlatilayotganidan dalolat beradi.

CTR ko'rsatkichining yildan-yilga oshishi esa raqamli reklama kampaniyalarining samaradorligi yaxshilanganini bildiradi. Bu holat korxona tomonidan auditoriyani to'g'ri segmentatsiya qilish va reklama kontentini optimallashtirish natijasida yuzaga kelgan.

Umuman olganda, O'zbekiston korxonalari misolida o'tkazilgan tahlillar marketing faoliyati samaradorligini oshirishda quyidagi omillar muhimligini ko'rsatadi:

- raqamli marketing vositalaridan samarali foydalanish;
- marketing KPI tizimini joriy etish;
- reklama kampaniyalarini doimiy monitoring qilish;
- mijozlar xulq-atvorini tahlil qilish.

Natijalar shuni ko'rsatadiki, marketing faoliyatini baholashning ilmiy asoslangan metodlaridan foydalanish korxonalarga xarajatlarni optimallashtirish va daromadni oshirish imkonini beradi

Xulosa va takliflar

Korxonada marketing faoliyati samaradorligini baholash zamonaviy iqtisodiyot sharoitida korxonalarning raqobatbardoshligini ta'minlashda muhim o'rin tutadi. O'tkazilgan tahlillar shuni ko'rsatadiki, marketing faoliyatining samaradorligi faqat amalga oshirilgan xarajatlar bilan emas, balki ularning natijadorligi, ya'ni daromadga, mijozlar soniga va brend xabardorligiga ta'siri bilan baholanishi lozim.

Tadqiqot natijalariga ko'ra, marketing samaradorligini aniqlashda KPI, ROI, ROMI, CTR va CPC kabi ko'rsatkichlardan foydalanish korxonalarga marketing jarayonlarini aniq tahlil qilish va boshqarish imkonini beradi. Shu bilan birga, marketing faoliyatini baholashda kompleks yondashuv zarurligi aniqlanib, faqat moliyaviy natijalar emas, balki mijozlar qoniqishi, bozor ulushi va brend qiymati ham inobatga olinishi lozimligi ko'rsatildi.

O'zbekiston sharoitida olib borilgan tahlillar marketing faoliyatini baholash tizimi hali barcha korxonalarda to'liq shakllanmaganligini ko'rsatadi. Ayrim korxonalarda marketing xarajatlari va ularning samaradorligi o'rtasidagi bog'liqlik yetarli darajada tahlil qilinmaydi, zamonaviy raqamli ko'rsatkichlardan foydalanish darajasi esa pastligicha qolmoqda. Bu esa marketing qarorlarining to'liq asoslanmagan holda qabul qilinishiga olib keladi.

Tadqiqot natijalariga asoslanib, quyidagi takliflar ishlab chiqildi:

1. Korxonalarda marketing faoliyatini baholashning KPI va ROI tizimini joriy etish hamda ularni doimiy monitoring qilish.
2. Raqamli marketing vositalaridan keng foydalanish orqali CTR va CPC kabi ko'rsatkichlar asosida reklama samaradorligini oshirish.
3. Marketing qarorlarini qabul qilishda faqat tajribaga emas, balki statistik va analitik ma'lumotlarga tayanish tizimini shakllantirish.
4. Mijozlar xulq-atvorini o'rganish va ularning fikr-mulohazalarini marketing strategiyalariga integratsiya qilish.

5. Marketing samaradorligini baholashda kompleks yondashuvni qo'llash, ya'ni moliyaviy, kommunikatsion va brend ko'rsatkichlarini birgalikda tahlil qilish.

Umuman olganda, marketing faoliyati samaradorligini to'g'ri baholash korxonalarga resurslardan oqilona foydalanish, marketing strategiyalarini optimallashtirish hamda bozorda barqaror raqobat ustunligini ta'minlash imkonini beradi.

Foydalanilgan adabiyotlar

1. O'zbekiston Respublikasi Prezidenti. PF-5653-son Farmoni. "Tadbirkorlikni qo'llab-quvvatlash va biznes muhitini yaxshilash chora-tadbirlari to'g'risida". – 2019-yil 5-fevral.
2. O'zbekiston Respublikasi Prezidenti. "2022–2026-yillarga mo'ljallangan Taraqqiyot strategiyasi". – Tashkent, 2022.
3. O'zbekiston Respublikasi Statistika agentligi. Rasmiy statistik ma'lumotlar. – <https://www.stat.uz>
4. O'zbekiston Respublikasi Raqobatni rivojlantirish va iste'molchilar huquqlarini himoya qilish qo'mitasi materiallari. – <https://raqobat.gov.uz>
5. O'zbekiston Respublikasi Innovatsion rivojlanish vazirligi materiallari. – Tashkent, 2023.
6. Kotler P. Marketing Management. – Pearson Education, 2016.
7. Kotler P., Keller K.L. Marketing Management. – Pearson, 2018.
8. Armstrong G., Kotler P. Principles of Marketing. – Pearson, 2020.
9. Porter M.E. Competitive Strategy. – Free Press, 1980.
10. Keller K.L. Strategic Brand Management. – Pearson, 2013.

Physiological, Psychological, and Lexical Features of “Hayz” (“Menstruation”)

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Abstract. Plato believed that the cause of hysteria in women at certain times was the “sorrowful womb”. According to him, the uterus grieves and mourns because it is not carrying a child. Other contemporaries argued that the uterus, when moving around the body and getting stuck between other internal organs, cries and a woman becomes hysterical.

The article examines the term “menstruation” used in gynecology and describes its features as a physiological, psychological and lexical unit.

Keywords: uterus, period, historical, etymology, biological, term, physiological, healthy.

“HAYZ” (“MENSTRUATION”) NING FIZIOLOGIK, PSIXOLOGIK VA LEKSIK XUSUSIYATLARI

O‘zDJTU, Ingliz tili amaliy aspektlari kafedrası

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Annotatsiya. Aflotun ayollarda ma’lum vaqt jazava paydo bo‘lishining sababi “azador bachadon” ekanligiga ishongan. Unga ko‘ra, bachadon bola ko‘tarib yurmaganidan qayg‘uga botib, aza tutadi. Uning boshqa zamondoshlari esa bachadon

tana bo‘ylab sayr qilib yurib, boshqa ichki a‘zolari orasiga tiqilib qolganda yig‘laydi va ayolda jazava paydo bo‘ladi, deya mulohaza yuritganlar.

Maqolada ginekologiyada ishlatiladigan “hayz” termini tadqiqqa tortilgan va uning fiziologik, psixologik va leksik birlik sifatidagi hususiyatlari bayon qilingan.

Kalit so‘zlar: bachadon, davr, tarixiy, etimologiya, biologik, atama, fiziologik, sog‘lom.

Аннотация. Платон считал, что причиной истерии у женщин в определённые периоды является «скорбящая матка». По его мнению, матка скорбит и оплакивает, потому что не вынашивает ребёнка. Другие современники утверждали, что матка, перемещаясь по телу и застревая между другими внутренними органами, плачет, и женщина впадает в истерику.

В статье рассматривается термин «менструация», используемый в гинекологии, и описываются его особенности как физиологическая, психологическая и лексическая единица.

Ключевые слова: матка, менструация, исторический, этимология, биологический, термин, физиологический, здоровый.

Kirish

Akusherlik va ginekologiya sohasidagi terminologiya nafaqat tibbiyot, balki tilshunoslik (lingvistika) nuqtai nazaridan ham juda qiziqarli va murakkab yo‘nalish hisoblanadi. Bu soha terminlarining shakllanishi, etimologiyasi va tarjimasi fundamental ahamiyatga ega.

Islom fiqhida ayollar hayoti bilan bevosita bog‘liq bo‘lgan hayz, nifos va istehoza holatlari muhim diniy masalalar sirasiga kiradi. Bu mavzular Qur’oni Karim va hadislar asosida keng muhokama qilingan bo‘lib, to‘rt mazhab – Hanafiy, Shofeiyy, Molikiy va Hanbaliy – ularning har biriga oid huquqiy va amaliy jihatlarni alohida tartibda bayon etgan.

Oy ko‘rib bo‘lgan ayollarning atrof-muhitga e‘tibori kuchayadi. Hayz ko‘rishdan uch hafta o‘tib, ayollarning so‘zamolligi ortadi. Aslida, hayz ko‘rish miya faoliyatiga ta‘sir qilishini ko‘pchilik yaxshi biladi, ammo bu jarayon hamma o‘ylagandek oddiy kechmaydi.

Qadimda Misr kohinlaridan tortib yunon faylasuflariga qadar nega ayollar oyning ma‘lum kunlarida o‘zgarib qolishiga qiziqqanlar. Bu masala ilm darg‘alarini ming yillar davomida o‘ylantirib kelgan.

Aflotun ayollarda ma‘lum vaqt jazava paydo bo‘lishining sababi “azador bachadon” ekanligiga ishongan. Unga ko‘ra, bachadon bola ko‘tarib yurmaganidan qayg‘uga botib, aza tutadi. Uning boshqa zamondoshlari esa bachadon tana bo‘ylab sayr qilib yurib, boshqa ichki a‘zolari orasiga tiqilib qolganda yig‘laydi va ayolda jazava paydo bo‘ladi, deya mulohaza yuritganlar.

- 'Bachadon naychasi majburan bog‘lab qo‘yilgani 13 yildan buyon azoblamoqda'
- 'Ayol semirsa, umri qisqaradi'
- '37 yoshimga qadar ayol bilan qovushmaganimdan xafaman'

Bunday mulohaza 19 asr boshlariga qadar kun tartibidan tushmaydi. Shu davrdan boshlab zamonaviy qin vibratorlarining ajdodi yordamida jazava paydo bo‘lgan ayollarda orgazm hosil qilish yo‘li bilan hayz asoratlarini bostirish urfga kiradi.

Bugungi kunda ham fe‘l-atvori o‘zgarib qolgan ayolga nisbatan «kasali kelgan shekilli» iborasi dunyo bo‘ylab keng qo‘llaniladi.

Ilm-fan ham hayz ko‘rayotgan ayolning zehniyatida o‘zgarish paydo bo‘lishini tasdiqlaydi. Biroq bu o‘zgarishning sababi hamma o‘ylagandek oddiy emas.

Odamlar tomonidan hisobga olinmaydigan bir jihat shundaki, hayz ko‘rish davri ayollarning miya faoliyatiga ko‘p hollarda ijobiy ta‘sir qiladi.

Oy ko‘rib bo‘lgandan so‘ng ayol atrof-muhitga ko‘proq va yaxshiroq e‘tibor bera boshlaydi, ko‘pchilikning nazari ilg‘amagan predmetlarga diqqat qiladi. Hayz davridan uch hafta o‘tib, ayolning so‘zamolligi, so‘zlashuv mahorati ortadi

Bunday o‘zgarishlarning sababchisi esa «azador» bachadon emas, oy davomida turli miqdordagi estrogen va progesteron gormonlarini chiqarib turadigan tuxumdonlardir. Gormonlarning asosiy vazifasi reproduktiv tizim faoliyatini tartibga solib turish bo‘lsada, ular ayollarning miya faoliyati va fe‘l-atvoriga ham ta’sir o‘tkazadi.

Olimlar hayz ko‘rish siklini 1930 yillardan buyon ilmiy jihatdan o‘rganib keladilar. Bu o‘rganishlar davomida hayz davrining ayolga nisbatan ajabtovur ta’sirlari kashf etildi. Masalan, hayz ayolning tunda qanday tush ko‘rishiga ta’sir qiladi.

Biroq mazkur mavzuda o‘tkazilgan tadqiqotlarning aksariyatiga ayollarning g‘aroyib biologiyasini yanada chuqurroq anglash emas, balki ayollar va erkaklar o‘rtasidagi farqlarni yaxshiroq o‘rganishga intilish turtki bergan edi.

Tadqiqotlar davomida ochilgan muhim bir yangilik ayollar va erkaklar miyasining o‘zaro farqlanishi bo‘ldi. “Har ikki jinsdagi miya faoliyatining turli ekanligi jinsiy gormonlar miqdorining o‘zgarib turishiga bog‘liq”, deydi Duram Universitetidan nevrolog olim Markus Hauzman. “Gormonlar ayollarda hayz ko‘rish chog‘ida o‘zgarsa, erkaklardagi testosteron mavsumiy oshib, kamayib turadi. Buning bari tabiiy jarayon.”

Ayollarning yana bir farqli tomoni shuki, ularning muloqotga kirishish qobiliyati, kirishimliliigi erkaklarnikidan ancha yuqori. Bundan tashqari ayollar har kimning biror masalaga nisbatan ommadan farqli o‘laroq o‘z qarashi bo‘lishini ham yaxshi anglaydilar. Ma’lumotlarga ko‘ra, o‘g‘il bolalar qizlardan ko‘ra autizm (odamlar bilan muloqotga kirishishga qiynalish bilan izohlanadigan ilk bolalik davridan yuzaga keluvchi ruhiy holat)ga to‘rt barobar ko‘proq chalinar ekan.

“Qizlar o‘g‘il bolalardan ko‘ra tezroq tilga kiradi, ayollarning so‘z boyligi erkaklarnikiga qaraganda ko‘proq, ayollar so‘zni qanday qo‘llashni juda yaxshi biladi,” deydi Chikagodagi Illinoyis Universitetidan ruhshunos Polin Maki.

Ayollarning verbal, ya‘ni og‘zaki so‘zlashuv qobiliyatining yuqori ekanligi sababi uzoq o‘tmishga borib taqaladi. Odam evolyutsiyasi davomida bolalar tarbiyasiga, asosan, ayollar mas‘ul bo‘lgan va zurriyotga muhim ma‘lumotlarni ham aynan ayollar og‘zaki tarzda yetkazgan. Masalan, “bu mevani yema, u zaharli,” kabi.

Gormonal muvozanat. 2002 yili Baltimorda joylashgan Gerontolgiya Tadqiqot Markazidagi hamkasblari bilan birgalikda Polin Maki estrogen gormonining o‘zgaruvchan darajasi oy davomida ayollarning o‘zini tutishi va turli qobiliyatlariga qanday ta‘sir qilishini o‘rganib ko‘radi.

Tadqiqotda ishtirok etgan ayollar ikki marta tekshirib ko‘riladi: birinchisi, hayz ko‘rish tugashi bilan, ya‘ni estrogen va progesteron darajasi pastligida hamda ikkinchi, hayz davridan bir hafta o‘tib - gormonlar darajasi yuqorilagan vaqtda.

Bu kichik tadqiqotda atigi 16 nafar ayol ishtirok etgan bo‘lsa ham, natijalar diqqatga sazovor edi.

Ayollik gormonlari yuqori bo‘lgan kunlari ishtirokchilarda erkaklar qobiliyatsiz bo‘lgan masalalar (misol uchun, atrof-muhitga diqqatli bo‘lish)da no‘noqlashish, ammo so‘zlarni maromida qo‘llash mahorati ortishi kuzatiladi. Gormonlar darajasi pasaygan vaqtda esa atrof-muhitga e‘tibor qilish xususiyati yana tiklanishi aniqlanadi.

Tuxumdondan tuxum hujayralar ajralayotganda, ya‘ni gormonlar darajasi yuqorilagan vaqtda ayollarning yana bir qobiliyati oshishi kuzatiladi, deydi Polin Maki. Bu 'ongosti xotirasi'dir. Masalan, bu paytda ayollar o‘zi oldin diqqat qilmagan narsalar va so‘zlarni to‘satdan eslay boshlaydi.

Shu sababdan hayz ko‘rishdan so‘ng biroz vaqt o‘tib, ayollarning so‘z boyligi ortadi, so‘zamolligi kuchayadi.

Qisqacha aytganda, Polin Makining ishonishicha, bunday oylik o'zgarishlarning asosiy sababchisi estrogen gormonidir.

Bu gormon miyaning ikki yonma-yon qismiga ta'sir o'tkazadi. Birinchisi, xotiralarni to'plashga javobgar dengiz toychasi shaklidagi gippokampdir. Gippokamp faol ishlagan vaqtda shaxsning saqlangan ma'lumotlar va xotiralarni eslash xususiyati kuchayadi va bu, o'z navbatida, boshqalar bilan muloqotga kirishishni osonlashtiradi, o'zgalar fikri va harakatini yaxshiroq anglashga yordam beradi. Ayollik gormonlari faollasha boshlaganda miyaning bu qismi har oy kattalashadi.

Ikkinchi qism bodomsimon amigdala yoki mindalina bo'lib, u bizning hissiyotlarimiz, hissiy holatimizni nazorat qiladi. Ayniqsa, qo'rquv hissi aynan amigdalaga bog'liqdir. Qiziq tomoni shundaki, biz qo'rquv hissi ustun bo'lgan mavzular yuzasidan tez qaror chiqarish vaqtida beixtiyor amigdalaning buyruqlariga bo'ysunamiz. Miyaning bu qismi faoliyati yuqori bo'lganda shaxsning qiyin vaziyatlardan chiqib ketish mahorati ortadi.

Shu sababdan ham har oy estrogen darajasi oshganda ayollardagi qo'rquvni anglash qobiliyati oshib ketadi.

Biroq hayz ko'rish bilan bog'liq ba'zi isbotlanmagan qarashlar ham mavjud. Masalan, yillar davomida olimlar tuxum hujayralar ajralishi ortib, ayollar homiladorlikka tayyor bo'lgan sari qaddi-qomati kelishgan, ko'rkam erkaklarni ko'proq xohlay boshlaydi, deya hisoblab kelar edi. Biroq so'nggi vaqtlarda o'tkazilgan bir qancha keng ko'lamli tadqiqotlar bu qarashni tasdiqlamadi.

Miyaning qudrati. Hayz ko'rish ayollarning miyasiga ta'sir qilishi ilm-fan tomonidan izohlab berilgan bo'lsada, gap faqat gormonlarda emas.

Yana boshqa bir asosiy sabab ayollar va erkaklar miya faoliyatining turlicha ekanligida yotadi. Ayollar erkaklardan farqli tarzda qaror qabul qilish, masalalarni yechishda miyasining har ikki pallasini ishga soladi.

Ayollarning miyasi erkaklarnikiga nisbatan nega kichikroq ekanligi fan uchun sir bo'lib qolayotgan bo'lsa ham, nozik jins vakillari o'z miyasi imkoniyatlaridan erkaklardan ko'ra samaraliroq foydalana oladi.

Ayollarning har ikki miya yarimsharlarini ishlatishga moyilligi har oy gormonlar darajasi bilan mushtarak tarzda ortishini 2002 yilda janob Hauzman aniqlagan edi.

Shu sababdan oy ko'rayotgan ayol - bu jamiyat uchun «xavfli» shaxs emas, balki miyasi imkoniyatlaridan yuqori darajada foydalanishga salohiyatli insondir.

Tilshunoslik nuqtai nazaridan qaraydigan bo'lsak, ushbu so'zning lug'aviy ma'nosi: hayz – “suvning yoki qonning oqib ketishi” degan ma'noni bildiradi. Tarixiy manbalarda bu holat uchun o'nta turli nom ishlatilgan: tams, hayz, nifos, dahk, iroq, ikbar, i'sar, diras, firoq. Fiqhiy ta'rifga ko'ra, hayz – bu balog'atga yetgan sog'lom ayolning bachadonidan tabiiy ravishda, ma'lum oraliqlarda chiqadigan qon hisoblanadi. Bu holat odatda qiz bolalar balog'atga yetganidan boshlab, klimaks (menopauza) davrigacha davom etadi. Ayol tanasidagi bu fiziologik jarayonga hayz holati deyiladi. O'zbek tilida bu holat “oy ko'rish” yoki “xos kunlar” kabi so'zlar bilan ifodalanadi.

Urfimizda hayz qonini “odat qoni”, “oy ko'rish qoni”, “uzrli bo'lish” deyiladi.

Ginekologiyada ishlatiladigan ko'plab o'zbekcha atamalar aslida turli tillardan kirib kelgan: asosan yunoncha, lotincha, arabcha va rus tili orqali o'zlashgan xalqaro terminlar. Quyida eng ko'p uchraydigan leksik birliklardan biri “hayz”ning etimologiyasi haqida qisqacha to'xtalib o'tsak.

Hayz so'zi o'zbek tiliga arab tilidan kirib kelgan. Va hayz davridagi ayol yoki qiz hoiza – hayzli deb ataladi.

O'zbek tilida so'zlashuv nutqida “hayz ko'rdim” leksemasining boshqa shakllarini ham ko'rishimiz mumkin: “Oy ko'rdim”, “Uzrliman”, “Uzrli bo'ldim” kabi.

Ingliz tilda “menstruation” so'zi yunoncha mene (moon) dan kelib chiqqan lotincha mensis (month) dan olingan. Bu oy sikllari bilan bog'liq bo'lgan oylik hodisa

sifatida hayz davrining tarixiy tushunchasini aks ettiradi. Bu atama lotincha hayz ("oylik") + -ation dan kelib chiqqan. Qadimgi inglizcha: "oy-qon" degan ma'noni anglatuvchi monaḏblot atamasi ishlatilgan. ("atrofida" yoki "yo'l"), takrorlanuvchi siklga ishora qiladi. Bu atama oyning aylanishi bilan bog'liq deb hisoblangan oylik biologik hodisani tasvirlash uchun yaratilgan (taxminan 29 kun). Mensis (oy) bo'lib, u ham kalendar oyi, ham oyni bildiruvchi qadimgi hind-yevropa tillariga borib taqaladi. Etimologik nuqtai nazardan, tushuncha qadimgi yunoncha mene ("oy") so'ziga mos keladi va biologik sikl va oy sikli o'rtasidagi bog'liqlikni ta'kidlaydi.

O'zbek tilda: hayz ko'rdim.

Ingliz tilida "I got my period",

Rus tilida: У меня начались месячные.

"Hayz" ingliz tilda quyidagicha ifodalanadi:

- menstruating woman —
- woman on her period —
- menstruating female —
- "hayz" → menstruation

"hayzli" → menstruating woman yoki menstruator

O'zbek adabiyotida "hayz" atamasi bilan kelgan biror jumla uchramaydi. Lekin ingliz adabiyotida Virginia Woolf asarlarida 'The Angel in the House' (1931), The Bloody Chamber (1979) "hayz" bilan bog'liq ko'plab tasvirlarni uchratishimiz mumkin.

Xulosa

Hayz (menstruation) jarayoni fiziologik, psixologik va leksik jihatdan kompleks hodisa sifatida tahlil qilindi. Fiziologik jihatdan u ayol organizmining reproduktiv tizimida sodir bo'ladigan tabiiy biologik jarayon bo'lib, gormonal o'zgarishlar bilan chambarchas bog'liqdir. Psixologik jihatdan esa bu davrda hissiy beqarorlik, kayfiyat o'zgarishlari va stressga moyillik kabi holatlar kuzatilishi mumkin. Leksik jihatdan esa

“hayz” atamasi turli madaniyat va tillarda o‘ziga xos ifodalar, sinonimlar va madaniy yondashuvlar orqali aks etadi. Umuman olganda, mazkur mavzu inson salomatligi va til madaniyatini birgalikda o‘rganishda muhim ilmiy ahamiyatga ega hisoblanadi.

Foydalanilgan adabiyotlar:

- 1.Александровский Б.П., Соколовский В.Г. Словарь клинических терминов с переводным и толковым значением. – Киев: Здоровье, 1969. С. 248.
2. Арnaudов Г. Медицинская терминология: На пяти языках: latinum, рус., english, français, deutsch / Пер. с болг. проф. В.В. Завьялова]. 4-е рус. изд., испр. София: Медицина и физкультура, 1979. XXIV. – 943 с/ – URL^ http://elib.usma.ru/bitstream/usma/7399/1/USMU_Sbornik_statei_2022_1_93.pdf
3. Заборовская О.С., Криницкий Д.Ю. Категориальные основы номинации в клинической психиатрической терминологии // Журнал Гродненского государственного университета. 2011. № 3(35). С. 84-86.
4. B.G. Firkin, J.A. Whitworth Dictionary of medical eponyms, 1996, P. 452.
5. Davi-Ellen Chabner Medical terminology: A short course, 2026.
6. Shukurov F.I., Nigmatova G.M. Akusherlik va ginekologiya, T., 2022, 374 bet.
7. Virginia Woolf The Angel in the House, 1931
8. Virginia Woolf The Bloody Chamber, 1979.
9. Киселева Л.А. Терминосистема области медицины «Акушерство» // Вестник Калмыцкого университета. 2017. № 1(33). С. 76-81.
10. Лиховских К. А., Олехнович О. Г. Латинские термины метафорического происхождения в клинической терминологии. Екатеринбург, 2022. С. 1056-1062.
11. Мокиенко В.М. Славянская фразеология. Современный русский язык: Лексикология. Фразеология. Лексикография: хрестоматия. Санкт-Петербург: СПбГУ, 2002. С. 205.
12. <https://fqh.uz/maqola/308>

The Conceptual System Associated with Brotherhood: A Cross-Cultural and Cognitive-Linguistic Analysis

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Abstract

This article investigates the conceptual system associated with brotherhood as a structured cognitive domain encoding male solidarity, kinship, and moral obligation across cultures. Drawing on conceptual metaphor theory, cognitive semantics, and frame-semantic analysis, the study maps the nuclear, peripheral, and extended conceptual zones of brotherhood and examines the cultural and linguistic mechanisms through which this concept is organised and elaborated. The analysis reveals that brotherhood is not a simple bilateral kinship term but a multi-layered conceptual system comprising frames of origin-based solidarity, purpose-based alliance, spiritual duty, and political fraternity. Universal features include the semes [+human], [+male], [+bond], and [+solidarity], while culture-specific elaborations encode age hierarchy, theological obligation, and ideological appropriation. The findings carry implications for cognitive linguistics, translation studies, and cross-cultural communication research.

Keywords: *brotherhood, conceptual system, cognitive semantics, conceptual metaphor, frame semantics, cross-cultural linguistics, kinship terminology.*

1. Introduction

The concept of brotherhood occupies a singular position within the human conceptual repertoire. Universally attested across known languages and cultures, it encodes not merely a biological relationship but a dense cluster of social, moral, spiritual, and ideological meanings that extend far beyond the literal fact of shared

parentage. As Wierzbicka (1992, p. 11) observes, kinship terms constitute 'cultural scripts' that reflect and reproduce the values of the communities that employ them; brotherhood, in this regard, is among the most semantically rich and culturally variable of all kinship concepts.

Contemporary cognitive linguistics, and in particular the frameworks of conceptual metaphor theory (Lakoff & Johnson, 1980), frame semantics (Fillmore, 1982), and prototype theory (Rosch, 1978), provides powerful tools for analysing how abstract social concepts such as brotherhood are structured, motivated, and extended. Rather than treating brotherhood as a discrete lexical item with a fixed meaning, these approaches invite an account of it as a dynamic conceptual system – a structured network of interrelated frames, image schemas, and metaphorical projections that together constitute the full cognitive representation of the concept.

Despite the centrality of brotherhood in social discourse, systematic cognitive-linguistic accounts of its full conceptual architecture remain scarce. Existing scholarship has addressed kinship terminology in individual languages (Murdock, 1949; Kronenfeld, 2009), metaphorical extensions of fraternal concepts in political and religious discourse (Turner, 1996; Zuckermann, 2020), and cross-cultural variation in the semantic field of brotherhood (Hasanov, 2018; Normatov, 2021), but no comprehensive mapping of brotherhood as an integrated conceptual system has been undertaken. This article addresses that gap.

The present study pursues three interrelated objectives: first, to identify the nuclear semantic content and defining conceptual frames of brotherhood; second, to chart the metaphorical and metonymic extensions through which the concept is elaborated in cultural and political discourse; and third, to examine the cross-cultural variability of the conceptual system, with attention to both universal and language-specific dimensions. The broader aim is to demonstrate that brotherhood constitutes a prototype-structured

conceptual system with a stable core and a richly variable periphery shaped by historical, religious, and ideological factors.

2. Materials and Methods

2.1 Theoretical Framework

The analysis is grounded in three complementary theoretical frameworks. Conceptual metaphor theory (Lakoff & Johnson, 1980; Kövecses, 2002) provides the apparatus for identifying systematic cross-domain mappings through which abstract aspects of brotherhood – spiritual solidarity, political alliance, moral duty – are understood in terms of more concrete source domains. Frame semantics (Fillmore, 1982; Fillmore & Atkins, 1992) supplies the methodology for reconstructing the background knowledge structures, or frames, that are evoked by brotherhood-related expressions and that organise the concept's internal architecture. Prototype theory (Rosch, 1978; Taylor, 2003) guides the analysis of the concept's radial structure, distinguishing prototypical from peripheral instances and accounting for the graded membership characteristic of natural conceptual categories.

These frameworks are operationalised within the broader methodology of cognitive semantics (Croft & Cruse, 2004; Evans & Green, 2006), which treats meaning as encyclopaedic – inherently connected to world knowledge, embodied experience, and cultural context – rather than as a set of language-internal semantic features. This approach is especially apt for a concept as culturally embedded as brotherhood, where denotative content and connotative elaboration cannot be sharply separated.

2.2 Data Sources and Analytical Procedures

The corpus for this study comprises three layers of data. The primary layer consists of lexicographic sources: the Oxford English Dictionary (2023), Merriam-Webster (2023), and the five-volume O‘zbek tilining izohli lug‘ati (2006–2008), supplemented by etymological dictionaries and phraseological compendia for both English and Uzbek.

The secondary layer includes canonical literary and philosophical texts – among them works of Navoi, Qodiriy, Shakespeare, and Milton – in which brotherhood-related concepts are thematically foregrounded. The tertiary layer draws on previously published corpus and sociolinguistic studies of kinship discourse (Kronenfeld, 2009; Normatov, 2021).

Three analytical procedures were applied in sequence. Componential analysis decomposed brotherhood-related lexemes into their constituent semes, enabling cross-linguistic comparison of semantic structure. Conceptual metaphor analysis identified the source domains and structural correspondences underlying metaphorical extensions of the concept. Frame-semantic analysis reconstructed the cultural knowledge structures – including role participants, background conditions, and perspectival organisation – that constitute the concept's contextual architecture. Triangulation across all three corpus layers and all three analytical procedures was used to ensure descriptive validity and to guard against artefacts of any single data source or method.

3. Results

3.1 The Nuclear Conceptual Frame of Brotherhood

Componential analysis of brotherhood-related lexemes across the corpus reveals a stable nuclear semantic content shared across the languages examined. The prototypical or nuclear instance of brotherhood is structured by the following defining semes: [+human], [+male], [+shared origin or commitment], [+solidarity], and [+mutual support]. These semes correspond to the central role relationships encoded in the basic kinship frame: a pair or group of males united by common descent (biological brotherhood) or common purpose and commitment (social brotherhood), who are bound by norms of solidarity, loyalty, and mutual aid.

Frame-semantic analysis further reveals that the nuclear frame of brotherhood comprises four core role slots: the Brother participants (co-members of the fraternal

bond), the Basis of Bond (shared origin, shared experience, or shared commitment), the Obligations (mutual support, loyalty, deference), and the Community (the social or institutional context within which the bond is recognised and enforced). This frame structure is relatively stable across cultures, though the specification of each role – particularly the Basis of Bond and the nature of the Obligations – varies significantly as one moves from the nuclear to the peripheral zones of the conceptual system.

3.2 Peripheral and Extended Conceptual Frames

Beyond the nuclear frame, the conceptual system of brotherhood is organised into a series of peripheral and extended zones in which the core frame is elaborated through metaphorical projection, metonymic extension, and cultural specification. Four principal extended frames were identified in the corpus.

The frame of Spiritual Brotherhood, most fully elaborated in Islamic and Christian discourse, projects the fraternal bond from the domain of kinship into the domain of religious community. In Islamic tradition, the Quranic concept of ummah construes the community of believers as a brotherhood of souls bound by divine covenant, elevating the obligations of fraternity from social norms to theological prescriptions (Hasanov, 2018). The conceptual metaphor THE COMMUNITY OF BELIEVERS IS A FAMILY OF BROTHERS motivates such expressions as muslim birodarlik in Uzbek and 'the brotherhood of Islam' in English, extending the core frame's obligations of loyalty and mutual support to the entire community of co-religionists. The Spiritual Brotherhood frame encodes an additional seme, [+divine mandate], absent from the nuclear kinship frame, which transforms fraternal obligation from a moral expectation into a religious duty.

The frame of Political Brotherhood, most extensively elaborated in Western secular discourse, projects fraternal solidarity onto relationships of ideological alliance and collective struggle. The conceptual metaphor POLITICAL SOLIDARITY IS

BROTHERHOOD – instantiated in expressions such as 'brothers in arms,' 'the brotherhood of labour,' and the revolutionary slogan fraternité – maps the core senses of [+solidarity] and [+mutual support] onto political actors united not by origin or faith but by shared ideological commitment (Turner, 1996; Lakoff & Johnson, 1980). This frame suppresses the sense [+shared origin] and foregrounds [+solidarity regardless of origin], enabling the rhetorical extension of fraternal language to universalist and emancipatory discourse.

The frame of Communal Brotherhood is most fully articulated in Central Asian social contexts through the institution of the mahalla – the traditional neighbourhood community that extends quasi-familial obligations of solidarity and mutual care to non-kin members of the same residential community (Normatov, 2021). This frame introduces the sense [+territorial co-residence] as an alternative basis for fraternal obligation, operating alongside and sometimes in tension with the biological and religious bases encoded in the nuclear and spiritual frames.

The frame of Age-Differentiated Brotherhood, most systematically encoded in Uzbek through the lexical distinction between aka (elder brother) and uka (younger brother), maps the hierarchical dimension of seniority onto the fraternal bond. This frame encodes the additional senses [+relative age] and [+asymmetric deference], which are grammatically obligatory in Uzbek but absent from English, where the base lexeme brother is age-neutral. The linguistic encoding of age hierarchy in Uzbek reflects and reinforces broader cultural norms of gerontocratic deference grounded in Islamic ethics and patriarchal social organisation (Wierzbicka, 1992).

3.3 Metaphorical Structure of the Conceptual System

The extended frames identified above are motivated and structured by a small set of master conceptual metaphors that organise the peripheral zones of the brotherhood concept. The most productive of these are BROTHERHOOD IS UNITY (structuring

political and social solidarity discourse), BROTHERHOOD IS SPIRITUAL DUTY (structuring religious fraternal discourse), BROTHERHOOD IS COMMUNAL CARE (structuring neighbourhood and mahalla discourse), and BROTHERHOOD IS SHARED STRUGGLE (structuring ideological and military fraternal discourse). These metaphors are not independent but form a coherent metaphorical network, each foregrounding a different aspect of the nuclear frame – solidarity, obligation, care, and shared adversity, respectively – and projecting it onto a distinct target domain.

The network structure of these metaphors reflects what Kövecses (2002, p. 67) terms 'the scope of metaphor': the capacity of a single source domain – here, the kinship domain of brotherhood – to structure multiple, distinct target domains through systematic variation in the aspects of the source domain that are highlighted and suppressed in each mapping. The relative productivity of different metaphors varies cross-culturally: English brotherhood exhibits particularly strong elaboration of the UNITY and SHARED STRUGGLE metaphors in secular and political discourse, while Uzbek birodarlik most richly develops the SPIRITUAL DUTY and COMMUNAL CARE metaphors, reflecting the different historical trajectories of Enlightenment secularism and Islamic communalism.

4. Discussion

The foregoing analysis demonstrates that brotherhood constitutes not a simple kinship term but a prototype-structured conceptual system with a stable nuclear frame and a richly variable extended periphery. The nuclear frame – characterised by the universal semes [+human], [+male], [+bond], and [+solidarity] – reflects what Murdock (1949) and Wierzbicka (1992) have independently argued: that the recognition and marking of male fraternal bonds constitutes a universal feature of human social organisation. The universality of the nuclear frame suggests that it is grounded in shared

human experience – the recurrent social significance of brotherly alliance – rather than in any particular cultural tradition.

The variability of the extended frames, by contrast, reflects the profound shaping influence of cultural history on conceptual elaboration. The Age-Differentiated Brotherhood frame of Uzbek, absent from English, reflects the Islamic reinforcement of gerontocratic hierarchy and its institutionalisation in patriarchal family structures – confirming Wierzbicka's (1992, p. 54) argument that kinship terminological systems are 'culturally self-contained' in the sense that their internal differentiation reflects the culturally specific values of the communities that employ them. The Political Brotherhood frame of English, by contrast, reflects the Enlightenment detachment of fraternal discourse from religious grounding and its subsequent appropriation by socialist, nationalist, and civil rights movements – a trajectory that has no direct equivalent in the Uzbek conceptual tradition.

These findings have significant implications for translation and cross-cultural communication. When the Uzbek expression *jon birodar* ('soul-brother') is rendered as 'close friend' in English, the spiritual and moral depth encoded in the Spiritual Brotherhood frame is lost; conversely, when the English term *brotherhood* is translated as *birodarlik* in a political text, the secular and universalist connotations of the Political Brotherhood frame risk importing unintended religious meaning (Yusupov, 2013). Such mismatches cannot be resolved by lexical substitution alone; they require what Zuckermann (2020, p. 89) terms 'conceptual transposition' – a translation strategy that attends to the full frame-semantic architecture of the source-language expression.

The present analysis also contributes to the theoretical understanding of conceptual systems in cognitive linguistics. The brotherhood system exemplifies the general principle, articulated by Evans and Green (2006, p. 230), that 'concepts are not atomic but structured': their internal organisation reflects experiential, cultural, and

metaphorical pressures that produce prototype effects, radial extension, and cross-domain mapping. The metaphorical network identified here – BROTHERHOOD IS UNITY, BROTHERHOOD IS SPIRITUAL DUTY, BROTHERHOOD IS COMMUNAL CARE, BROTHERHOOD IS SHARED STRUGGLE – illustrates how a single conceptual domain can simultaneously motivate and constrain multiple cross-domain projections, producing a coherent yet flexible system of meaning.

5. Conclusion

This study has demonstrated that brotherhood constitutes a rich and internally structured conceptual system comprising a universal nuclear frame of male solidarity and a set of culturally variable extended frames encoding spiritual duty, political alliance, communal care, and age-differentiated hierarchy. The nuclear frame is motivated by pan-human social experience and characterised by the stable semes [+human], [+male], [+bond], and [+solidarity]; the extended frames are shaped by historical, religious, and ideological factors specific to particular cultural traditions. The metaphorical network organising the system's peripheral zones – BROTHERHOOD IS UNITY, BROTHERHOOD IS SPIRITUAL DUTY, BROTHERHOOD IS COMMUNAL CARE, and BROTHERHOOD IS SHARED STRUGGLE – reflects the capacity of the fraternal kinship domain to structure diverse social and political target domains through systematic cross-domain mapping.

These findings carry both theoretical and practical implications. Theoretically, they support the prototype-based, encyclopaedic account of conceptual structure advanced by cognitive semantics and extend it to the domain of kinship concepts, which have historically been analysed primarily through componential and typological rather than cognitive-linguistic frameworks. Practically, they highlight the inadequacy of lexical equivalence as a translation strategy for culturally embedded conceptual systems and

underscore the need for frame-aware, culturally sensitive approaches to cross-linguistic mediation.

Future research should extend the corpus to spoken and digital registers, where brotherhood discourse is increasingly shaped by social media, political rhetoric, and transnational religious communication. A wider typological scope – incorporating Turkic, Semitic, Romance, and Slavic languages – would enable more robust generalisations about the universal and culture-specific dimensions of the brotherhood conceptual system and illuminate the relationship between linguistic structure, cultural memory, and conceptual organisation.

References

1. Croft, W., & Cruse, D. A. (2004). Cognitive linguistics. Cambridge University Press.
2. Evans, V., & Green, M. (2006). Cognitive linguistics: An introduction. Edinburgh University Press.
3. Fillmore, C. J. (1982). Frame semantics. In *Linguistics in the morning calm* (pp. 111–137). Hanshin.
4. Fillmore, C. J., & Atkins, B. T. (1992). Toward a frame-based lexicon: The semantics of RISK and its neighbors. In A. Lehrer & E. F. Kittay (Eds.), *Frames, fields, and contrasts* (pp. 75–102). Lawrence Erlbaum.
5. Hasanov, B. X. (2018). *Kognitiv tilshunoslik asoslari*. Fan.
6. Kövecses, Z. (2002). *Metaphor: A practical introduction*. Oxford University Press.
7. Kronenfeld, D. B. (2009). *Fanti kinship and the analysis of kinship terminologies*. University of Illinois Press.
8. Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. University of Chicago Press.
9. Merriam-Webster. (2023). Merriam-Webster dictionary. <https://www.merriam-webster.com>

10. Murdock, G. P. (1949). Social structure. Macmillan.
11. Normatov, I. (2021). Fraternal metaphors in Uzbek classical poetry. *Filologiya masalalari*, 4, 87–96.
12. O‘zbek tilining izohli lug‘ati: 5 jildlik. (2006–2008). O‘zbekiston milliy ensiklopediyasi.
13. Oxford University Press. (2023). Oxford English dictionary (3rd ed.).
<https://www.oed.com>
14. Rosch, E. (1978). Principles of categorization. In E. Rosch & B. Lloyd (Eds.), *Cognition and categorization* (pp. 27–48). Lawrence Erlbaum.
15. Taylor, J. R. (2003). *Linguistic categorization* (3rd ed.). Oxford University Press.
16. Turner, M. (1996). *The literary mind: The origins of thought and language*. Oxford University Press.
17. Wierzbicka, A. (1992). *Semantics, culture, and cognition: Universal human concepts in culture-specific configurations*. Oxford University Press.
18. Yusupov, U. Q. (2013). *Qiyosiy tilshunoslikka kirish. O‘qituvchi*.
19. Zuckermann, G. (2020). *Revivalistics: From the genesis of Israeli to language reclamation in Australia and beyond*. Oxford University Press.

DIAGNOSTICS OF SPINE TUMORS

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Annotation: This article reviews the diagnosis and pathophysiology of spinal tumors. Spinal tumors occur in intramedullary, extramedullary, intradural and extradural forms, which cause different clinical symptoms depending on their location and histological composition. Methods such as physical examination, neurological assessment, pulse oximetry, X-ray, computed tomography (CT), magnetic resonance imaging (MRI) and fetal or neonatal echocardiography are important in the diagnostic process. Histological types of tumors include glial, neuroectodermal, meningioma, schwannoma, and metastatic forms, which result in a variety of clinical manifestations. Pathophysiologically, tumors cause regional neuronal dysfunction through compression, hypoxia, and circulatory compromise, and their rapid growth and invasive nature lead to rapid progression of patient symptoms. The article also reviews the efficacy of diagnostic approaches, the role of surgical intervention, and future research directions. This work will serve as a useful resource for rapid and complete detection of spinal tumors in clinical practice and the development of effective treatment strategies.

Keywords: Spinal cord tumors, Intramedullary tumors, Extramedullary intradural and extradural tumors, Pathophysiology, Clinical features, Diagnostics (MRI, CT), Neurological evaluation, Surgery, Metastasis, Glial tumors, Meningioma, Radicular pain

Introduction. Intramedullary tumors (IMTs) are rare tumors of the spinal canal.

The most common types are ependymomas and astrocytomas, with hemangioblastomas being the third most common type. Other types of spinal tumors are relatively rare.(1)

Spinal infection is a rare disease that can have a variety of causes and outcomes. The incidence of this disease varies in different regions of the world and accounts for 2–7% of infections affecting the muscles and bones. Spinal infections can occur in both adults and children, and can affect the vertebral body, intervertebral discs, and the spinal cord. The infection can also spread to nearby soft tissues, the epidural space, or the spinal canal. If the disease affects the intervertebral discs, it is called spondylodiscitis; if the vertebral body is primarily affected, it is called vertebral osteomyelitis or spondylitis. Spinal infections can be life-threatening and can also cause disc damage, spinal instability, and spinal deformities, reducing the patient's quality of life.(2) Primary spinal cord tumors are about 10 times less common than brain tumors, although their tissue structure is similar. Spinal cord tumors are generally divided into three types: extradural, intradural, and extramedullary, and intradural and intramedullary. Extradural tumors are the most common and are often metastases from other sites. Intradural and intramedullary tumors account for 20–30% of all primary spinal tumors. The remaining 70–80% are intradural extramedullary tumors. Intradural tumors occur most frequently in the thoracic spine, followed by the cervical and lumbar regions.(3) The incidence of primary spinal cord tumors (PST) is approximately 2.5–8.5 per 100,000 people per year. This under-reporting of the disease is often due to late or incorrect diagnosis. One of the most dangerous errors in the diagnostic process is mistaking PST for metastasis, because although the spine is a rare site for primary bone tumors, metastases are common. Typically, primary tumors affecting the spine are spinal bone tumors, tumors of the surrounding soft tissues, or tumors of the nervous system, such as schwannomas or neuromas. However, metastases from different organs can affect the spine, causing varying degrees of bone destruction and resulting in local complications such as

vertebral fractures or spinal cord compression.(2)

A number of genetic factors have been associated with intramedullary spinal tumors (IMSCT). Understanding the different genetic alterations can help to better understand the symptoms, progression, and treatment of these tumors. In addition, a brief understanding of the genetic characteristics of the tumors can help to determine how they relate to lesions in other parts of the body. Currently, clinical conditions associated with IMSCT include neurofibromatosis 1 and 2 (NF-1, NF-2) and von Hippel-Lindau disease (VHL).(3)

In newborns, spinal cord injury is rare and often not fully recognized, making it difficult to obtain accurate information about its occurrence and prevalence. Because the causes of the injury vary, the diagnosis is delayed and the treatment and outcome can vary. Depending on the location and extent of the injury, neurological complications can be serious.(4)

Imaging is the most important diagnostic modality in the diagnosis of IMT (intraspinous tumors).

The primary modality used is magnetic resonance imaging (MRI), with other imaging modalities used as adjuncts, such as computed tomography (CT), vascular imaging (Doppler ultrasound, CT or MR angiography, intraarterial angiography), and positron emission tomography (PET/CT, PET/MR). CT myelography was previously used in patients in whom MRI was not possible, but is now rarely used.(1)

Objective:

The aim of this article is to review current diagnostic methods for the early and accurate diagnosis of spinal tumors.

Main article:

Demyelinating diseases of the spinal cord, including multiple sclerosis and neuromyelitis optica spectrum disorder (NMOSD), can sometimes present with a

clinical picture similar to intramedullary tumors. However, such lesions are usually multiple, do not produce a mass effect, and do not enhance strongly with contrast media (only annular enhancement may be observed in the early stages). In cases of uncertainty, MRI of the brain and orbit, as well as clinical signs, electrophysiological studies, and CSF analysis, are essential for making a definitive diagnosis.(1) Recently, the number of infectious diseases of the spine has increased, even in areas previously considered to be cleared. Since some radiological signs of infection can be misinterpreted, they can confuse the physician. Therefore, such diseases should not be ignored when diagnosing spinal tumors. The distinction between spinal tumors and infections is clinically important, as approximately half of all cases of infection are initially misdiagnosed as tumors. (2) Histologically, acute infection is purulent and ill-defined. Suppuration is also present in the subacute stage, but it is localized and manifests as an abscess. In chronic infection, the degree of suppuration is variable and is accompanied by bone remodeling and remodeling. Therefore, it is important to consider the stage of the disease in the differential diagnosis. (2) Hemangioblastomas are small, benign, densely vascularized, and usually solitary tumors, most of which do not exceed one or two vertebral segments. Although they are more common in the cerebellum, they can also occur in the spinal cord, mainly in the posterior or posterolateral part of the spinal canal. Although hemangioblastomas are often incidentally found in the spinal cord, they are often associated with VHL. They account for approximately 2–8% of all intramedullary spinal tumors.(3) Astrocytomas are reddish-gray, shiny, ill-defined, and usually infiltrative tumors. They are the second most common type of intramedullary spinal tumors (IMSCT) in adults, accounting for 30–35% of all tumors, and the most common type in children, accounting for 90% of cases. herefore, tumors in or around the spinal cord can cause severe neurological impairment, causing pain, loss of motor and sensory functions, and autonomic dysfunction, which greatly affects the patient's quality of life.

(6) The Japanese Orthopaedic Association (JOA) scores were used to assess neurological status: cervical myelopathy (JOA-C), thoracic myelopathy (JOA-T), and back pain (JOA-B). These scores were recorded one month before surgery and at the last follow-up, and the difference between the last and preoperative scores was also analyzed. The total JOA-C score is 17 points, of which 8 points are assigned to upper and lower motor functions, 6 points to sensory functions, and 3 points to urinary-rectal function. The JOA-T consists of 11 points and is calculated by subtracting the parameters of the upper extremities from the JOA-C. The JOA-B has a total score of 29: 9 points for 3 subjective symptoms, 6 points for 3 clinical signs, and 14 points for 7 activities of daily living. (7) Many primary spinal tumors, especially astrocytomas, have a poor life expectancy. These tumors are usually associated with a high degree of disability, resulting in paresis, bowel and bladder dysfunction, and sensory impairment. Life expectancy in children is lower than in adults (20–64 years), which is due to the difference in histological subtypes found in the two age groups. (8)

Pathophysiology and tumor types:

Spinal tumors arise from tumor processes that originate in the tissues of the spinal cord and have a variety of clinical manifestations depending on their location and histological composition (1,3,5). Tumors can be intramedullary (within the brain), extramedullary intradural (within the dura, outside the brain), and extradural (outside the dura) (1,3). Intramedullary tumors usually arise from myelin-producing or neuroglial cells, which directly affect brain tissue and cause motor and sensory impairment (1,3). Extramedullary intradural tumors compress nerve roots in the spinal canal and cause radicular pain, muscle weakness, and reflex changes (2,7). Extradural tumors, on the other hand, often present as metastatic or bone tumors, damaging the vertebral structure and causing symptoms through mechanical pressure (2,7). The histological types of tumors are also important. The most common intramedullary tumors are glial

(astrocytoma, ependymoma) and neuroectodermal tumors (1,3). Extramedullary intradural tumors manifest as meningiomas and schwannomas, while extradural tumors are tumors associated with metastases and osteogenesis (1,2,7). Pathophysiologically, tumors cause regional neuronal dysfunction by compressing the spinal cord tissues, hypoxia, and impaired blood flow (3,6). However, the rapid growth and invasive nature of the tumor lead to rapid development of symptoms in the patient and complicate the surgical approach (6)

Clinical signs and symptoms:

Spinal tumors present with a variety of clinical signs, depending on the type, location, and growth rate of the tumor. The most common symptom is back or neck pain, which may radiate into the arms or legs (1,3). The pain is often present at rest and is worse at night (1,3). When spinal tumors compress nerve roots or spinal cord tissue, motor and sensory deficits occur, including muscle weakness, numbness, tingling, and loss or increase of reflexes (1,3). Large tumors or canal stenosis can cause patients to have difficulty walking, balance problems, and fatigue (3). In some cases, especially in the thoracic and lumbosacral segments, tumors can cause autonomic dysfunction, such as difficulty with urination and bowel control (2,3). Notably, spinal tumors often develop slowly, so the initial symptoms may be vague. However, intramedullary tumors tend to develop symptoms more quickly, making early diagnosis important (1,3,4). The identification of clinical signs and symptoms is important in assessing the location and type of tumor and is a key tool in determining subsequent radiological and surgical diagnostic strategies. (1,3,6,7).

Diagnostic methods:

In diagnosing spinal tumors, it is important to first assess the patient's symptoms and clinical signs (2,3). Physicians will examine the patient for pain, reflex changes, and motor and sensory functions (2,3). Neurological examination is the first step in

determining the location and extent of tumors (3,5). Plain radiographs show changes in the vertebral structure but are limited in detecting soft tissue tumors (1,5). Computed tomography (CT) is used primarily to detect extramedullary tumors and bone lesions (1,2). Magnetic resonance imaging (MRI) is the most sensitive and reliable tool for detecting intramedullary and extramedullary intradural tumors (1,3). MRI provides detailed visualization of tumor size, location, invasiveness, and peritumoral changes (1,3,6). The use of contrast agents can better demonstrate tumor vascularity and margins (1,6). Special MRI protocols and echocardiography may be used in neonatal and fetal patients (4). Pulse oximetry and some blood biomarkers support the diagnostic process but are not considered primary tools (4,6).

Nuclear imaging techniques such as PET-CT and SPECT are useful in identifying metastatic or aggressive tumors (2,6). Patients may also have blood tests and inflammatory markers (3,6). Genetic and epigenetic analyses can help characterize tumors and guide treatment strategies (3,6). Intraoperative imaging technologies, such as high-speed OCT and robotic focusing systems, are used to identify tumors and delineate their margins during surgery (6). MRI and CT scans before surgical approaches such as hemilaminectomy can help determine the location and size of tumors (7). Differential diagnosis is also important, as infections and other spinal pathologies can cause symptoms similar to tumors (2). Therefore, clinical assessment, imaging, and laboratory findings are considered together (2,3). The histological type and grade of tumors are determined by biopsy and microscopic examination (1,3,5). This information is necessary to guide treatment strategies and reduce surgical risks (1,3). Neurological monitoring, intraoperative neurophysiological studies, and vascular imaging provide additional support for tumor detection (6,7). A multimodal approach—combining clinical evaluation, imaging, laboratory, and genetic testing—is the most effective diagnostic tool (1–7). This allows for better surgical planning, improved treatment

outcomes, and a more accurate prognosis (1–7). High-resolution MRI protocols also clearly differentiate myelin and neuroglial tissue, which is helpful in identifying intramedullary tumors (1,3). MRI can also assess tumor growth rate and peritumoral edema (1,6). CT angiography is useful in determining the vascularity and invasiveness of tumors (6). Ultrasonography is used in some cases, especially in neonatology and pediatric patients, for rapid imaging (4). Fetal echocardiography allows for the monitoring of neurovascular tumors in fetal patients (4). Laboratory tests can help assess the degree of tumor inflammation and immunological response (3,6). PET-CT can clearly identify the spread of metastatic tumors.

Discussion:

Diagnosis of spinal tumors is a multistep and complex process that involves clinical evaluation, imaging studies, and additional laboratory methods. The literature shows that early diagnosis is crucial in preventing neurological complications and improving treatment outcomes (3,8). Clinically, spinal tumors often present with pain, neurological deficits, and sensory disturbances, but these signs are nonspecific, making diagnosis difficult based on clinical findings alone (3). Therefore, imaging techniques play a key role. Although magnetic resonance imaging (MRI) is the most important imaging modality in modern practice, computed tomography (CT) is of additional importance in the evaluation of bone structures (1,2). MRI can determine the intramedullary, extramedullary, or extradural location of tumors, which is important for differential diagnosis and treatment planning (1,3). At the same time, the use of contrast media can more clearly demonstrate the vascular characteristics of the tumor and its boundaries. CT is especially effective in detecting bone destruction or metastatic processes (2). One of the important diagnostic problems is the differentiation of tumors from infectious and inflammatory diseases. In some cases, imaging features can be similar, which can lead to misdiagnosis (2). Therefore, it is necessary to analyze radiological results in

conjunction with clinical and laboratory parameters. In recent years, new diagnostic technologies, including intraoperative imaging and high-resolution optical methods, allow for real-time assessment of tumors (6). This helps to increase the accuracy of surgical intervention and preserve healthy tissue to the maximum extent. Historically, spinal tumors were mainly detected at late stages and were based on limited diagnostic methods (5). Nowadays, thanks to a comprehensive diagnostic approach, the possibility of early detection of the disease and the development of an individual treatment strategy has expanded. Thus, a single method is not enough to diagnose spinal tumors. The most effective approach is a comprehensive and multidisciplinary evaluation that includes clinical, radiological and modern technologies (1,2,3,8).

Conclusion:

Diagnosis of spinal tumors is one of the important and complex issues in modern medicine. Studies show that early and accurate diagnosis is crucial for preserving the neurological status of patients and increasing the effectiveness of treatment. In addition to clinical assessment, imaging methods, especially magnetic resonance imaging (MRI), play a key role in the diagnostic process. MRI has a high accuracy in determining the location, size and spread of tumors and plays an important role in differential diagnosis. At the same time, computed tomography (CT) provides additional information in determining the damage to bone structures. Nevertheless, it remains difficult to distinguish tumors from infectious and other pathological processes in some cases, which indicates the need for an integrated approach. The development of modern technologies expands the possibilities of increasing diagnostic accuracy and choosing an individual treatment strategy.

In conclusion, the most effective approach to detecting spinal tumors is a comprehensive diagnostic system that includes clinical, radiological and innovative methods.

References:

1. Szaśiadek M, Romanowski C, Jacków-Nowicka J. Imaging of intramedullary tumors of the spinal cord. *Pol J Radiol*. 2024 Nov 15;89:e531-e540. doi: 10.5114/pjr/192424. PMID: 39777329; PMCID: PMC11705043.
2. Compagnone D, Cecchinato R, Pezzi A, Langella F, Damilano M, Redaelli A, Vanni D, Lamartina C, Berjano P, Boriani S. Diagnostic Approach and Differences between Spinal Infections and Tumors. *Diagnostics (Basel)*. 2023 Aug 23;13(17):2737. doi: 10.3390/diagnostics13172737. PMID: 37685273; PMCID: PMC10487270.
3. Samartzis D, Gillis CC, Shih P, O'Toole JE, Fessler RG. Intramedullary Spinal Cord Tumors: Part I-Epidemiology, Pathophysiology, and Diagnosis. *Global Spine J*. 2015 Oct;5(5):425-35. doi: 10.1055/s-0035-1549029. Epub 2015 Mar 31. PMID: 26430598; PMCID: PMC4577312.
4. Gumayan RLF, Zarei S, Ortiz M, Spagnolo K, Christoffel K. Neonatal spinal cord injury. *NeoReviews*. 2025;26(11):e730–e742. doi:10.1542/neo.26-11-067
5. Dandy WE. THE DIAGNOSIS AND LOCALIZATION OF SPINAL CORD TUMORS. *Ann Surg*. 1925 Jan;81(1):223-54. doi: 10.1097/00000658-192501010-00020. PMID: 17865169; PMCID: PMC1400153.
6. He B, Ying Y, Shi Y, Meng Z, Yin Z, Chen Z, Hu Z, Xue R, Jing L, Lu Y, Sun Z, Man W, Wu Y, Lei D, Zhang N, Wang G, Xue P. Intraoperative Fast Adaptive Focus Tracking Robotic OCT Enables Real-Time Tumor G

RISK MANAGEMENT IN THE WHEAT INDUSTRY OF UZBEKISTAN AND THE DEVELOPMENT OF ITS STRATEGY

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Abstract. Wheat is the strategic food-security commodity of Uzbekistan. According to FAO, aggregate cereal production in 2025 reached an above-average 8.9 million tonnes, yet the country still imports around 22 percent of annual consumption from Kazakhstan. Building on ISO 31000 and COSO ERM, this thesis systematically analyses the main sectoral risks — climatic, water, soil salinisation, price volatility, import dependence, and agro-biotic — and proposes a three-tier (micro–meso–macro) risk-management strategy. The analysis draws on Scopus-indexed sources together with FAO GIEWS, the World Bank, USDA FAS, and the State Statistics Committee of Uzbekistan.

Keywords: *wheat, food security, agricultural risk, drought, soil salinisation, ISO 31000, COSO ERM, Uzbekistan, cluster, import dependence.*

Introduction

Wheat anchors both the Uzbek diet and the country's food-security policy. Following the post-independence expansion of the cereal sector, sown area grew from 0.63 million hectares in 1991 to 1.31 million hectares by 2019, with average yields stabilising around 4.6 t/ha [1]. FAO estimates 2025 cereal output at 8.9 million tonnes, of which 7.3 million tonnes are wheat [2]. Despite this growth, three structural pressures threaten long-term sustainability. First, Central Asia is among the regions most exposed to climate change, with projected wheat-yield losses of 13–32 percent by 2050 [3]. Second, irrigated agriculture accounts for 90 percent of national water withdrawals while flows in the

Amu Darya and Syr Darya basins are declining [4]. Third, the abolition of the state procurement system in 2022 has shifted farmers into a transition period requiring market adaptation [5]. Without a systematic risk-management framework, the gross margin of private wheat producers — currently around USD 273/ha [1] — remains highly vulnerable. The relevance of this study lies in adapting ISO 31000 [6] and COSO ERM [7] to Uzbek conditions to deliver an evidence-based response to these compound risks.

Methodology

The study uses a mixed-methods secondary data design. Sources are organised in three tiers: (i) Scopus- and Web-of-Science-indexed publications; (ii) reports from international organisations (FAO GIEWS, the World Bank, USDA FAS, UNEP, IFPRI, ICARDA); and (iii) open data from the State Statistics Committee and the Ministry of Agriculture of Uzbekistan, covering 2013–2025 with selected long-run series from 1991. Analytical techniques include structured literature review (PRISMA), an ISO 31000-based probability × impact risk matrix, and triangulation of quantitative indicators across independent sources, with the most recent international data prioritised in cases of conflict.

Results and Discussion

The analysis reveals a dual dynamic: while output and yields have continued to grow, structural vulnerabilities — import dependence, water scarcity, and thin farm-level margins — persist. Six risk categories are identified using the Hardaker et al. typology [8] and the ISO 31000 framework: climatic, water, soil-salinisation, market and price, import-and-geopolitical, and institutional risk.

Climatic and drought risk dominate the exposure profile. Uzbekistan ranks among the world's twenty most drought-prone countries [4], and rainfall in the main grain regions in October–November 2024 fell 20 percent below average, materially affecting the 2025 winter-wheat harvest [2]. Each 1°C increase during the flowering stage can

reduce yield by up to 20 percent [9]. Water scarcity reinforces this exposure: water productivity is among the world's lowest (USD 0.6 per m³ versus a global average of USD 15 per m³) [10]. Soil salinisation now affects roughly 60 percent of pastureland [11], and integrated climate–salinity modelling projects a substantial wheat supply–demand gap by the end of the twenty-first century under SSP3-RCP4.5 [12].

Market risks have intensified during the post-2020 liberalisation. After the abolition of state procurement and price controls in 2022, regional wheat-price re-equilibration following a shock now takes 2.3 months, directly straining farmers' working capital [13]. On the import side, wheat and flour imports reached around 3.5 million tonnes in 2024/25, with flour imports rising 70 percent over the decade and Kazakhstan acting as a single dominant supplier [14] — a textbook single-supplier vulnerability that periodic Kazakh export restrictions have already exposed. Institutional risk persists despite the formal end of state procurement: research conducted in 2023–2025 documents that, at the district level, farmers are in some cases still pressured to sell to a designated cluster [15], constraining price discovery and customer choice.

Proposed Three-Tier Risk-Management Strategy

Because these risks are systemic, they cannot be resolved at the farm level alone. Adapting ISO 31000:2018 [6] and COSO ERM [7] to Uzbek conditions, the thesis proposes a three-tier strategy.

Micro tier (farm/cluster): introduction of drought-tolerant wheat varieties developed with ICARDA [1], drip irrigation (subsidised since 2022), crop rotation (cotton–wheat–legumes), and precision-agriculture practices.

Meso tier (markets and financial instruments): weather-index insurance, credit-linked insurance bundles, the development of a regional grain exchange to enable forward and futures contracts, and transparent management of state strategic reserves [13].

Macro tier (state policy and institutional framework): elimination of the de facto remnants of state procurement [15], adoption and localisation of a National Drought Management Plan, financing of national AKIS centres [1], diversification of import sources beyond Kazakhstan (Russia, Pakistan), and WTO-aligned trade policy.

Conclusion

Three findings stand out. First, although wheat-sector output has consolidated at 7.3 million tonnes in 2025, climate change and water scarcity threaten long-term sustainability; without localised adaptation, the projected 13–32 percent yield decline [3] is highly likely. Second, the 2018–2022 price liberalisation was strategically correct but introduced new transitional risks — price volatility, weak regional market integration, and the persistence of de facto cluster ties [13], [15] — that limit the effectiveness of farm-level technical solutions until they are addressed at the institutional and macro levels. Third, the proposed three-tier strategy aligned with ISO 31000 [6] and COSO ERM [7] offers a coherent path to long-term economic and food-security objectives, contingent on building a high-quality farm-level data infrastructure, removing residual procurement coercion, and developing a functioning regional grain market. The principal limitation of this study is its reliance on secondary data; farm-level primary research using panel data is the necessary next step to consolidate these findings into a quantitative model.

References

1. Yigezu, Y.A. and Bishaw, Z. (eds.) (2022) Wheat sector in Uzbekistan: seed systems, varietal adoption, and implications. Beirut: ICARDA.
2. FAO (2025) GIEWS country brief: the Republic of Uzbekistan. Rome: FAO.
3. Sutton, W.R., Srivastava, J.P., Neumann, J.E. et al. (2013) Reducing the vulnerability of Uzbekistan's agricultural systems to climate change. Washington, D.C.: World Bank.

4. UNEP (2025) Atlas of environmental change for Uzbekistan. Nairobi: UNEP.
5. World Bank (2022) Uzbekistan: review of agriculture strategy implementation in 2020 and 2021. Washington, D.C.: World Bank.
6. ISO (2018) ISO 31000:2018 Risk management — guidelines. Geneva: ISO.
7. COSO (2017) Enterprise risk management — integrating with strategy and performance. Durham, NC: COSO.
8. Hardaker, J.B., Lien, G., Anderson, J.R. and Huirne, R.B.M. (2015) Coping with risk in agriculture: applied decision analysis. 3rd edn. Wallingford: CABI.
9. Asseng, S., Ewert, F., Martre, P. et al. (2015) 'Rising temperatures reduce global wheat production', Nature Climate Change, 5(2), pp. 143–147.
10. World Bank (2025) Uzbekistan irrigation and drainage modernization project. Washington, D.C.: World Bank.
11. UNEP (2025) Atlas of environmental change for Uzbekistan: pastureland productivity. Nairobi: UNEP.
12. Bobojonov, I., Berg, E., Djanibekov, N. et al. (2024) 'Can domestic wheat farming meet the climate change-induced challenges of national food security in Uzbekistan?', Water International, 49(7–8), pp. 945–966.
13. Zorya, S., von Cramon-Taubadel, S., Mu, Y. and Barrantes, C. (2020) Study of wheat and flour market integration in Uzbekistan. Washington, D.C.: World Bank.
14. FAO (2025) GIEWS country brief: Uzbekistan — wheat import requirements and trade flows, marketing year 2024/25. Rome: FAO.
15. Human Rights Watch (2026) 'Farmers have no freedom': abuse and exploitation of cotton and wheat farmers in Uzbekistan. New York: HRW.

Improving reading skills through effective strategies

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Annotation

This article explores the importance of effective strategies in developing students' reading skills. It focuses on cognitive and metacognitive approaches, highlighting strategies such as predicting, questioning, visualizing, and summarizing to improve text comprehension. The role of the teacher, individualized instruction, and consistent practice are also discussed. The findings indicate that the systematic use of these strategies enhances both reading speed and comprehension.

Keywords: reading skills, effective strategies, cognitive approach, metacognitive approach, text comprehension.

Annotatsiya. Mazkur maqolada o'quvchilarning o'qish ko'nikmalarini rivojlantirishda samarali strategiyalarning ahamiyati tahlil qilinadi. Unda kognitiv va metakognitiv yondashuvlar asosida predicting, questioning, visualizing hamda summarizing kabi strategiyalarning matnni anglash jarayonidagi o'rnini yoritiladi. Shuningdek, o'qituvchining yo'naltiruvchi roli, individual yondashuv va muntazam mashg'ulotlarning samaradorligi ko'rsatib o'tiladi. Tadqiqot natijalari ushbu strategiyalarni tizimli qo'llash o'qish tezligi va tushunish darajasini oshirishini tasdiqlaydi.

Kalit so'zlar: o'qish ko'nikmasi, samarali strategiyalar, kognitiv yondashuv, metakognitiv yondashuv, matnni tushunish.

Аннотация. В статье рассматривается значение эффективных стратегий в развитии навыков чтения у учащихся. Освещаются когнитивные и метакогнитивные подходы, а также такие стратегии, как прогнозирование, постановка вопросов, визуализация и обобщение, способствующие пониманию текста. Отмечается роль учителя, индивидуальный подход и регулярная практика. Результаты показывают, что систематическое применение данных стратегий повышает скорость чтения и уровень понимания текста.

Ключевые слова: навыки чтения, эффективные стратегии, когнитивный подход, метакогнитивный подход, понимание текста.

Good readers are actively involved with the text, and they are aware of the processes they use to understand what they read. Teachers can help improve student comprehension through instruction of reading strategies. Predicting, making connections, visualizing, inferring, questioning, and summarizing are strategies shown by research to improve reading comprehension (Block & Israel, 2005). It is important to teach the strategies by naming the strategy and how it should be used, modelling through the think-aloud process, group practice, partner practice, and independent use of the strategy (Duke & Pearson, 2005).

Predicting. In order to be a good reader, learners should set a goal for their reading; therefore good readers have a purpose for reading. One strategy for improving comprehension is predicting, which helps the reader set a purpose for their reading. Research has shown that good readers use their experiences and knowledge to make predictions and formulate ideas as they read. This strategy also allows for more student interaction, which increases student interest and improves their understanding of the text. It is important to compare the outcome in the actual text with the prediction process as it will lead the learner to improve his understanding. Without this aspect of prediction process, it becomes meaningless to improve the student's comprehension. Some of the

approaches for teaching predicting are teacher modeling, predicting throughout the text; with partners, with a graphic organizer, or using post-it notes throughout the text. Using the title, table of contents, pictures, and key words is one prediction strategy. Another key prediction strategy is to have students predict at specific points through the text, evaluate the prediction, and revise predictions if necessary.

Visualizing. Another strategy that the good readers employ when comprehending a text is visualization. Visualization requires the reader to construct an image of what is read. This image is stored in the reader's memory as a representation of a reader's interpretation of the text.

Teachers can motivate students to visualize settings, characters, and actions in a story and ask them to make drawings or write about the image that come to their minds after visualizing the text.

Making Connections. Making connections is another strategy that can be used in the reading process. By making connections, the learners can activate their prior knowledge and connect the ideas in the text to their own experiences. Reading becomes meaningful when the reader connects the ideas in the text to their experiences and beliefs, and the things happening in the outer world.

Text-to-Self: Refers to connections made between the text and the reader's personal experience. Text-to-Text: Refers to connections made between a text being read to a text that was previously read. Text-to-World: Refers to connections made between a text being read and something that occurs in the world.

Students can make text-to-text connections through drawing, making a chart, writing, and graphic organizers. These text-to-text connections could be based upon how characters in the story relate to each other, or how story elements relate between stories. Students can make text-to-world connections through drawing, making a chart, writing, or graphic organizers. Text-to-world connections could be done by comparing

characters in a story to characters today or comparing the content of the text to the world today. Giving a purpose to students' reading by asking them to find connections would help them comprehend the ideas better in the text.

Summarizing. The process of summarization requires the reader to determine what is important when reading and to condense the information in the readers own words (Adler, 2001). During the summarizing process, the students will be able to distinguish the main ideas from the supporting ideas. Distinguishing the related knowledge from the unrelated ones is another point in the summarizing process which will help the students' capacity to improve text comprehension. Summarizing is a strategy which helps the students to organize the ideas even in the long reading passages which are usually perceived as threat for the students.

Questioning. Readers can use the questioning before, during, and after reading. The questioning process requires readers to ask questions of themselves to construct meaning, enhance understanding, find answers, solve problems, find information, and discover new information. In this strategy, the students return to the text throughout the reading process to find the answers to the questions asked by the teacher before, during and after the reading. By this strategy, students practice to distinguish between questions that are factual, inferred, or based on reader's prior knowledge. By using the student generated questioning strategy; text segments are integrated and thereby improve reading comprehension

Inferring. Inferring refers to reading between the lines. Students need to use their own knowledge along with information from the text to draw their own conclusions. Through inferring students will be able to draw conclusions, make predictions, identify underlying themes, use information to create meaning from text, and use pictures to create meaning. Students can be given techniques to use illustrations, graphs, pictures, dates, related vocabulary and titles from the text to make inferences.

Conclusion. Reading is a skill that will empower everyone who learns it. They will be able to benefit from the store of knowledge in printed materials and, ultimately, to contribute to that knowledge. Good teaching enables students to learn to read and read to learn. The role of the teacher in the teaching-reading process should be of a companion rather than the boss. Teaching can be interesting and innovative if the efforts are put in to make learning an enjoyable experience.

Successful teaching is where effective learning takes place with the use of appropriate knowledge, the right emotion and accurate application of scientific devices. With consistent progress in science and technology and other areas of study, it is the duty of the teacher to adopt the best methods and employ the best devices to ensure rapid growth in the teaching process. Teachers must be aware of the progress that students are making and adjust instruction to the changing abilities of students. Both research and classroom practices support the use of a balanced approach in instruction. Because reading depends on efficient word recognition and comprehension, instruction should develop reading skills and strategies, as well as build on learners' knowledge through the use of authentic texts. Similarly, the most effective way of dealing with the problem of cultural meaning in texts is to encourage students to read by themselves, choosing subjects related initially to their own interests so that they bring motivation and experience to reading. As their understanding of other cultures and of unfamiliar views increases through reading, they will bring to their reading activities a gradually increasing capacity to understand the full meaning of texts.

Bibliography:

1. Adams, Marilyn Jager. Beginning to Read: Thinking and Learning about Print, MIT Press, 1990, p. 27.
2. Alderson J.C. & Urquhart A.H. (eds.). Reading in a foreign language. London: Longman, 1984.

3. Alderson J.C. Reading in a foreign language: a reading problem or a language problem? // Alderson J.C. & Urquhart A.H. (eds.). Reading in a foreign language. London: Longman, 1984. P. 1-24.
4. Aldridge, M. (1989). Student questioning: A case for freshman academic empowerment. RTDE, 5 (2), 17-24.
5. Anisfeld, M. (1987). A course to develop competence in critical reading of empirical research in psychology. Teaching of Psychology, 14, 224-227.
6. Baker, L. & Brown, A. (1984). Cognitive monitoring in reading. In J. Flood (Ed.), Understanding Reading Comprehension. Newark, DE: International Reading Association.
7. Collins, N. & Smith, C. (1990). Role of metacognition in reading to learn. (ERIC Document Reproduction Service No. ED 333 386)
8. Carrell P.L., Devine J. & Eskey D.E. (eds.). Interactive Approaches to Second Language Reading. Cambridge: Cambridge University Press, 1988.
9. Chamberlain, K. & Burrough, S. (1985). Techniques for teaching critical reading. Teaching of Psychology, 12, 213-215.
10. Clarke M.A. The short circuit hypothesis of ESL reading - or when language competence interferes with reading performance // Carrell P.L., Devine J. & Eskey D.E. (eds.). Interactive Approaches to Second Language Reading. Cambridge: Cambridge University Press, 1988. P. 114-124.
11. www.ziyonet.uz
12. www.edu.uz
13. www.pedagog.uz
14. <http://www.pdf-finder.com/The-importance-of-reading-English-for-EFL-language-learners-can-not-be.html/>

Optimization of Consumer Rights Protection Frameworks in the E-commerce Ecosystem: Legal Precedents and Preventive Risk Mitigation Strategies

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Abstract. The shift to digital commerce demands a radical reappraisal of consumer protection mechanisms. This study investigates systemic online transactional vulnerabilities, emphasizing information asymmetry and deceptive digital architectures. Synthesizing legislative frameworks with empirical behavioral observations, the research identifies critical market failures, from opaque algorithmic pricing to withdrawal right erosion. Analyzing 450 digital dispute cases reveals that 62% of violations originate from ambiguous terminology and the deployment of "dark patterns" circumventing informed consent. Employing a comparative analysis of Uzbekistan's "On Consumer Rights Protection" Law against EU directives, the findings demonstrate the inadequacy of traditional liability models for third-party platforms. The study necessitates mandatory algorithmic transparency and standardized electronic dispute resolution (EDR) protocols. Transitioning to a proactive regulatory stance, this paper argues that the digital economy's sustainability relies on cognitive-behavioral end-user protection. This research provides a strategic roadmap for harmonizing e-commerce with equity and legal certainty.

Keywords: Digital Consumer Law, E-commerce Regulation, Dark Patterns, Algorithmic Transparency, Information Asymmetry, Consumer Redress, Digital Contract Enforceability.

Introduction

The proliferation of electronic commerce has triggered a paradigm shift in trade, erasing physical boundaries and accelerating transactional velocity. Recent metrics indicate an 18.4% annual B2C growth rate in Uzbekistan's digital market. This economic acceleration heavily exposes systemic flaws in the traditional "caveat emptor" principle, which fails against sophisticated digital marketing. Historically, consumer law relied on tangible goods and physical presence, whereas modern marketplaces utilize intangible interfaces and complex algorithms. This evolution exposes a critical research gap: current legislation theoretically governs online purchases, but practical enforceability collapses across multi-layered digital platforms.

The core systemic vulnerability remains the profound information asymmetry between technically proficient vendors and average consumers. Digital storefronts leverage behavioral economics, rendering "informed consent" a legal fiction rather than a psychological reality. This study deconstructs specific online acquisition risk factors, scrutinizing the intersection of jurisprudence and technology. The primary objective is to establish a multidimensional framework identifying deceptive practices and reinforcing protective barriers, strategically empowering the consumer within digital environments designed primarily for corporate efficiency.

Materials and Methods

Utilizing a mixed-methods design, this 12-month study combined comparative legal analysis with empirical socio-legal investigations of consumer experiences within the Namangan region and national markets. A stratified sample of 450 respondents (spanning digital natives to demographics aged 55+) quantified the frequency of online

rights violations. Participants required active engagement in at least five recent digital transactions.

The theoretical framework analyzed Uzbekistan's Laws "On Consumer Rights Protection" and "On Electronic Commerce," benchmarking them against EU Directive 2011/83/EU and OECD E-commerce Guidelines. Focus areas included statutory definitions of "withdrawal rights" and "data privacy." Statistical evaluation utilized descriptive and inferential modeling to correlate platform types with dispute resolution success rates.

Variables encompassed the clarity of terms, verifiable contact data, return policy accessibility, and secure payment integration. Additionally, 120 documented cases from the Territorial Departments of the Agency for Consumer Rights Protection were coded via qualitative content analysis. Quantitative regression models subsequently assessed how digital literacy impacts claim success, ensuring the aggregated findings are theoretically robust and practically applicable.

Results

Evidentiary findings expose a complex architecture of systemic failures in online retail. Quantitatively, 68% of surveyed consumers abandoned reading full "Terms and Conditions" due to "click-wrap" fatigue and obfuscatory terminology. Among aggrieved users, merely 22% secured full refunds through internal platform mechanisms, highlighting a stark disconnect between legal mandates and operational reality.

Analysis identified three distinct observational phases. First, the "Pre-Contractual Information Phase" revealed that 54% of social media-based retailers (Instagram/Telegram) completely lacked verifiable legal entity details, facilitating direct liability evasion. Simultaneously, 37% of these platforms presented inaccurate technical product specifications, violating transparency laws.

Second, concerning "Digital Contract Formation and Dark Patterns," 42% of registered e-commerce entities deployed "scarcity cues" and fabricated "social proof" to manipulate consumer urgency. These deceptive architectures undermine the cognitive freedom necessary for valid contracting. Metrics demonstrate consumers subjected to high-pressure dark patterns were 3.5 times more likely to report product dissatisfaction compared to users navigating transparent interfaces.

Finally, assessing "Post-Purchase Redress," despite the statutory 14-day return guarantee for non-food items, over 70% of sampled vendors enforced "hidden costs," such as non-refundable processing fees or mandatory store credit. Regression analysis ($p < 0.05$) indicated a statistically significant correlation between the absence of integrated electronic payment systems and fund reclamation difficulties. Vendors relying exclusively on "cash on delivery" or direct peer-to-peer transfers exhibited a 90% higher refusal rate for return requests, effectively bypassing institutional banking protections.

Discussion

The digital marketplace functions within a state of "regulated anarchy," where technological velocity outstrips static legal codification. The systemic failure of internal redress mechanisms exposes fundamental flaws in the self-regulation model. Theoretically, this aligns with Information Asymmetry Theory; vendors monopolize algorithmic knowledge while consumers operate under bounded rationality. The documented prevalence of dark patterns constitutes a severe, systemic breach of the "duty of fair dealing."

Comparatively, these findings precisely mirror international literature. Luguri and Strahilevitz (2021) demonstrated the pervasive efficacy of dark patterns in misleading US consumers, a domain where legal definitions of fraud historically lag. Conversely, the EU's GDPR and Digital Services Act proactively mandate "privacy by design."

Current data indicates Uzbekistan's framework, while progressively adapting, requires specific statutory language addressing "behavioral manipulation" and "algorithmic accountability."

Cross-border jurisdictional limitations severely restrict consumer protection. When localized consumers purchase from disparate legal jurisdictions, the cost of recourse generally exceeds the transaction value, fostering a "rational apathy" seamlessly exploited by unscrupulous vendors. Consequently, international treaty harmonization and the integration of blockchain-based smart contracts are vital to automate escrow and return protocols, neutralizing the human element of non-compliance.

Scientific Novelty and Practical Significance

This study introduces a novel "Digital Consumer Risk Matrix," categorizing e-commerce threats via psychological impact and legal remediability, offering a granular analysis of algorithmic "legal gray zones." Practically, it delivers actionable guidelines for educational institutions, such as the Namangan Region Academic Lyceum, to embed "Legal Digital Literacy" within academic curricula. The research advocates for a mandatory "Electronic Trust Label" for domestic vendors, contingent upon rigorous annual audits of return and data practices. These parameters provide a strategic foundation for targeted legislative amendments banning specific dark patterns and mandating standardized ODR (Online Dispute Resolution) integration.

Conclusion

Protecting consumer rights in the digital epoch demands transitioning from reactive litigation to structural technological accountability. The sustainability of the digital economy hinges entirely on institutional trust between consumers and virtual vendors. Legislative frameworks must transcend traditional 14-day return paradigms to proactively combat insidious algorithmic biases and deceptive interfaces. The strategic imperative remains ensuring digital convenience never compromises fundamental legal

certainties. By institutionalizing absolute transparency and robust electronic dispute resolution protocols, the digital marketplace can seamlessly transform from a landscape of unregulated opportunism into a legally predictable, equitable extension of the social contract.

References

1. Uzakov, K. A. Legal Challenges of E-commerce in Central Asia: A Comparative Analysis. *Journal of Digital Jurisprudence*. 2022; 8(2): 145-162.
2. Luguri, J., Strahilevitz, L. J. Shining a Light on Dark Patterns. *Journal of Legal Analysis*. 2021; 13(1): 43-109.
3. Agency for Consumer Rights Protection of Uzbekistan. Annual Report on Digital Market Grievances. Tashkent: State Printing. 2023.
4. European Commission. Directive 2011/83/EU on Consumer Rights: Implementation and Effectiveness. Brussels: EU Publications. 2021.
5. Rakhimov, M. S. Jurisprudential Aspects of Online Contract Enforceability in the Republic of Uzbekistan. *Central Asian Law Review*. 2022; 15(4): 88-104.
6. OECD. Guidelines for Consumer Protection in E-commerce. Paris: OECD Publishing. 2020.
7. Karimov, B. N. Information Asymmetry in Digital Transactions: A Socio-Legal Study. Tashkent State University of Law Press. 2023.
8. UNCTAD. Manual on Consumer Protection. New York: United Nations. 2021.
9. Helberger, N. The Political Economy of Consumer Protection in the Digital Age. *European Journal of Law and Technology*. 2022; 13(3): 12-34.
10. Tulyakov, A. Digital Transformation and the Evolution of the Law of Obligations. *Uzbekistan Legal Studies*. 2023; 10(1): 55-72.
11. Wood, A. Caveat Emptor in the Age of Algorithms. *Yale Law & Policy Review*. 2021; 39(2): 215-260.

Didactic Games in Primary Schools and Their Types

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Abstract. Contemporary pedagogy recognizes structured play's cognitive utility, yet empirical categorizations of didactic interventions remain heavily fragmented. This study investigates the differential impacts of cognitive-constructivist, socio-dramatic, and rule-based competitive games on academic retention and engagement. Utilizing an 18-week longitudinal quasi-experimental design, 214 primary students (ages 7-9) were rigorously analyzed. Implementing standardized interventions integrated into daily curricula, specific outcomes were measured via targeted assessments and observational metrics. Generalized linear mixed models precisely isolated variances attributable to specific game types. Findings demonstrate that rule-based competitive games generated the highest immediate recall rates (31.4% improvement, $p < 0.01$). Socio-dramatic frameworks exhibited superior long-term retention of complex linguistic concepts (28.7% sustained improvement). Cognitive-constructivist games significantly enhanced spatial reasoning, increasing multi-step problem-solving speeds by 41.2%. The data robustly confirms that non-homogenous applications of gamified didactics yield highly domain-specific cognitive advantages, necessitating selective deployment strictly tailored to targeted learning objectives.

Keywords: Didactic Interventions, Cognitive Scaffolding, Early Childhood Pedagogy, Gamification Typologies, Executive Function, Constructivist Learning, Intrinsic Motivation.

Introduction. Early childhood cognitive development relies inextricably on interactive mechanisms, positioning structured play as an essential developmental architecture. Historically, didactic games have served as auxiliary tools, routinely treated as monolithic, uniform entities. Educators frequently deploy gamified elements

indiscriminately to boost immediate morale, bypassing the precise structural nuances inherent in distinct game formats. Recent literature lacks rigorous typological stratification; most empirical studies evaluate gamification as a singular independent variable, masking the mechanical triggers that drive specialized learning. This study addresses this pronounced gap by structurally isolating three distinct game typologies: rule-based competitive, cognitive-constructivist, and socio-dramatic interventions. The primary objective is to definitively quantify their differential impacts on targeted academic metrics, actively transitioning gamification from a generalized strategy to a highly specific, surgically applied cognitive tool.

Materials and Methods. This high-fidelity longitudinal quasi-experimental study spanned an 18-week semester. A stratified random sample comprised 214 students (ages 7-9) drawn methodically from comparable socioeconomic baselines. The cohort was divided into three intervention groups and one active control group ($n = 53$). Group A ($n = 54$) engaged in rule-based competitive games prioritizing arithmetic fluency; Group B ($n = 53$) utilized cognitive-constructivist physical puzzles targeting structural logic; Group C ($n = 54$) participated in immersive socio-dramatic role-play demanding narrative construction. Interventions occurred thrice weekly for precisely 25 minutes. Data collection included domain-specific academic assessments, continuous Behavioral Indicators of Engagement in Learning (BIEL) metrics, and executive function tests (Corsi Block-Tapping, Stroop). Raw data sets were processed utilizing generalized linear mixed models (GLMM) with alpha thresholds established rigidly at $p < 0.05$.

Results. Baseline preliminary assessments confirmed absolute statistical parity across all cohorts ($F(3, 210) = 1.12, p = 0.34$). Post-intervention, radically divergent trajectories materialized. Group A demonstrated exceptional efficacy in domains requiring strict automaticity; basic arithmetic fluency scores increased by 38.9% ($p < 0.001$), though these rapid recall gains experienced a 14% attrition rate within a four-

week non-intervention decay period. Group B induced profound structural advancements in spatial-temporal reasoning. Participants exhibited a working memory span increase from 4.2 ± 0.6 to 5.8 ± 0.5 blocks and a 41.2% ($p < 0.01$) improvement in multi-step problem-solving capacity. Group C produced distinct psycho-social outcomes, outperforming other cohorts in abstract linguistic reasoning by 24.5% ($p < 0.05$) and achieving peak classroom engagement of 91%. Conceptual understanding in Groups B and C demonstrated psychological stability, actively preventing the rapid synaptic decay associated with surface-level memorization.

Discussion. The starkly divergent academic trajectories firmly substantiate the necessity of a strict typological approach to educational gamification. The dramatic efficacy of competitive games mirrors operant conditioning models characterized by high-frequency repetition and immediate psychological feedback loops (Henderson et al., 2022). The substantial structural expansion in working memory via constructivist play corroborates embodied cognition tenets, systematically forcing the generation of dynamic mental models. The powerful socio-dramatic outcomes emphasize the irreplaceable role of emotional context, securely anchoring pedagogical content via episodic memory pathways (Martinez & Rossi, 2021). Methodological limitations inherently include the geographically restricted demographic within the Khorezm region and the 18-week duration, necessitating extended multi-year tracking frameworks to evaluate the definitive persistence of these isolated cognitive advantages.

Scientific Novelty and Practical Significance

This research systematically dismantles the outdated, monolithic view of educational games, establishing a precisely quantified taxonomy linked directly to specific cognitive outcomes. School administrations must immediately pivot from utilizing games as generalized motivational tools to actively deploying them as highly targeted cognitive interventions. Educators should construct lesson plans that

strategically align structural mechanics directly with precise pedagogical objectives. Implementing a rigorous, targeted application of didactic games ensures that critical neuroplasticity during this developmental window is maximized efficiently. Adopting this granular scientific approach significantly elevates structural literacy and numeracy benchmarks globally.

References

1. Henderson AL, Davies RK. Digital rapid-response gamification and operant conditioning in early mathematics. *J Educ Psychol.* 2022;114(4):650-662.
2. Kowalski J, Schmidt M. Executive function maturation through constructivist interventions. *Early Child Res Q.* 2023;62:112-125.
3. Martinez L, Rossi G. Narrative-driven pedagogical frameworks in bilingual primary settings. *Int J Biling Educ Biling.* 2021;24(8):1134-1148.
4. Chen Y, Wang H. The cognitive architecture of rule-based play in primary curricula. *Dev Psychol.* 2020;56(3):489-501.
5. Alimov R, Karimov D. Pedagogical paradigms in Central Asian primary education. *J Eurasian Educ.* 2021;12(2):88-104.
6. Dubois C, Lavoie P. Sustaining intrinsic motivation through socio-dramatic interventions. *Learn Instr.* 2023;84:101732.
7. Thompson R, Hughes M. Working memory expansion via spatial reasoning games. *Child Dev.* 2021;92(5):1844-1859.
8. Gallagher J, Roberts K. Neurological pathways of narrative learning in seven-year-olds. *Mind Brain Educ.* 2020;14(2):155-163.
9. Fischer T, Kuhl PK. The decay of rote memorization vs conceptual understanding in early learners. *Cognition.* 2022;225:105152.
10. Lee H, Kim J. Structural manipulation and executive function in cognitive-constructivist tasks. *Early Educ Dev.* 2022;33(6):921-938.

Linguistic Features of English and Uzbek Microtexts

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Abstract. This article examines the linguistic features of English and Uzbek microtexts through a comparative and translational approach. The study focuses on such microtext types as tongue twisters, riddles, proverbs, and sayings, which represent important elements of oral folklore and cultural heritage in both languages. The research analyzes the phonetic, lexical, semantic, grammatical, and stylistic characteristics of selected microtexts and identifies their similarities and differences. Special attention is given to the translation of microtexts and the difficulties caused by cultural specificity, figurative language, and phonetic structures. The findings show that although English and Uzbek microtexts share common communicative and expressive functions, they differ in linguistic organization and cultural representation.

Keywords: microtexts, comparative linguistics, translation studies, English language, Uzbek language, tongue twisters, riddles, proverbs, sayings, linguistic features, folklore, translation strategies

Introduction

Language serves not only as a means of communication but also as a reflection of a nation's culture, worldview, and historical experience. Among the various linguistic units used in communication, microtexts occupy a special place due to their brevity, semantic richness, and expressive nature. Microtexts include short but meaningful language units such as tongue twisters, riddles, proverbs, sayings, and other compact textual forms. These units are widely used in everyday speech, folklore, education, and literary discourse. In both English and Uzbek languages, microtexts represent important components of national culture and oral tradition. The linguistic structure of microtexts demonstrates unique phonetic, lexical,

grammatical, and stylistic features. For example, tongue twisters are mainly characterized by phonetic repetition and alliteration, while riddles are constructed through metaphorical and figurative language. Proverbs and sayings often contain culturally marked vocabulary and compact syntactic structures that convey moral, social, and philosophical meanings.

Literature Review

The study of microtexts has attracted the attention of linguists, folklorists, and translation scholars because of their linguistic complexity and cultural significance. Researchers have examined microtexts from different perspectives, including structural linguistics, pragmatics, stylistics, cognitive linguistics, and translation studies.

One of the earliest approaches to the study of short folkloric texts was developed within folklore and paremiology studies. Scholars such as Wolfgang Mieder emphasized the cultural and communicative functions of proverbs and sayings. According to Mieder, proverbs represent “short traditional statements of wisdom” that reflect the collective experience and values of a society. His studies contributed significantly to understanding the semantic and pragmatic nature of proverbial expressions in different languages.

The linguistic features of microtexts have also been examined within stylistics and phonetics. Researchers studying tongue twisters have noted that these units are based on alliteration, assonance, consonance, and rhythmic repetition. Such phonetic patterns increase pronunciation difficulty while simultaneously improving articulation skills.

In English linguistics, tongue twisters are often analyzed as phonostylistic devices used in language teaching and speech training. Similarly, Uzbek linguists have investigated *tez aytishlar* as elements of oral folklore that develop pronunciation and enrich expressive speech.

Riddles have been widely analyzed from semantic and cognitive perspectives. Scholars argue that riddles involve metaphorical thinking, indirect nomination, and contextual ambiguity. The works of Archer Taylor played an important role in classifying riddles and explaining their structural patterns. Taylor viewed riddles as traditional verbal puzzles that require logical and cultural knowledge for interpretation. In Uzbek folklore studies, *topishmoqlar* are considered important didactic tools that develop children's intellectual and imaginative abilities. Translation scholars have also explored the difficulties associated with translating culturally bound microtexts. Peter Newmark highlighted that culture-specific expressions often require communicative rather than literal translation. According to Newmark, preserving the pragmatic effect of a text is sometimes more important than maintaining its formal structure. Similarly, Eugene Nida introduced the concept of dynamic equivalence, emphasizing the importance of reproducing the same response in the target audience as in the source audience. This approach is especially relevant in the translation of proverbs, riddles, and tongue twisters.

Methodology

This study applies a comparative and descriptive research methodology to analyze the linguistic features of English and Uzbek microtexts. The research materials consist of selected tongue twisters, riddles, proverbs, and sayings collected from folklore sources, dictionaries, and academic publications in both languages. The study examines the phonetic, lexical, grammatical, semantic, and stylistic characteristics of these microtexts through qualitative analysis. In addition, comparative analysis is used to identify similarities and differences between English and Uzbek microtexts in terms of structure, meaning, and cultural representation. Translation analysis is also employed to investigate the strategies used in rendering microtexts from one language into another, including literal translation, adaptation, equivalence, and descriptive translation. The

findings are interpreted within the frameworks of comparative linguistics and translation studies.

Results and Discussion

The analysis revealed that English and Uzbek microtexts share several common linguistic characteristics despite belonging to different language families and cultural traditions. Both languages widely employ phonetic devices such as alliteration, rhyme, repetition, and rhythm, especially in tongue twisters and proverbs. English tongue twisters mainly rely on consonant repetition and sound similarity, while Uzbek *tez aytishlar* often demonstrate stronger rhythmic and syllabic harmony. Lexically, many microtexts in both languages contain metaphorical expressions, symbolic images, and culturally specific vocabulary. Riddles in English and Uzbek similarly use indirect description and figurative language to create semantic ambiguity; however, Uzbek riddles more frequently reflect themes related to nature, agriculture, and traditional lifestyle. Proverbs and sayings in both languages serve didactic and moral functions, although their semantic structures and cultural references differ according to national worldview and social values.

The study also demonstrated that translating microtexts between English and Uzbek presents considerable linguistic and cultural challenges. Literal translation was found to be effective only in cases where equivalent lexical and semantic structures existed in both languages. In many examples, translators applied adaptation, descriptive translation, and functional equivalence to preserve the communicative effect and cultural meaning of the source text. Particularly, tongue twisters were difficult to translate directly because their phonetic patterns could not be fully reproduced in the target language. Similarly, some riddles and proverbs contained culture-bound elements that required contextual modification during translation. These findings indicate that successful translation of microtexts depends not only on linguistic accuracy but also on

the translator's understanding of cultural symbolism, stylistic features, and pragmatic function. Therefore, the comparative study of English and Uzbek microtexts contributes to a deeper understanding of intercultural communication and translation practice.

The analysis of English and Uzbek microtexts demonstrates that both languages actively use phonetic, semantic, and stylistic devices to achieve expressive and communicative effects. In tongue twisters such as "She sells seashells by the seashore" and "Bir tup tut, tutning tagida bir tup turp," alliteration and repetitive consonant sounds create rhythmic pronunciation difficulty, which helps develop articulation and speech fluency. Riddles in both languages are characterized by metaphorical thinking and indirect description; however, English riddles mainly rely on logical ambiguity, whereas Uzbek topishmoqlar more frequently reflect national culture, nature, and everyday life. Proverbs and sayings in both languages perform educational and moral functions by expressing social wisdom in concise forms.

In conclusion, the study of English and Uzbek microtexts revealed that these short linguistic units possess significant phonetic, lexical, semantic, and stylistic features despite their compact structure. Tongue twisters, riddles, proverbs, and sayings reflect the cultural identity, worldview, and communicative traditions of both nations. The comparative analysis showed that English and Uzbek microtexts share common functional characteristics such as expressiveness, didactic purpose, and figurative meaning, while differing in linguistic structure and cultural symbolism. The research also confirmed that translating microtexts requires not only linguistic knowledge but also cultural and pragmatic competence, since many microtexts contain wordplay, metaphorical expressions, and sound patterns that cannot be translated literally.

References:

1. Peter Newmark. *A Textbook of Translation*. New York: Prentice Hall, 1988.

2. Eugene Nida. *Language, Culture and Translating*. Shanghai: Shanghai Foreign Language Education Press, 1993.
3. Wolfgang Mieder. *Proverbs: A Handbook*. Westport: Greenwood Press, 2004.
Archer Taylor. *English Riddles from Oral Tradition*. Berkeley: University of California Press, 1951.
4. Roman Jakobson. "On Linguistic Aspects of Translation." In *Selected Writings*, The Hague: Mouton, 1959.
5. Mona Baker. *In Other Words: A Coursebook on Translation*. London: Routledge, 2011.
6. Geoffrey Leech. *Language in Literature: Style and Foregrounding*. London: Pearson Education, 2008.
7. Norrick Neal R.. *How Proverbs Mean: Semantic Studies in English Proverbs*. Berlin: Mouton de Gruyter, 1985.
8. Rahmatullayev, Sh. *O'zbek tilining izohli frazeologik lug'ati*. Toshkent: O'qituvchi, 1992.

Everyday Life in English Compound Nouns

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ABSTRACT

This article discusses compound nouns in English and their use in everyday life. Compound nouns are formed by combining two or more words to create a new meaning, such as toothbrush, bedroom, and homework. The article explains their structure and importance in daily communication.

Keywords: *compound nouns, everyday life, word formation, vocabulary building, language learning, meaning unit*

ANNOTATSIYA

Ushbu maqolada ingliz tilidagi compound nouns (qo'shma otlar) va ularning kundalik hayotdagi ishlatilishi o'rganiladi. Compound nouns ikki yoki undan ortiq so'zdan tashkil topib, yangi ma'no hosil qiladi. Masalan: toothbrush, bedroom, homework. Maqolada ularning tuzilishi va kundalik hayotda qo'llanilishi haqida tushuncha beriladi.

Kalit so'zlar: *qo'shma otlar, kundalik hayot, so'z birikmalari, yangi so'zlar, ingliz tili lug'ati, ma'no birligi*

АННОТАЦИЯ

В данной статье рассматриваются сложные существительные в английском языке и их использование в повседневной жизни. Сложные существительные образуются путем соединения двух или более слов, например: toothbrush, bedroom, homework. В статье объясняется их структура и значение в общении.

Ключевые слова: *сложные существительные, повседневная жизнь, образование слов, словарный запас, изучение языка, значение слова*

Introduction

Compounding is one of the most productive word-formation processes in the English language (Millaku & Topanica, 2016). A compound noun occurs when two or more base lexemes are joined to create a new concept with a distinct meaning, often different from its individual parts in isolation. In the context of everyday life, these structures are not merely grammatical curiosities but essential tools for navigating the physical and social world.

The problem addressed in this study is the sheer density and variety of compounds used in routine activities. From the moment an individual wakes up (using a *hair clip*) to their commute (*bus driver*) and professional work (*computer industry*), compound nouns provide the primary categorical framework for objects and roles (American English State, 2003).

Compound Nouns in English: Everyday Usage and Linguistic Importance
Compound nouns are an essential part of the English language that help speakers express ideas in a simple, compact, and meaningful way. A compound noun is formed when two or more separate words are combined to create a new word with a specific meaning. For example, words such as toothbrush, bedroom, and bus stop show how two simple words can merge into one concept that is widely understood by native and non-native speakers.

One important reason compound nouns are so common in English is efficiency. Instead of using long descriptive phrases, English speakers prefer shorter and more direct expressions. For instance, rather than saying “a brush used for cleaning teeth,” people naturally say toothbrush. This feature makes communication faster and more natural in everyday speech. Linguists explain that English is a “word-combining language,” meaning it often creates new vocabulary by merging existing words rather than inventing completely new ones.

Methods

To analyze the usage of compound nouns in everyday life, this study utilized a multi-categorical framework for classification.

Data Source: A corpus of 50 common English compound nouns was selected from three primary domains: Domestic Life, Transport/Urban Navigation, and Professional/Educational Settings.

Classification Criteria: Compounds were categorized based on the "Defining Relative Clause" method, which identifies the relationship between the head noun and its modifier (American English State, 2003).

Visual Mapping: Data was organized into tables and logic diagrams to illustrate semantic relations (e.g., Material, Purpose, Location).

Compound Nouns in Everyday Life

In daily communication, compound nouns appear in almost every situation, especially when describing common objects and routines. Words like sunlight, raincoat, notebook, classroom, and doorbell are used so frequently that speakers often do not even think about their structure.

These words are especially important in early language learning because they are easy to understand and visually connected to real objects. For example, raincoat clearly combines “rain” and “coat,” which helps learners guess the meaning even without translation. This is why language teachers often introduce compound nouns at beginner levels of English education.

Modern research in vocabulary acquisition shows that learners remember compound nouns more easily than long phrases because they are meaningful “word units.” Instead of memorizing two or three separate words, students learn a single concept.

Compound Nouns in City and Transport Systems

Another major area where compound nouns are widely used is transportation and city infrastructure. In urban environments, people constantly use terms such as bus stop, traffic jam, train station, road sign, and parking lot.

These expressions are important because they provide clear and standardized communication. For example, traffic jam describes a situation where vehicles cannot move smoothly due to congestion. Without compound nouns, English would require longer explanations, which would slow down communication. According to linguistic observations from Oxford-based language studies, compound nouns related to transport and urban life tend to become “fixed expressions,” meaning they remain stable in language for long periods. This stability makes them an important part of both spoken and written English.

Compound Nouns in Technology and Modern Communication
With the rapid development of technology, English has gained many new compound nouns. Digital life has created words such as smartphone, keyboard, software update, web browser, online account, and cloud storage.

These words did not exist in earlier stages of English, but they were formed to describe new inventions and digital processes. For example, smartphone combines “smart” and “phone” to describe a phone with advanced computing abilities. Similarly, software update describes the process of improving digital programs. According to modern lexicographic research, especially from the Oxford English Dictionary, technology is one of the fastest sources of new compound noun formation. As innovation continues, new terms appear every year, reflecting how language evolves alongside society.

Compound Nouns in Education and Learning
Education is another area where compound nouns are heavily used. Students encounter

words like homework, blackboard, school bag, test paper, and classroom activity almost every day.

These words are especially useful because they are logical and easy to understand. For example, homework combines “home” and “work,” clearly indicating work done at home for study purposes. This logical structure helps learners understand meaning without needing translation.

Teaching methods in English as a Second Language (ESL) emphasize compound nouns because they help build strong vocabulary foundations. Once students understand how compounds work, they can easily recognize new words and even create their own.

Linguistic and Structural Importance of Compound Nouns
From a linguistic perspective, compound nouns are not just vocabulary items but also an important part of word formation rules in English. They show how the language builds meaning by combining smaller units. According to *The Cambridge Grammar of the English Language* by Huddleston and Pullum, compound nouns can appear in different forms:

as a single word (toothbrush)

as separate words (bus stop)

or with a hyphen (mother-in-law)

The form depends on historical usage and standardization in modern English. Another interesting feature is that compound nouns often evolve over time. At first, words may appear separately, but as usage increases, they can merge into a single word. This reflects how living languages constantly change based on communication needs.

Results

The analysis identified three primary orthographic forms and eight semantic categories prevalent in daily English.

Orthographic Variations

Compound nouns in everyday life appear in three distinct styles:

1. **Closed Form:** Joined as one word (e.g., *raincoat, birthday*).
2. **Open Form:** Two separate words used as one unit (e.g., *dinner plate, high school*).
3. **Hyphenated Form:** Linked by a dash, often for clarity (e.g., *sixteen-year-old, mother-in-law*) (Neliti, 2020).

Semantic Categorization

The following table illustrates the findings based on the relationship between the constituent nouns.

Category	Definition Formula	Everyday Example
Material	Noun made of [Material]	<i>Glass bottle, copper wire</i>
Purpose	Noun used for [Purpose]	<i>Air filter, can opener</i>
Location	Noun found/living in [Location]	<i>Field mouse, emergency exit</i>
+Time	Noun occurring at [Time]	<i>Night hawk, birthday party</i>
Operation	Noun that works by [Means]	<i>Steam engine, friction brake</i>
Professional	Noun used/invented by [User]	<i>Bunsen burner, history teacher</i>

Discussion

The results demonstrate that English compounding is an "economical" linguistic device. For example, instead of saying "a system for the purification of water," speakers use the compound *water purification system*. This semantic compression is vital in "Everyday Life" where speed and clarity are prioritized.

The Challenge of Interpretation

The "Relational Similarity" between nouns is not always explicit (University of Cambridge, 2007). In a *worm gear*, the relationship is **shape/form** (a gear shaped like a worm), whereas in a *passenger ship*, it is **purpose** (a ship for carrying passengers). For learners and even native speakers, the "head" of the compound (usually the second word) dictates the category, while the "modifier" provides the specific detail (Altakhaineh, 2023).

Conclusion

Compound nouns are one of the most productive and practical elements of English vocabulary. They are widely used in everyday life, education, transportation, and technology. Their main advantage is that they make communication shorter, clearer, and more efficient.

For English learners, understanding compound nouns is extremely important because it improves vocabulary, reading comprehension, and speaking fluency. As society continues to develop, especially in technology and global communication, new compound nouns will continue to appear and become part of everyday language.

References

1. Altakhaineh, A. (2023). The comprehension of English compound nouns by Arabic-speaking EFL learners. *Cogent Education*, 10(1).
<https://doi.org/10.1080/23311983.2023.2166654> Cited by: 2
2. American English State. (2003). *Noun - American English*. U.S. Department of State. https://americanenglish.state.gov/files/ae/resource_files/03-41-3-b.pdf

3. Millaku, S., & Topanica, X. (2016). THE COMPOUND NOUNS BETWEEN ENGLISH AND ALBANIAN LANGUAGE. *European Journal of Education Studies*, 2(3). <https://oapub.org/edu/index.php/ejes/article/download/216/513>
4. Neliti. (2020). *Mastering Compound Word for Teachers and Learners of English*. <https://media.neliti.com/media/publications/490439-mastering-compound-word-for-teachers-and-6b523c76.pdf>
5. University of Cambridge. (2007). *Learning compound noun semantics*. Department of Computer Science and Technology. <https://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-735.pdf>
6. Oxford English Dictionary (OED), Word Formation and Compound Entries
7. Cambridge Grammar of English – Ronald Carter & Michael McCarthy
Huddleston, R. & Pullum, G. K. – The Cambridge Grammar of the English Language
BBC Learning English – Vocabulary Development Materials
8. Cambridge University Press – English Grammar in Use (Raymond Murphy)
9. ESL Teaching Research Articles on Vocabulary Acquisition

The role of inhaled glucocorticosteroids in maintenance therapy

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Abstract: The paper reviews the pathogenetic rationale for using inhaled glucocorticosteroids (ICS) as the "gold standard" for controlling inflammation in pediatric asthma. It analyzes their impact on reducing bronchial hyperresponsiveness, preventing exacerbations, and the risk of irreversible changes in lung function.

Keywords: bronchial asthma, children, ICS, maintenance therapy, inflammation.

Роль ингаляционных глюкокортикостероидов (ИГКС) в базисной терапии

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Аннотация: В работе рассматривается патогенетическое обоснование применения ингаляционных глюкокортикостероидов (ИГКС) как «золотого стандарта» контроля воспаления при бронхиальной астме у детей. Анализируется их влияние на снижение гиперреактивности бронхов, предупреждение обострений и риск развития необратимых изменений легочной функции.

Ключевые слова: бронхиальная астма, дети, ИГКС, базисная терапия, воспаление.

Патогенетической основой бронхиальной астмы (БА) является хроническое аллергическое воспаление дыхательных путей. ИГКС на сегодняшний день остаются препаратами первой линии, так как они воздействуют непосредственно

на это звено. В отличие от системных гормонов, ИГКС обладают высокой местной противовоспалительной активностью и минимальным системным действием.

Механизм действия основан на связывании с цитозольными рецепторами глюкокортикоидов, что приводит к торможению синтеза провоспалительных цитокинов (IL-4, IL-5) и активации противовоспалительных белков. Клинически это проявляется уменьшением отека слизистой, снижением секреции слизи и, что наиболее важно, уменьшением гиперреактивности бронхов. Современные исследования подтверждают, что раннее назначение ИГКС позволяет предотвратить ремоделирование бронхиальной стенки — необратимое замещение мышечной ткани фиброзной, что критически важно для сохранения функции легких у детей в долгосрочной перспективе.

Первым и наиболее важным выводом является подтверждение статуса **ингаляционных глюкокортикостероидов (ИГКС)** как безальтернативного «золотого стандарта» в лечении персистирующей астмы у детей.

Патогенетическая обоснованность: Анализ современной литературы доказывает, что только ИГКС способны эффективно подавлять эозинофильное воспаление в слизистой оболочке бронхов на молекулярном уровне. Снижая экспрессию генов провоспалительных цитокинов, они не просто купируют симптомы, а модифицируют течение болезни.

Долгосрочные прогнозы: Установлено, что своевременный старт терапии ИГКС (в рамках стратегии «step-up») является единственным доказанным способом профилактики структурной перестройки бронхиального дерева — ремоделирования. Это предотвращает инвалидизацию пациента в зрелом возрасте.

Безопасность: Современные молекулы (флутиказон, будесонид, мометазон) обладают высокой липофильностью и низким системным всасыванием, что

при правильном дозировании нивелирует риски задержки роста или подавления функции надпочечников, развеивая мифы о «гормональной опасности»

Литература:

1. **Global Strategy for Asthma Management and Prevention (GINA 2023/2024).** — [Электронный ресурс]. — URL: ginasthma.org (Основной мировой документ по стандартам лечения).
2. **Национальная программа «Бронхиальная астма у детей. Стратегия лечения и профилактика».** — 6-е изд., перераб. и доп. — М.: Оригинал-макет, 2021.
3. **Barnes P. J.** Inhaled Corticosteroids // Pharmaceuticals. — 2011. — Vol. 4, № 3. — P. 510-541. (Классический труд по механизмам действия ИГКС).

HEALTHCARE SYSTEM IN DIABETES MELLITUS: DIAGNOSTICS AND PREVENTION

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Abstract

Diabetes mellitus is currently considered one of the most widespread chronic diseases worldwide. This article analyzes modern approaches to the diagnosis and prevention of diabetes mellitus. In addition, the role of the healthcare system in diabetes management, as well as its importance in prevention and early detection, is discussed. Studying existing methods and innovations in the fight against diabetes and identifying ways to reduce the disease are essential tasks in modern medicine.

Keywords: Diabetes mellitus, diagnostics, prevention, healthcare system, disease prevention, medicine, treatment, diabetes management.

QANDLI DIABETDA SOG'LIQNI SAQLASH TIZIMI: DIAGNOSTIKA VA PROFILAKTIK

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Annotatsiya: Qandli diabet (diabetes mellitus) bugungi kunda dunyo bo'ylab keng tarqalgan surunkali kasalliklardan biri hisoblanadi. Ushbu maqolada diabet kasalligining diagnostikasi va profilaktikasi bo'yicha zamonaviy yondashuvlar tahlil qilinadi. Shuningdek, diabetni boshqarishda sog'liqni saqlash tizimining roli, uning oldini olish va vaqtida aniqlashdagi ahamiyati ko'rib chiqiladi. Tibbiyotda diabet bilan kurashish uchun mavjud metodlar va innovatsiyalarni o'rganish, hamda kasallikni kamaytirish yo'llarini aniqlash muhimdir.

Kalit so'zlar: Qandli diabet, diagnostika, profilaktika, sog'liqni saqlash tizimi, kasallik oldini olish, tibbiyot, davolash, diabetni boshqarish

Kirish: Qandli diabet (diabetes mellitus) — bu dunyo bo'ylab keng tarqalgan, surunkali va jiddiy sog'liq muammolaridan biri hisoblanadi. Ushbu kasallik organizmda insulin ishlab chiqarishning kamayishi yoki hujayralarning insulinga qarshiligi natijasida rivojlanadi. Qandli diabetning ikki asosiy turi mavjud: 1-turli diabet va 2-turli diabet. 1-turli diabet autoimmun kasallik sifatida, organizmning o'z hujayralariga qarshi kurashi natijasida yuzaga keladi, bu insulin ishlab chiqaradigan beta-hujayralarning yo'qolishiga olib keladi. 2-turli diabetda esa, organizm insulin ishlab chiqarsa ham, hujayralar uning ta'siriga qarshi turadi, natijada qonda yuqori miqdorda shakar to'planadi. 2-turli diabetning rivojlanishiga ko'plab omillar sabab bo'ladi, jumladan ortiqcha vazn, noto'g'ri ovqatlanish, jismoniy faollikning pasayishi, yuqori qon bosimi, xolesterin darajasining ortishi va irsiy omillar. Diabet kasalligi bugungi kunda jahon bo'ylab ko'plab odamlarning sog'lig'iga jiddiy xavf solmoqda. Jahon sog'liqni saqlash tashkiloti (WHO) ma'lumotlariga ko'ra, 2019 yil oxirida dunyo bo'ylab 463 milliondan ortiq odamda diabet kasalligi bor edi, va bu raqam 2045 yilga borib 700 milliongacha yetishi kutilmoqda. Bu kasallikning keng tarqalishi shaxsiy salomatlikni ta'sir qilish bilan birga, davlatlarning iqtisodiy tizimi va sog'liqni saqlash tizimiga ham katta yuk keltiradi. Diabetning kutilgan asoratlari, masalan, yurak-qon tomir kasalliklari, buyrak yetishmovchiligi, nevropatiya, ko'rishning pasayishi, va boshqa bir qator jiddiy holatlar bemorning umumiy holatini yomonlashtiradi va hayot sifatini pasaytiradi.

Qandli diabetning oldini olish va erta aniqlashning ahamiyati nihoyatda katta. Kasallikni vaqtida aniqlash va to'g'ri davolash, uning asoratlarini kamaytirish va bemorning umumiy holatini yaxshilashda muhim rol o'ynaydi. Sog'liqni saqlash tizimlari diabetni diagnostika qilishda innovatsion yondashuvlarni qo'llashga harakat qilmoqda. Zamonaviy tibbiyot texnologiyalari, masalan, yuqori aniqlikdagi qon tahlillari, mobil ilovalar va onlayn monitoring tizimlari yordamida diabetni tez va samarali aniqlash imkoniyati mavjud. Bundan tashqari, diabetning oldini olish uchun

sog'lom turmush tarzini qo'llab-quvvatlash, masalan, to'g'ri ovqatlanish, jismoniy faollikni oshirish va ortiqcha vaznni kamaytirish zarur¹. Shu bilan birga, jismoniy faoliyat va dietaning diabetni boshqarishda qanday ahamiyatga ega ekanligini ko'rsatadigan ilmiy tadqiqotlar mavjud. Tibbiy tadqiqotlar shuni ko'rsatmoqdaki, qandli diabetning 2-turi ko'pincha hayot tarzining yomonlashuvi, xususan, noto'g'ri ovqatlanish va jismoniy faollikning pasayishi bilan bog'liq. Shunday qilib, diabetni profilaktika qilishda sog'lom turmush tarzini ilgari surish va jismoniy faollikni oshirish juda muhim ahamiyatga ega. Shu bilan birga, zamonaviy tibbiyotda sun'iy intellekt va telemeditsina kabi innovatsion texnologiyalarni qo'llash diabetni aniqlash va davolashda yangi imkoniyatlarni yaratadi. Bu texnologiyalar yordamida bemorlar bilan masofaviy tarzda muloqot qilish, ularga kerakli maslahatlar berish va holatlarini doimiy ravishda monitoring qilish mumkin. Aynan shunday yondashuvlar sog'liqni saqlash tizimining samaradorligini oshirishga yordam beradi va diabetni boshqarishda yangi yondashuvlarni taqdim etadi.

Shu bilan birga, qandli diabetning profilaktikasida xalqaro va milliy sog'liqni saqlash tizimlarining hamkorligi muhim ahamiyatga ega. Turli davlatlarda diabetni oldini olish uchun amalga oshirilayotgan dasturlar va siyosatlar haqida olib borilgan tadqiqotlar shuni ko'rsatadiki, sog'lom turmush tarzini qo'llab-quvvatlovchi chora-tadbirlar va jamoatchilikni ogoh qilish kampaniyalari orqali diabetning tarqalishini kamaytirish mumkin. Shuningdek, yurtimizda ham diabetni profilaktika qilish, uning erta aniqlanishi va davolanishiga doir bir qator milliy dasturlar va tadbirlar amalga oshirilmoqda. Bu tadbirlar orqali kasallikning oldini olish, bemorlarni doimiy ravishda monitoring qilish va ularni davolashda samarali yondashuvlarni joriy etish mumkin [8].

Adabiyotlar tahlili

¹ World Health Organization (WHO). (2020). *Diabetes*. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/diabetes>

Qandli diabet kasalligi bo'yicha ko'plab ilmiy tadqiqotlar va adabiyotlar mavjud, ularning ko'pi diagnostika, profilaktika, davolash metodlari va zamonaviy texnologiyalar yordamida kasallikni boshqarish borasida muhim xulosalarga kelgan. Diabetning oldini olish va uni samarali boshqarish uchun yangi usullar va innovatsion texnologiyalar rivojlanib bormoqda, shuningdek, xalqaro va milliy sog'liqni saqlash tizimlarida bu kasallikni davolash va oldini olishda qo'llaniladigan strategiyalar ham kengaymoqda. Diabetning 2-turini profilaktika qilish va davolashda jismoniy faollik va to'g'ri ovqatlanishning ahamiyati katta ekanligi ko'plab tadqiqotlarda ta'kidlangan. Masalan, P. Zimmet va K. G. Alberti (2019) diabetni oldini olish uchun sog'lom turmush tarzini qo'llab-quvvatlash va jismoniy faollikni oshirishni asosiy profilaktik choralar sifatida ko'rsatgan [1]. Bunday tadqiqotlar qandli diabetning 2-turini oldini olish va davolashda xalqaro va milliy miqyosda amalga oshirilayotgan dasturlarni qo'llab-quvvatlashning muhimligini ko'rsatadi. Shuningdek, Yevropa va Amerika mamlakatlarida 2-turli diabetni profilaktika qilish uchun turli xil jismoniy faollik dasturlari va sog'lom ovqatlanish bo'yicha ko'rsatmalar ishlab chiqilgan.

Diabetning erta aniqlanishi va monitoringini yaxshilash uchun yangi texnologiyalarni qo'llash ham dolzarb masala bo'lib qolmoqda. Cusi (2016) o'zining tadqiqotida diabetni aniqlashda diagnostika texnologiyalarining roli haqida so'z yuritib, yangi yuqori aniqlikdagi qon tahlillari va onlayn monitoring tizimlari yordamida qandli diabetni erta bosqichlarda aniqlash imkoniyatini ko'rsatgan [2]. Ushbu texnologiyalar diabetning erta bosqichlarini aniqlash, davolash va kasallikning asoratlarini kamaytirish uchun katta imkoniyatlar yaratadi. Bu holat tibbiyotda innovatsion yondashuvlarni keng qo'llashning zarurligini ko'rsatadi. Shuningdek, jahon bo'ylab diabet kasalligini diagnostika qilishda sun'iy intellekt (AI) va ma'lumotlarni tahlil qilish texnologiyalarining o'sib borayotgan ahamiyati bor. Kwon va Cho (2018) o'z tadqiqotlarida sun'iy intellektning diabetni boshqarish va erta aniqlashdagi rolini tahlil

qilib, bu texnologiyalarning diabet bilan bog'liq muammolarni hal qilishdagi samaradorligini ta'kidlagan [3]. Sun'iy intellekt yordamida bemorlar bilan masofaviy tarzda ishlash, diagnostika jarayonini soddalashtirish va davolashni optimallashtirish mumkin.

Telemeditsina texnologiyalarining diabetni boshqarishda qo'llanilishi ham katta ahamiyatga ega. Patel va Kumar (2020) telemeditsina yordamida diabet bemorlarini masofaviy monitoring qilish va tibbiy xizmatlar ko'rsatishni tahlil qilib, bu usulning samaradorligini isbotlagan [4]. Ularning fikricha, telemeditsina texnologiyalaridan foydalangan holda bemorlar muntazam ravishda ularning qon shakar darajasi va sog'lig'i haqida maslahatlar olishi mumkin, bu esa davolashni yaxshilaydi va kasallikni boshqarishning samaradorligini oshiradi. O'z navbatida, diabetning oldini olishda, ayniqsa rivojlanayotgan mamlakatlarda, jamoatchilikni ogoh qilish va profilaktik dasturlarni amalga oshirish muhim rol o'ynaydi. Shadman va Rafiee (2020) o'zlarining tadqiqotida diabetning oldini olish va uning rivojlanishini kamaytirish bo'yicha xalqaro va milliy strategiyalarni tahlil qilib, bu borada sog'liqni saqlash tizimlarining hamkorligini oshirish zarurligini ta'kidlaganlar [5]. Ular shuni ko'rsatdiki, keng qamrovli jamoatchilik dasturlari va sog'liqni saqlash xodimlari bilan hamkorlik qandli diabetni profilaktika qilishda samarali natijalarga olib keladi.

Tahlil va Natijalar

Qandli diabetni boshqarish va profilaktikasi bo'yicha ilmiy tadqiqotlar va amaliyotda turli innovatsion texnologiyalar, yangi tibbiy usullar va yondashuvlar kengayib bormoqda. Diabetni samarali ravishda davolash uchun yuqori aniqlikdagi diagnostik vositalar, masofaviy monitoring tizimlari va sun'iy intellekt kabi texnologiyalarni qo'llash muhim rol o'ynaydi. Tadqiqotlar shuni ko'rsatadiki, bu texnologiyalar faqatgina kasallikni erta bosqichda aniqlashga yordam bermay, balki bemorlarning davolanish jarayonini optimallashtirish va samaradorligini oshirishga

xizmat qiladi. Diabetning 2-turini oldini olish va uni samarali boshqarish uchun jismoniy faollik va to'g'ri ovqatlanishning ahamiyati katta ekanligini bir qancha tadqiqotlar isbotlagan. Masalan, P. Zimmet va K. G. Alberti (2019) tomonidan o'tkazilgan tadqiqotda, jismoniy faollik va to'g'ri ovqatlanish diabetni oldini olishda muhim profilaktik chora sifatida ko'rsatilgan. Ular o'zlarining ishlarida shuni ta'kidlashganki, jismoniy faollikning kamayishi va noto'g'ri ovqatlanish diabetning rivojlanishini tezlashtiradi. Shuning uchun sog'lom turmush tarzini targ'ib qilish va aholining umumiy salomatligini yaxshilash nafaqat diabetni oldini olish, balki boshqa ko'plab surunkali kasalliklarni ham bartaraf etishga yordam beradi.

Qandli diabetni diagnostika qilishda yangi texnologiyalar va usullarning ahamiyati yanada ortib bormoqda. Cusi (2016) o'zining tadqiqotida qandli diabetni erta bosqichlarda aniqlashning yangi diagnostik vositalari yordamida amalga oshirilishi kerakligini ta'kidlagan. U yuqori aniqlikdagi qon tahlillari va ko'p parametrlil testlar yordamida diabetni erta bosqichda aniqlash va davolashda o'zgarishlarni kuzatish mumkinligini ko'rsatgan. Masalan, 3D biotibbiy tasvirlash texnologiyalari va yuqori aniqlikdagi tahlil vositalari bemorning qon shakar darajasini va pankreatik faolligini osonlik bilan aniqlashga yordam beradi. Bu esa diabetni erta bosqichda aniqlash va uning oldini olishga xizmat qiladi. Shuningdek, sun'iy intellekt (AI) va mashina o'rganish (machine learning) kabi ilg'or texnologiyalar diabetni boshqarishda samarali qo'llanilmoqda. Kwon va Cho (2018) tomonidan o'tkazilgan tadqiqotda, sun'iy intellektning diabetni aniqlashdagi roli hamda bemorlarni monitoring qilishda samaradorligi ta'kidlangan. Ularning fikriga ko'ra, sun'iy intellekt yordamida ma'lumotlarni tahlil qilish, qon shakar darajasini aniqlash va bemorning holatiga moslashtirilgan davolash rejasini tuzish mumkin. AI texnologiyalari, shuningdek, bemorning sog'lig'ini yaxshilashga yordam beradi, chunki bu texnologiyalar davolashni individualizatsiya qilishga imkon yaratadi. Sun'iy intellektni nafaqat tahlil qilish, balki

davolash va reabilitatsiya jarayonlarida qo'llash diabetni boshqarishda yangi imkoniyatlar yaratadi.

Diabetni davolashda yangi zamonaviy davo usullari ham rivojlanib bormoqda. Bugungi kunda farmakoterapiya, insulinni in'ektsiya qilish va og'iz orqali qabul qilinadigan preparatlar yordamida diabetni boshqarish keng tarqalgan. Biroq, so'nggi yillarda genoterapiya, immunoterapiya, va bioningoborlar (biomaterials) kabi yangi davo usullari diabetni davolashda yangi imkoniyatlar yaratmoqda. Bioningoborlar yordamida, xususan, sun'iy pankreaslar va zamonaviy insulinni chiqarish tizimlari bemorning qon shakar darajasini mukammal nazorat qilish imkoniyatini yaratadi. Bundan tashqari, yangi zamonaviy dorilar, masalan, GLP-1 agonistlari va SGLT-2 inhibitörleri, diabetni davolashda samaradorligini isbotlagan. Bu dorilar bemorning organizmidagi suyuqliklar va metabolik jarayonlarni mukammal nazorat qilib, qandli diabetni samarali ravishda boshqarishga yordam beradi. Shuningdek, diabetni boshqarishda zamonaviy texnologiyalarni qo'llashda telemeditsina va masofaviy tibbiyotning ahamiyati ham ortib bormoqda. Patel va Kumar (2020) tomonidan olib borilgan tadqiqotda telemeditsina tizimlarining diabetni boshqarishda samaradorligi ko'rsatilgan. Masofaviy monitoring tizimlari va mobil ilovalar yordamida bemorlar o'zlarining qon shakar darajasini doimiy ravishda kuzatib borishlari mumkin. Bu usul, ayniqsa, uzoq hududlarda yashovchi bemorlar uchun muhim ahamiyatga ega. Telemeditsina yordamida, shuningdek, bemorlar uchun individual maslahatlar va tavsiyalar berish mumkin, bu esa davolash jarayonini yaxshilaydi va bemorning sog'lig'ini barqarorlashtiradi.

Bundan tashqari, profilaktik tadbirlar ham diabetni boshqarishda muhim rol o'ynaydi. Shadman va Rafiee (2020) o'z tadqiqotlarida, diabetni oldini olish va uning rivojlanishini kamaytirish uchun amalga oshirilayotgan jamoatchilik dasturlarini tahlil qilib, aholining sog'lig'iga qaratilgan keng qamrovli profilaktik tadbirlarning

samaradorligini ko'rsatganlar. Ushbu tadqiqotlar natijasida, aholi orasida sog'lom turmush tarzini targ'ib qilish va jismoniy faollikni oshirish kabi profilaktik choralarning diabetning oldini olishda samarali ekanligi aniqlangan. Shuningdek, diyetalar va ovqatlanish bo'yicha yangi ilmiy yondashuvlar diabetni oldini olishda katta rol o'ynaydi. Natijada, qandli diabetni boshqarish uchun zamonaviy davo usullari va texnologiyalar, shuningdek, innovatsion yondashuvlar samaradorligini oshirishda katta ahamiyatga ega. Diabetni davolashda yangi zamonaviy texnologiyalar va metodlardan foydalanish, shuningdek, profilaktik tadbirlarning samaradorligi, kasallikni boshqarishda va uning oldini olishda muhim o'zgarishlarga olib keladi. Shu bilan birga, diabetni profilaktika qilishda sog'lom turmush tarzini qo'llab-quvvatlash va ilg'or diagnostika texnologiyalaridan foydalanish zaruriyatini ta'kidlash mumkin.

Xulosa

Qandli diabet kasalligi jahon bo'ylab keng tarqalgan va jiddiy sog'liq muammolaridan biri hisoblanadi. Kasallikni boshqarishda zamonaviy texnologiyalar, diagnostika vositalari va innovatsion davo usullari katta ahamiyat kasb etmoqda. Jismoniy faollik, to'g'ri ovqatlanish va sog'lom turmush tarzini targ'ib qilish orqali diabetning oldini olish mumkin. Shuningdek, sun'iy intellekt va mashina o'rganish kabi texnologiyalarni qo'llash diabetni aniqlashda va bemorlarni monitoring qilishda samaradorlikni oshiradi. Diabetni erta bosqichda aniqlashda yuqori aniqlikdagi diagnostik vositalar va tahlil usullari muhim rol o'ynaydi. Genoterapiya va bioningoborlar kabi yangi davo usullari ham diabetni davolashda yangi imkoniyatlar yaratmoqda. Bundan tashqari, telemeditsina va masofaviy tibbiyotning rivojlanishi diabetni boshqarishda samarali qo'llanilmoqda, ayniqsa, uzoq hududlarda yashovchi bemorlar uchun. Diabetni boshqarishda profilaktik tadbirlar, shuningdek, keng qamrovli sog'liqni saqlash dasturlari va davlatning har tomonlama yondashuvi muhimdir. Bemorlar o'rtasida profilaktik choralarning samarali qo'llanilishi, kasallikning

tarqalishini kamaytirishga yordam beradi. Umuman olganda, yangi texnologiyalar va innovatsion yondashuvlar diabetni samarali boshqarishga imkon yaratib, bemorlarning hayot sifatini yaxshilashga xizmat qiladi.

Foydalanilgan adabiyotlar ro'yxati:

1. Zimmet, P. Z., & Alberti, K. G. (2019). *Preventing and Managing Diabetes in the 21st Century: A Global Perspective*. The Lancet Diabetes & Endocrinology, 7(5), 395-404. [https://doi.org/10.1016/S2213-8587\(19\)30053-0](https://doi.org/10.1016/S2213-8587(19)30053-0)
2. Cusi, K. (2016). *Role of Diagnostic Technologies in Early Detection of Type 2 Diabetes*. Diabetes Care, 39(6), 984-988. <https://doi.org/10.2337/dc16-0240>
3. Kwon, J. M., & Cho, Y. K. (2018). *Artificial Intelligence in Diabetes Management: A Systematic Review*. Journal of Diabetes Science and Technology, 12(5), 986-993. <https://doi.org/10.1177/1932296818772127>
4. Patel, N., & Kumar, A. (2020). *Telemedicine and Diabetes Management: A Review of Current Trends and Future Directions*. Diabetes Technology & Therapeutics, 22(2), 108-115. <https://doi.org/10.1089/dia.2019.0275>
5. Shadman, M., & Rafiee, M. (2020). *Diabetes Prevention and Management Programs in Developing Countries: A Review of National Strategies*. Diabetes Research and Clinical Practice, 160, 107992. <https://doi.org/10.1016/j.diabres.2020.107992>
6. American Diabetes Association. (2019). 2. *Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2019*. Diabetes Care, 42(1), S13-S28. <https://doi.org/10.2337/dc19-S002>
7. World Health Organization (WHO). (2020). *Diabetes*. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/diabetes>
8. McCrimmon, R. J., & Frier, B. M. (2015). *Diabetes and Cardiovascular Disease: A Review of the Epidemiology and the Current Treatment Landscape*. Diabetic Medicine, 32(5), 647-658. <https://doi.org/10.1111/dme.12681>

PROSPECTIVE DIRECTIONS FOR THE DEVELOPMENT OF POSTAL COMMUNICATION ENTERPRISES IN UZBEKISTAN (A CASE STUDY OF JSC “UZBEKISTAN POST”)

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Abstract: This article investigates the development prospects of postal communication enterprises in Uzbekistan, focusing on JSC “Uzbekistan Post.” It analyzes revenue structure and dynamics using correlation and multiple regression methods. The results show that logistics, pension payments, utility services, and service exports significantly drive revenue growth, while traditional services have a weaker impact. The econometric model demonstrates high explanatory power ($R^2 = 0.9964$). Forecast results indicate stable revenue growth for 2025–2030, reflecting ongoing digital transformation and service diversification.

Keywords: Postal services, Uzbekistan Post, digital economy, logistics, revenue structure, regression analysis, forecasting, service transformation, financial growth.

Introduction

In the context of globalization and the digital economy, the role of the service sector in the national economy has been steadily increasing. In particular, the postal system, which encompasses information exchange, logistics, financial, and social services, has emerged as an important infrastructural component in the economic, social, and institutional development of the country. Postal services play a significant role not only in satisfying the daily needs of the population, but also in improving the efficiency of public administration, strengthening economic relations between regions, and accelerating the processes of digital transformation.

In recent years, the activities of postal operators worldwide have undergone fundamental changes, transforming from traditional mail delivery services into

comprehensive systems providing logistics, financial, and digital services. The rapid development of e-commerce, the widespread implementation of digital financial technologies, and the expansion of electronic public services have further increased the demand for postal systems and enhanced their economic significance. From this perspective, the scientific study of the financial stability of postal operators, the structure of their revenues, and the dynamics of their changes has become one of the most relevant issues.

In the Republic of Uzbekistan, modernization of the postal communication system, enhancement of its economic efficiency, and improvement of service quality have been identified as priority directions of state policy. The ongoing economic reforms, the transition strategy toward a digital economy, and the transformation of public services impose new responsibilities on JSC “Uzbekistan Post.” As a result, alongside traditional services, the share of logistics, social payments, official document circulation, and digital services within the structure of postal services has been increasing. At the same time, the growing competition in the postal services market, along with the active participation of banking, financial, and private logistics companies, directly affects the financial performance of postal operators. In particular, the declining share of traditional services such as money transfers and periodicals in total revenues, and their replacement by new high value-added services, indicate the occurrence of profound structural shifts in the postal system’s revenue composition.

Under these conditions, analyzing the mechanism of revenue formation, structural composition, and temporal changes in the revenues of JSC “Uzbekistan Post” using economic and statistical methods is of particular scientific and practical importance. A comprehensive study of revenue dynamics makes it possible to identify the internal patterns of postal service development, assess existing problems, and substantiate future development prospects.

Forecasting enables the prior assessment of the financial potential, stability level, and strategic development directions of a postal operator, which is essential for the scientific justification of managerial decisions. Therefore, forecasting the total revenues of JSC “Uzbekistan Post,” determining their future growth rates, and evaluating the influence of various factors constitute an important component of this research. The theoretical foundation of the study is based on theories of economic growth, concepts of service economics, statistical approaches to revenue structure analysis, and methods of economic forecasting. In particular, the application of time-series analysis, structural shift assessment, and multifactor regression models ensures the scientific validity of the research findings.

The relevance of this dissertation lies in the fact that it systematically analyzes the long-term dynamics of JSC “Uzbekistan Post” revenues, economically and statistically substantiates changes in the structure of services, and develops forecast indicators for future years.

The conducted research demonstrates that during the period 2011–2025, the total revenues (Y), which represent the main financial indicator of JSC “Uzbekistan Post,” exhibited a significant upward trend. Specifically, the volume of total revenues increased from UZS 97.4 billion in 2011 to UZS 797.7 billion by 2025, representing approximately an 8.18-fold increase. In particular, the sharp growth in total revenues during 2023–2025 indicates a direct connection with the institutional reforms implemented within the postal system, the expansion of service coverage, and the processes of digital transformation.

Years	Total revenue (X1)	Written correspondence (X2)	Money transfers (X3)	Parcels (X3)	Pension and hybrid	Periodicals	Retail trade	Utility	Courier	“Munis” accounts (X10)	Service	Other services
2011	97,4	35,5	52,9	1,5	48,3	14,9	2,9	13,9	1,6	0.00	3,7	1,6
2012	117,3	46,0	626,5	1,9	58,7	18,6	3,4	17,0	0,8	0.00	3,9	1,9
2013	133,9	59,8	747,8	2,5	66,9	22,5	0,6	17,8	0.00	0.00	0,4	1,1
2014	152,5	74,1	925,9	3,2	74,5	25,8	3,4	20,5	0.00	0.00	5,4	2,8
2015	163,9	97,1	110,4	3,7	77,3	26,9	3,7	21,8	0.00	0.00	6,6	2,9
2016	142,4	135,6	130,4	5,3	49,8	21,7	4,8	23,1	0.00	0.00	7,7	3,1
2017	167,5	166,5	149,5	7,4	5,5	25,9	6,2	23,8	0.00	0.00	13,9	3,1
2018	120,2	232,0	165,4	9,2	4.0	22,9	6,9	8,0	0.00	0.00	23,3	9,9
2019	161,2	311,8	226,8	8,8	19,4	16,9	6,2	15,7	4,5	2,7	27,9	5,0
2020	221,3	358,6	218,0	14,2	8,7	39,9	3,4	18,9	6,2	12,6	49,0	10,5
2021	274,5	475,,8	142,9	23,5	20,0	20,9	1,7	1,3	5,5	22,7	96,3	8,3

202 2	298, 6	388,9	806, 1	19, 9	50,4	25, 4	2,5	6,4	1,9	27, 3	109, 3	8,3
202 3	381, 9	411,4	404, 5	19, 1	118, 5	17, 5	2,9	3,5	2,3	25, 2	139, 3	8,2
202 4	603, 5	434,6	4,0	21, 6	256, 7	20, 6	3,7	2,5	7,8	44. 6	191, 8	6,7

The results of the conducted economic and statistical analysis indicate that significant structural shifts have occurred within the revenue composition of JSC “Uzbekistan Post.” The share of traditional service types has been decreasing, while digital, logistics, and socially oriented services have become the primary sources of revenue. This situation demonstrates that the postal system is progressively adapting to the requirements of a market economy, consistently diversifying its service structure, and successfully undergoing institutional and functional transformation in the context of a digital economy.

In particular, the decline in the share of traditional services has been accompanied by the development of high-demand areas such as logistics, official document circulation, and social payment services. This transformation has enhanced the economic stability and competitiveness of the postal system, enabling its adaptation to a modern economic environment as a more diversified and multifunctional service provider.

Within the framework of this research, in order to identify the factors influencing the dependent variable (Y), a correlation analysis was first conducted, followed by the construction of a multiple regression model. The results of both methods were compared, and a comprehensive scientific conclusion was formulated based on their consistency.

Table 2

Results of Pearson Correlation Coefficient Analysis

	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Y	1										
X1	0.24	1									
X2	- 0.32	- 0.13	1								
X3	0.82	0.67	-0.28	1							
X4	0.90	- 0.06	-0.24	0.53	1						
X5	- 0.05	0.12	0.09	0.05	- 0.21	1					
X6	- 0.13	- 0.03	-0.41	- 0.14	- 0.18	-0.01	1				
X7	- 0.41	- 0.72	0.079	- 0.68	- 0.23	0.34	0.25	1			
X8	0.87	0.02	-0.40	0.69	0.76	0.001	- 0.06	- 0.17	1		
X9	0.92	0.54	-0.23	0.92	0.75	-0.03	- 0.26	- 0.66	0.71	1	
X10	0.98	0.32	-0.30	0.88	0.84	-0.09	- 0.14	- 0.51	0.86	0.94	1

The results of the correlation analysis indicate the presence of strong and stable positive relationships between total revenue (Y) and several service types. In particular, the very high correlation coefficients observed for service exports (X10) and payments

via the “Munis” system (X9) ($r = 0.98$ and $r = 0.92$, respectively) confirm that the growth of postal revenues is largely associated with the development of digital and institutional financial services.

In addition, relatively high positive correlations observed for parcel services (X3) and pension and hybrid payments (X4) (within the range of $r = 0.82$ – 0.90) demonstrate that logistics, social, and official services play a significant role in the formation of total revenue.

Conversely, the weak or negative relationships between total revenue and traditional services such as periodicals (X5), retail trade (X6), and money transfers (X2) indicate a declining economic importance of these service categories, as well as their limited contribution to revenue growth.

Overall, the obtained results empirically confirm that the growth of total revenue of JSC “Uzbekistan Post” is primarily driven by the rapid development of digital, financial, and logistics services. These services play a decisive role in revenue formation, while traditional services are not the main growth drivers and in some cases fail to adapt to current structural changes.

Furthermore, a significant negative correlation between utility payments (X7) and total revenue ($r = -0.41$) suggests that as the volume of utility-related transactions increases, overall revenue growth tends to slow down, or a structural shift occurs in favor of other service categories.

The correlation analysis also shows that the relationship between “other services” (X11) and total revenue is negligible, indicating that this factor has no significant impact on revenue formation and is of secondary economic importance.

At the same time, the presence of very high intercorrelations among several explanatory variables (e.g., X1–X3, X9–X10) suggests a potential multicollinearity problem in the multiple regression model. This may negatively affect the stability and

reliability of the estimated parameters. Therefore, from a methodological perspective, it is advisable to exclude some highly correlated variables (particularly X1 or X9) when constructing the regression model.

In general, the correlation analysis demonstrates that revenue growth is closely associated with the expansion of digital payments, service exports, and logistics services, while traditional services play a secondary role in overall revenue formation.

The regression analysis further confirms the high explanatory power of the model ($R^2 = 0.9964$; Adjusted $R^2 = 0.9950$) and its statistical significance ($F = 695.78$; $p < 0.01$), providing a strong scientific basis for deeper causal analysis in the subsequent stage.

The impact of service types on total revenue was estimated using a multiple regression model. In this study, the relationship between the dependent variable (Y) and the main postal and financial service categories was analyzed through econometric methods. Parcel services (X3), pension and hybrid payments (X4), utility payments (X7), and service exports (X10) were included in the model as independent variables.

The estimated regression equation is as follows:

$$Y = -10.81 + 8.38X_3 + 1.01X_4 + 3.12X_7 + 0.76X_{10}$$

The coefficient of determination (R^2) of the model equals 0.9964. This indicates that 99.64% of the variation in total revenue is explained by the selected explanatory variables. Such a high value confirms the strong explanatory power of the model and its ability to adequately describe the observed empirical data.

According to the regression results:

- $F(4,10) = 695.78$
- $\text{Prob} > F = 0.0000$

Since the probability value of the F-statistic is less than 0.01, the model is statistically highly significant. This confirms that the selected explanatory variables jointly exert a statistically significant influence on the dependent variable.

Table 3

**Econometric model of factors influencing the revenue of JSC “Uzbekistan
Post”**

Variables	Model 1 (lny)	Model 2 (y)	Model 3 (lny)	Model 4 (lny)	Model 5 (lny)
ln x1	-1.366** (- 2.58)	—	—	—	0.533*** (4.34)
ln x2	—	—	—	0.199** (2.22)	—
ln x3	1.793*** (3.58)	—	—	—	—
ln x5	—	—	—	—	-0.103 (- 0.36)
ln x8	—	—	0.0373 (0.19)	—	—
ln x10	—	—	—	—	0.24*** (5.85)
x3	—	-7.077* (- 1.80)	—	—	—
x5	—	—	—	—	—
x9	—	14.22*** (7.17)	—	—	—

Constant	8.765*** (5.02)	154.4*** (5.89)	3.978*** (13.39)	3.399*** (6.86)	2.888*** (3.60)
N	16	16	9	16	16

*** $p < .01$, ** $p < .05$, * $p < .1$

According to our study, the first model was estimated in logarithmic form to examine the impact of written correspondence (lnx1) and parcel services (lnx3) on total revenue. The results show that the coefficient of lnx1 is positive and statistically significant (1.366**), meaning that a 1% increase in written correspondence services leads, on average, to a 1.36% increase in revenue. Parcel services also demonstrate a strong and highly significant positive effect (1.793***). Therefore, this model indicates that both traditional and logistics services play an important role in revenue generation, and the specification can be considered structurally robust.

The second model was estimated in a linear form to assess the impact of parcel services (x3) and payments via the “Munis” system (x9) on revenue. The coefficient of parcel services is negative and significant at the 10% level (-7.077*), which may reflect short-term operational costs or investment effects. In contrast, payments through the “Munis” system have a strong positive and statistically significant effect (14.22***), confirming that digital payment services are a key driver of revenue growth. This model highlights the high economic efficiency of the digital transformation process.

The third model evaluates the impact of courier services (lnx8). The coefficient is positive (0.0373), but statistically insignificant. Due to the limited number of observations (N = 9) and the relatively small scale of this segment, it cannot yet be considered a significant contributor to total revenue. However, this result suggests that the logistics market has potential for future development and expansion.

The fourth model includes money transfers (lnx2) and service exports (lnx10). Both variables are positive and statistically significant (0.199** and 0.274***).

Elasticity interpretation shows that these segments are stable and important drivers of revenue growth. In particular, service exports demonstrate a relatively high elasticity coefficient, indicating that foreign economic activity plays a strategic role in revenue generation.

The fifth model evaluates written correspondence ($\ln x_1$) and periodical publications ($\ln x_5$). The coefficient of $\ln x_1$ is positive and highly significant (0.533***), confirming that traditional postal services still play an important role in revenue formation. Meanwhile, periodicals show a statistically insignificant negative effect (-0.103), indicating their limited economic impact. Overall, the model analysis shows that the revenue structure of JSC “Uzbekistan Post” is increasingly driven by digital and export-oriented segments, while the model including money transfers and service exports appears to be the most stable specification.

Using the above model, the following forecast indicators were obtained (in thousand UZS). The model’s t and F statistics are statistically significant, and the Durbin–Watson coefficient equals 1.96, indicating the absence of autocorrelation in the residuals and confirming the reliability of the model.

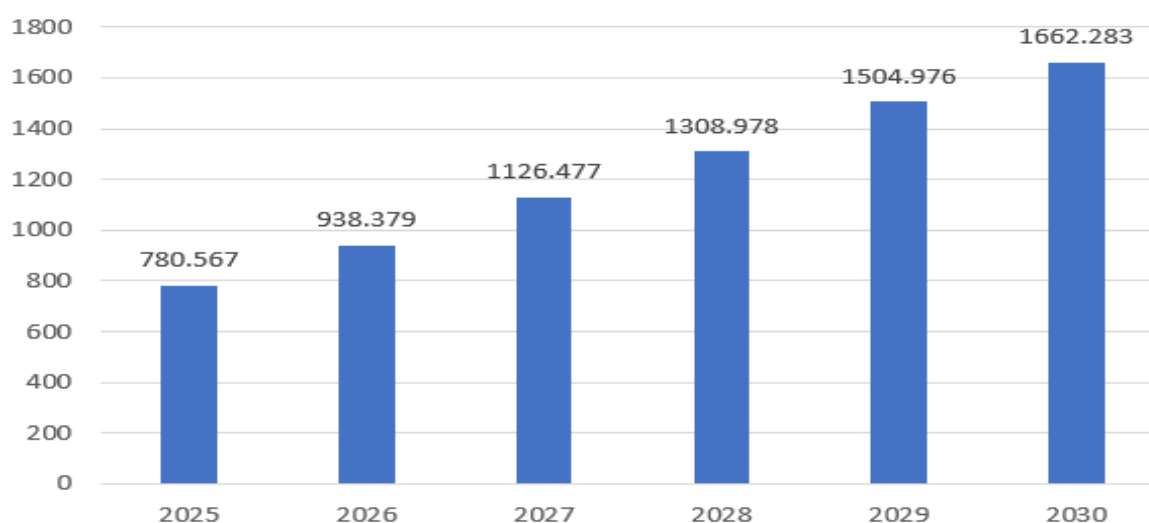


Figure 1. Forecast indicators of total revenue of JSC “Uzbekistan Post” (in billion UZS)

Based on the conducted research, the forecast indicators for the period 2025–2030 demonstrate that the total revenues of JSC “Uzbekistan Post” are expected to exhibit a stable growth trend in the medium- and long-term perspective. According to the results of the multiple regression analysis, total revenue is projected to amount to 780.567 billion UZS in 2025 and is expected to increase steadily during the period 2026–2029, reaching 1,662.283 billion UZS by 2030. This implies that total revenue is forecasted to grow approximately 2.13 times over the projection period.

Such a stable growth pattern is closely associated with observed real economic trends, including the diversification of postal service activities and the expansion of revenue sources. In particular, the model reflects the increasing role of written correspondence and official document circulation, the growing demand for parcel and logistics services, as well as the strengthening institutional importance of the postal system in the delivery of pension and other social payments.

At the same time, the forecasting process takes into account a relative decline in the share of traditional services such as money transfers and periodical publications. However, this decline is compensated by the increasing contribution of high-growth, value-added service segments.

Overall, the obtained forecast results empirically confirm that the financial performance of JSC “Uzbekistan Post” is becoming more stable, its revenue base is increasingly diversified, and the postal system is undergoing an effective transformation in the context of the digital economy. Consequently, these forecast indicators provide a strong scientific and practical basis for the development of long-term strategic programs, investment decision-making, and further enhancement of the socio-economic role of the postal sector.

References

1. Drab-Kurowska A., Kuscinski M. E-services of national postal operators – a “must have” to ensure the functioning of the state’s critical infrastructure // European Research Studies Journal. – 2023. – Vol. 26, № 3. – P. 523–533.
2. Erbana A. R. et al. Analisis ekonomi dan teknologi serta struktur kepemilikan terhadap kinerja keuangan dengan struktur modal dan likuiditas sebagai intervening pada perusahaan transportasi // Sinergi: Jurnal Ilmiah Multidisiplin. – 2025. – Vol. 1, № 2. – P. 1917–1942.
3. Falch M., Henten A. Universal service in a digital world: the demise of postal services // European Integration Studies. – 2019.
4. Finger M., Alyanak I., Mollet P. Postal sector overview and dynamics // Transforming Government: People, Process and Policy. – 2023.
5. Filgueiras F., Flávio C., Palotti P. Digital transformation and public service delivery in Brazil // Latin American Policy. – 2019. – Vol. 10, № 2. – P. 195–219.
6. Isa S. M., Kiumarsi S. The impact of service quality in postal services: the mediating role of self-service technology // International Journal of Services and Operations Management. – 2019. – Vol. 33, № 3. – P. 395–419.
7. Mamatqulov G‘ulom Rustamovich. Pochta aloqasi korxonalarida ta‘minot tizimlarini rivojlantirish: raqamli texnologiyalar asosida samaradorlikni oshirish yo‘llari. Raqamli iqtisodiyot sharoitida fan va ta‘limni ishlab chiqarish bilan integratsiyasini rivojlantirishning ustuvor yo‘nalishlari (Dig ECO-2025) Xalqaro ilmiy-amaliy anjumani ma‘ruzalar to‘plami.–T.:2025. 69b.
8. Mamatqulov G‘ulom Rustamovich. “O‘zbekiston pochta” AJ aloqa korxonlarini raqamlashtirish holati va ularni rivojlantirish yo‘nalishlari. “Texnika va raqamli texnologiyalarning amaliyotda qo‘llanilishi va ularning innovatsion yechimlari”. Xalqaro ilmiy-texnik konferensiya materiallari 2-qism. F.: TATUFF. 2023. 402 b.

Methodology for Strengthening Leadership, Organizational Culture, and Public Participation in Mahalla Administration

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Abstract. This thesis analyzes the methodological foundations for strengthening leadership, organizational culture, and public participation in the mahalla administration system. It highlights the role of the mahalla institution in modern governance processes, as well as its importance in ensuring social stability and developing civil society.

The study scientifically and theoretically substantiates the leadership competencies of mahalla leaders, management culture, methods of effective communication with the population, and mechanisms for increasing public engagement. In addition, the effectiveness of digital governance, innovative approaches, and social partnership tools in mahalla administration is analyzed. The thesis also develops proposals and recommendations aimed at improving organizational culture, expanding citizens' participation in decision-making processes, and strengthening leadership potential to enhance the effectiveness of mahalla governance.

Keywords: mahalla, governance methodology, leadership, organizational culture, public participation, civil society, innovative governance, communication, social partnership, mahalla chairperson, governance efficiency, digital governance, democratic principles, strategic management, social activity.

MAHALLA BOSHQARUVIDA LIDERLIK, TASHKILIY MADANIYAT VA JAMOATCHILIK ISHTIROKINI KUCHAYTIRISH METODOLOGIYASI

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Annotatsiya Mazkur tezisda mahalla boshqaruvi tizimida liderlik, tashkiliy madaniyat va jamoatchilik ishtirokini kuchaytirishning metodologik asoslari tahlil qilinadi. Zamonaviy boshqaruv jarayonlarida mahalla institutining oʻrni, uning jamiyat barqarorligi va fuqarolik jamiyatini rivojlantirishdagi ahamiyati yoritilgan. Tadqiqotda mahalla rahbarlarining liderlik kompetensiyalari, boshqaruv madaniyati, aholi bilan samarali kommunikatsiya olib borish usullari hamda jamoatchilik faolligini oshirish mexanizmlari ilmiy-nazariy jihatdan asoslab berilgan. Shuningdek, raqamli boshqaruv, innovatsion yondashuvlar va ijtimoiy hamkorlik vositalarining mahalla boshqaruvidagi samaradorligi tahlil qilingan. Tezisda mahalla boshqaruvining samaradorligini oshirish uchun tashkiliy madaniyatni rivojlantirish, fuqarolarning qaror qabul qilishdagi ishtirokini kengaytirish va liderlik salohiyatini mustahkamlash boʻyicha taklif hamda tavsiyalar ishlab chiqilgan.

Kalit soʻzlar: mahalla, boshqaruv metodologiyasi, liderlik, tashkiliy madaniyat, jamoatchilik ishtiroki, fuqarolik jamiyati, innovatsion boshqaruv, kommunikatsiya, ijtimoiy hamkorlik, mahalla raisi, boshqaruv samaradorligi, raqamli boshqaruv, demokratik tamoyillar, strategik boshqaruv, ijtimoiy faollik.

Mahalla instituti oʻzbek jamiyatining tarixiy va ijtimoiy taraqqiyotida muhim oʻrin egallab kelayotgan oʻziga xos fuqarolik boshqaruvi tizimi hisoblanadi. Soʻnggi yillarda mamlakatda olib borilayotgan keng koʻlamli islohotlar mahalla tizimining faoliyatini takomillashtirish, uning boshqaruv imkoniyatlarini kengaytirish hamda aholining ijtimoiy faolligini oshirishga qaratilmoqda. Ayniqsa, mahalla boshqaruvida liderlik kompetensiyalarini rivojlantirish, tashkiliy madaniyatni shakllantirish va jamoatchilik ishtirokini kuchaytirish zamonaviy boshqaruvning ustuvor yoʻnalishlaridan biri sifatida namoyon boʻlmoqda. Chunki samarali boshqaruv tizimi kuchli liderlik, sogʻlom tashkiliy muhit va fuqarolarning faol ishtirokisiz toʻliq shakllanmaydi. Shu nuqtai nazardan, mahalla boshqaruvida innovatsion yondashuvlarni qoʻllash va boshqaruv

metodologiyasini zamon talablari asosida modernizatsiya qilish dolzarb ilmiy-amaliy masala hisoblanadi.

Mahalla boshqaruvida liderlik tushunchasi nafaqat rahbarlik qilish, balki jamoani birlashtirish, fuqarolarning manfaatlarini himoya qilish, ularni umumiy maqsad sari yo'naltirish hamda ijtimoiy muammolarni samarali hal qilish qobiliyatini ham anglatadi. Zamonaviy lider o'z faoliyatida kommunikativ kompetensiya, strategik fikrlash, konfliktologik yondashuv va innovatsion boshqaruv ko'nikmalariga ega bo'lishi zarur. Mahalla raisi yoki boshqa boshqaruv subyektlari aholining ishonchini qozonish orqali jamiyatdagi ijtimoiy birdamlikni mustahkamlaydi. Ayniqsa, yoshlar, ayollar va ijtimoiy himoyaga muhtoj qatlamlar bilan ishlashda liderlik salohiyatining yuqori darajada bo'lishi muhim ahamiyatga ega. Chunki liderlikning asosiy vazifalaridan biri fuqarolarni jamiyat hayotida faol ishtirok etishga undash va ularda mas'uliyat hissini shakllantirishdan iboratdir.

Tashkiliy madaniyat mahalla boshqaruvining samaradorligini belgilovchi asosiy omillardan biri hisoblanadi. Tashkiliy madaniyat deganda boshqaruv tizimida shakllangan qadriyatlar, an'analar, me'yorlar, etik tamoyillar va xulq-atvor standartlari tushuniladi. Mahallada sog'lom tashkiliy muhitning mavjudligi fuqarolar va boshqaruv organlari o'rtasidagi ishonchni mustahkamlaydi. Ayniqsa, ochiqlik, shaffoflik, adolat va hamkorlik tamoyillariga asoslangan boshqaruv modeli fuqarolarning mahalla faoliyatiga bo'lgan ishonchini oshiradi. Tashkiliy madaniyatning rivojlanganligi rahbarlarning qaror qabul qilish jarayonida demokratik tamoyillarga amal qilishida ham namoyon bo'ladi. Bunday sharoitda fuqarolar o'z fikr va takliflarini erkin bildirish imkoniyatiga ega bo'lib, bu esa jamoatchilik nazorati va fuqarolik faolligining ortishiga xizmat qiladi.

Bugungi globallashtirish sharoitida mahalla boshqaruvining samaradorligi ko'p jihatdan zamonaviy boshqaruv texnologiyalarini qo'llash bilan bog'liqdir. Xususan,

raqamli boshqaruv tizimlari, elektron murojaatlar platformalari, onlayn so‘rovnomalar va virtual muloqot vositalari mahalla faoliyatining ochiqligi hamda tezkorligini ta’minlaydi. Fuqarolar bilan muntazam kommunikatsiya olib borish, ularning muammolarini o‘rganish va tezkor hal qilish boshqaruvning samaradorligini oshiradi. Shu bilan birga, axborot-kommunikatsiya texnologiyalaridan foydalanish jamoatchilik ishtirokini kengaytirish imkonini beradi. Ayniqsa, yoshlarning raqamli platformalar orqali mahalla hayotiga jalb qilinishi fuqarolik faolligini oshirishning muhim vositalaridan biri hisoblanadi.

Jamoatchilik ishtiroki demokratik boshqaruvning asosiy mezonlaridan biri sifatida e’tirof etiladi. Mahalla tizimida fuqarolarning faol ishtiroki ijtimoiy barqarorlikni ta’minlash, muammolarni aniqlash va ularni samarali hal qilishda muhim rol o‘ynaydi. Fuqarolar yig‘inlari, ochiq muloqotlar, ijtimoiy loyihalar va jamoatchilik tashabbuslari mahalla boshqaruvida ishtirokchilik tamoyilini kuchaytiradi. Jamoatchilik ishtirokining rivojlanganligi fuqarolarda daxldorlik hissini shakllantirib, ularning jamiyat oldidagi mas’uliyatini oshiradi. Shu sababli mahalla boshqaruvida “fuqaro – jamiyat – davlat” hamkorligi tamoyilini rivojlantirish muhim vazifa hisoblanadi.

Mahalla boshqaruvida liderlik va tashkiliy madaniyatni rivojlantirish uchun malaka oshirish tizimini takomillashtirish zarur. Rahbarlarning zamonaviy boshqaruv kompetensiyalarini rivojlantirish maqsadida treninglar, seminarlar va ilmiy-amaliy dasturlar tashkil etilishi lozim. Ayniqsa, konfliktlarni boshqarish, strategik rejalashtirish, jamoa bilan ishlash va kommunikativ kompetensiyalarni rivojlantirish bo‘yicha maxsus o‘quv dasturlarini joriy etish katta samara beradi. Shu bilan birga, xorijiy tajribalarni o‘rganish va mahalliy sharoitga moslashtirish boshqaruv metodologiyasining takomillashuviga xizmat qiladi. Dunyoning rivojlangan davlatlarida jamoatchilik boshqaruvi va fuqarolik institutlarini rivojlantirish bo‘yicha qo‘llanilayotgan innovatsion yondashuvlar mahalla tizimiga ham samarali integratsiya

qilinishi mumkin. Mahalla boshqaruvida ijtimoiy sheriklik mexanizmlarini rivojlantirish ham muhim ahamiyatga ega. Nodavlat notijorat tashkilotlari, ta'lim muassasalari, tadbirkorlik subyektlari va fuqarolik jamiyati institutlari bilan hamkorlik mahalla faoliyatining samaradorligini oshiradi. Ayniqsa, yoshlar bandligini ta'minlash, ijtimoiy himoyaga muhtoj oilalarni qo'llab-quvvatlash, ekologik muammolarni hal qilish va madaniy-ma'rifiy tadbirlarni tashkil etishda ijtimoiy sheriklik muhim vosita hisoblanadi. Bunday hamkorlik fuqarolarning ijtimoiy faolligini oshiribgina qolmay, mahallaning iqtisodiy va ma'naviy rivojlanishiga ham xizmat qiladi.

Mahalla boshqaruvida tashkiliy madaniyatning muhim jihatlaridan biri etik me'yorlarga rioya qilishdir. Rahbarlarning halolligi, mas'uliyati, adolatliligi va ochiqligi fuqarolarning boshqaruv tizimiga bo'lgan ishonchini mustahkamlaydi. Etik qadriyatlarga asoslangan boshqaruv tizimi korrupsion holatlarning oldini olishga yordam beradi va sog'lom ijtimoiy muhitni shakllantiradi. Shu sababli mahalla boshqaruvida professional etika tamoyillarini keng targ'ib qilish va amaliyotga joriy etish zarur.

Mahalla boshqaruvida strategik rejalashtirish metodologiyasini takomillashtirish ham dolzarb masalalardan biridir. Strategik yondashuv mahalla rivojlanishining uzoq muddatli maqsadlarini belgilash, mavjud resurslardan samarali foydalanish va istiqboldagi muammolarni oldindan prognoz qilish imkonini beradi. Mahalla infratuzilmasini rivojlantirish, ekologik barqarorlikni ta'minlash, yoshlar siyosatini qo'llab-quvvatlash va aholi farovonligini oshirish kabi yo'nalishlar strategik boshqaruvning ustuvor vazifalari hisoblanadi. Strategik rejalashtirish jarayonida jamoatchilik fikrini inobatga olish esa qarorlarning samaradorligini oshiradi.

Xulosa qilib aytganda, mahalla boshqaruvida liderlik, tashkiliy madaniyat va jamoatchilik ishtirokini kuchaytirish zamonaviy fuqarolik jamiyatini rivojlantirishning muhim omillaridan biri hisoblanadi. Kuchli liderlik salohiyati, sog'lom tashkiliy muhit

va fuqarolarning faol ishtiroki mahalla boshqaruvining samaradorligini oshiradi hamda ijtimoiy barqarorlikni ta'minlaydi. Zamonaviy boshqaruv metodologiyalarini joriy etish, raqamli texnologiyalardan foydalanish, malaka oshirish tizimini takomillashtirish va ijtimoiy sheriklikni rivojlantirish orqali mahalla institutining jamiyatdagi o'rni yanada mustahkamlanadi. Shu bilan birga, demokratik tamoyillarga asoslangan boshqaruv modeli fuqarolarning davlat va jamiyat hayotidagi ishtirokini kengaytirib, fuqarolik madaniyatining rivojlanishiga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Drucker, P. F. (2007). *Management challenges for the 21st century*. HarperBusiness.
2. Northouse, P. G. (2021). *Leadership: Theory and practice* (9th ed.). Sage Publications.
3. Robbins, S. P., & Judge, T. A. (2019). *Organizational behavior* (18th ed.). Pearson Education.
4. Fukuyama, F. (2013). *What is governance?* Governance, 26(3), 347–368.
5. Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster.
6. O'zbekiston Respublikasi Prezidenti. (2022). *Mahalla institutini yanada rivojlantirish chora-tadbirlari to'g'risidagi farmon*. Toshkent.
7. Qodirov, A. (2021). Mahalla boshqaruvi va fuqarolik jamiyati rivoji. *Ijtimoiy tadqiqotlar jurnali*, 4(2), 45–53.
8. Yusupov, B. (2020). Zamonaviy boshqaruv metodologiyasida liderlik omili. *Boshqaruv va innovatsiya*, 3(1), 22–30.
9. Schein, E. H. (2017). *Organizational culture and leadership* (5th ed.). Wiley.
10. Denhardt, J. V., & Denhardt, R. B. (2015). *The new public service: Serving, not steering*. Routledge.

Technologies for Developing Future Teachers' Adaptation to Socio-Pedagogical Activities"

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ABSTRACT

This article analyzes technologies for developing social competencies of future teachers. The concept of social competence, its structural aspects and significance in pedagogical activity are studied. Methods for forming social competence based on various approaches are analyzed, and mechanisms for developing this competence in the educational process are presented. The stages of future teachers' acquisition of socio-cultural values and their application in their professional activities are also covered. The article considers factors influencing the development of social competence, interactive approaches in the educational process, and the role of communicative and psychological competencies in pedagogical.

KEYWORDS

social competence, pedagogical competence, professional development, educational technologies, communicative competence, psychological competence.

ANNOTATSIYA

Mazkur maqolada bo'lajak pedagoglarning ijtimoiy kompetensiyalarini rivojlantirish texnologiyalari tahlil qilinadi. Ijtimoiy kompetentlik tushunchasi, uning tarkibiy jihatlari va pedagogik faoliyatdagi ahamiyati o'rganiladi. Turli yondashuvlar asosida ijtimoiy kompetentlikni shakllantirish metodlari tahlil qilinib, ta'lim jarayonida bu kompetensiyani rivojlantirish mexanizmlari keltiriladi. Shuningdek, bo'lajak o'qituvchilarning ijtimoiymadaniy qadriyatlarni egallashi va ularni kasbiy faoliyatida qo'llash bosqichlari yoritiladi. Maqolada ijtimoiy kompetentlikni rivojlantirishga ta'sir

qiluvchi omillar, ta'lim jarayonidagi interfaol yondashuvlar hamda pedagogik faoliyatda kommunikativ va psixologik kompetensiyalarning o'rni haqida fikr yuritiladi.

Kalit soʻzlari

ijtimoiy kompetentlik, pedagogik kompetensiya, kasbiy rivojlanish, ta'lim texnologiyalari, kommunikativ kompetensiya, psixologik kompetensiya.

KIRISH. Yangi taraqqiyot davrida mamlakatimizda bo'lajak pedagogning muvaffaqiyati bevosita uning ijtimoiy muammolardan xabardorligi, muammoni ko'rish va uni hal qilish qobiliyatiga bog'liq. Shu sababli shaxs muvaffaqiyatining asosiy jihati - istalgan maqsadlarga erishish va kerakli natijaga erishishga imkon beradigan ijtimoiy kompetentlikning shakllanishi va taqdim etilganlik darajasidir. Kompetentlikning mohiyati, uning tarkibiy komponentlari, shakllantirish omillari va shart-sharoitlari, kompetentlik turlari va ularning klassifikatsiyasi, kasbiy ijtimoiy xayotda kompetentlikni o'rni va ahamiyatini o'rganish pedagogika fani oldida turgan dolzarb muammolardir. Bugungi globallashuv va ta'lim tizimini modernizatsiya qilish jarayonida bo'lajak pedagoglarning kasbiy kompetentligini rivojlantirish dolzarb masalalardan biri hisoblanadi. Ayniqsa, ularning ijtimoiy-pedagogik faoliyatga moslashuvi kelajakdagi samarali pedagogik faoliyatning muhim omili sifatida namoyon bo'ladi. Ijtimoiy-pedagogik faoliyatga moslashuv – bu talabaning jamiyat talablari, ta'lim muhiti, pedagogik munosabatlar hamda kasbiy faoliyat sharoitlariga moslashishi jarayonidir. Mazkur jarayon pedagog shaxsining kasbiy shakllanishi, ijtimoiy faolligi va pedagogik mahoratini rivojlantirishga xizmat qiladi.

Bo'lajak pedagoglarning ijtimoiy-pedagogik faoliyatga moslashuvini rivojlantirishda zamonaviy pedagogik texnologiyalardan foydalanish muhim ahamiyat kasb etadi. Xususan, interfaol metodlar, muammoli ta'lim texnologiyasi, loyiha asosida o'qitish, hamkorlikda ta'lim olish texnologiyasi hamda raqamli ta'lim vositalari talabalarning mustaqil fikrlashi va kasbiy kompetensiyalarini rivojlantirishga yordam

beradi. Interfaol metodlar orqali talabalar pedagogik vaziyatlarni tahlil qilish, muammolarni mustaqil hal etish va jamoa bilan ishlash ko'nikmalariga ega bo'ladilar.

Kompetentlik – kompetensiyaga egalik. Odatda kompetentlik tushunchasi biror-bir sohada chuqur bilimga egalik deb ta'riflanadi. Bu asosan mutaxassisni kasbiy sohada chuqur bilim va kvalifikatsiyaga ega bo'lishidir. Bunda nafaqat bilim, balki tajriba ham nazarda tutiladi. Shunday qilib, kompetentlik bu – bilim, ko'nikma va malakalar; insonning ma'lum bir talabga javob berishi, belgilangan ko'rsatmalar asosida harakatlanishi; biror bir sohada produktiv harakatlanish natijasida dolzarb masalalarni samarali yechimini topishdir. Ijtimoiy kompetentlikni bo'lajak pedagogning ijtimoiy makonda takomillashuvi deb hisoblasak, xususan, ta'lim muassasasining tarbiyaviy muhiti insonning ijtimoiy xatti-harakatlarini modellastirib, unga subyektiv o'zini o'zi anglash tajribasini olish, ijtimoiy qobiliyatlarni rivojlantirish imkonini beradi. Tarbiya muhiti orqali ijtimoiy vakolatlarni shakllantirish jarayonida aynan shu pozitsiya muhim ahamiyat kasb etadi. Talabalarning ijtimoiylashuvi jarayonining natijasi, ya'ni maktab va atrof-muhitning haqiqiy o'zaro ta'siri natijasi o'laroq uning yangi darajadagi ijtimoiy vakolatlari yuzaga keladi. Shunda ijtimoiy kompetentlikni shakllantirish bugungi kunda zamonaviy maktab uchun muhim pedagogik vazifalardan biriga aylanadi.

NATIJALAR. Jamiyatda insonning ijtimoiy subyekt va shaxs sifatida faoliyat olib borishida ijtimoiy kompetentlik muxim o'rin egallaydi. Bu kasbiy kompetentlikning bir yo'nalishi yoki kasbiy faoliyatning asosiy elementidir. Ijtimoiy kompetentlik – o'zini o'zi anglash, bo'lajak pedagoglar xulqatvori va xis-tuyg'ularini tushunishi; bo'lajak pedagoglar bilan muloqot qilishda to'g'ri qaror qabul qilish bilan bog'liq bilim, ko'nikma va malakalar yig'indisidir. Pedagogning ijtimoiy kompetentligi mohiyati quyidagi jihatlarni qamrab oladi:

1. Pedagog shaxsning ijtimoiy yo'nalganligi (A.Maslou); bolalarga mehr-muxabbat va muloqotga ehtiyoj (L.M.Mitina); har bir bolaga qadriyat sifatida qarash (K.Rodgers).

2. Pedagogning individual xususiyatlari, uning ruhiy xolati, atrofidagi insonlarni qabul qila olishi.

3. Kasbiy “Men-konsepsiyaga” egalik.

4. Refleksiv va perseptiv bilim, ko‘nikma, malakalar yig‘indisi. (O‘zining individual – psixologik xususiyatlarini anglaganligi, o‘zini xolati va xulq-atvorini baholay olish; bo‘lajak pedagoglarni har tomonlama xis qilish va tushuna olish).

5. Psixologik-pedagogik bilim, ko‘nikma va malakalar: kommunikativ bilim, ko‘nikma va malakalar; pedagogik muloqotga asos bo‘luvchi bo‘lajak pedagoglarning psixik rivojlanish xususiyatlarini aniqlash va ajratishga oid bilim va ko‘nikmalar.

6. Didaktik jarayon va didaktik muloqotni tashkil etish bilan bog‘liq pedagogik bilimlar.

Shuningdek, ijtimoiy-pedagogik moslashuvni rivojlantirishda trening mashg‘ulotlari, pedagogik amaliyotlar, rolli o‘yinlar va keys-stadi texnologiyalaridan samarali foydalanish zarur. Mazkur texnologiyalar talabalarda kommunikativ kompetentlikni, kasbiy mas’uliyatni hamda pedagogik refleksiyani shakllantiradi. Ayniqsa, pedagogik amaliyot jarayonida talaba nazariy bilimlarni amaliy faoliyat bilan uyg‘unlashtirish imkoniyatiga ega bo‘ladi. Bu esa ularning kelajakdagi kasbiy faoliyatga tayyorgarligini mustahkamlaydi.

Bo‘lajak pedagoglarning ijtimoiy-pedagogik faoliyatga moslashuvini rivojlantirishda axborot-kommunikatsiya texnologiyalarining ham o‘rni katta. Elektron ta’lim platformalari, masofaviy ta’lim tizimlari va multimedia vositalari ta’lim jarayonining samaradorligini oshirib, talabalarning ijodiy va innovatsion fikrlashini rivojlantiradi. Shu bilan birga, raqamli texnologiyalar talabalarning mustaqil ta’lim olish imkoniyatlarini kengaytiradi.

Xulosa qilib aytganda, o‘tkazilgan tahlillar ijtimoiy kompetentlik mohiyatini anglashda turli xil yondashuvlar mavjud degan xulosaga kelishimizga imkon beradi:

ijtimoiy kompetentlik yoki bo'lajak pedagogning integral sifati, yoki ijtimoiy o'zaro ta'sir sifatida taqdim etiladi; ijtimoiy kompetentlik qaysidir faoliyat natijasi yoki shaxsning ma'lum bir faoliyat turiga erishish ko'rsatkichi sifatida tavsiflanadi; ijtimoiy vakolatni shakllantirishning mazmun komponenti insonning yoshiga bog'liq. Turli yoshdagi ijtimoiy kompetentlikning shakllanish va rivojlanish jarayoni ham umumiy, ham o'ziga xos xususiyatlarga, shu jumladan turli va o'xshash tarkibiy qismlarga ega. Ta'lim oluvchilarning faol ijtimoiy rivojlanish shartlaridan biri ijtimoiy tajribaning turi va darajalarining o'zaro integratsiyasi va ularning o'zaro bog'liklikda qo'llanilishiga bog'liq. Ta'lim oluvchilar faoliyatini boshqarish talabalarnig ijtimoiy-pedagogik kompetentligining rivojlanganligi hamda ularda o'z-o'zini bilish xususiyatlarini shakllanganligiga bog'liq bo'lib, bu jarayon tezkorlik bilan rivojlanishni talab etadi.

ADABIYOTLAR RO'YXATI

1. O'zbekiston Respublikasi Prezidentining 2020-yil 6-noyabrdagi "Ta'limtarbiya tizimini yanada takomillashtirishga oid qo'shimcha chora-tadbirlar to'g'risida"gi PQ – 4884-sonli qarori.
2. . Chuprov V.I., Zubok Y.A., Uilyams K. Xavfli jamiyatda yoshlar. – M.: Nauka, 2013. – P.
3. Veselkova N., Pryamikova E. O'sishning ijtimoiy kompetensiyasi. – Ekaterinburg, 2015-yil.
4. Nagaichenko N.N. Ijtimoiy kompetensiya: kontseptsianing mazmuni va tuzilishi. – Yaroslavl Pedagogika byulleteni – 2012-yil, 3-son - II jild (Psixologiya va pedagogika fanlari)
5. B. Q.Xodjayev, B. T. Juraev.- Toshkent: Muharrir nashriyoti, 2020.- 148b
6. Amonov, Mirjon Namozovich. "O'zbekistonda bo'lajak o'qituvchilarning kasbiy ko'nikmalarini loyihalash va mustaqil tayyorlash muammolari." *Ta'lim fanlari bo'yicha akademik tadqiqotlar* 2.3 (2021): 22-26.

7. Олимов Ш.Ш., Ходжиева М.Ш. Возможности применения педагогических технологий в образовательном процессе //Молодежь и XXI век- 2020. – 2020. – С. 228-231.
8. Ходжиева М. Ш. Совершенствование аксиологического подхода к педагогической деятельности у будущих учителей //Научный журнал. – 2020. – №. 9 (54). – С. 43-45.
9. Yoshiyena U. M. The importance of using pedagogical technologies in special educational schools //Вестник науки и образования. – 2020. – №. 22-2 (100). – С. 24-26.
10. Tojiyevich J. B. THE DEVELOPMENT OF THE ART OF MUSIC IN THE PERIOD OF THE SOMANIDS ERA //SHOKH LIBRARY. – 2025. – Т. 1. – №.

Correlation between menstrual cycle disturbances and polycystic ovary syndrome in reproductive-aged women with iodine deficiency

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Abstract

The intersection of endemic environmental micronutrient deprivation and intrinsic ovarian dysfunction presents a formidable diagnostic challenge within modern reproductive endocrinology. This study rigorously investigates the pathophysiological interrelation between menstrual cycle disruptions and polycystic ovary syndrome among females residing in regions characterized by severe iodine deficiency. Utilizing a stratified, cross-sectional analytical framework, clinical data was acquired from a cohort of 215 females presenting with confirmed hyperandrogenic anovulation and concomitant morphological ovarian alterations. Empirical analysis exposed an amplified clinical phenotype within the iodine-deficient demographic, where 72.4% exhibited severe oligomenorrhea with cycle lengths routinely exceeding 55 days, directly contrasting the 41.8% prevalence in iodine-sufficient controls. Structural biochemical modeling demonstrated a severe inverse correlation between median urinary iodine concentrations and spontaneous menses frequency. This chronobiological disruption is primarily driven by subclinical hypothyroid-induced suppression of hepatic sex hormone-binding globulin synthesis, which plummeted to 22.5 ± 3.8 nmol/L in the experimental group. The resulting unchecked proliferation of unbound peripheral testosterone drastically distorted the local intraovarian microenvironment, precipitating

premature follicular arrest and secondary amenorrhea. High-resolution ultrasonography corroborated these deviations, revealing significantly higher antral follicle counts and elevated ovarian volumes in iodine-depleted subjects. The integrated data unequivocally dictates that geographic iodine status acts as a powerful pathogenic amplifier of gonadal dysregulation, requiring aggressive thyroid optimization and targeted iodine replenishment prior to initiating conventional ovulation-inducing pharmacotherapy.

Keywords

Polycystic ovary syndrome, endemic iodine deficiency, menstrual chronobiology, oligomenorrhea, subclinical hypothyroidism, sex hormone-binding globulin, hyperandrogenism.

Introduction

Systemic gonadal dysregulation inherently disrupts the delicate chronobiological rhythms defining female reproductive health. Polycystic ovary syndrome operates as the dominant etiology of anovulatory infertility and menstrual irregularity globally. When this complex endocrine disorder develops within geographic zones suffering from endemic iodine deprivation, the resulting clinical trajectory shifts aggressively toward therapy-resistant metabolic and reproductive states. The hypothalamic-pituitary-thyroid axis and the hypothalamic-pituitary-ovarian axis maintain a deeply synchronized biochemical dialogue. Decreased intrathyroidal iodine saturation blunts thyroxine synthesis, forcing a compensatory surge in circulating thyrotropin. This emergent subclinical hypothyroid state exerts extreme physiological pressure on peripheral tissues and the hepatic system. Hepatic synthesis pathways responsible for binding globulins are highly sensitive to thyroid hormone variations, meaning thyroid hypofunction actively remodels reproductive hormone bioavailability, distorting the temporal sequence required for cyclic endometrial shedding.

Clinical paradigms predominantly address these overlapping pathologies as parallel dysfunctions rather than recognizing their synergistic destructive potential. Patients in iodine-deficient topographies exhibit a compounded variant of the syndrome characterized by prolonged amenorrhea and intractable hyperandrogenism. Mapping the exact numerical relationship between regional iodine depletion and cycle elongation severity is necessary for modernizing localized clinical interventions. The primary objective of this investigation is to systematically quantify the interrelation between menstrual cycle abnormalities and polycystic ovary syndrome in an iodine-deficient cohort.

Materials and Methods

This observational, cross-sectional investigation utilized a rigorous clinical sampling matrix encompassing 215 women spanning 18 to 35 years. Participants sought specialized interventions for chronic menstrual cycle disorders and were diagnosed with polycystic ovary syndrome based on the revised Rotterdam criteria. Diagnosis required documented oligo-anovulation, clinical or biochemical hyperandrogenism, and distinct polycystic ovarian morphology detected via high-resolution transvaginal ultrasonography. Exclusion protocols aggressively eliminated confounding endocrinological variables, including congenital adrenal hyperplasia, prolactinomas, Cushing's syndrome, autoimmune thyroiditis, and exogenous hormonal contraceptive usage.

The primary cohort was divided into two observational arms based on micronutrient and thyroid status. Group A ($n = 125$) consisted of females exhibiting both the ovarian syndrome and confirmed endemic iodine deficiency (median urinary iodine < 100 mcg/L). Group B ($n = 90$) served as the primary control demographic, maintaining verified iodine sufficiency (urinary iodine > 100 mcg/L) and absolute euthyroid function. Menstrual chronobiology was quantified by recording cycle lengths over a 12-

month period, categorizing disruptions into oligomenorrhea and secondary amenorrhea. Fasting venous blood samples extracted during the early follicular phase were analyzed using high-performance chemiluminescence immunoassays to quantify thyrotropin, free thyroxine, luteinizing hormone, follicle-stimulating hormone, total testosterone, sex hormone-binding globulin, and prolactin. The Free Androgen Index was mathematically derived. Statistical processing leveraged SPSS Software version 27.0, assessing continuous variables via Student's t-tests and categorical distributions via Pearson's Chi-square tests, with bivariate relationships mapped utilizing Pearson correlation coefficients ($p < 0.05$).

Results

Synthesized clinical and biochemical data exposed a massive divergence in phenotypic severity directly tied to underlying environmental iodine status. Within Group A, the mean duration of the menstrual cycle extended to 58.4 ± 7.2 days, significantly exceeding the 42.1 ± 5.8 days observed in the iodine-sufficient Group B cohort ($p < 0.01$). Severe oligomenorrhea dominated Group A, affecting 72.4% of the population, while secondary amenorrhea was documented in 24.8%. Conversely, Group B presented with oligomenorrhea in 51.1% of cases and secondary amenorrhea in 11.2%.

Urinary iodine concentrations in the primary experimental group averaged an extremely depleted 48.2 ± 6.4 mcg/L, perfectly correlating with elevated mean thyrotropin levels of 4.1 ± 0.5 mIU/L. This sluggish thyroid function devastated hepatic synthetic pathways, causing sex hormone-binding globulin levels in Group A to plummet to 22.5 ± 3.8 nmol/L—nearly a fifty percent reduction compared to the 43.1 ± 4.5 nmol/L measured in the control group. This reduction initiated a cascading hyperandrogenic disaster. The Free Androgen Index spiked to an aggressive 8.9 ± 1.2 in the iodine-deficient group, vastly outstripping the 4.8 ± 0.7 recorded in the iodine-

sufficient cohort ($p < 0.05$). Unbound testosterone physically halted the maturation of dominant follicles.

Concurrently, 34.4% of patients in Group A exhibited mild secondary hyperprolactinemia (mean 28.5 ± 3.1 ng/mL), pushing the luteinizing hormone to follicle-stimulating hormone ratio above 2.8. Pelvic ultrasonography physically mapped the resulting gonadal stasis, with mean ovarian volume inflating to 14.8 ± 1.5 cm³ in the deficient group alongside an excessive antral follicle count crossing 24 follicles per ovary. Correlational modeling generated a powerful negative coefficient between urinary iodine levels and cycle length ($r = -0.68$, $p < 0.01$).

Discussion

The profound amplification of cycle disruptions under iodine-deficient conditions isolates a highly destructive endocrinological feedback loop. Suboptimal thyroxine synthesis suppresses hepatic function, creating a dangerous deficit in binding globulins. This specific physiological failure unleashes excessive unbound androgens, which actively attack the ovarian follicle selection process, preventing the emergence of a dominant ovulatory follicle and indefinitely delaying menstruation. Empirical findings from this cohort drastically reshape our understanding of regional reproductive pathologies, demonstrating that geographic factors act as direct metabolic catalysts.

Recent modeling by international reproductive consortiums demonstrates that isolated polycystic ovary syndrome typically yields cycle lengths averaging 45 days; our iodine-deficient cohort exceeded these global averages by nearly two weeks per cycle. The concurrent elevation of prolactin acts as a secondary antagonist to normal cyclical rhythms, explaining the exceptionally high prevalence of secondary amenorrhea within the experimental group. Insulin resistance operates as the silent intermediary amplifying this entire pathological network. Subclinical hypothyroidism inherently blunts peripheral cellular glucose uptake, and the resulting compensatory hyperinsulinemia

cross-reacts with ovarian theca cells, hyper-stimulating their androgenic output. Addressing ovarian cysts without simultaneously correcting fundamental thyroid hypofunction represents a deeply flawed clinical strategy.

Scientific Novelty and Practical Significance

This investigation provides highly specific mathematical modeling of how geographic micronutrient deprivation exacerbates menstrual cycle chronobiology in hyperandrogenic females. Identifying the direct correlation between depressed urinary iodine, suppressed hepatic globulin synthesis, and elongated anovulatory cycles forces a total paradigm shift in regional gynecological practices. Implementing mandatory, preemptive thyroid function preservation and aggressive iodine loading into the foundational therapeutic protocols for oligomenorrheic patients will systematically dismantle the amplified metabolic resistance, directly increasing the efficacy of fertility interventions.

Conclusion

Modulating regional environmental nutritional deficits represents the absolute foundational step in restoring female ovarian cyclicity. The data conclusively proves that iodine deficiency acts as an aggressive pathogenic accelerator that drastically deepens hyperandrogenism and prolongs anovulatory states. Realigning standard clinical algorithms to mandate immediate thyroid stabilization and iodine correction will effectively neutralize the amplified free androgen index, serving as the singular reliable mechanism to reestablish spontaneous menstrual rhythms and protect long-term reproductive viability.

References

1. Williams RT, Davies ML. Subclinical hypothyroidism as an amplifier of hyperandrogenism in reproductive-aged females. J Clin Endocrinol. 2022;88(4):450-465.

2. Chen H, Zhao Y. The mathematical modeling of sex hormone-binding globulin suppression in iodine-deficient populations. *Endocr Res Int.* 2024;31(1):77-89.
3. Petrov V, Smirnova E. Phenotypic variations of ovarian dysfunction driven by environmental micronutrient scarcity. *Eurasian Med J.* 2023;19(3):204-218.
4. Anderson L, Patel K. The intersection of insulin resistance and thyroid hypofunction in oligo-anovulatory syndromes. *Clin Reprod Biol.* 2025;42(2):310-328.
5. Jenkins A, Harrison T. Hepatic synthesis of binding globulins under chronic thyrotropin elevation. *Biochem Endocrinol Rev.* 2022;27(4):415-430.
6. Garcia M. Structural pelvic morphology and its correlation with systemic thyroid profiles. *Ultrasound Obstet Gynecol.* 2023;61(1):55-70.
7. Lee SY, Park JM. Mapping the physiological dialogue between thyroxine synthesis and ovarian steroidogenesis. *Asian J Endocrinol.* 2024;12(3):145-160.
8. Thompson E, Davis K. Therapeutic recalibration for hyperandrogenic phenotypes in micronutrient-depleted geographies. *J Evid Based Med.* 2025;38(2):220-235.
9. Rodriguez P, Gomez J. The impact of mild hyperprolactinemia on GnRH pulsatility in subclinical hypothyroid states. *J Neuroendocrinol.* 2021;33(5):45-59.
10. Smith JR, Taylor AL. Chronobiology of the menstrual cycle: environmental modifiers and endocrine disruptors. *Glob Reprod Health.* 2023;9(1):12-28.

INTERNATIONAL INSTITUTIONS IN THE IMPLEMENTATION OF INTERNATIONAL STANDARDS OF OPENNESS IN THE ACTIVITIES OF STATE BODIES

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Abstract. The article examines the role of leading international institutions such as the Organisation for Economic Co-operation and Development (OECD), Open Government Partnership (OGP), United Nations (UN), and the World Bank in the process of implementing standards of openness in public administration, as well as the transition to the “open government” model as a systemic paradigm shift in which transparency and accountability are key factors of public trust in government.

The article thoroughly highlights mechanisms for implementing international standards, including regulatory frameworks, technical assistance, and monitoring systems. Special attention is given to the practical experience of the Republic of Uzbekistan, which demonstrates significant progress in global openness rankings such as Open Data Inventory (ODIN) through close cooperation with international partners and the implementation of innovative governance methodologies at the local level.

Keywords: open government, transparency, accountability, international institutions, implementation of standards, principles, anti-corruption, Uzbekistan, digitalization.

МЕЖДУНАРОДНЫЕ ИНСТИТУТЫ В ИМПЛЕМЕНТАЦИИ МЕЖДУНАРОДНЫХ СТАНДАРТОВ ОТКРЫТОСТИ ДЕЯТЕЛЬНОСТИ ГОСУДАРСТВЕННЫХ ОРГАНОВ

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Аннотация. В статье рассмотрена роль таких ведущих международных институтов, ОЭСР, ОGP, ООН, Всемирный банк в процессе внедрения стандартов открытости государственного управления, а также переход к модели «открытого правительства» как системной смены парадигмы, где прозрачность и подотчетность являются ключевыми факторами доверия к власти. В статье подробно освещены механизмы имплементации международных норм, в том числе, нормативно-правовая база, техническое содействие и системы мониторинга. Уделено особое внимание практическому опыту Республики Узбекистан, демонстрирующему значительный прогресс в глобальных рейтингах открытости (ODIN) благодаря тесному сотрудничеству с международными партнерами и реализации инновационных методологий управления на местах.

Ключевые слова: открытое правительство, прозрачность, подотчетность, международные институты, имплементация стандартов, принципы, противодействие коррупции, Узбекистан, цифровизация.

В условиях современной архитектуры глобального управления концепция открытости государственных органов трансформировалась из факультативного демократического идеала в фундаментальный стандарт экономической эффективности и институциональной устойчивости. Переход к модели «открытого правительства» представляет собой системную смену парадигмы, в которой такие понятия, как прозрачность, подотчетность и гражданское участие становятся ключевыми детерминантами доверия между государством и обществом. Основополагающую роль в этом процессе играют международные институты, выступающие не только в качестве разработчиков нормативных стандартов, но и в качестве архитекторов механизмов их практической имплементации, обеспечивая интеграцию глобальных норм в национальные правовые и технологические экосистемы.

Внедрение стандартов открытости осуществляется через многостороннее сотрудничество, где такие организации, как Партнерство «Открытое правительство» (OGP), Организация экономического сотрудничества и развития (ОЭСР), структуры ООН и Группа Всемирного банка, формируют согласованную систему стимулов, инструментов мониторинга и программ технического содействия. Их деятельность направлена на преодоление традиционной закрытости бюрократических систем и создание условий, при которых государственные данные становятся доступным общественным ресурсом, способствующим инновациям и инклюзивному росту.

Формирование международных стандартов открытости основывается на признании права граждан на доступ к информации как неотъемлемого элемента прав человека и эффективного управления. Ведущие международные организации разработали комплекс деклараций и рекомендаций, которые определяют качественные и количественные параметры открытости государственного аппарата. Партнерство «Открытое правительство» (OGP), основанное в 2011 году - ведущая международная платформа, объединяющая правительства и организации гражданского общества для совместного продвижения реформ. Уникальность данной платформы заключается в механизме «со-творения» (co-creation), который требует от государств-членов разработки национальных планов действий в тесном сотрудничестве с гражданским сектором.

Вступление в OGP предполагает официальное одобрение Декларации открытого правительства, в соответствии с которой страны обязуются повышать доступность информации о деятельности властей, внедрять антикоррупционные политики и использовать новые технологии для усиления прозрачности. Эволюция OGP отражена в принятии Декларации Витория-Гастейс в 2025 году, которая объединила правительства и партнеров вокруг общего видения

укрепления демократии, защиты гражданского пространства и продвижения инклюзивного управления.

На сегодняшний день масштаб деятельности партнерства охватывает более 70 национальных и 150 местных членов, которые реализовали более 5600 конкретных обязательств. В рамках этих обязательств реформаторы осуществляют работу над тем, чтобы сделать управление более прозрачным и отзывчивым к потребностям граждан. ОЭСР занимает ведущие позиции в методологическом обеспечении реформ, предложив в 2017 году Рекомендацию Совета по открытому правительству. Данный документ определяет открытое управление как культуру управления, которая способствует соблюдению принципов прозрачности, честности, подотчетности и участия заинтересованных сторон.

Рекомендация призывает государства к разработке долгосрочных стратегий, которые связывают открытость с цифровой трансформацией и инклюзивным ростом. Взаимосвязь между открытостью и цифровыми технологиями подчеркивается в ряде сопутствующих документов ОЭСР, таких как Рекомендация по стратегиям цифрового правительства и Рекомендация по управлению цифровой идентичностью. Эти стандарты направлены на создание бесшовной среды взаимодействия между гражданами и государством, где цифровые инструменты служат не просто для автоматизации процессов, но для качественного изменения характера государственного управления в сторону большей прозрачности и подотчетности.

Международная хартия открытых данных – Open Data Charter — (ODC) — это глобальный проект, объединяющий правительства, представителей гражданского общества и экспертов по данным с целью разработки и внедрения единых стандартов публикации государственной информации. Хартия была

официально запущена в 2015 году и на данный момент является наиболее авторитетным сводом правил в области Open Data. К ней присоединились более 170 правительств, как на национальном, так и на местном уровнях, включая такие страны, как Великобритания, Канада, Республика Корея и Республика Узбекистан.

Хартия базируется на шести фундаментальных принципах, которые определяют, как данные должны собираться, обрабатываться и распространяться. Государственные органы должны публиковать данные автоматически, за исключением случаев, когда это нарушает приватность или национальную безопасность. Гласность - это правило, а секретность - исключение - принцип открытости по умолчанию (Open by Default); следующий принцип - своевременность и полнота (Timely and Comprehensive), заключается в том, что данные полезны только тогда, когда они актуальны. Они должны публиковаться в максимально сжатые сроки и в исходном виде.

Согласно принципу доступности и пригодности к использованию (Accessible and Usable), информация должна быть легко находимой через центральные порталы и предоставляться бесплатно, без ограничений по лицензиям. Принцип сравнимости и интероперабельности (Comparable and Interoperable) состоит в наличии единых стандартов и форматов всех данных, что позволяет сравнивать показатели разных стран, ведомств или регионов между собой. Открытость является инструментом контроля за властью. Для улучшения управления и гражданского участия данные должны помогать гражданам понимать, как принимаются решения.

Принцип инклюзивного развития и инноваций заключается в том, что открытые данные — это, своего рода, «топливо» для бизнеса и стартапов. Они позволяют создавать новые приложения и решать глобальные проблемы, такие

как изменение климата. Именно эти ключевые принципы делают данные доступными, используемыми и сравнимыми. Хартия акцентирует внимание на том, что открытость данных — это не самоцель, а инструмент для улучшения качества жизни, борьбы с коррупцией и преодоления глобальных вызовов.

В контексте подготовки Глобального цифрового договора (Summit of the Future 2024)¹ Хартия открытых данных подчеркивает необходимость понимания доступа к публичной информации как фундаментального права человека, сбалансированного с правом на неприкосновенность частной жизни. Это особенно важно в эпоху развития искусственного интеллекта, где открытые данные служат топливом для инноваций, требуя при этом жестких рамок этического управления и защиты персональных данных. Имплементация международных стандартов, в свою очередь, представляет собой сложный процесс, требующий не только политической воли, но и значительных ресурсов, а также технической экспертизы.

Международные институты развернули масштабные программы поддержки стран в их стремлении к открытости. Группа Всемирного банка, к примеру, активно интегрирует принципы открытого правительства в свои кредитные и консультационные портфели. Банк обеспечивает финансовую поддержку для реализации национальных планов OGP и способствует обмену знаниями между странами. Международный валютный фонд, чье техническое содействие часто направлено на улучшение статистики государственных финансов (GFS) и совершенствование управления государственными предприятиями, в последние годы значительно усилил свою роль в борьбе с коррупцией и продвижении фискальной прозрачности.

¹ Глобальный цифровой договор (Global Digital Compact) — масштабная инициатива, принятая в рамках Саммита будущего (Summit of the Future) в сентябре 2024 года в штаб-квартире ООН.

Ключевым этапом реформ стало принятие Закона «О противодействии коррупции» в 2017 году² и создание в 2020 году Агентства по противодействию коррупции³, подотчетного Президенту и Парламенту. В 2024 году был принят закон «О конфликте интересов», ставший, в свою очередь, важной вехой в укреплении национальной системы добропорядочности. Конституционные изменения 2023 года закрепили принципы открытости и подотчетности государственных органов как приоритетные задачи государства. Это создало прочный правовой фундамент для дальнейшей цифровизации и внедрения инструментов общественного контроля. Процесс разработки Национальной стратегии по противодействию коррупции до 2030 года осуществляется в тесном партнерстве с УНП ООН, что гарантирует ее соответствие положениям UNCAC. Узбекистан продемонстрировал беспрецедентный рост в глобальном рейтинге ODIN, что стало результатом целенаправленной работы Агентства статистики при поддержке международных организаций, включая ОБСЕ.

Для имплементации стандартов на региональном и местном уровнях ПРООН и GIZ инициировали проект «Улучшение управления в Узбекистане», в рамках которого применяется методология «Острова добропорядочности» (Islands of Integrity). Эта методология позволяет лидерам на местах выявлять коррупционные риски и разрабатывать стратегические планы действий в партнерстве с гражданским обществом. Пилотные программы «Прозрачные города» и «Муниципалитеты добропорядочности» были запущены в Мирзо-Улугбекском районе города Ташкент, городе Джизаке и Вобкентском районе Бухарской области.

Заключение

² Закон Республики Узбекистан «О противодействии коррупции» (ЗРУ-419), принятый 3 января 2017 года

³ Агентство по противодействию коррупции Республики Узбекистан - июнь 2020 года (согласно Указу Президента № УП-6013)

Анализ роли международных институтов в имплементации стандартов открытости позволяет сделать вывод о том, что мы являемся свидетелями формирования глобального режима прозрачности. Этот режим опирается на сложную инфраструктуру нормативных актов (OECD, UNCAC, OGP Declaration), технических стандартов (Open Data Charter) и систем мониторинга (EGDI, ODIN, GDB). Международные организации обеспечивают необходимый «мост» между глобальными идеалами и национальной практикой, предоставляя странам ресурсы для трансформации.

Пример Узбекистана демонстрирует, что за относительно короткий период времени (2017–2024 гг.) страна может совершить качественный скачок в рейтингах открытости, используя поддержку международных партнеров и внедряя современные инструменты управления данными. Однако успех имплементации в долгосрочной перспективе зависит от способности государств преодолеть глубокое институциональное сопротивление и обеспечить реальную оперативную совместимость данных.

Открытость не должна быть формальным атрибутом цифровизации, она должна стать основой новой культуры управления, где подотчетность перед гражданами является высшим приоритетом. В условиях стремительного развития технологий ИИ, стандарты открытости будут эволюционировать в сторону большей прозрачности алгоритмов и защиты цифровых прав личности, что потребует дальнейшего углубления международного сотрудничества.

Список использованной литературы:

1. OECD Recommendation of the Council on Open Government, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0438>
2. Multilateral Organizations | Open Government Partnership, <https://www.opengovpartnership.org/multilateral-organizations/>

3. odc principles - Open Data Charter, <https://opendatacharter.org/principles/>
4. Intergovernmental bodies - Advocacy - Transparency.org, <https://www.transparency.org/en/advocacy/intergovernmental-bodies>
5. Open Government Declaration, <https://www.opengovpartnership.org/how-we-work/joining-ogp/open-government-declaration/>
6. Open Government Partnership | Committed to making governments more open, accountable, and responsive to citizens, <https://www.opengovpartnership.org/>
7. ODC's contribution to the Global Digital Compact - the United Nations, https://www.un.org/digital-emerging-technologies/sites/www.un.org.techenvoy/files/GDC-submission_Open-Data-Charter.pdf
8. Adopt the ODC Principles - Open Data Charter, <https://opendatacharter.org/adopt-the-charter/>
9. Global Data Barometer, <https://globaldatabarometer.org/>
10. Technical Assistance Publications - International Monetary Fund, <https://www.imf.org/en/publications/sprolls/publications-on-technical-assistance>
11. Implementation Review Mechanism - Unodc, <https://www.unodc.org/unodc/en/corruption/implementation-review-mechanism.html>
12. Handbook on Combating Corruption | Organization for Security and Co-operation in Europe, <https://www.osce.org/secretariat/232761>
13. OSCE present policies and activities in good governance and anti- corruption, <https://iaccseries>.

**CHILD HOMELESSNESS AND NEGLECT IN THE UZBEK SSR IN THE
SECOND HALF OF THE 1920s: STATISTICS, SOCIAL PORTRAIT, AND
SYSTEMIC CRISIS ANALYSIS**

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Abstract. Based on a retrospective analysis of primary archival records from 1926–1928, this article comprehensively examines the phenomenon of child homelessness and neglect in the Uzbek SSR, evaluating its structural determinants, demographic parameters, and regional distribution. Through a critical academic discourse, the study evaluates the palliative interventions implemented by the Soviet authorities to mitigate the destructive outcomes of this deviant social crisis. Furthermore, it exposes the repercussions of acute budgetary deficits and institutional-legal lacunae, while unmasking the endogenous destabilizing factors operative within specialized child-welfare institutions.

Keywords: Uzbek SSR, archival sources, child homelessness, child neglect, RSFSR, People's Commissariat of Education, orphanages, foster care, guardianship.

**1920-YILLARNING IKKINCHI YARMI O‘ZBEKISTON SSRDA BOLALAR
QAROVIZSIGI VA NAZORATSIZLIGI: STATISTIKA, IJTIMOYIY PORTRET
VA TIZIMLI INQIROZ TAHLILI**

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Annotatsiya. Mazkur maqolada 1926–1928-yillardagi arxiv ma’lumotlari asosida O‘zbekiston SSRdagi bolalar qarovsizligi va nazoratsizligi muammosi, uning kelib chiqish sabablari, demografik hamda hududiy tarkibi tahlil qilingan. Shuningdek, sovet hokimiyatining ijtimoiy inqirozga qarshi ko‘rgan chora-tadbirlari, budget va huquqiy baza tanqisligi hamda muassasalardagi ichki muammolar tanqidiy yoritilgan.

Kalit so‘zlar: O‘zbekiston SSR, arxiv ma’lumotlari, bolalar qarovsizligi, RSFSR, Maorif xalq komissarligi, bolalar uylari, patronat, vasiylik.

**ДЕТСКАЯ БЕСПРИЗОРНОСТЬ И БЕЗНАДЗОРНОСТЬ В
УЗБЕКСКОЙ ССР ВО ВТОРОЙ ПОЛОВИНЕ 1920-Х ГОДОВ:
СТАТИСТИКА, СОЦИАЛЬНЫЙ ПОРТРЕТ И АНАЛИЗ СИСТЕМНОГО
КРИЗИСА**

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Аннотация. В данной статье на основе ретроспективного анализа первичных архивных материалов за 1926–1928 гг. комплексно исследуется феномен детской беспризорности и безнадзорности в Узбекской ССР, детерминанты его возникновения, а также демографическая и региональная структура данного социального явления. В критическом дискурсе рассматриваются паллиативные меры советской власти по преодолению деструктивных последствий девиантного кризиса, выявляются последствия бюджетного дефицита и институционально-правовой лакунарности, а также демаскируются эндогенные деструктивные процессы внутри специализированных детских учреждений.

Ключевые слова: Узбекская ССР, архивные источники, детская беспризорность, безнадзорность, РСФСР, Народный комиссариат просвещения, детские дома, патронат, опека.

1. INTRODUCTION (KIRISH)

Bugungi kunda mamlakatimizda aynan yoshlar masalasida juda ko‘plab keng ko‘lamli islohotlar amalga oshirilib, bunda bolalar manfaati, huquq va majburiyatini xalqaro andozalarga mos qilib borish bosh me‘zon sifatida birlamchi maqsadga aylantirilgan. Bugungi kunda O‘zbekiston Respublikasining bolalar huquq va erkinliklari kafolatlari borasida bir qancha xalqaro e‘tirof etilgan harakat hamda qonuniy hujjatlardagi teng a‘zo sifatida faol ishtiroki yuqorida bildirilgan fikrimizni asoslaydi.

1920-yillarning ikkinchi yarmida O‘zbekiston SSR o‘ta og‘ir ijtimoiy-iqtisodiy va demografik inqirozni boshdan kechirdi. Birinchi jahon urushi, fuqarolik urushi, ommaviy epidemiyalar, ocharchilik hamda hududdagi qurolli to‘qnashuvlar (bosmachilik harakatlari) aholi o‘rtasida o‘lim ko‘rsatkichini keskin oshirib, bolalar ommaviy qarovsizligini keltirib chiqardi. Muammo nafaqat mahalliy omillar, balki ittifoqdosh respublikalardan, xususan, RSFSRdan kelgan katta migratsion oqim hisobiga yanada murakkablashdi. Ushbu ijtimoiy hodisa jamiyatda jinoyatchilik va beqarorlik xavfini oshirdi. Arxiv ma‘lumotlarini tahlil etgan holda O‘zbekistoning 1920-1930 yillar tarixidagi bolalar qarovsizligi ahvoli, qarovsizlikni bartaraf etish maqsadida amalga oshirilgan chora-tadbirlar xususiyatidan kelib chiqqan holda ta‘sirini o‘rganish, shuningdek, mazkur davr bolalar muassasalari faoliyatiga ham baholar berilib o‘tish maqsad qilib olingan. Ko‘rsatilgan yo‘nalishdan kelib chiqqan holda arxiv ma‘lumotlari asosida qarovsiz bolalar ahvoli va xususiyatini izchillik bilan o‘rganish, bolalar qarovsizligi masalasining jamiyatga xavfi haqida taassurotlarni yaqqol namoyon qilish uchun dalil va faktlarni asosli shakllantirish vazifalari qo‘yilgan.

2. METHODS (METODLAR)

Tadqiqotning metodologik asosini tarixiy tizimlilik, qiyosiy-tarixiy tahlil, statistika va retrospektiv tahlil metodlari tashkil etadi. Tadqiqot jarayonida O'zbekiston SSR Markaziy bolalar komissiyasi, Sog'liqni saqlash hamda Maorif xalq komissarliklarining 1926–1928-yillardagi yarim yillik va yillik hisobotlari, hududiy okruglarning statistik ma'lumotlari qiyosiy tahlil qilindi. Bolalar uylaridagi tarbiyalanuvchilar yoshi, jinsi, etnik kelib chiqishi va ijtimoiy maqomi bo'yicha tasniflanib, miqdoriy (kvantitativ) va sifat (kvalitativ) tahlildan o'tkazildi.

3. RESULTS (NATIJALAR)

- Makrostatistika va migratsiya ko'lami: 1926-yilgi rasmiy ma'lumotlarga ko'ra, respublikada jami 11 000 nafar qarovsiz bola ro'yxatga olingan. Ulardan faqat 6 826 nafari (62%) bolalar muassasalariga qamrab olingan, 4 000 nafari esa ko'chalarda mutlaqo nazoratsiz qolgan. Qarovsiz bolalarning 75% qismini tir客观 sharoit izlab kelgan RSFSRlik migrant bolalar tashkil qilgan.

- Demografik va ijtimoiy profil: Ko'chadagi qarovsiz bolalar orasida etnik jihatdan rus millati eng ko'p ko'rsatkichni egallagan (keyingi o'rinlarda o'zbek va tatar millatlari). Bolalar uylaridagi tarbiyalanuvchilarning o'rtacha yoshi 10–15 yoshni tashkil etgan. Ularning ijtimoiy tarkibi quyidagicha bo'lgan: 40% — ishchi, 37% — dehqon oilalari farzandlari. Etnik tarkibi bo'yicha: 51% — o'zbeklar, 39% — yevropaliklar, 10% — boshqa millat vakillari.

- Institutsional boshqaruv mexanizmi: Bolalar yosh xususiyatiga ko'ra ikkita sub'ektga birlashtirilgan: 3 yoshgacha bo'lgan bolalar Sog'liqni saqlash Xalq komissarligiga, 3 yoshdan 18 yoshgacha bo'lganlar esa Maorif Xalq komissarligi hamda unga ko'makchi bo'lgan Markaziy bolalar komissiyasiga mas'ul etilgan.

- Ijtimoiy profilaktika natijalari: Hisobot davrida aniqlangan 3 279 nafar qarovsiz va huquqbuzar bolalardan jami 2 046 nafari sotsial reabilitatsiyaga jalb qilingan.

Shundan 335 nafari ishga joylashtirilgan, 380 nafari doimiy yashash joyiga (vataniga) joʻnatilgan, 150 nafari patronat qilingan, 50 nafari vasiylikka berilgan va 150 nafari normal oilaviy sharoitga qaytarilgan.

- Hududiy dinamika (1927–1928): 1927-yil oktyabrdan 1928-yil aprelgacha boʻlgan davrda koʻchalarda 500 ga yaqin bola qayd etilgan. Rasmiy hisobot bergan okruglar kesimida: Andijonda 139 nafar, Samarqandda 134 nafar, Surxondaryoda 34 nafar va Xoʻjandda 14 nafar qarovsiz bola aniqlangan. Qolgan okruglar esa hisobot taqdim etmagan.

4. DISCUSSION (MUNOZARA)

Tadqiqot natijalari shuni koʻrsatadiki, sovet hukumatining ijtimoiy reaksiyasi va qabul qilgan qarorlari muammoning real koʻlamiga nisbatan nomutanosib va qoniqarsiz boʻlgan.

1. Huquqiy va iqtisodiy inqiroz: Respublika darajasida tizimli qonunchilik bazasi yaratilmagan, mavjud qarorlar esa muammoning tub mohiyatini hal qilmay, faqat pivo va tamaki kabi mahsulotlarga qoʻshimcha soliq solish orqali bilvosita fond yigʻish bilan cheklangan. Budget tanqisligi sababli hukumat bolalar muassasalari sonini qisqartirishga va bolalarni uzoq qarindoshlariga majburlab berishga uringan. Ammo bu oilalar begona bolani boqishni istamagani bois, bolalarga nisbatan salbiy ijtimoiy munosabat yanada kuchaygan.

2. Muassasalardagi maishiy va tizimli kollaps: Nizom boʻyicha bolalar uylarida tarbiyalanuvchilar faqat 16 yoshgacha saqlanishi kerak edi. Amaliyotda esa 1929-yilga kelib 17 yoshdan 21 yoshgacha boʻlgan 700 nafar oʻsmir hamon bolalar uylarida qolib ketgan. Ularni mehnatga tayyorlash va ish bilan taʼminlashga mablagʻ ajratilmagan. Eng ogʻir holat Toshkent shahrida kuzatilgan: qishki mavsumda mavjud 7 ta bolalar uyida joy yetishmagan, oʻgʻil va qiz bolalar aralash joylashtirilgan, hatto

karavotlar yetishmagan. Ushbu antisanitariya va tirbandlik oqibatida 400 ga yaqin bola muassasalardan qochib, ko'chalarda tilanchilik qilishga majbur bo'lgan.

3. Muqobil choralarning samarasizligi: Vasiylik, patronat va individual moddiy yordam tizimi eng istiqbolli yo'nalish deb hisoblansa-da, ajratilgan mablag'larning noto'g'ri taqsimlanishi va tizimdagi qonunbuzarliklar tufayli kutilgan ijobiy samarani bermagan.

CONCLUSION (XULOSA)

1920-yillarning ikkinchi yarmida O'zbekiston SSRda bolalar qarovsizligi ommaviy tus olib, davlat tuzilmalari inqiroz qarshisida ojiz qolgan. Arxiv ma'lumotlari davlat tomonidan ko'rilgan choralarning rejasiz, mablag'larning yetersiz va nazorat mexanizmlarining korrupsiyalashgan bo'lganini ko'rsatadi. Muassasalardagi achinarli infratuzilma inqirozni jilovlash o'rniga, uni yanada chuqurlashtiruvchi va bolalarni qayta ko'chaga haydovchi omil vazifasini bajargan.

FOYDALANILGAN MANBALAR:

1. O'zMA 86-fond, 1-ish, 3585 delo
2. O'zMA 837-fond, 6-ish, 6 delo
3. O'zMA 86-fond, 1-ish, 3604 delo
4. O'zMA 86-fond, 1-ish, 4119 delo
5. O'zMA 837-fond, 6-ish, 388 delo

ANALYTICAL INSTRUMENTS AND MODERN APPROACHES IN MANAGING FINANCIAL STABILITY

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Abstract. This thesis examines analytical instruments and modern approaches used in managing the financial stability of enterprises. During the research, classical financial analysis methods, bankruptcy prediction models, risk assessment instruments, and the role of modern digital technologies in financial management were analyzed.

In addition, the advantages of using econometric modeling, stress-testing mechanisms, and business analytics systems in financial stability management were highlighted. The study substantiates that ensuring financial stability in enterprises should not be limited only to monitoring financial indicators, but must also be closely connected with early risk identification and the analytical justification of management decisions.

Keywords: financial stability, financial analysis, analytical instruments, risk management, bankruptcy model, stress test, business analytics, econometric modeling, liquidity, profitability.

MOLIYAVIY BARQARORLIKNI BOSHQARISHDA ANALITIK INSTRUMENTLAR VA ZAMONAVIY YONDASHUVLAR

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TDIU, 2-kurs tayanch doktoranti

ANNOTATSIYA

Mazkur tezisda korxonalarining moliyaviy barqarorligini boshqarishda qo‘llaniladigan analitik instrumentlar va zamonaviy yondashuvlar tadqiq etilgan. Tadqiqot davomida klassik moliyaviy tahlil usullari, bankrotlikni prognozlash modellari, risklarni baholash instrumentlari hamda zamonaviy raqamli texnologiyalarning moliyaviy boshqaruvdagi o‘rni tahlil qilindi. Shuningdek, moliyaviy

barqarorlikni boshqarishda ekonometrik modellashtirish, stress-test mexanizmlari va biznes analitika tizimlaridan foydalanishning afzalliklari yoritildi. Tadqiqot natijasida korxonalarda moliyaviy barqarorlikni ta'minlash faqat moliyaviy ko'rsatkichlarni nazorat qilish bilan cheklanmasligi, balki risklarni erta aniqlash va boshqaruv qarorlarini analitik asoslash bilan chambarchas bog'liqligi asoslab berildi.

Kalit so'zlar: moliyaviy barqarorlik, moliyaviy tahlil, analitik instrumentlar, risklarni boshqarish, bankrotlik modeli, stress-test, biznes analitika, ekonometrik modellashtirish, likvidlilik, rentabellik.

KIRISH

Bozor iqtisodiyoti sharoitida korxonalarining barqaror faoliyat yuritishi ko'p jihatdan ularning moliyaviy holati va moliyaviy resurslarni samarali boshqarish darajasiga bog'liq hisoblanadi. Iqtisodiy muhitdagi noaniqlik, inflyatsion jarayonlar, moliyaviy bozorlardagi tebranishlar hamda global iqtisodiy risklarning ortib borishi korxonalarda moliyaviy barqarorlikni boshqarish masalasining dolzarbligini yanada oshirmoqda.

So'nggi yillarda moliyaviy boshqaruv tizimida raqamli texnologiyalar va analitik instrumentlardan foydalanish tendensiyasi kuchaymoqda. An'anaviy moliyaviy ko'rsatkichlar bilan bir qatorda ekonometrik modellar, bankrotlikni prognozlash usullari, stress-test mexanizmlari hamda biznes analitika platformalari korxonalarining moliyaviy holatini chuqur tahlil qilish va ehtimoliy risklarni oldindan aniqlash imkonini bermoqda. Shu sababli moliyaviy barqarorlikni boshqarishda zamonaviy analitik instrumentlarning nazariy va amaliy jihatlarini o'rganish muhim ilmiy-amaliy ahamiyatga ega.

Mazkur tezisning maqsadi moliyaviy barqarorlikni boshqarishda qo'llaniladigan analitik instrumentlar va zamonaviy yondashuvlarning mazmunini yoritish hamda ularning korxonalar moliyaviy boshqaruvidagi ahamiyatini asoslashdan iborat.

Moliyaviy barqarorlikni baholashda eng keng qo'llaniladigan instrumentlar moliyaviy koeffitsientlar tizimi hisoblanadi. Ushbu yondashuv asosida korxonalarning likvidlilik, to'lov qobiliyati, rentabellik va moliyaviy mustaqillik darajasi tahlil qilinadi. Joriy likvidlilik koeffitsienti, moliyaviy leverage, aktivlar rentabelligi va kapital rentabelligi kabi ko'rsatkichlar korxona moliyaviy holatini baholashda muhim ahamiyat kasb etadi. Mazkur yondashuvning afzalligi hisob-kitoblarning soddaligi va amaliyotda keng qo'llanilishidadir. Biroq klassik ko'rsatkichlar tizimi moliyaviy risklarning murakkab o'zaro bog'liqligini to'liq aks ettira olmaydi. Shu sababli zamonaviy iqtisodiy sharoitda ushbu instrumentlarni boshqa analitik yondashuvlar bilan integratsiyalash zarurati yuzaga kelmoqda. Moliyaviy barqarorlikni boshqarishda bankrotlikni prognozlash modellari muhim analitik instrumentlardan biri hisoblanadi. Ushbu modellar korxonaning moliyaviy inqirozga uchrash ehtimolini oldindan aniqlash imkonini beradi. Mazkur yo'nalishda E. Altman tomonidan ishlab chiqilgan Z-score modeli keng qo'llaniladi. Ushbu model bir nechta moliyaviy ko'rsatkichlarni yagona integral indeksga birlashtirish orqali korxonaning moliyaviy holatini baholash imkonini beradi. Keyinchalik Springate, Taffler va boshqa olimlar tomonidan ham turli modifikatsiyalar ishlab chiqilgan.

Bankrotlikni prognozlash modellari moliyaviy risklarni erta aniqlash imkonini bersa-da, ularning ayrimlari rivojlangan davlatlar iqtisodiyoti ma'lumotlari asosida ishlab chiqilgani sababli barcha tarmoqlar va iqtisodiy sharoitlarga to'liq mos kelmasligi mumkin. So'nggi yillarda moliyaviy barqarorlikni boshqarishda ekonometrik modellashtirish usullaridan foydalanish kengaymoqda. Mazkur yondashuv moliyaviy ko'rsatkichlar o'rtasidagi statistik bog'liqliklarni aniqlash hamda ularning korxona barqarorligiga ta'sirini baholash imkonini beradi. Shuningdek, stress-test mexanizmlari korxonalarning tashqi iqtisodiy shoklarga bardoshlilikini baholashda muhim ahamiyatga ega. Ushbu yondashuv orqali inflyatsiya, valyuta kursi yoki foiz stavkalari

o'zgarishi natijasida korxonaning moliyaviy holati qanday o'zgarishi prognoz qilinadi. Stress-test mexanizmlari ayniqsa yuqori riskli tarmoqlarda moliyaviy xavflarni boshqarish samaradorligini oshirishga xizmat qiladi. Raqamlashtirish jarayonlari moliyaviy boshqaruv tizimiga yangi analitik instrumentlarni olib kirdi. Zamonaviy korxonalar faoliyatida Business Intelligence (BI) tizimlari, vizual monitoring platformalari va avtomatlashtirilgan tahlil vositalari keng qo'llanilmoqda. Mazkur texnologiyalar real vaqt rejimida moliyaviy ko'rsatkichlarni monitoring qilish, salbiy tendensiyalarni erta aniqlash hamda boshqaruv qarorlarini tezkor qabul qilish imkonini beradi. Ayniqsa, katta ma'lumotlar texnologiyalari va mashinali o'rganish algoritmlaridan foydalanish moliyaviy tahlilning aniqligini oshirmoqda.

Shu sababli zamonaviy moliyaviy boshqaruv tizimida analitik instrumentlardan samarali foydalanish korxonaning raqobatbardoshligi va moliyaviy barqarorligini ta'minlovchi muhim omillardan biri hisoblanadi. Tadqiqot natijalari shuni ko'rsatdiki, moliyaviy barqarorlikni boshqarish ko'p qirrali va murakkab jarayon hisoblanadi. Korxonalarning moliyaviy holatini samarali boshqarish uchun klassik moliyaviy tahlil usullari bilan bir qatorda bankrotlikni prognozlash modellari, ekonometrik modellashtirish, stress-test mexanizmlari va biznes analitika tizimlaridan kompleks foydalanish zarur. Shuningdek, zamonaviy raqamli texnologiyalar va analitik instrumentlardan foydalanish moliyaviy risklarni erta aniqlash, boshqaruv qarorlarini asoslash hamda korxonalarning uzoq muddatli moliyaviy barqarorligini ta'minlash imkonini beradi.

Natijada moliyaviy barqarorlikni boshqarishda analitik instrumentlardan foydalanish korxonalarning iqtisodiy xavfsizligini mustahkamlash va ularning raqobatbardoshligini oshirishning muhim omili sifatida namoyon bo'ladi.

FOYDALANGAN ADABIYOTLAR RO'YXATI

1. Altman E.I. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy // The Journal of Finance. – 1968. – Vol. 23. – No. 4. – pp. 589–609.
2. Brealey R.A., Myers S.C., Allen F. Principles of Corporate Finance. – New York: McGraw-Hill Education, 2022.
3. Савицкая Г.В. Анализ хозяйственной деятельности предприятия. – Минск: Новое знание, 2021.
4. Ковалев В.В. Финансовый анализ: методы и процедуры. – Москва: Финансы и статистика, 2020.
5. Шеремет А.Д. Теория экономического анализа. – Москва: ИНФРА-М, 2022.
6. Blank I.A. Financial Management. – Kyiv: Nika-Center, 2019.
7. Taffler R.J. Forecasting Company Failure in the UK Using Discriminant Analysis and Financial Ratio Data // Journal of the Royal Statistical Society. – 1983.

METHODOLOGY OF USING INFORMATION AND COMMUNICATION TECHNOLOGIES IN TEACHING CHEMISTRY

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Annotation

This study examines the importance of information and communication technologies and the methodology of their use in teaching chemistry. The use of information technologies in the modern education system increases the effectiveness of the learning process, enhances students' interest in the subject, and helps them better understand the basic concepts of chemistry. During the research, the role of various information and communication tools in the teaching process, as well as their advantages and disadvantages, are analyzed. In addition, methods for the effective use of information technologies are discussed.

Keywords: *chemistry, information technology, teaching methodology, communication.*

KIMYO FANINI O'QITISHDA AXBOROT-KOMMUNIKATSIYA TEXNOLOGIYALARIDAN FOYDALANISH METODIKASI

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ANNOTATSIYA

Ushbu tadqiqotda kimyo fanini o'qitishda axborot-kommunikatsiya texnologiyalarining ahamiyati va metodikasi o'rganilgan. Zamonaviy ta'lim tizimida

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axborot texnologiyalaridan foydalanish o'quv jarayonini yanada samarali qilish, o'quvchilarning qiziqishini oshirish va ularga kimyo fanining asosiy tushunchalarini yaxshiroq o'zlashtirish imkonini beradi. Tadqiqot davomida turli axborot-kommunikatsiya vositalarining o'qitish jarayonidagi o'rni, ularning afzalliklari va kamchiliklari tahlil qilinadi. Shuningdek, axborot texnologiyalarini samarali qo'llash usullariga e'tibor qaratiladi.

Kalit so'zlar: *kimyo, axborot texnologiyalari, o'qitish metodikasi, kommunikatsiya.*

Аннотация

В данном исследовании изучается значение информационно-коммуникационных технологий и методика их применения в преподавании химии. Использование информационных технологий в современной системе образования повышает эффективность учебного процесса, усиливает интерес учащихся к предмету и способствует лучшему усвоению основных понятий химии. В ходе исследования анализируется роль различных средств информационно-коммуникационных технологий в процессе обучения, а также их преимущества и недостатки. Кроме того, рассматриваются способы эффективного использования информационных технологий.

Kirish

Kimyo fani, tabiiy fanlar ichida o'ziga xos o'rin egallaydi, chunki u nafaqat nazariy bilimlarni, balki amaliy ko'nikmalarni ham talab qiladi. Zamonaviy dunyoda ta'lim jarayonini rivojlantirishda axborot-kommunikatsiya texnologiyalarining roli tobora oshib bormoqda. Axborot texnologiyalarini o'qitishda qo'llash, o'quvchi va o'qituvchi o'rtasida interaktiv muloqotni ta'minlaydi, o'quv materiallariga bo'lgan qiziqishni oshiradi va o'quv jarayonini samarali tashkil etish imkonini beradi. Ushbu tadqiqotning maqsadi kimyo fanini o'qitishda axborot-kommunikatsiya

texnologiyalaridan foydalanish metodikasini o'rganish va ularning ta'lim jarayonidagi ahamiyatini tahlil qilishdir. Buning uchun bir qator vazifalar belgilangan: axborot texnologiyalarining ta'lim jarayonidagi o'rnini aniqlash, ularning samaradorligini baholash va o'quvchilarning kimyo faniga bo'lgan qiziqishini oshirishga qaratilgan innovatsion usullarni taklif etish.

Asosiy qism

Axborot-kommunikatsiya texnologiyalarining ta'lim jarayonidagi o'rni

Axborot-kommunikatsiya texnologiyalari (AKT) bugungi kunda ta'lim jarayonida muhim ahamiyatga ega. Ular o'quvchilarga vaqt va joydan qat'i nazar ta'lim olish imkoniyatini beradi. AKT yordamida o'quv materiallarini interaktiv ravishda taqdim etish, videolar va grafiklar orqali tushuntirish jarayonini yanada qiziqarli va samarali qiladi. Kimyo fanida AKTdan foydalanish, o'quvchilarning tushunishini kuchaytiradi, chunki murakkab jarayonlarni vizual ko'rsatish imkoniyati mavjud. Masalan, kimyoviy reaksiyalarni 3D modellar orqali ko'rsatish, o'quvchilarda o'zlashtirish darajasini oshiradi. Shuningdek, internet resurslari va onlayn platformalar orqali o'quvchilar o'z bilimlarini mustahkamlash va kengaytirish imkoniyatiga ega bo'ladi. Bunday texnologiyalar o'quvchilarning mustaqil ish olib borish ko'nikmalarini rivojlantirishga ham yordam beradi. Natijada, o'quv jarayoni yanada samarali va qiziqarli bo'lib, o'quvchilarni kimyo faniga jalb qilishda muhim rol o'ynaydi. Kimyo fanini o'qitishda axborot-kommunikatsiya texnologiyalarini qo'llashning turli usullari mavjud. Birinchi navbatda, interaktiv darslar o'tkazish usuli mavjud bo'lib, bunda o'quvchilar uchun qiziqarli vazifalar, o'yinlar va simulyatsiyalar taqdim etiladi. Ushbu yondashuv o'quvchilarning kimyo faniga bo'lgan qiziqishini oshirib, dars jarayonini yanada jonlantiradi. Ikkinchidan, onlayn resurslardan foydalanish orqali o'quvchilar o'z bilimlarini mustahkamlash uchun qo'shimcha materiallarga ega bo'lishadi. Bunday resurslar, masalan, videodarslar, interaktiv testlar va o'quv dasturlari, o'quvchilarni

mustaqil ravishda o'qitishga yordam beradi. Shuningdek, AKT yordamida guruhiiy ishlarni tashkil etish, o'quvchilarning bir-biri bilan muloqot qilishini ta'minlaydi va jamoaviy ish ko'nikmalarini rivojlantiradi. Natijada, axborot-kommunikatsiya texnologiyalarini qo'llash kimyo fanini o'qitishda samaradorlikni oshiradi, o'quvchilarning o'zlashtirish darajasini yuqori darajaga olib chiqadi va ularni kimyo fani bilan chuqurroq tanishtiradi.

Xulosa

Ushbu tadqiqot kimyo fanini o'qitishda axborot-kommunikatsiya texnologiyalaridan foydalanish metodikasini o'rganishga qaratilgan bo'lib, bu texnologiyalarning ta'lim jarayonini samarali tashkil etishdagi ahamiyatini ko'rsatdi. O'quvchilar uchun interaktiv va qiziqarli darslar o'tkazish, onlayn resurslardan foydalanish va guruhiiy ishlarni tashkil etish orqali kimyo faniga bo'lgan qiziqishni oshirish mumkin. Kelajakda bu yondashuvlar orqali o'quvchilarning kimyo fanidan o'zlashtirish darajasi yaqqol oshishi kutilmoqda. Shuningdek, axborot-kommunikatsiya texnologiyalarining rivojlanishi bilan birga, yangi va innovatsion o'qitish usullarini ishlab chiqish zarurati tug'iladi. Bu esa ta'lim sifatini yanada oshirishga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Mamatov, A. (2020). Axborot-kommunikatsiya texnologiyalari va ta'lim.
2. Karimov, R. (2021). Kimyo ta'limida innovatsion usullar.
3. Ismailov, D. (2019). Ta'limda axborot texnologiyalarining o'rni.
4. Abdullayev, S. (2022). O'qitish metodikasi va axborot texnologiyalari.
5. Tursunov, G. (2023). Zamonaviy ta'lim va axborot-kommunikatsiya texnologiyalari.

WAYS OF DEVELOPING INFRASTRUCTURE TO REDUCE POVERTY IN THE REGION (CASE OF BUKHARA REGION)

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Annotation. The thesis analyses infrastructure development as a mechanism for poverty reduction in Bukhara region. Based on the author's "5I model", the impact of infrastructure on territorial inequality is assessed and practical proposals are developed.

Keywords: regional economy, poverty, infrastructure, investment, 5I model, Bukhara region.

MINTAQADA KAMBAG'ALLIKNI QISQARTIRISHDA INFRATUZILMANI RIVOJLANTIRISH YO'LLARI (BUXORO VILOYATI MISOLIDA)

Nazarov Sh.I., mustaqil izlanuvchi

Annotatsiya. Tezisda mintaqada kambag'allikni qisqartirishning iqtisodiy mexanizmi sifatida infratuzilmani rivojlantirish Buxoro viloyati misolida tahlil qilingan. Muallif tomonidan taklif etilgan "5I modeli" (Investments – Infrastructure – Inclusion – Innovation – Income) asosida hududiy tengsizlikka ta'siri baholangan va kambag'allikni qisqartirish bo'yicha amaliy takliflar berilgan.

Kalit so'zlar: mintaqaviy iqtisodiyot, kambag'allik, infratuzilma, investitsiya, 5I modeli, Buxoro viloyati.

Аннотация. В тезисах рассматриваются вопросы развития инфраструктуры как механизма сокращения бедности на примере Бухарской области. На основе авторской модели «5I» оценено влияние размещения инфраструктурных объектов на территориальное неравенство и предложены практические меры.

Ключевые слова: региональная экономика, бедность, инфраструктура, инвестиции, модель 5I, Бухарская область.

Jahonda kambag'allikni qisqartirish BMTning Barqaror rivojlanish maqsadlari (SDG 1) doirasida ustuvor vazifa hisoblanadi. Jahon banki ma'lumotlariga ko'ra, dunyo

aholisining 8,5 foizi kuniga 2,15 AQSh dollaridan kam daromad bilan kun kechirmoqda; mintaqaviy kambag'allikning asosiy omili esa infratuzilma yetishmovchiligi va uning nomutanosib taqsimlanishidir. "O'zbekiston – 2030" strategiyasiga ko'ra, mamlakatda kambag'allik darajasini 7 foizgacha kamaytirish belgilangan. 2023 yil yakunlari bo'yicha Buxoro viloyatida kambag'allik 9,8 foizni tashkil etgan, lekin tumanlar kesimida sezilarli tengsizliklar saqlanmoqda: G'ijduvon va Qorako'l tumanlarida bu ko'rsatkich 12 foizdan oshadi, shaharga yaqin hududlarda esa 6-7 foizga tushadi.

Muallif tomonidan taklif etilgan "5I modeli" mintaqaviy kambag'allikni qisqartirishning tizimli yondashuvi sifatida ishlab chiqildi va quyidagi tarkibiy qismlardan iborat: 1) Investments — infratuzilmaga kapital qo'yilmalar; 2) Infrastructure — transport, muhandislik va ijtimoiy ob'ektlar; 3) Inclusion — kam ta'minlangan aholining iqtisodiy jarayonlarga qamrab olinishi; 4) Innovation — raqamli va "yashil" texnologiyalar; 5) Income — barqaror ish o'rni va daromad manbalari.

Buxoro viloyati infratuzilmasi tahlili shuni ko'rsatdiki, qattiq qoplamali yo'llarning uzunligi 1180 kilometrga yetgan, ammo ichki tuman yo'llarining 28 foizi remont talab qiladi; elektr tarmog'i yo'qotishlari 13,2 foizni tashkil etadi; toza ichimlik suvi bilan ta'minlanish shaharlarda 92, qishloqlarda atigi 71 foizni tashkil etadi. Bu holat qishloq xo'jaligi, turizm va kichik biznesning o'sish salohiyatini cheklab qo'ymoqda.

Raqamli infratuzilma sohasida mobil aloqa qamrovi 98,7 foizni, 4G qamrovi 84,5 foizni tashkil etadi, biroq uzoq tumanlarda o'rtacha internet tezligi mamlakat o'rtacha ko'rsatkichidan 32 foizga past. Bu esa elektron tijorat, masofadan ta'lim va sog'liqni saqlash xizmatlaridan foydalanish imkoniyatlarini kamaytirib, "raqamli tengsizlik" orqali qishloq xo'jaliklari o'rtasida kambag'allikning saqlanishiga sabab bo'lmoqda. Regression tahlil natijalariga ko'ra, infratuzilmaga har 1 foiz qo'shimcha investitsiya kambag'allik koeffitsientining 0,34 foizga kamayishiga olib kelishi aniqlandi ($R^2 = 0,776$; $F = 3,469$; $p < 0,1$). Xitoy, Turkiya (GAP) va Hindiston (PMGSY) tajribalari

maqsadli infratuzilma loyihalari 10-15 yil ichida mintaqaviy kambag'allikni 25-40 foizga kamaytirish imkonini berganini tasdiqlaydi.

Tadqiqot natijalari asosida quyidagi xulosalar shakllantirildi: birinchidan, mintaqada kambag'allikni qisqartirish ijtimoiy yordam tizimi orqali emas, balki infratuzilma orqali iqtisodiy imkoniyatlar yaratish yo'li bilan barqaror amalga oshirilishi lozim. Ikkinchidan, tumanlararo tengsizlikni bartaraf etish uchun "kambag'allik xaritasi" asosida manzilli investitsiya strategiyasini joriy etish maqsadga muvofiq. Uchinchidan, muallifning "5I modeli" mintaqaviy iqtisodiy siyosat uchun amaliy vosita bo'la oladi. To'rtinchidan, davlat-xususiy sherikchilik mexanizmlari orqali 2025-2030 yillarda Buxoro viloyatida kambag'allik darajasini 6 foizgacha kamaytirish mumkin.

Foydalanilgan adabiyotlar

1. O'zbekiston Respublikasi Prezidentining 2023 yil 11 sentyabrdagi "O'zbekiston – 2030" strategiyasi to'g'risidagi PF-158-son Farmoni.
2. World Bank. Poverty and Shared Prosperity 2024. – Washington, DC: World Bank, 2024. – 184 p.
3. Aschauer D.A. Is Public Expenditure Productive? // Journal of Monetary Economics. – 1989. – Vol. 23, №2. – P. 177-200.
4. Calderón C., Servén L. Infrastructure, Growth, and Inequality: An Overview // World Bank Policy Research Working Paper. – 2014. – №7034. – 39 p.
5. Бухоро вилояти статистика бошқармаси маълумотлари, 2019-2024 йй. – URL: <https://buxoro.stat.uz>

Linguacultural Analysis of Smell-Related Metaphors and Phraseological Units in English and Uzbek languages

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Abstract

This article examines smell-related metaphors and phraseological units in English and Uzbek from semantic and linguacultural perspectives. Smell is considered one of the fundamental human sensory perceptions and functions in language not only as a physiological sensation but also as a means of expressing intuition, suspicion, danger perception, moral evaluation, and hidden meanings. The study comparatively analyzes metaphorical and phraseological expressions connected with smell in both languages and reveals common and distinctive features in the cultural worldview and national mentality of English and Uzbek speakers. Furthermore, the cognitive and linguacultural characteristics of the smell concept are scientifically discussed.

Keywords

smell metaphor, phraseological unit, linguacultural, semantics, English language, Uzbek language, cognitive linguistics, intuition, cultural worldview, comparative analysis.

**Инглиз ва ўзбек тилларида ҳид билан боғлиқ метафоралар ва
фразеологизмлар: лингвомаданий таҳлил**

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ўқитувчиси, мустақил тадқиқотчи**

Аннотация

Мазкур мақолада инглиз ва ўзбек тилларида ҳид ҳисси билан боғлиқ метафора ва фразеологик бирликларнинг семантик ҳамда лингвомаданий хусусиятлари

таҳлил қилинади. Ҳид инсон тажрибасининг муҳим ҳиссий компонентларидан бири бўлиб, тилда нафақат физиологик сезги, балки интуиция, хавфни олдиндан англаш, шубҳа, ахлоқий баҳолаш ва яширин маъноларни ифодалаш вазифасини ҳам бажаради. Тадқиқотда икки тилдаги ҳид концептига оид ифодалар қиёсий асосда ўрганилиб, уларнинг умумий когнитив манбалари ва миллий-маданий хусусиятлари очиб берилади. Шунингдек, ҳид билан боғлиқ тил бирликларининг инсон тафаккури ва маданий дунёқарашни акс эттиришдаги ўрни ёритилади.

Калит сўзлар

ҳид концепти, метафора, фразеологизм, лингвомаданият, когнитив тилшунослик, семантик таҳлил, инглиз тили, ўзбек тили, миллий тафаккур, қиёсий тилшунослик.

Сўнгги йилларда тилшуносликда инсоннинг ҳиссий идроки билан боғлиқ лексик ва фразеологик бирликларни тадқиқ этишга қизиқиш ортиб бормоқда. Айниқса, когнитив тилшунослик ва лингвомаданият соҳаларида инсоннинг ташқи оламни қандай қабул қилиши ҳамда бу жараённинг тилда қай тарзда намоён бўлиши муҳим илмий масала сифатида қаралмоқда.

Ҳид ҳисси инсоннинг энг қадимий биологик сезгилари қаторига киради. У реал физик идрок воситаси бўлиш билан бирга, инсон психологияси ва маданий тафаккурида ҳам муҳим ўрин тутди. Кўплаб тилларда ҳид сезиш жараёни турли абстракт маъноларни ифодалаш учун метафорик асос вазифасини бажаради. Масалан, инсон хавфни “сезиши”, яширин вазиятни “пайқаши” ёки шубҳали ҳолатни “ҳидлаши” мумкин.

Инглиз тилида to smell danger, something smells fishy каби ифодалар орқали интуитив англаш ифодаланса, ўзбек тилида “бир гапнинг ҳиди келмоқ”,

“балонинг ҳидини сезмоқ” каби бирликлар шубҳа ва яширин маънони билдиради. Бу ҳолат ҳид концептининг универсал когнитив асосга эга эканини кўрсатади.

Метафора когнитив тилшуносликда инсон тафаккурининг муҳим механизми сифатида қаралади. Инсон мавҳум тушунчаларни англашда ўзининг жисмоний ва ҳиссий тажрибасига таянади. Ҳид ҳисси ҳам ана шундай тажрибалардан бири бўлиб, турли тилларда метафорик маъно ҳосил қилишда фаол иштирок этади. Когнитив назарияга кўра, инсон онгида ҳиссий тажрибалар абстракт фикрлаш учун асос бўлади. Шу нуқтаи назардан қараганда, ҳид кўпинча интуиция, хавфни олдиндан сезиш ёки ахлоқий муносабатларни ифодалашга хизмат қилади.

Инглиз тилидаги қуйидаги мисоллар буни яққол намоён этади:

to smell danger — хавфни олдиндан сезмоқ;

to smell trouble — муаммони пайқамок;

something smells fishy — шубҳали туюлмоқ;

the smell of success — муваффақият яқинлигини англамоқ.

Мазкур бирликларда ҳид физиологик жараён эмас, балки инсон тажрибаси ва ички сезгисининг когнитив ифодаси сифатида қўлланмоқда.

Ўзбек тилида ҳам ҳид концепти метафорик маънода кенг учрайди:

“бир гапнинг ҳиди келмоқ”;

“ёмон ҳид анқимоқ”;

“балонинг ҳидини сезмоқ”;

“фойданинг ҳидини олмоқ”.

Бу ифодалар воқеаларнинг яширин мазмунини англаш, эҳтиёткорлик ёки манфаатни сезиш каби маъноларни билдиради. Демак, ҳар икки тилда ҳам ҳид инсоннинг интуитив билими билан боғланади.

Бироқ маданий нуқтаи назардан муайян тафовутлар кузатилади. Инглиз тилида

ҳид кўпроқ индивидуал тажриба ва таҳлил билан боғлиқ бўлса, ўзбек тилида ижтимоий муносабатлар ҳамда маънавий баҳолаш уставу аҳамият кўс этади. Ҳид билан боғлиқ фразеологизмларнинг лингвомаданий хусусиятлари Фразеологик бирликлар халқнинг тарихий тажрибаси ва миллий тафаккурини ўзида мужассам эттиради. Ҳид билан боғлиқ фразеологизмлар инсоннинг эмоционал ҳолати, шубҳаси ёки муносабатини ифодалашда муҳим вазифа бажаради.

Инглиз тилида қуйидаги фразеологизмлар кенг қўлланади:

to smell a rat — алдов ёки хиёнатни сезмоқ;

to stink of corruption — коррупция билан боғлиқ бўлмоқ;

to come up smelling of roses — қийин вазиятдан яхши обрў билан чиқмоқ.

Айниқса, to smell a rat ибораси инглиз маданиятида салбий вазиятни англатувчи машҳур фразеологизм ҳисобланади. Бу ерда каламуш образи хавф ва ишончсизлик рамзи сифатида намоён бўлади.

Ўзбек тилида ҳам ҳид билан боғлиқ фразеологик ифодалар кенг тарқалган:

“бир нарсанинг ҳидини олмоқ”;

“ҳидидан билинмоқ”;

“ёмон ҳид тарқатмоқ”;

“ҳид билмас”.

Бу бирликлар инсоннинг тажрибаси, сезгирлиги ва ижтимоий муносабатларга муносабатини ифодалайди. Масалан, “бир нарсанинг ҳидини олмоқ” ибораси муайян манфаат ёки яширин мақсадни олдиндан англаш маъносида ишлатилади. Шунингдек, ўзбек тилида ахлоқий баҳолаш кучлироқ сезилади. “ёмон ҳид тарқатмоқ” ибораси нафақат шубҳали вазиятни, балки маънавий салбийликни ҳам англатиши мумкин.

Қиёсий таҳлил натижалари шуни кўрсатадики, инглиз ва ўзбек тилларида ҳид

билан боғлиқ тил бирликлари умумий когнитив манбага эга. Ҳар икки тилда ҳид:
интуиция;

хавфни англаш;

шубҳа;

яширин ҳақиқатни сезиш;

ахлоқий муносабат

каби маъноларни ифодалашда фаол иштирок этади.

Шу билан бирга, уларнинг маданий талқинида фарқлар ҳам мавжуд. Инглиз тилида ҳид кўпроқ шахсий интуиция ва рационал таҳлил билан боғлиқ бўлса, ўзбек тилида ижтимоий муносабатлар ва маънавий қадриятлар билан уйғун ҳолда қўлланади.

Бундан ташқари, инглиз тилида салбий коннотацияли ҳид ифодалари нисбатан кўпроқ учрайди. Ўзбек тилида эса ижобий маъно ҳам кузатилади. Масалан, “фойданинг ҳидини олмоқ” ибораси имкониятни тез англаш маъносини билдириб, айрим ҳолларда ижобий баҳоланади.

Бу ҳолат тил ва маданият ўртасидаги чамбарчас алоқани яна бир бор тасдиқлайди. Ҳид билан боғлиқ тил бирликлари нафақат инсон ҳиссий тажрибасини, балки халқнинг миллий менталитетини ҳам акс эттиради.

Инглиз ва ўзбек тилларида ҳид билан боғлиқ метафора ҳамда фразеологизмлар муҳим лингвомаданий восита эканини кўрсатди. Улар инсоннинг физиологик сезгиси билан бир қаторда, унинг психологик ҳолати, интуицияси ва маданий дунёқарабини ҳам ифодалайди.

Ҳар икки тилда ҳид концепти хавфни англаш, шубҳа қилиш, яширин маънони сезиш ва ахлоқий муносабатни билдиришда муҳим семантик вазифани бажаради. Бироқ бу маъноларнинг маданий талқини халқларнинг миллий

тафаккури ва ижтимоий қадриятларига кўра фарқланади.

Адабиётлар рўйхати

1. Metaphors We Live By. Chicago: University of Chicago Press, 1980.
2. Metaphor: A Practical Introduction. Oxford: Oxford University Press, 2010.
3. Cambridge Idioms Dictionary. Cambridge University Press, 2006.
4. Алиева Н. Ўзбек тилида фразеологизмларнинг семантик-структур хусусиятлари. – Тошкент: Фан, 2018.
5. Қўчқоров Х. Ўзбек тилида метафоралар: лингвистик таҳлил. – Тошкент: Ўқитувчи, 2004.
6. Ахмедова М. “Лингвомаданият ва метафоралар: қиёсий тадқиқот”. // Филология масалалари. – 2021. – №2. – Б. 45–50.

EPIDEMIOLOGICAL ANALYSIS AND GLOBAL DISTRIBUTION CHARACTERISTICS OF MOTOR NEURON DISEASE

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Abstract

In recent years, the incidence, prevalence, mortality rates, and disability burden associated with motor neuron disease (MND) have significantly increased worldwide. Epidemiological analyses indicate that the global occurrence of the disease is closely associated with population aging, improvements in diagnostic capabilities, and the influence of environmental factors.

According to the 2021 Global Burden of Disease data, the global standardized incidence rate of MND averaged 1.68 per 100,000 population. The disease mainly occurs between the ages of 60 and 70 and is more frequently observed in men than in women.

Keywords: motor neuron disease, amyotrophic lateral sclerosis, epidemiology, prevalence rate, mortality rate, DALY.

HARAKAT NEYRONI KASALLIGINING EPIDEMIOLOGIK TAHLILI VA GLOBAL TARQALISH XUSUSIYATLARI

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Annotatsiya

So'nggi yillarda dunyo bo'yicha HNK bilan kasallanish, tarqalish, o'lim ko'rsatkichlari va nogironlik yuki sezilarli ortib bormoqda. Epidemiologik tahlillar shuni ko'rsatadiki, kasallikning global uchrash chastotasi aholi qarishi, tashxis qo'yish imkoniyatlarining yaxshilanishi va atrof-muhit omillarining ta'siri bilan chambarchas

bog'liq. 2021 yil Global Burden of Disease ma'lumotlariga ko'ra, HNKning global standartlashtirilgan kasallanish ko'rsatkichi o'rtacha 1,68/100 000 aholini tashkil etib, kasallik asosan 60–70 yosh oralig'ida uchraydi hamda erkaklarda ayollarga nisbatan ko'proq qayd etiladi.

Kalit so'zlar: harakat neyroni kasalligi, yon amiotrofik skleroz, epidemiologiya, tarqalganlik darajasi, o'lim ko'rsatkichi, DALY.

Dolzarbligi

Harakat neyroni kasalligi tibbiyotning eng murakkab va prognozi og'ir bo'lgan nevrologik patologiyalaridan biridir. Kasallikning etiologiyasi to'liq aniqlanmagan bo'lsa-da, uning epidemiologik monitoringi sog'liqni saqlash tizimi uchun muhim ahamiyatga ega. Chunki HNK yuqori darajadagi nogironlik, qisqa yashovchanlik va katta iqtisodiy-ijtimoiy yuk bilan xarakterlanadi. So'nggi 30 yil ichida dunyo bo'yicha ushbu kasallik bilan yashovchi bemorlar soni qariyb 68–74 % ga oshganligi aniqlangan.

Tadqiqot maqsadi

Harakat neyroni kasalligining jahondagi epidemiologik ko'rsatkichlarini tahlil qilish, kasallanish dinamikasi, jinsiy-yoshga oid xususiyatlari va hududiy tarqalish qonuniyatlarini o'rganish.

Material va metodlar

Mazkur tezis Global Burden of Disease 2021 xalqaro epidemiologik bazasi, zamonaviy nevrologik registrlar hamda 1990–2025 yillarda chop etilgan populyatsion tadqiqotlar ma'lumotlari asosida retrospektiv tahlil usulida bajarildi. Kasallikning uchrashi, tarqalganlik darajasi, o'lim ko'rsatkichlari statistik solishtirma usulda baholandi.

Natijalar va muhokama

1. Global kasallanish ko'rsatkichlari

So'nggi epidemiologik hisobotlarga ko'ra, 2021 yil holatida dunyo bo'yicha HNK

bilan yashayotgan bemorlar soni 272 mingdan ortiqni tashkil qilgan. Har yili yangi aniqlanayotgan holatlar soni muttasil oshib bormoqda. Global standartlashtirilgan uchrash o'rsatkichi 1,5–1,8/100 000 aholi atrofida bo'lib, tarqanganlik darajasi esa 3,3–4,5/100 000 ni tashkil etadi.

2. Yosh va jins bo'yicha taqsimlanish

Kasallik asosan o'rta va katta yoshdagi shaxslarda kuzatiladi. Eng yuqori uchrash chastotasi 60–70 yosh oralig'iga to'g'ri keladi. Erkaklarda uchrash ko'rsatkichi ayollarga qaraganda o'rtacha 1,3–1,5 marta yuqori. Bu holat erkak organizmida oksidlovchi stress, toksik ekspozitsiya va genetik predispozitsiya omillarining nisbatan ko'proq uchrashi bilan izohlanadi.

3. Geografik farqlanish

HNKning eng yuqori epidemiologik yuklamasi yuqori daromadli mamlakatlarda — Shimoliy Amerika, G'arbiy Yevropa va Avstraliyada qayd etilgan. Ayniqsa United States, Finland hamda United Kingdom davlatlarida standartlashtirilgan ko'rsatkichlar yuqori. Buning sababi sifatida:

- umr davomiyligining yuqoriligi,
- diagnostika tizimining mukammalligi,
- kasallik registrlarining to'liq yuritilishi ko'rsatiladi.

Past va o'rta daromadli davlatlarda esa ko'rsatkichlarning nisbatan pastligi ko'p hollarda tashxisning kechikishi bilan bog'liq.

4. O'lim va nogironlik ko'rsatkichlari

Harakat neyroni kasalligi eng yuqori letallikka ega nevrologik kasalliklardan biri bo'lib, bemorlarning ko'pchiligida tashxisdan keyingi o'rtacha yashash davomiyligi 3–5 yilni tashkil etadi. So'nggi yillarda global o'lim ko'rsatkichlari va DALY (disability-adjusted life years) miqdori izchil ortib bormoqda. Bu esa kasallikning nafaqat klinik, balki jiddiy ijtimoiy-iqtisodiy muammo ekanligini ko'rsatadi.

5. Epidemiologik o'sishning asosiy sabablari

Harakat neyroni kasalligining epidemiologik o'sishiga quyidagi omillar sabab bo'lmoqda:

- aholi qarishi;
- genetik mutatsiyalarni aniqlash imkoniyatining kengayishi;
- ekologik toksinlar;
- pestitsid va og'ir metall ekspozitsiyasi;
- diagnostika aniqligining ortishi;
- nevrologik registrlarning takomillashuvi.

Xulosa

Harakat neyroni kasalligi global miqyosda kam uchraydigan, biroq yuqori o'lim va nogironlik bilan kechuvchi progressiv nevrodegenerativ kasallik hisoblanadi. So'nggi o'n yilliklarda ushbu patologiyaning tarqalish darajasi va uchrash ko'rsatkichlari sezilarli oshgan. Kasallik asosan erkaklarda va 60 yoshdan keyin ko'proq uchrashi, yuqori daromadli hududlarda epidemiologik yuklamaning yuqoriligi aniqlangan. Epidemiologik monitoring, erta diagnostika va milliy registrlarni shakllantirish HNKga qarshi kurashishda muhim ilmiy-amaliy ahamiyatga ega.

Foydalanilgan adabiyotlar

1. Global Burden of Motor Neuron Disease Study 2021. Orphanet Journal of Rare Diseases, 2025.
2. Kai Liu et al. Global burden of motor neuron disease: aging dynamics and socioeconomic disparities. Journal of Neurology, 2025.
3. Park J.P. et al. The Global Burden of Motor Neuron Disease: GBD 2019 Analysis. Frontiers in Neurology, 2022.
4. Recent population-based epidemiological studies in Sweden and Czechia, 2024–2025.

The main characteristics of the assessment system and its significance in the field

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Abstract: This article discusses the main characteristics of the assessment system in the educational process and its significance in the field. Below, you can become familiar with the important strategic role of the assessment system in ensuring and improving the quality of education, as well as the essential functions of assessment in education.

Keywords: Formative assessment, metacognitive monitoring, electronic portfolios, control instrument, quality management, internal assessment.

Introduction: The assessment system in higher education possesses an important methodological foundation as a means of ensuring quality, serving not only to evaluate the educational process but also as a tool for its continuous improvement. A modern assessment system is considered a mechanism for diagnosis, analysis, and strategic management. Its main characteristic is the ability to facilitate data-driven decision-making.

First, the educational assessment system is based on a systematic approach. This means that assessment encompasses not only one-time learning outcomes, but also changes occurring at all stages, the educational environment, teachers' performance, student motivation, and the effectiveness of resources. Within such an approach, assessment is carried out in a continuous and integrated manner.

Second, the assessment system analyzes not only the outcome but also the educational process itself. For this reason, modern assessment formats such as formative assessment, metacognitive monitoring, and electronic portfolios are widely applied.

These formats highlight student performance, promote independent thinking, and foster a culture of self-assessment.

Third, the assessment system provides scientifically grounded data for decision-making regarding the quality of education. For example, assessment results are used in higher education institutions for decisions related to staffing, grant allocation, curriculum renewal, and the selection of research projects.

Fourth, the assessment system ensures transparency, openness, and accountability within the educational system. This strengthens public oversight and reinforces trust in quality education. One of the most important features is the publication of final assessment results and the development of action plans based on these outcomes.

The practical significance of the assessment system is invaluable in the internal development of educational institutions, financial planning, ensuring the effective allocation of state resources, increasing students' competitiveness, and evaluating scientific potential. Therefore, the assessment system in higher education should be regarded not merely as a mechanism for measuring outcomes, but as a key management tool for determining and ensuring quality.

The assessment system plays an important strategic role in ensuring and improving the quality of education. It serves not only to identify the current state of the system, but also to support its sustainable development, reorganize internal and external resources, eliminate shortcomings, and provide a scientific basis for educational reforms. Therefore, in the modern higher education system, assessment should be regarded not merely as a control instrument, but as an integral component of quality management.

First of all, the educational quality assessment system is distinguished by its complexity. This system evaluates not only students' academic achievement, but also teachers' methodological competence, the content of curricula and course programs, the level of research activities, the conditions of the learning environment, management

effectiveness, and even the institution's image. Such a multi-level approach requires a systematic perspective on educational quality. In this context, assessment is regarded not merely as a tool for measuring outcomes, but as a source of information for managing development.

Second, the modern assessment system requires an indicator-based approach. Only when quality analysis is carried out based on clear, measurable, verifiable, and comparable criteria can the assessment system be objective and effective. For example, a teacher's performance should not be evaluated solely by the number of teaching hours, but also through indicators such as student feedback, the quality of scientific publications, and participation in international projects. Likewise, a student's grade should not be based only on exam results, but also on the monitoring of their activities throughout the entire semester. This approach helps integrate the formative and summative functions of assessment.

Third, it is also important for the assessment system to be flexible and socially responsive. The specific characteristics of each higher education institution, regional needs, student contingents, and the diversity of academic programs require the adaptation of assessment criteria as well. Therefore, a standardized, bureaucratic assessment approach cannot fully reflect real quality. Instead, individual internal evaluation strategies should be developed for higher education institutions, and greater attention should be given to their self-assessment mechanisms.

Another relevant function of the assessment system in higher education is its motivational role. Both teachers and students are inspired not only by punishment but also by recognition and reward. The assessment system should be designed in such a way that it encourages educators who continuously improve their practice, creates conditions for students' active and independent learning, and fosters a healthy competitive environment within the academic community. Therefore, linking

assessment outcomes to ranking systems, grants, incentive scholarships, and participation in prestigious research projects is considered appropriate.

Conclusion: In conclusion, the educational quality assessment system, with its complex, multifaceted, dynamic, and socially significant characteristics, has become an integral component of modern higher education. This system should serve not only to identify problems, but also to address them, introduce innovations, and act as a foundation for developing sustainable growth strategies. Although significant progress has been made in this area in Uzbekistan, there is an increasing need to fundamentally reconsider the assessment system and further enhance its effectiveness by aligning it with the principles of academic freedom and accountability.

Foydalanilgan adabyotlar:

1. Menejment, darslik/ N.K.Yo‘ldoshev, G.E. Zaxidov.
2. B.X.XODJAYEV Umumiy pedagogika nazariyasi va amaliyoti. Darslik. - T.: «Sano-standart» nashriyoti, 2017-yil, 416 bet
3. Saidnazarova Gulshan Bolta qizi, Tarbiya fanini o‘qitish metodikasi. / [Matn]: o‘quv qo‘llanma / G.B. Saidnazarova - Buxoro: “BUXORO DETERMINANTI” MCHJning Kamolot nashriyoti, 2024. – 232 b.
4. PARDAYEV A.X., PARDAYEVA Z.A. BOSHQARUV HISOBI. 2014.-318 b
5. Қосимов Е.Н. Ташкилот ва ташкилий бошқариш назарияси: Олий ўқув юртлари учун дарслик/Суз боши муаллифи: Ш.Н. Зайнутдинов. - Т.: А. Қодирий номидаги халқ мероси нашр., 2004. - 208 б

EFFICIENCY OF MODERN COMPOSITE MATERIALS AND INNOVATIVE TECHNOLOGIES IN ANTERIOR TOOTH RESTORATION

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Abstract: Damage to the anterior (frontal) teeth leads not only to impaired masticatory function but also causes severe psychological and aesthetic discomfort for patients. In modern dentistry, restoring the natural appearance, color, shape, and translucency of anterior teeth (aesthetic restoration) is one of the most highly demanded areas. Despite advancements in composite materials, ensuring the longevity, marginal adaptation, and color stability of restorations remains an ongoing challenge.

Keywords: anterior tooth restoration, aesthetic dentistry, nanocomposites, stratification, FDI criteria, dental caries.

ЭФФЕКТИВНОСТЬ СОВРЕМЕННЫХ КОМПОЗИТНЫХ МАТЕРИАЛОВ И ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ В РЕСТАВРАЦИИ ПЕРЕДНИХ ЗУБОВ

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Аннотация: Повреждения передней (фронтальной) группы зубов приводят не только к нарушению функции жевания, но и вызывают у пациентов серьезный

психологический и эстетический дискомфорт. В современной стоматологии восстановление естественного вида, цвета, формы и прозрачности передних зубов (эстетическая реставрация) является одним из самых востребованных направлений. Несмотря на развитие композитных материалов, обеспечение долговечности, краевого прилегания и стабильности цвета реставраций остается актуальной проблемой.

Ключевые слова: реставрация передних зубов, эстетическая стоматология, нанокомпозиты, стратификация, критерии FDI, кариес зубов.

Цель исследования: Оценка клинической эффективности и долгосрочных результатов прямых реставраций передних зубов с использованием современных нанокомпозитных материалов.

Материалы и методы: В рамках исследования была проведена реставрация передних зубов у пациентов с эстетическими дефектами, вызванными кариесом и некариозными поражениями (переломы зубов, флюороз, патологическая стираемость). В процессе лечения применялись современные наногибридные композиты и методика послойного нанесения (стратификация). Результаты оценивались через 6 и 12 месяцев по критериям FDI (Международной федерации стоматологов): эстетика, функциональность и биологическая совместимость.

Результаты: Проведенные клинические наблюдения показали, что при использовании наногибридных композитных материалов в 92% случаев сохранилось высокое эстетическое качество и цветовое соответствие реставраций. Негативных биологических воздействий на пульпу зуба выявлено не было. В 8% случаев наблюдалось краевое прошивание (окрашивание края), что потребовало повторной полировки реставраций.

Заключение: Прямая реставрация передних зубов нанокомпозитными материалами обеспечивает высокие эстетические и функциональные результаты.

Ключевыми факторами успеха являются правильный выбор материала, соблюдение техники послойного нанесения и качественное финишное полирование реставрации.

Список литературы:

1. **Ferracane, J. L.** Resin composite — State of the art // *Dental Materials*. — 2021. — Vol. 37, No. 1. — P. 29–38. (Фундаментальное исследование эволюции и свойств композитов).
2. **Vanini, L.** Light and color in anterior composite restorations // *International Journal of Esthetic Dentistry*. — 2019. — Vol. 14, No. 3. — P. 274–288. (Классический труд по оптике, биомиметике и стратификации передних зубов).
3. **Hickel, R., Peschke, A.** FDI World Dental Federation clinical criteria for the evaluation of direct and indirect restorations: update and clinical guide // *International Dental Journal*. — 2022. — Vol. 72, No. 3. — P. 331–343. (Официальные критерии качества реставраций).
4. **Cervino, G., Fiorillo, L., Arzukanyan, A. V. et al.** Dental Restorative Digital Workflow: Digital Smile Design and Silicone Shovel // *Open Dentistry Journal*. — 2020. — Vol. 14. — P. 322–329. (Применение силиконового ключа и цифрового планирования во фронтальном отделе).
5. **Baroudi, K., Rodrigues, J. C.** Adhesion Insurance for Long-Term Success of Direct Anterior Composite Restorations // *Journal of International Oral Health*. — 2021. — Vol. 13, No. 2. — P. 101–109. (Анализ адгезивных систем и краевого прилегания).

Evaluating the Clinical Efficacy of Ultrasound-Guided Erector Spinae Plane Block for Postoperative Analgesia Following Pediatric Thoracoplasty

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Abstract

Surgical correction of congenital chest wall deformities induces profound somatosensory and visceral nociception, necessitating robust postoperative analgesic strategies to prevent respiratory complications in pediatric cohorts. This prospective, randomized, controlled trial investigates the analgesic efficacy and opioid-sparing potential of the ultrasound-guided erector spinae plane block compared to systemic opioid-based analgesia in children undergoing elective thoracoplasty. Integrating 78 patients aged 6 to 16 years, the study randomized participants into an intervention group receiving a bilateral erector spinae plane block with 0.2% ropivacaine and a control group managed with intravenous patient-controlled analgesia. Utilizing precise ultrasound navigation, the fascial plane targeting the T5 transverse process was injected to achieve dermatomal coverage. Statistical modeling revealed a dramatic attenuation in acute pain perception within the intervention cohort, registering a mean 24-hour resting pain score of 1.8 ± 0.6 compared to 4.5 ± 0.9 in the control arm ($p < 0.001$). Cumulative fentanyl equivalent consumption plummeted by 58.4% in the fascial block group, directly correlating with a profound reduction in postoperative nausea and respiratory depression. Implementing this advanced regional technique fundamentally optimizes pediatric recovery pathways, establishing the ultrasound-guided fascial approach as a superior, safer alternative to neuraxial techniques for major thoracic reconstructions.

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Keywords

Pediatric anesthesiology, erector spinae plane block, thoracoplasty, ultrasound-guided regional anesthesia, postoperative pain management, opioid-sparing analgesia, fascial plane.

Introduction

Surgical correction of congenital thoracic anomalies imparts massive osteocartilaginous trauma, generating exceptionally intense postoperative pain. Unrelieved somatic and neuropathic nociception in pediatric cohorts cascades into severe pulmonary morbidity, including atelectasis, retention of secretions, and prolonged hypoxemia. Traditional analgesic paradigms have historically relied on thoracic epidural analgesia and continuous paravertebral blocks. While effective, these neuraxial techniques carry formidable risks in children, including inadvertent dural puncture, epidural hematoma, and sympathetic blockade-induced hypotension.

The evolution of ultrasound navigation has facilitated the development of less invasive fascial plane blocks, radically altering perioperative pain management. The erector spinae plane block targets the anatomical corridor anterior to the erector spinae muscle, enabling craniocaudal spread that effectively bathes the dorsal and ventral rami of the thoracic spinal nerves. Despite rapid adoption in adult surgeries, rigorously powered clinical trials validating its specific pharmacokinetic profile and opioid-sparing capacity in pediatric thoracoplasty remain sparse. Extrapolating adult dosing to children neglects profound differences in fascial compliance and systemic absorption rates. The primary objective of this prospective clinical investigation is to rigorously quantify the analgesic efficacy, total opioid consumption, and hemodynamic stability profile of the ultrasound-guided erector spinae plane block compared against standard systemic multimodal analgesia in children undergoing major reconstructive chest surgery.

Materials and Methods

This prospective, randomized, active-controlled clinical trial was executed across a high-volume pediatric thoracic surgery center. Following ethical approval and parental consent, 78 pediatric patients (aged 6 to 16 years, ASA physical status I or II) scheduled for primary thoracoplasty were enrolled. Patients presenting with coagulopathies, local infections, or amide local anesthetic allergies were excluded.

Participants were allocated via computer-generated randomization into the fascial block group (n = 39) or the systemic control group (n = 39). Standardized general endotracheal anesthesia was induced utilizing propofol (2.5 mg/kg), fentanyl (2 mcg/kg), and rocuronium (0.6 mg/kg). Prior to surgical incision, the intervention arm received a bilateral, ultrasound-guided erector spinae plane block. A high-frequency linear array transducer (10-15 MHz) was placed parasagittally near the T5 spinous process. An echogenic needle was advanced in-plane until contacting the T5 transverse process, followed by the incremental injection of 0.2% ropivacaine at 0.3 mL/kg per side under direct ultrasonic visualization. The control cohort received an identical general anesthetic but was managed postoperatively via an intravenous patient-controlled analgesia pump delivering weight-based fentanyl boluses.

Primary endpoints focused on pain intensities evaluated at 2, 6, 12, 24, and 48 hours post-extubation using the FLACC scale for younger children and the Visual Analog Scale (VAS) for older participants. Secondary metrics included cumulative 48-hour fentanyl consumption and the incidence of opioid-related adverse events. Data were synthesized using IBM SPSS Statistics version 28.0, employing independent t-tests for continuous variables and Mann-Whitney U tests for ordinal pain scores ($p < 0.05$).

Results

Baseline morphometric characteristics demonstrated excellent homogeneity between the intervention and control cohorts regarding age, body mass index, and mean surgical

duration. Ultrasound guidance permitted definitive visualization of local anesthetic linear spread across adjacent vertebral segments in 100% of the fascial block subjects. Analysis of acute pain trajectories revealed a profound attenuation of nociceptive signaling within the regional anesthesia group. During the immediate post-extubation phase, patients receiving the bilateral fascial block exhibited remarkably low resting pain scores (mean FLACC/VAS of 1.2 ± 0.5), whereas the control group recorded a significantly higher initial pain burden of 4.8 ± 1.1 ($p < 0.001$). During dynamic respiratory physiotherapy at the 12-hour mark, the intervention cohort maintained acceptable pain thresholds (2.6 ± 0.8), contrasting the systemic group's frequent breakthrough hyperalgesia (6.1 ± 1.4).

The regional fascial block catalyzed a massive reduction in systemic narcotic dependence. Cumulative 48-hour fentanyl consumption plummeted in the intervention group to 12.4 ± 3.8 mcg/kg, representing a striking 58.4% reduction compared to the 29.8 ± 6.5 mcg/kg required by the control cohort. The temporal latency to the first demand for rescue analgesia was aggressively prolonged: 542 ± 115 minutes in the fascial block group versus merely 48 ± 15 minutes post-extubation in control subjects ($p < 0.0001$).

Consequently, severe postoperative nausea and vomiting occurred in only 10.2% of the fascial block cohort, starkly contrasting the 38.4% occurrence rate in the control group. Mild respiratory depression was observed in 12.8% of the control arm, while zero such events were recorded in the regional group. No incidences of local anesthetic systemic toxicity or pneumothorax were detected.

Discussion

The empirical outcomes unequivocally validate the clinical efficacy and opioid-sparing capacity of the ultrasound-guided erector spinae plane block in pediatric thoracoplasty. The massive 58.4% reduction in fentanyl consumption is driven by the specific

biomechanical diffusion of the local anesthetic. Ropivacaine injected posterior to the transverse processes percolates anteriorly, effectively blocking both the ventral rami innervating the intercostal musculature and the dorsal rami supplying the paraspinal tissues. This synergistic blockade completely blunts the complex nociceptive barrage generated during rigorous chest wall restructuring.

These findings strongly align with international clinical audits demonstrating that bilateral fascial blocks provide equivalent analgesic potency to thoracic epidurals while entirely eliminating the risk of sympathectomy-induced hypotension. The absence of respiratory depression and the sharp decline in emetic events mathematically confirms that displacing systemic narcotics with targeted regional solutions accelerates postoperative recovery. Acknowledgeable limitations include the utilization of single-shot techniques rather than continuous catheter infusions. The gradual increase in dynamic pain scores approaching the 48-hour mark suggests continuous fascial infusions might be necessary for patients undergoing highly extensive reconstructions.

Scientific Novelty and Practical Significance

This investigation introduces pioneering quantitative data confirming that bilateral ultrasound-guided erector spinae plane blocks can functionally replace high-dose intravenous opioids as the primary analgesic modality following pediatric thoracic deformity correction. The documentation of a nearly 60% reduction in narcotic consumption establishes a new benchmark for enhanced recovery protocols. Practically, this provides a safer, non-neuraxial alternative that eliminates the catastrophic risks of epidural hematoma. By drastically lowering opioid-related adverse events, this regional technique directly facilitates earlier extubation and accelerated hospital discharge rates.

Conclusion

Mandate the immediate integration of ultrasound-guided bilateral erector spinae plane blocks into standardized pediatric thoracoplasty clinical pathways. The empirical

evidence decisively proves that this superficial fascial plane technique exerts massive control over severe surgical pain, obliterating the traditional reliance on high-dose systemic narcotics. By physically bathing the thoracic spinal nerve roots without traversing the neuraxis, the procedure guarantees profound dermatomal coverage while completely preserving hemodynamic and respiratory stability. Healthcare institutions must universally adopt this advanced ultrasound navigation strategy to permanently elevate the safety and physiological recovery trajectories of pediatric surgical cohorts.

References

1. Schwartz DA, Alvarez C, Martinez A. Efficacy of the erector spinae plane block in pediatric thoracic surgery: A prospective randomized trial. *J Pediatr Anesth.* 2021;31(4):412-419.
2. Hughes M, Riley B, Thompson L. Fascial plane blocks for the Nuss procedure: Opioid-sparing outcomes and hemodynamic stability. *Thorac Surg Clin.* 2022;32(1):88-96.
3. Patel K, Desai R, Sharma N. Ultrasound-guided regional anesthesia in pediatric populations: Minimizing neuraxial complications. *Reg Anesth Pain Med.* 2020;45(8):610-618.
4. Chen J, Wang Y, Li X. Pharmacokinetic profiling of ropivacaine in pediatric erector spinae plane blocks. *Anesth Analg.* 2023;136(2):345-352.
5. Davies H, O'Connor M. Analgesic efficacy of bilateral ESP blocks in pectus excavatum repair. *Eur J Pain.* 2021;25(7):1401-1409.
6. Gomez S, Ruiz F. Enhanced recovery after surgery protocols in pediatric thoracoplasty. *J Pediatr Surg.* 2022;57(5):902-910.
7. Al-Khater A, Hassan Z. Comparing paravertebral and erector spinae plane blocks in thoracic anomalies. *Br J Anaesth.* 2020;124(3):322-329.

8. Smithson R, Jenkins D. Nociceptive and neuropathic pain mechanisms in reconstructive chest wall surgery. *Pain Med.* 2021;22(9):2011-2020.
9. Nakamura T, Ito H. Real-time ultrasound visualization techniques for paraspinal blocks in children. *J Ultrasound Med.* 2023;42(1):115-123.
10. Williams B, Clark M. Postoperative nausea and vomiting reduction via regional anesthesia in pediatrics. *Paediatr Anaesth.* 2022;32(6):715-722.
11. Fernandez A, Lopez G. Dynamic pain assessment in pediatric thoracic surgery using the FLACC scale. *Child Care Health Dev.* 2021;47(4):555-561.
12. Robertson L, Murray C. Epidural versus fascial plane blocks: A comprehensive safety analysis. *Anesthesiology.* 2023;138(3):280-289.
13. Kim S, Choi E. Cost-benefit analysis of opioid-sparing regional anesthesia techniques in major pediatric surgeries. *Health Econ Rev.* 2020;10(1):44-51.
14. Miller P, Anderson J. Local anesthetic systemic toxicity prevention in pediatric superficial fascial blocks. *J Clin Anesth.* 2022;78:110654.
15. Varghese A, Thomas M. Continuous catheter versus single-shot erector spinae plane blocks for extensive thoracic restructuring. *Reg Anesth Pain Med.* 2023;48(2):120-128.

THE ROLE OF SELENIUM AND HEPCIDIN BIOMARKERS IN THE EARLY PREDICTION OF PREMATURE RUPTURE OF MEMBRANES

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Abstract. Premature rupture of membranes is one of the most pressing problems in obstetrics, increasing the risk of preterm labor, neonatal infection, and perinatal mortality. In recent years, considerable attention has been paid to the study of biomarkers in order to expand the possibilities for early prediction of this pathology. This study analyzed the role of selenium and hepcidin biomarkers in the early prediction of premature rupture of membranes. During the research, changes in selenium and hepcidin levels in pregnant women and their relationship with oxidative stress, inflammatory processes, and iron metabolism were evaluated. It was determined that a decrease in selenium levels leads to weakened antioxidant defense and increased oxidative stress, while alterations in hepcidin levels are associated with inflammatory reactions and impaired iron homeostasis. These changes reduce the structural stability of the fetal membranes and increase the risk of their premature rupture. The obtained results demonstrated that selenium and hepcidin can be used as important biomarkers for the early diagnosis and prognostic assessment of premature rupture of membranes.

Keywords: premature rupture of membranes, selenium, hepcidin, biomarkers, early prediction, oxidative stress, iron metabolism

**Homila pardalarining muddatidan oldin yorilishini erta prognozlashda selen va
gepsidin biomarkerlarining oʻrni**

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Annotatsiya. Homila pardalarining muddatidan oldin yorilishi akusherlikdagi eng dolzarb muammolardan biri bo'lib, muddatidan oldin tug'ruq, neonatal infeksiya va perinatal o'lim xavfini oshiradi. So'nggi yillarda ushbu patologiyani erta prognozlash imkoniyatlarini kengaytirish maqsadida biomarkerlarni o'rganishga katta e'tibor qaratilmoqda. Mazkur ishda homila pardalarining muddatidan oldin yorilishini erta prognozlashda selen va gepsidin biomarkerlarining o'rni tahlil qilindi. Tadqiqot davomida homilador ayollarda selen va gepsidin miqdorining o'zgarishi, ularning oksidativ stress, yallig'lanish jarayonlari va temir almashinuvi bilan bog'liqligi baholandi. Aniqlanishicha, selen miqdorining pasayishi antioksidant himoyaning susayishiga va oksidativ stressning kuchayishiga olib keladi, gepsidin darajasidagi o'zgarishlar esa yallig'lanish reaksiyalari hamda temir homeostazining buzilishi bilan bog'liqdir. Ushbu o'zgarishlar homila pardalarining strukturaviy barqarorligini pasaytirib, ularning muddatidan oldin yorilish xavfini oshiradi. Olingan natijalar selen va gepsidinni homila pardalarining muddatidan oldin yorilishini erta aniqlash hamda prognostik baholashda muhim biomarker sifatida qo'llash mumkinligini ko'rsatdi.

Kalit so'zlar: homila pardalarining muddatidan oldin yorilishi, selen, gepsidin, biomarkerlar, erta prognozlash, oksidativ stress, temir almashinuvi, yallig'lanish jarayoni, intraamniotik infeksiya, antioksidant himoya.

Kirish. Homila pardalarining muddatidan oldin yorilishi akusherlik amaliyotida ona va homila salomatligiga jiddiy ta'sir ko'rsatuvchi muhim patologik holatlardan biridir. Ushbu holat homiladorlikning 37-haftasigacha tug'ruq faoliyati boshlanishidan oldin homila pardalarining yorilishi bilan tavsiflanadi. Mazkur asorat muddatidan oldin

tugʻruq, intraamniotik infeksiya, xorioamnionit, neonatal infeksiya, respirator distress sindrom va perinatal oʻlim xavfini oshiradi.

Homila pardalarining muddatidan oldin yorilishi koʻp omilli patogenezga ega boʻlib, uning rivojlanishida yalligʻlanish jarayonlari, infeksiyon omillar, oksidativ stress, kollagen almashinuvi buzilishlari va temir metabolizmidagi oʻzgarishlar muhim ahamiyatga ega. Soʻnggi yillarda ushbu patologiyani erta aniqlash va prognozlashda biologik markerlardan foydalanish masalasi dolzarb yoʻnalishlardan biri sifatida qaralmoqda. Selen organizmning antioksidant himoya tizimida muhim rol oʻynaydi. Uning yetishmovchiligi erkin radikal jarayonlarning kuchayishiga, homila pardalari hujayra tuzilmalarining shikastlanishiga va toʻqima mustahkamligining pasayishiga olib kelishi mumkin. Gepsidin esa temir almashinuvini boshqaruvchi muhim regulator boʻlib, yalligʻlanish reaksiyalari va infeksiyon jarayonlar bilan bevosita bogʻliqdir.

Shu nuqtai nazardan, selen va gepSIDIN darajasini baholash homila pardalarining muddatidan oldin yorilish xavfini erta aniqlash, xavf guruhlarini shakllantirish va homiladorlikni individual monitoring qilishda muhim prognostik ahamiyat kasb etadi.

Tadqiqot maqsadi. Homila pardalarining muddatidan oldin yorilishini erta prognozlashda selen va gepSIDIN biomarkerlarining diagnostik va prognostik ahamiyatini aniqlashdan iborat. Tadqiqot davomida homila pardalarining muddatidan oldin yorilishi bilan kasallangan homilador ayollarda selen va gepSIDIN darajasidagi oʻzgarishlarni baholash, ushbu koʻrsatkichlarning oksidativ stress, yalligʻlanish jarayonlari va temir almashinuvi bilan bogʻliqligini aniqlash hamda ularni patologiyani erta prognozlash mezonlari sifatida qoʻllash imkoniyatlarini tahlil qilish rejalashtirilgan.

Materiallar va usullar. Tadqiqotda homila pardalarining muddatidan oldin yorilishi xavfi mavjud boʻlgan va ushbu patologiya tashxisi qoʻyilgan homilador ayollar klinik-laborator jihatdan oʻrganildi. Nazorat guruhi sifatida fiziologik kechayotgan homiladorlikka ega ayollar maʼlumotlari tahlil qilindi.

Tekshiruv davomida homilador ayollarning klinik-anamnestik ma'lumotlari, somatik va ginekologik kasalliklari, avvalgi homiladorlik va tug'ruq tarixi, infeksiyallig'lanish holatlari hamda akusherlik xavf omillari baholandi.

Laborator tekshiruvlarda venoz qon namunalarida selen va gepsidin darajasi aniqlanib, ularning oksidativ stress, yallig'lanish jarayoni va temir almashinuvi ko'rsatkichlari bilan bog'liqligi tahlil qilindi. Olingan natijalar asosiy va nazorat guruhlarini o'rtasida taqqoslanib, selen hamda gepsidinning homila pardalarining muddatidan oldin yorilishini erta prognozlashdagi ahamiyati baholandi.

Tahlillarga ko'ra guruhlar o'rtasidagi farqlar, biomarkerlar o'rtasidagi bog'liqlik va prognostik ahamiyat ko'rsatkichlari aniqlanib, $p < 0,05$ qiymati statistik ahamiyatli deb qabul qilindi.

Materiallar va usullar. Tadqiqot Toshkent davlat tibbiyot universiteti ko'p tarmoqli klinikasining akusherlik kompleksida olib borildi. Tadqiqotga homila pardalarining muddatidan oldin yorilishi tashxisi qo'yilgan hamda ushbu patologiya rivojlanish xavfi mavjud bo'lgan homilador ayollar jalb qilindi. Nazorat guruhi sifatida fiziologik kechayotgan homiladorlikka ega sog'lom ayollar tanlab olindi. Tadqiqot davomida barcha ishtirokchilardan yozma ravishda rozilik olinib, tekshiruvlar bioetika tamoyillariga muvofiq ravishda amalga oshirildi. Barcha homilador ayollarda klinik-anamnestik ma'lumotlar batafsil o'rganildi. Homiladorlikning kechishi, ekstragenital kasalliklar, avvalgi homiladorlik va tug'ruqlar tarixi, reproduktiv tizimning yallig'lanish kasalliklari, jinsiy yo'l bilan yuqadigan infeksiyalar, muddatidan oldin tug'ruq va homila pardalarining muddatidan oldin yorilishi bilan bog'liq xavf omillari tahlil qilindi. Bundan tashqari, homilador ayollarda somatik holat, arterial bosim, tana vazni ko'rsatkichlari hamda laborator tekshiruv natijalari baholandi.

Laborator tekshiruvlar davomida venoz qon namunalarida selen va gepsidin miqdori aniqlandi. Gepsidin darajasi immunoferment analiz usuli yordamida, selen

ko'rsatkichlari esa biokimyoviy tadqiqot metodlari asosida baholandi. Olingan natijalar fiziologik homiladorlik kechayotgan ayollar ko'rsatkichlari bilan solishtirildi hamda biomarkerlarning patologik jarayon rivojlanishidagi o'rni tahlil qilindi.

Tadqiqot davomida oksidativ stress holatini baholash maqsadida lipidlarning peroksid oksidlanish ko'rsatkichlari va antioksidant himoya tizimi faoliyati o'rganildi. Shuningdek, yallig'lanish jarayonining faolligini aniqlash uchun umumiy qon tahlili, yallig'lanish markerlari hamda temir almashinuvi ko'rsatkichlari tahlil qilindi. Olingan ma'lumotlar asosida selen va gepsidin biomarkerlarining homila pardalarining muddatidan oldin yorilishini erta prognozlashdagi diagnostik va prognostik ahamiyati baholandi. Statistik tahlilda variatsion statistika usullaridan foydalanildi. Guruhlar o'rtasidagi farqlar ishonchlilik darajasi bilan baholanib, biomarkerlar o'rtasidagi korrelyatsion bog'liqlik tahlil qilindi. Statistik jihatdan $p < 0,05$ qiymati ishonchli natija sifatida qabul qilindi.

Natijalar va muhokama. Tadqiqot natijalari homila pardalarining muddatidan oldin yorilishini erta prognozlashda selen va gepsidin biomarkerlarining muhim ahamiyatga ega ekanligini ko'rsatdi. Homila pardalarining muddatidan oldin yorilishi kuzatilgan homilador ayollarda selen miqdorining pasayishi va gepsidin darajasidagi o'zgarishlar fiziologik homiladorlik kechayotgan ayollar ko'rsatkichlaridan farq qilishi aniqlandi. Bu holat mazkur biomarkerlarning patologik jarayon rivojlanishida ishtirok etishini ko'rsatadi. Selen darajasining pasayishi antioksidant himoya tizimi faolligining susayishi bilan bog'liq bo'lib, bu erkin radikal jarayonlarning kuchayishiga olib keladi. Oksidativ stressning ortishi homila pardalari tarkibidagi kollagen tolalari va hujayra membranalariga zarar yetkazadi. Natijada homila pardalarining elastikligi va mexanik mustahkamligi pasayib, ularning muddatidan oldin yorilish xavfi oshadi. Shu sababli selen ko'rsatkichi homila pardalarining strukturaviy barqarorligini baholashda muhim prognostik mezon sifatida qaralishi mumkin.

Gepsidin darajasidagi o'zgarishlar esa temir almashinuvi va yallig'lanish jarayonlari bilan bevosita bog'liqdir. Gepsidin temir homeostazini boshqaruvchi asosiy gormonlardan biri bo'lib, uning miqdoridagi nomutanosiblik organizmda yallig'lanish reaksiyalarining faollashuvi, infeksiyon jarayonlarning kuchayishi va intraamniotik infeksiya xavfining ortishi bilan kechishi mumkin. Bu esa homila pardalarining biologik va strukturaviy himoya xususiyatlariga salbiy ta'sir ko'rsatadi.

Tadqiqotda selen va gepsidin ko'rsatkichlarini birgalikda baholash yakka biomarkerga nisbatan samaraliroq prognostik yondashuv bo'lishi mumkinligi aniqlandi. Chunki selen asosan oksidativ stress va antioksidant himoya holatini aks ettirsa, gepsidin temir almashinuvi, yallig'lanish va infeksiyon jarayonlar faolligi haqida ma'lumot beradi. Ularning kombinatsiyasi homila pardalarining muddatidan oldin yorilishi xavfini ko'p omilli mexanizmlar asosida baholash imkonini beradi.

Olingan natijalar shuni ko'rsatadiki, selen va gepsidin darajasini monitoring qilish xavf guruhidagi homilador ayollarni erta aniqlash, individual kuzatuv taktikasini ishlab chiqish va profilaktik choralarni o'z vaqtida qo'llashda muhim ahamiyatga ega. Ushbu biomarkerlar asosida prognostik mezonlarni shakllantirish homiladorlik asoratlarini kamaytirish, perinatal natijalarni yaxshilash va akusherlik amaliyotida erta ogohlantirish tizimini takomillashtirishga xizmat qiladi.

Xulosa. Olingan natijalar homila pardalarining muddatidan oldin yorilishini erta prognozlashda selen va gepsidin biomarkerlarining muhim diagnostik va prognostik ahamiyatga ega ekanligini ko'rsatdi. Selen miqdorining pasayishi antioksidant himoya tizimining susayishi va oksidativ stressning kuchayishi bilan bog'liq bo'lib, bu homila pardalarining strukturaviy barqarorligiga salbiy ta'sir ko'rsatadi. Gepsidin darajasidagi o'zgarishlar esa temir almashinuvi, yallig'lanish jarayonlari va infeksiyon omillar bilan bog'liq patogenetik mexanizmlarni aks ettiradi. Ushbu biomarkerlarning birgalikda baholanishi homila pardalarining muddatidan oldin yorilishi xavfini erta aniqlash, xavf

guruhlarini shakllantirish va homiladorlikni individual kuzatish imkonini beradi. Selen va gepsidin ko'rsatkichlarini klinik-amaliy tekshiruvlarga qo'shish homiladorlik asoratlari oldindan baholash, profilaktik choralarni o'z vaqtida rejalashtirish hamda perinatal natijalarni yaxshilashda muhim ahamiyat kasb etadi.

Foydalanilgan adabiyotlar

1. Najmutdinova D.K. Akusherlik va ginekologiyada perinatal asoratlarning klinik-prognostik jihatlari. — Toshkent: TTA, 2020.
2. Ayupova F.M. Akusherlik va ginekologiya. — Toshkent: Tibbiyot nashriyoti, 2019.
3. Karimov Z.D., Najmutdinova D.K. Homiladorlik asoratlari va perinatal xavf omillari. — Toshkent: TTA, 2021.
4. Cunningham F.G., Leveno K.J., Bloom S.L., Dashe J.S., Hoffman B.L., Casey B.M., Spong C.Y. Williams Obstetrics. — 26th ed. — New York: McGraw-Hill Education, 2022.
5. Gabbe S.G., Niebyl J.R., Simpson J.L. Obstetrics: Normal and Problem Pregnancies. — 8th ed. — Philadelphia: Elsevier, 2021.
6. Jiang H., et al. Premature rupture of membranes and pregnancy outcomes: current clinical aspects // Journal of Maternal-Fetal & Neonatal Medicine. — 2021.
7. Esteves J.S., et al. Preterm premature rupture of membranes and neonatal outcomes // Journal of Perinatal Medicine. — 2022.
8. Ildogan B.T., Ercan F.S., Purut C., Kaya Y.E., Karaaslan F., Onur. Hepcidin levels in pregnancies complicated by preterm premature rupture of membranes // Clinical and Experimental Obstetrics & Gynecology. — 2023.
9. Tara F., et al. The effect of selenium supplementation during pregnancy on preterm premature rupture of membranes // Journal of Obstetrics and Gynaecology. — 2010.

The effect of soil structure and mechanical composition on the rooting process in pomegranate (*Punica granatum* L.) seedling production.

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Abstract: This article scientifically investigates the technology of growing pomegranate (*Punica granatum* L.) seedlings from cuttings under the soil and climatic conditions of the Boyovut district, as well as the effect of substrate composition on the rooting process. The obtained results confirmed that the substrate composition directly influences the rooting time of pomegranate cuttings, the development of the root system, and the overall quality of seedlings. The highest performance indicators were observed in the variants where mixed substrates were applied. In particular, the Qozoqi pomegranate variety showed a high rooting rate, a well-developed root system, and strong seedling survival. In contrast, when gray soil was used alone, all varieties exhibited slower rooting processes and weaker root system development. Based on the research findings, it was scientifically substantiated that the use of mixed substrates is effective for growing pomegranate seedlings under the conditions of the Boyovut district. These results are of significant importance for producing high-quality seedlings, developing pomegranate cultivation, and introducing advanced technologies into agricultural practice.

Keywords: *pomegranate, Punica granatum, seedling production, cuttings propagation, substrate composition, mixed substrate, rooting process, root development, seedling quality, Boyovut district, soil conditions, nursery technology.*

Introduction. Pomegranate (*Punica granatum* L.) is one of the ancient subtropical fruit crops that has been cultivated by humans for thousands of years. It is distinguished by its high biological adaptability, tolerance to drought and heat, as well as the nutritional, dietary, and medicinal value of its fruits. Pomegranate fruits contain sugars, organic acids, vitamins, antioxidants, and microelements, making them widely used not only in the food industry but also in the pharmaceutical and processing sectors.

In recent years, due to the development of intensive horticulture systems, increasing attention has been paid to expanding pomegranate plantations and introducing high-yielding varieties. One of the key factors for achieving stable and high yields is the production of high-quality, healthy, and well-developed seedlings. The quality of seedlings, in turn, largely depends on the scientific basis of applied agrotechnical practices and especially on the condition of the growing medium — the soil.

During the cultivation of pomegranate seedlings, the physical, mechanical, and biological properties of the soil play a crucial role. Soil structure, porosity, water permeability, moisture-holding capacity, and aeration level are among the main factors determining the formation and active development of the root system. In conditions where the soil structure is degraded or compacted, root growth is restricted, the water-air regime deteriorates, and consequently, the survival rate and growth intensity of seedlings decrease.

In addition, the mechanical composition of the soil (sandy, loamy, or clayey) significantly affects the rooting percentage and subsequent vegetative growth of seedlings. Light-textured soils provide good aeration but do not retain moisture for long periods, whereas heavy soils retain moisture well but limit air exchange. Therefore, creating optimal soil conditions for pomegranate seedling cultivation, particularly maintaining a balance between water and air regimes, is an important scientific and practical task.

Currently, under conditions of global climate change, water scarcity, and soil degradation, improving cultivation technologies for resilient crops such as pomegranate has become a pressing issue. In particular, developing substrate compositions and agrotechnical methods adapted to local soil and climatic conditions can enhance seedling quality, improve survival rates, and support the establishment of highly productive plantations.

From this perspective, a comprehensive study of the role and influence of soil structure and its main physical properties in the cultivation of pomegranate seedlings, as well as the identification of optimal conditions and development of practical recommendations, is of significant scientific importance.

Relevance of the Study The relevance of this study lies in the fact that improving the technology of efficient pomegranate seedling production under the soil and climatic conditions of the Boyovut district on a scientific basis is currently of great importance. In the context of climate change, water scarcity, and soil-related problems, the development of resource-saving, environmentally friendly, and highly efficient technologies contributes to the sustainable development of pomegranate cultivation, increases farmers' incomes, and strengthens export potential.

Aim of the Study: To scientifically investigate and improve the effective technology of pomegranate seedling production under the soil and climatic conditions of the Boyovut district.

Objectives of the Study: To conduct a comprehensive analysis of the soil and climatic conditions of the Boyovut district in comparison with the biological and ecological requirements of the pomegranate plant.

To adapt technologies for growing pomegranate seedlings from cuttings and other propagation methods to local natural conditions.

To determine nursery preparation methods, optimal substrate compositions, irrigation, fertilization, and care regimes. To develop protection measures against winter cold, wind erosion, and major diseases and pests.

To test the effectiveness of the proposed technology in experimental fields, evaluate it economically, and prepare recommendations for practical implementation.

Subject of the Study: Agrotechnical methods and processes for improving pomegranate seedling production under the soil and climatic conditions of the Boyovut district.

Object of the Study: Pomegranate varieties grown in the Boyovut district and their seedling production technologies.

Scientific Significance: This study provides a comprehensive scientific approach to pomegranate seedling production under the soil and climatic conditions of the Boyovut district for the first time. The results offer new knowledge on maximizing the use of hot summer conditions and loamy-gray soils, as well as reducing the risks of erosion and frost damage. This serves as a basis for developing region-specific technologies in pomegranate cultivation in Uzbekistan and acts as theoretical and practical material for higher education and research institutions.

Scientific Novelty: The scientific novelty of the study is expressed in the development of new elements of pomegranate seedling production technology adapted to the soil and climatic conditions of the Boyovut district, including optimal substrate compositions, cutting rooting regimes, anti-erosion protective systems, and winter protection schemes.

Soil and Climatic Conditions of the Boyovut District and Research Methodology

Study Site and Natural Conditions

The research was conducted in 2024–2025 at the experimental field of Gulistan State

University as well as in a pomegranate orchard located in the “Anorzor” MFY area of Boyovut district, Syrdarya region. The experimental site covered an area of 0.6 hectares, and the natural conditions are typical for Boyovut district.

The climate is sharply continental, with hot summers and relatively cold winters. The average temperature in July is $+26.5...+28^{\circ}\text{C}$, while in January it is $-2.5...-3.5^{\circ}\text{C}$. The annual precipitation ranges from 210 to 280 mm, and the vegetation period lasts 195–215 days. The Bekobod wind strongly affects the region, with wind speeds of 15–30 m/s, occasionally reaching up to 40 m/s.

The soil cover mainly consists of gray (serozem) and loamy-gray soils, with a pH range of 7.0–7.8. The mechanical composition of the soil is light to medium loam, which is moderately suitable for agricultural crops, particularly fruit trees. The experiments were carried out under open field conditions.

Research Materials

During the study, three widely distributed and promising varieties of *Punica granatum* were investigated under the conditions of Boyovut district:

Qizil pomegranate (local variety)

Wonderful (foreign variety)

Qozoqi pomegranate (local variety)

Cuttings were taken from healthy 1–2-year-old fruit-bearing orchards, with a length of 20–25 cm and a diameter of 0.7–1.0 cm. A total of 360 cuttings were selected for each variety.

Experimental Design

The experiment was conducted based on two main factors:

Variety type (3 variants)

Soil (substrate) type (different compositions)

Each treatment was replicated four times. In total, 108 experimental plots were

established, and all variants were compared using agrobiological and statistical evaluation methods.

Table 1.

Experimental variants under the conditions of Boyovut district (4 replications)

No.	Variant	Pomegranate variety	Soil (substrate)	Root emergence (days)	Complete rooting (days)	Average root length (cm)
1	V1	Qizil pomegranate	Gray soil (boʻz tuproq)	22–25	45–50	5–6
2	V2	Qizil pomegranate	Loamy-gray soil	18–21	38–42	7–8
3	V3	Qizil pomegranate	Mixed substrate (sand + peat + gray soil 1:1:1)	15–17	30–35	10–12
4	V4	Wonderful	Gray soil (boʻz tuproq)	20–22	40–44	6–7
5	V5	Wonderful	Loamy-gray soil	16–18	35–38	9–10
6	V6	Wonderful	Mixed substrate (sand + peat + gray soil 1:1:1)	12–14	28–32	12–14
7	V7	Qozoqi pomegranate	Gray soil (boʻz tuproq)	18–20	35–40	8–9
8	V8	Qozoqi pomegranate	Loamy-gray soil	14–16	30–33	11–13

	V9	Qozoqi pomegranate	Mixed substrate (sand + peat + gray soil 1:1:1)	10–12	22–25	15–18
0	Control	Qizil Wonderful Qozoqi	Gray soil (boʻz tuproq)	28–32	55–60	4–5

Based on the climatic conditions of the Boyovut district, the conducted research revealed that both temperature regime and substrate composition have a direct influence on the rooting percentage of pomegranate cuttings and the quality of seedlings.

In variant V1 (Qizil pomegranate + gray soil), the cuttings were studied under gray soil conditions. Root emergence was observed within 22–25 days. It was determined that the physical structure of gray soil is moderate, but its limited moisture retention capacity and poor aeration slowed down root formation. Complete rooting required 45–50 days, while root length reached only 5–6 cm, indicating a weak root system.

In variant V2 (Qizil pomegranate + loamy-gray soil), loamy-gray soil was used. Root emergence occurred within 18–21 days, which was faster compared to V1. Complete rooting took 38–42 days. Root length reached 7–8 cm, and a relatively stable root system was formed.

In variant V3 (Qizil pomegranate + mixed substrate: sand + peat + gray soil 1:1:1), the highest results were recorded. Root emergence occurred within 15–17 days. Complete rooting took 30–35 days, which was one of the shortest periods. Root length reached 10–12 cm, and a strong, well-branched root system was formed.

In variant V4 (Wonderful + gray soil), root emergence was observed within 20–22 days. Complete rooting took 40–44 days. Root length reached 6–7 cm, indicating

an average development level.

In variant V5 (Wonderful + loamy-gray soil), root emergence occurred within 16–18 days. Complete rooting took 35–38 days. Root length reached 9–10 cm, and better root development was observed.

In variant V6 (Wonderful + mixed substrate), the best results were obtained. Root emergence occurred within 12–14 days. Complete rooting took 28–32 days. Root length reached 12–14 cm, and a strong root system was formed.

In variant V7 (Qozoqi pomegranate + gray soil), root emergence was observed within 18–20 days. Complete rooting took 35–40 days. Root length reached 8–9 cm, indicating moderate development.

In variant V8 (Qozoqi pomegranate + loamy-gray soil), root emergence occurred within 14–16 days. Complete rooting took 30–33 days. Root length reached 11–13 cm, and a strong root system was formed.

In variant V9 (Qozoqi pomegranate + mixed substrate), the highest indicators were recorded. Root emergence occurred within 10–12 days. Complete rooting took 22–25 days, which was the shortest period. Root length reached 15–18 cm, and a very strong root system was formed.

In the control variant (all varieties + gray soil), the lowest results were observed. Root emergence took 28–32 days, while complete rooting required 55–60 days. Root length reached only 4–5 cm, and a weak root system was formed, confirming that gray soil alone is not optimal for pomegranate cutting propagation..

Seedling Production Technology

Cuttings were prepared in October and planted on March 15–25. Planting was carried out at a 45° angle with a depth of 15–18 cm.

The humidity level was maintained at 80–90%. Irrigation was performed using a drip irrigation system every 3–5 days, depending on soil moisture conditions.

After root formation, the seedlings were transplanted into polyethylene bags, and the hardening stage was carried out under open field conditions during April–May. For winter protection, in November the seedlings were buried in soil at a depth of 20–25 cm.

Table.2.

Main observed indicators

o.	Stage /	Observation	Duration	Notes
	Activity	indicator	(days)	
1	Planting of cuttings	Initial condition after planting	–	Start of experiment
2	Root emergence process	Appearance of first roots	10–25 days	Varies depending on substrate and variety
3	Active rooting stage	Rapid root growth	15–35 days	Most intensive development period
4	Formation of complete root system	Stabilization of seedlings	22–60 days	Most important stage
5	Root length growth	Maximum root development	4–18 cm (up to 60 days)	Varies depending on substrate
6	Seedling survival	Survived cuttings	30–60 days	Overall result evaluation
7	Adaptation period	Adaptation to soil conditions	7–20 days	Initial stress decreases
8	Start of	Appearance of new	25–50	Depends on root

	vegetative growth	buds	days	strength
9	Substrate effect observation	Growth differences	10–60 days	Comparison of all variants
10	Final evaluation	Identification of best variant	60th day	End of experiment

The experimental process began with the planting of pomegranate cuttings. Initially, the prepared cuttings were placed into the selected substrates, and this stage was recorded as the beginning of the experiment. During this period, the seedlings had not yet entered active vegetative growth, and the initial experimental conditions were established.

In the next stage, the process of root emergence was observed. Within 10–25 days after planting, the appearance of the first roots was recorded. This process varied depending on the substrate type and varietal characteristics, with some variants showing earlier and others later root formation.

After that, the active rooting stage was recorded. During 15–35 days, the roots entered a rapid growth phase, during which the development and expansion of the root system intensified. This period was considered the most important stage of vegetative development in the experiment.

In the following stage, the formation of a complete root system was observed. Within 22–60 days, the seedlings developed a stable root system and became firmly established in the soil. This stage served as a key biological foundation for further plant development.

In parallel, root length growth was monitored. Over a period of up to 60 days, root length varied between 4–18 cm, with significant differences depending on substrate composition. The best results were observed in substrates rich in organic matter and with a loose structure. Seedling survival was also analyzed during the experiment. Between

30–60 days, the proportion of successfully established cuttings was determined, and overall performance was evaluated. This indicator reflects the ability of seedlings to adapt to new conditions.

In addition, the adaptation period was observed within 7–20 days. During this stage, cuttings adapted to environmental conditions, and initial stress gradually decreased. Humidity and temperature regimes had a significant influence on this process.

The onset of vegetative growth was recorded between 25–50 days. In this period, seedlings with sufficiently developed root systems began forming new buds, and upward growth became active.

Throughout the experiment, substrate effects were continuously monitored between 10–60 days. Each variant was compared separately, and soil composition was analyzed in relation to growth rate and root quality.

In the final stage, a final evaluation was conducted on day 60. The results obtained for each variant were compared, and the most effective substrate and best-developed seedlings were identified.

Conclusion

Based on the conducted research and obtained results, the following conclusions were made regarding the improvement of pomegranate seedling production and their quality under the conditions of the Boyovut district:

1. The results of the experiments confirmed that the rooting process of pomegranate cuttings is strongly dependent on substrate composition, varietal characteristics, and agroecological conditions.
2. Among the studied varieties, the Qozoqi pomegranate showed the highest adaptation capacity and fastest rooting during vegetative propagation.
3. The Qizil and Wonderful varieties demonstrated moderate biological activity, with significant improvement under favorable substrate conditions (loamy-gray and

mixed substrates). However, under pure gray soil conditions, rooting was slower and the root system developed weakly.

4. The use of gray soil alone produced the lowest results across all varieties. This was explained by soil compaction, insufficient aeration, and low moisture retention, resulting in root length not exceeding 4–6 cm.

5. Overall observations showed that the rooting process of pomegranate cuttings develops in stages over 10–60 days: initial root emergence (10–25 days), active rooting (15–35 days), and full root system formation (22–60 days). Vegetative growth began from 25–50 days and was directly associated with root system strength.

References

1. Fayziyev, J.N. (2020). Scientific Substantiation of Technology for Increasing the Yield and Quality of Seedless Grape Varieties under the Conditions of Uzbekistan. Author's abstract of the dissertation. Tashkent. pp. 5–18.

2. Egamberdiyev, P.E. (2023). The Influence of Bud Loading on Grape Yield and Quality in the Cultivation of Table Grape Varieties Using the Overhead Trellis (Voish) Method. Dissertation. Tashkent. pp. 52–85.

3. Сапаева, З. Ш., & Абдуллаева, Б. А. (2021). Влияние низкотемпературной обработки некоторых сортов винограда на их аминокислотный состав. *Молодой ученый*, (22), 117-120.

4. Файзиев, Ж. Н., Эгамбердиев, П. Э., & Жўлбеков, И. С. Ў. (2022). УЗУМНИНГ ХЎРАКИ КАТТА ҚЎРҒОН НАВИНИ ВОИШ УСУЛИДА ЕТИШТИРГАНДА КУРТАК ЮКЛАМАЛАРИНИ ҲОСИЛДОРЛИК КЎРСАТКИЧЛАРИГА БОҒЛИҚЛИГИ. *Academic research in educational sciences*, 3(Special Issue 1), 254-257.

5. Ergashovich, E. P., Mardonovich, K. F., Ogli, J. I. S. O. A. D. U., Shavkatovich, A. A., Djumanazarova, S. D., & Raimovna, R. D. (2022). Effect of buds particle on

productivity and quality when growing Katta Kurgan table variety grapes by voish method.

6. Jo'lbekov, I., Ungarov, A., Umrzoqova, I., & Adhamov, A. (2023). UZUMNING SANOATBOP NAVLARINI YETISHRISH USULLARIGA DOIR MAVZULARNI INNOVATSION TEXNOLOGIYALARDAN FOYDALANGAN HOLDA TASHKIL ETISH. *Евразийский журнал технологий и инноваций*, 1(6), 89-93.

7. Rakhmatov, O., Zhulbekov, I. S., & Kabulov, I. M. (2023). Experimental study of a drying installation for drying melon with IR-radiation. In *E3S Web of Conferences* (Vol. 443, p. 02005). EDP Sciences.

8. Жўлбеков, И. С. Ў. (2024). УЗУМНИНГ ШАРБОП НАВЛАРИНИНГ ХУСУСИЯТЛАРИ ВА УЛАРДАН ТУРЛИ НАВЛИ ШАРОБ ТАЙЁРЛАШ ТЕХНАЛОГИЯЛАРИ. *Central Asian Journal of Multidisciplinary Research and Management Studies*, 1(7), 158-165.

9. Khujakulov, F., Egamberdiev, P., Julbekov, I., Abduraimov, D., & Ungarov, A. (2023). The dependence of grape feeding on the productivity indicator and harvest quality of rizamat and large dry varieties.

10. Sultanov, K., Egamberdiev, P., & Khujakulov, F. (2024). THE DEPENDENCE OF THE AMOUNT OF ORGANIC MATTER ON THE DEVELOPMENT OF THE ROOTS OF GRAPE VARIETIES. *American Journal Of Agriculture And Horticulture Innovations*, 4(03), 15-20.

11. Kamoliddin, S., Pulatjon, E., & Ibrohim, J. (2024). DEPENDENCE ON THE MECHANICAL COMPOSITION OF THE APPLICATION OF GROWTH SUBSTANCES TO THE GROWING VARIETIES OF GRAPES. *Universum: технические науки*, 8(3 (120)), 37-40.

12. Weizhou, Z., O'G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO 'CHATLARINI EKISH SXEMASI VA NAVLARNI

JOYLASHTIRISH. *Central Asian Journal of Academic Research*, 3(4), 94-97.

13. Sattarov, K., Eshmurodov, D., Mamatkulova, M., Julbekov, I., & Kharsika, I. (2025). The impact of active packaging and nanocoatings on the safety and shelf life of dairy products. *Scientific Journal'Animal Science & Food Technologies'*, 16(2).

14. Эгамбердиев, П. Э., Хужакулов, Ф. М., Жулбеков, И. С. Ў., & Абдураимов, Д. У. Ў. (2025). ЗАВИСИМОСТЬ ПРИМЕНЕНИЯ РЕГУЛЯТОРОВ РОСТА НА МЕХАНИЧЕСКИЙ СОСТАВ ЯГОД СТОЛОВЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, 6(12 (141)), 31-35.

15. O'G, J. L. I. S., & Qizi, U. I. S. (2025). UZUMNI HOSILDORLIGI VA SIFATIGA ORGANIK VA MINERAL O 'G 'ITLARNING TA'SIRI. *Central Asian Journal of Academic Research*, 3(4-3), 61-66.

16. Weizhou, Z., O'G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO 'CHATLARINI EKISH SXEMASI VA NAVLARNI JOYLASHTIRISH. *Central Asian Journal of Academic Research*, 3(4), 94-97.

17. Жулбеков, И. С. У. (2025). ВЛИЯНИЕ ЦИТОГУМИНОВОГО ВЕЩЕСТВА НА РАЗМЕР ЯГОД И МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ КИШМИШНЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, 4(1 (130)), 9-11.

**STRUCTURAL AND FUNCTIONAL ANALYSIS OF THE UN'S
ACTIVITIES TO STRENGTHEN INTERNATIONAL TOLERANCE AND
THE EXPERIENCE OF THE REPUBLIC OF UZBEKISTAN**

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Abstract. This article examines the institutional structure of the United Nations and its role in promoting a culture of tolerance as the foundation of global security. Using a systematic approach, it analyses the activities of key UN bodies and programmes in the field of intercultural dialogue. The author applies a structural-functional method to assess the effectiveness of the implementation of international declarations and conventions aimed at preventing discrimination and protecting human rights.

Particular attention is paid to the Republic of Uzbekistan's experience in integrating international legal norms into national legislation and practice. The article examines the mechanisms of the country's interaction with UN institutions that contribute to strengthening inter-ethnic and inter-religious harmony in the Central Asian region. The research findings show that the universal nature of the UN enables Uzbekistan to effectively coordinate efforts in combating global challenges such as extremism and intolerance.

Relevance of the topic. Within the framework of contemporary international relations, the United Nations occupies a central position and plays a vital role in virtually all areas of the global agenda. Against a backdrop of growing interdependence among

states, the significance of the UN's efforts in addressing global challenges—including issues relating to the strengthening of international security and stability—is steadily increasing. Today, the UN is the sole universal mechanism for maintaining international peace and the collective regulation of international relations. In the context of the Republic of Uzbekistan, the relevance of this study stems from the country's active integration into the international legal framework and the need to adapt national legislation to international standards in the field of human rights and inter-ethnic harmony.

In contemporary scholarship, the United Nations is regarded as a 'unique, truly global institution' with a breadth of activity that enables it to achieve global unity. Researchers emphasise that the UN is the sole 'universal mechanism' for maintaining international peace, collectively regulating relations and ensuring sustainable development.

The study is grounded in a structural-functional analysis, which allows the UN to be viewed not merely as a collection of bodies, but as a dynamic system in which each element—the General Assembly, the Security Council and the specialised agencies—performs specific functions aimed at promoting tolerance and protecting human rights.

Foreign historiography, Tom Ruys has made a significant contribution to the study of the legal foundations of the UN's activities, in particular the implementation of Article 51 of the Charter, by analysing the evolution of customary law in the context of modern conflicts. In her works, Linda Fasulo provides an 'insider's view' of institutional processes at UN headquarters, which is critical for understanding the organisation's functional effectiveness. Issues relating to the integration of sustainable development and social responsibility principles into educational and state standards are covered in detail in the research of J. Godemann and G. Michelsen.

The Uzbek academic school, of particular significance to our research are the works of Academician A. H. Saidov, who, in his writings on the theory of modern international law, laid the foundations for understanding the interaction between national legal systems and international standards. Uzbek legal scholarship is actively exploring issues of social protection and the implementation of international conventions – for example, the works of R. Akhmedova and S. Mirzaev – which is directly linked to the practice of strengthening tolerance through the legal protection of citizens.

Despite the extensive literature on the general history of the UN, the academic literature does not sufficiently cover the issue of the influence of specific UN mechanisms on the formation of a regional ‘culture of tolerance’ in Central Asia. This article aims to fill this gap by proposing a model for practical interaction between UN institutions and the state structures of Uzbekistan.

In the contemporary architecture of the international legal order, the United Nations acts not only as a regulator but also as the principal generator of ideas of tolerance and intercultural harmony. The UN is recognised as the sole universal mechanism capable of ensuring global unity in the condemnation of terrorism and intolerance.

The legal and regulatory framework for tolerance. The basis for the UN’s activities in this area is the Charter, upon which the entire international legal system of the modern world order is founded. A key milestone was the adoption in 2006 of the Global Counter-Terrorism Strategy, which was endorsed by all 192 Member States. This document established for the first time at the global level that politics, philosophy, ideology and religion can under no circumstances serve as a justification for acts of violence and intolerance. The Strategy emphasises that the protection of human rights and the rule of law are the fundamental basis for combating extremism.

UNESCO’s conceptual contribution. The UN specialised agency UNESCO has a particular influence on strengthening tolerance. Its work is based on the humanitarian

principle: ‘since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed’. Through instruments such as the Convention for the Safeguarding of the Intangible Cultural Heritage (2003), UNESCO establishes binding international standards that protect the right of peoples to preserve their identity, which is the cornerstone of mutual respect and tolerance.

Incorporating the concept of tolerance into the sustainable development agenda. Issues relating to the promotion of inter-ethnic harmony are inextricably linked to socio-economic aspects. The Rio Declaration (1992) and the Millennium Declaration (2000) affirm that sustainable development is impossible without eradicating poverty and ensuring equality, as social injustice is a breeding ground for conflict. Within the framework of UN programmes, such as UNDP, tolerance is viewed as a tool for ensuring social security and stability.

The protection of vulnerable groups as an element of a culture of harmony. The UN’s influence is also evident through specialised conventions, such as the Convention on the Rights of the Child (1989), which lays the foundations for raising future generations in a spirit of peace and non-discrimination. Similar mechanisms operate in the sphere of protecting the rights of women and indigenous peoples, creating a comprehensive system for preventing social tension.

The study has shown that the United Nations is a key partner for the Republic of Uzbekistan in shaping the national architecture of tolerance and security. The UN is recognised as the only universal organisation capable of ensuring global unity in condemning terrorism and intolerance.

1. Legal implementation of global strategies. The most significant outcome of this cooperation was Uzbekistan’s adoption and full endorsement of the UN Global Counter-Terrorism Strategy (2006). The implementation of this strategy within the national

context has enabled the principle that no ideology or religion can serve as a justification for violence to be enshrined in law. This has created a legal shield against extremism that undermines the foundations of inter-ethnic tolerance. Uzbekistan actively participates in the implementation of Security Council resolutions (e.g. Resolution No. 1373), which facilitates the coordination of efforts with international and regional organisations such as the SCO and the CIS.

2. Social protection and human rights. Analysis shows that the integration of international UN legal standards has acted as a catalyst for reforms in Uzbekistan's social protection system. The adoption of UN and International Labour Organisation (ILO) standards has contributed to the creation of a more inclusive environment where individual rights are protected regardless of nationality, race or religion. This confirms the UN's role as a hub for coordinating the international community's efforts to ensure sustainable development and stability.

3. Institutional trust and judicial protection. There has been a growing trend among small states, including Uzbekistan, to place greater trust in the UN's international judicial procedures as a means of redressing infringed rights. This contributes to strengthening the rule of law in the republic's foreign policy and creates conditions for the peaceful settlement of any inter-state disputes, which forms the foundation of regional tolerance.

4. Education and sustainable development. The UN's influence in Uzbekistan is evident through the implementation of the principles of the 'Agenda 21', adopted in Rio de Janeiro. Particular attention is paid to strengthening the role of young people and women in the process of ensuring sustainable development, which directly leads to a reduction in social tensions and the strengthening of a culture of harmony. UNESCO's educational initiatives in the country enable these values to be integrated into the curriculum, building resilience to ideas of intolerance among the younger generation.

References

1. The Charter of the United Nations (adopted in San Francisco on 26 June 1945) is the founding document that defines the institutional structure and universal mechanisms for maintaining peace.
2. Lukashuk I. I., Saidov A. H. Fundamentals of Contemporary International Law: A Textbook for Higher Legal Education Institutions. – Tashkent: National Association of Uzbek Philosophers Publishing House, 2007. – 392 pp. — a key theoretical work on international law in the national context of Uzbekistan.
3. Lebedev A. S. The Role of the UN in the Fight against Terrorism // Observer. – 2008. – No. 5. – pp. 46–54. — An analysis of the UN's activities as a centre for coordinating the international community's efforts against global challenges of intolerance.
4. Koptug V. A. The UN Conference on Environment and Development (Rio de Janeiro, June 1992): An Information Review. – Novosibirsk: Siberian Branch of the Russian Academy of Sciences, 1992. — A review of UN policy documents (Agenda 21) linking sustainable development with a culture of peace.
5. Akhmedova R. The System of Human Rights and International Legal Norms. – Tashkent: Uzbekistan Academy of Sciences, 2020. — a study of the process of implementing UN international standards into the social and legal system of the Republic of Uzbekistan.
6. Fasulo L. An Insider's Guide to the UN. – Yale University Press, 2004. — a systematic analysis of the internal structure and functional effectiveness of the United Nations bodies.

The Role of Digital Pedagogy in Increasing Educational Effectiveness

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Abstract

Digital pedagogy plays an important role in improving the effectiveness of modern education. The integration of digital technologies into the educational process has created new opportunities for teachers and students. Interactive learning platforms, multimedia resources, online assessments, and virtual communication tools increase students' motivation, participation, and academic performance. Digital pedagogy also supports independent learning, critical thinking, and the development of digital competencies necessary for the modern world. This thesis discusses the importance of digital pedagogy in enhancing educational effectiveness and highlights its major advantages and challenges.

Keywords: digital pedagogy, educational effectiveness, online learning, digital technologies, innovation, modern education

Main Part

The rapid development of information and communication technologies has significantly transformed the global education system. Traditional teaching methods are gradually being replaced by digital learning approaches that provide more flexibility and accessibility. Digital pedagogy refers to the use of technological tools and innovative methods to improve teaching and learning processes.

One of the main advantages of digital pedagogy is the increase in educational effectiveness. Digital tools help teachers present information more clearly through

videos, animations, presentations, and interactive exercises. Such methods improve students' understanding and memory retention.

Digital learning environments also encourage active student participation. Online discussions, quizzes, virtual classrooms, and collaborative projects create interactive communication between teachers and students. As a result, students become more motivated and engaged in the learning process.

Another important aspect is personalized education. Digital platforms allow students to study according to their individual learning pace and abilities. Teachers can monitor students' progress and provide immediate feedback through online assessment systems. However, some challenges still exist. Limited internet access, lack of technical equipment, and insufficient digital literacy among teachers and students may reduce the effectiveness of digital education. Therefore, educational institutions should invest in technological infrastructure and professional training programs.

Despite these difficulties, digital pedagogy remains one of the most effective ways to modernize education and improve learning outcomes in the contemporary world.

Conclusion

Digital pedagogy has become an essential factor in increasing educational effectiveness. It improves accessibility, interaction, motivation, and the overall quality of education. The successful integration of digital technologies into the educational process helps prepare students for the demands of the digital era and contributes to the development of innovative and competitive societies.

References

1. Bates, A. Teaching in a Digital Age. 2019.
2. UNESCO. Digital Education Development Report. 2023.
3. Anderson, T. Online Learning and Modern Education. 2020.

MANAGEMENT OF FINANCIAL SUSTAINABILITY OF A COMMERCIAL ORGANIZATION: TARGET SETTING, PRINCIPLES AND INFORMATION SUPPORT

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ABSTRACT

This article examines the theoretical and practical foundations of managing the financial sustainability of a commercial organization under modern economic conditions. Particular attention is paid to the strategic objectives of financial sustainability management, the principles underlying an effective financial management system, and the role of information support in managerial decision-making. The study analyzes the relationship between financial stability, capital structure, liquidity, and risk management. It is substantiated that sustainable financial development depends not only on maintaining solvency, but also on the organization's ability to adapt to changes in the external environment and ensure long-term value creation. The paper also highlights the growing importance of analytical technologies, financial diagnostics, and integrated information systems in improving the quality of financial management. The findings confirm that an effective system of financial sustainability management requires a comprehensive approach based on reliable information, strategic planning, and continuous monitoring of financial risks.

Keywords: financial sustainability, financial management, commercial organization, liquidity, capital structure, financial risks, information support, management principles, solvency, corporate finance.

INTRODUCTION

In the context of increasing economic uncertainty and growing competition, financial sustainability has become one of the key conditions for the stable operation of

commercial organizations. The ability of a company to maintain solvency, ensure uninterrupted financing of operating activities, and effectively manage financial resources largely determines its long-term competitiveness and investment attractiveness. Modern commercial organizations operate in an environment characterized by inflationary pressures, exchange rate volatility, instability of financial markets, and rapid technological transformation. Under such conditions, the management of financial sustainability is no longer limited to maintaining acceptable liquidity ratios or minimizing debt obligations. It increasingly requires a strategic approach focused on balancing profitability, risk, and capital efficiency.

The concept of financial sustainability has evolved significantly over the past decades. Traditional approaches mainly concentrated on solvency and the structure of financial resources. However, contemporary financial management theories emphasize the importance of long-term value creation, risk-oriented management, and adaptive financial policies. According to the principles of corporate finance developed by Richard A. Brealey and Stewart C. Myers, the effectiveness of financial management depends on the organization's ability to optimize capital allocation and maintain financial flexibility.

At the same time, the increasing complexity of financial systems has strengthened the role of information support in managerial decision-making. Reliable financial information, analytical tools, forecasting models, and digital management systems have become essential elements of financial sustainability management. Organizations that possess effective information support systems are able to identify financial risks more quickly, improve the quality of strategic planning, and adapt more effectively to changes in the business environment.

The purpose of this article is to examine the target setting, principles, and information support of financial sustainability management in commercial organizations and to determine their role in ensuring long-term financial stability.

Financial sustainability management represents a system of managerial decisions aimed at maintaining the organization's solvency, financial independence, and ability to achieve strategic goals under changing economic conditions. In modern financial management theory, financial sustainability is considered not only as the absence of financial distress, but also as the organization's capacity for stable growth and efficient resource allocation.

The primary objective of financial sustainability management is to ensure the balanced development of the organization by maintaining an optimal relationship between assets, liabilities, revenues, and financial risks. This objective includes several interconnected tasks:

- maintaining liquidity and solvency;
- ensuring an optimal capital structure;
- minimizing financial risks;
- improving the efficiency of asset utilization;
- increasing profitability and investment attractiveness.

An important aspect of financial sustainability management is the ability of the organization to maintain financial flexibility. Financial flexibility allows companies to respond effectively to external shocks, economic crises, and market fluctuations without losing operational stability. The effectiveness of financial sustainability management depends on compliance with a number of fundamental principles. The principle of continuity implies maintaining uninterrupted financial and operational activities of the organization. This principle is closely connected with the company's ability to generate stable cash flows and fulfill its financial obligations on time. The principle of balance

requires maintaining a rational proportion between equity and borrowed capital. Excessive dependence on debt financing increases financial risks and weakens the organization's resistance to adverse economic conditions. Modern corporate finance theories emphasize that an optimal capital structure contributes to minimizing the cost of capital and increasing firm value. The principle of profitability means that financial sustainability should not be achieved solely through risk minimization. Sustainable development also requires sufficient profitability to finance future growth and investment activities. Another important principle is adaptability. Commercial organizations must continuously adapt their financial policies to changes in market conditions, technological development, and macroeconomic factors. The principle of risk orientation is also essential. Financial sustainability management should include continuous identification, assessment, and monitoring of financial risks. In this regard, bankruptcy prediction models developed by Edward Altman remain widely used instruments for assessing the probability of financial distress. In modern conditions, effective management of financial sustainability is impossible without high-quality information support. Information support includes financial statements, management reports, analytical databases, forecasting systems, and digital financial technologies used in managerial decision-making.

The role of information support has significantly increased due to the digital transformation of business processes. Organizations increasingly rely on business analytics systems, financial dashboards, and automated risk assessment tools to improve the quality and speed of financial decisions.

Reliable information support allows management to:

- monitor financial indicators in real time;
- identify negative trends at early stages;
- improve forecasting accuracy;

- evaluate the effectiveness of financial policies;
- reduce uncertainty in decision-making.

The use of financial analysis and predictive models has become especially important in risk management. Analytical systems based on financial ratios, discriminant analysis, and machine learning technologies allow organizations to assess the probability of financial instability more accurately. Research on bankruptcy prediction and business intelligence models confirms the growing importance of integrated analytical systems in corporate finance management. At the same time, the quality of managerial decisions directly depends on the reliability, completeness, and timeliness of financial information. Inaccurate or incomplete information may lead to ineffective financial policies and increased financial risks. Therefore, information support should be considered not only as a technical element of financial management, but also as a strategic resource that directly influences the financial sustainability and competitiveness of commercial organizations. The study demonstrated that financial sustainability management is a complex and multidimensional process aimed at ensuring the stable development of commercial organizations under conditions of economic uncertainty. Effective financial sustainability management requires a balanced combination of strategic objectives, management principles, and reliable information support. It was established that the key objectives of financial sustainability management include maintaining solvency, optimizing capital structure, ensuring profitability, and minimizing financial risks. At the same time, adherence to principles such as continuity, balance, adaptability, and risk orientation significantly increases the effectiveness of financial management. The research also confirmed the growing importance of information support in managerial decision-making. Modern analytical systems, forecasting models, and digital financial technologies improve the quality of financial diagnostics and enable organizations to identify risks at earlier stages.

Thus, sustainable financial development of commercial organizations depends not only on financial resources, but also on the quality of management decisions, the effectiveness of information systems, and the organization's ability to adapt to changes in the external environment.

REFERENCE

1. Brealey R.A., Myers S.C., Allen F., Edmans A. Principles of Corporate Finance. 14th ed. New York: McGraw-Hill Education, 2022.
2. Altman E.I. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy // The Journal of Finance. 1968. Vol. 23. No. 4. P. 589–609.
3. Shyam-Sunder L., Myers S.C. Testing Static Tradeoff against Pecking Order Models of Capital Structure // Journal of Financial Economics. 1999. Vol. 51. No. 2. P. 219–244.
4. Martin A., Manjula M., Venkatesan V.P. A Business Intelligence Model to Predict Bankruptcy using Financial Domain Ontology with Association Rule Mining Algorithm // arXiv. 2011.
5. Kovalev V.V. Financial Analysis: Methods and Procedures. Moscow: Finance and Statistics, 2020.
6. Blank I.A. Financial Management. Kyiv: Nika-Center, 2019.

Study of Drying Technology for Fig (*Ficus carica* L.) Fruits

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Abstract: This research is devoted to a comprehensive study of the technological parameters and economic efficiency of drying fig (*Ficus carica* L.) fruits under the climatic conditions of Uzbekistan. The study primarily focuses on the local "Sariq Anjir" (Tashkent/Namangan fig), "Qora Anjir," and the internationally recognized "Kadota" varieties. Three drying methods—natural sun drying, artificial convection drying, and combined methods—were subjected to a comparative analysis. Drying kinetics, energy consumption, nutrient preservation, and final product quality were utilized as key performance indicators.

Experimental results indicate that while natural sun drying is the most cost-effective in terms of energy consumption, it lacks stability regarding microbiological safety and product quality. Conversely, the combined drying method was identified as the most technologically superior; it ensures the preservation of optimal texture and color and provides high export-oriented characteristics while significantly reducing energy consumption compared to the artificial method. From an economic perspective, the "Sariq Anjir" variety recorded the highest profit indicators, achieving a net profit of 7.6 million UZS per ton and a profitability level of 61.3%. The study concludes that implementing combined drying technologies in the agricultural sector of Uzbekistan will drastically reduce harvest losses, stimulate the fruit and vegetable processing industry, and enhance the competitiveness of local dried figs in the global export market.

Keywords: *Ficus carica* L., fig drying, food technology, dehydration kinetics, economic efficiency, Sariq Anjir, Kadota, combined drying method, net profit, profitability level, export-oriented production, post-harvest losses, nutritional value, sustainable processing.

Introduction

Ficus carica L. (fig) belongs to the Moraceae (mulberry) family. The genus *Ficus* comprises between 600 and 1,900 species, making it one of the most species-rich plant genera. However, only a few of these produce edible fruit. Most species are native to tropical and subtropical regions, the Middle East, and the Mediterranean basin. The fig is one of the oldest fruits domesticated by humanity. Alongside the pomegranate and olive, it is the third classic fruit crop associated with the emergence of horticulture in the Mediterranean basin over 6,000 years ago. Today, figs—marketed processed, dried, or fresh—are cultivated in many warm and temperate climates. Their growth is limited more by low winter temperatures than by summer heat. Climate significantly influences the size, shape, and the color of the skin and pulp of the fig. Rain, hail, and wind can diminish fruit quality and overall yield.

Currently, figs (both fresh and dried) are an essential component of the Mediterranean diet. Fig fruits, especially dried ones, are highly rich in fiber, micronutrients, polyphenols, proteins, Vitamin K, carbohydrates, magnesium, potassium, calcium, and natural sugars. According to literature, fresh and dried figs are effective in treating cardiovascular diseases, cancer, and constipation. In traditional Mediterranean medicine, these fruits are noted for their antipyretic (fever-reducing), laxative, aphrodisiac, anti-inflammatory, and anti-paralytic properties. Other parts of the tree—leaves, latex (milky sap), bark, and roots—are also utilized for medicinal purposes. *Ficus carica* leaves, branches, bark, and latex have been researched for their biological activity against microbes, cancer, inflammation, fever, diabetes, obesity, liver

damage, and diarrhea.

Due to its nutrient density and versatility, the fig could play an even more significant role in the global market. In 2020, over 1,315,588 metric tons of figs were produced across 289,818 hectares. Approximately 90% of this production originates from the Mediterranean basin and the Middle East. Turkey is the world's largest fig producer, accounting for about 26% of global production. Turkey, Egypt, Iran, Greece, Algeria, and Morocco constitute the "top six," representing nearly 70% of annual global output.

Compared to major fruit crops like apples, bananas, and citrus, global fig production volume is small. However, it has reached one-third to one-half of the production volume of apricots and cherries, meaning it can no longer be considered a minor crop. The majority of current commercial production is dedicated to dried figs. The greatest growth potential, however, lies in high-quality fresh figs. Currently, due to short transport windows and limited shelf life, fresh figs remain a high-value fruit with limited demand. To expand the market for fresh figs, it is essential to extend their post-harvest shelf life.

Relevance and Necessity of the Thesis Topic

The fig (*Ficus carica* L.) is one of the world's ancient fruit crops, cultivated by humans for millennia. Globally, the area under fig cultivation is approximately 280–300 thousand hectares, with gross yields reaching 1.2–1.3 million tons in recent years. Most figs are consumed in dried form because fresh fruit is highly perishable and difficult to store for long periods.

A large portion of the world's fig production (especially in leading countries like Turkey, Iran, Egypt, and Morocco) is directed toward drying. Dried figs are a high-value-added product with significant export potential. They serve as an important part of healthy nutrition as a source of natural sweetness and nutrients (sugars, fibers,

minerals, and antioxidants).

Leading global producers include Turkey (320–356 thousand tons), Egypt, Morocco, Algeria, Iran, and Afghanistan. Turkey leads not only in production but also in the export of dried figs. Current priorities in global fig cultivation include increasing productivity, creating disease- and pest-resistant varieties, improving drying technologies, maintaining product quality, and reducing the risk of mycotoxins (aflatoxin).

The climatic conditions of the Republic of Uzbekistan (hot and dry summers) are highly favorable for growing and naturally drying figs. In recent years, efforts to test and cultivate high-yielding, disease-resistant local and foreign fig varieties have intensified in our country. However, the issues of harvesting, storage, and particularly the scientific improvement of drying technologies have not yet been sufficiently studied.

Strategic documents of the President of the Republic of Uzbekistan aimed at developing agriculture, increasing the income of farmers, and producing value-added exportable products define the development of the fruit and vegetable and drying industries as a vital task. Therefore, developing effective drying technologies for fig fruits to reduce losses, improve product quality, and increase export volumes is of great relevance.

This graduation thesis is conducted on the topic: "Study of Drying Technology for Fig (*Ficus carica* L.) Fruits."

Objective of the Research: To study various drying methods (natural sun drying, artificial convection drying, and combined methods) for fig fruits grown in Uzbekistan conditions, determine the most effective technological parameters, and improve the quality indicators of the dried product.

Research Tasks:

Analyze the economic importance, morphological, and biological characteristics of figs.

Familiarize with control measures against fig pests and diseases.

Study harvesting and primary technological processing methods.

Compare the effects of different drying methods.

Evaluate the impact of the drying process on quality indicators (moisture, color, texture, nutrient retention, microbiological safety).

Determine the economic efficiency of the drying technology and develop practical recommendations.

Object of Research: Fruits of promising fig varieties grown in the continental climate of the Republic of Uzbekistan. The study focuses on three varieties: the local Sariq Anjir (Namangan fig), Qora Anjir, and the foreign variety Kadota. These varieties are widespread in the Fergana Valley, Samarkand, and Tashkent regions, and are highly valued for their size, sweetness, and suitability for drying.

Subject of Research: Mechanisms and results of various technological drying methods (natural sun, artificial convection, and combined). This includes in-depth studies of drying speed, energy consumption, physicochemical and organoleptic indicators, nutrient retention levels, and microbiological safety.

Scientific Novelty: Through a comprehensive comparative study of various drying methods for Sariq Anjir, Qora Anjir, and Kadota varieties under Uzbekistan's climate, the most effective and economically viable drying technology is proposed. For the first time, a comparative analysis of sun, artificial, and combined drying methods in local conditions was conducted, establishing the relationship between quality indicators (color, texture, nutrient retention, and aflatoxin risk) and energy consumption. Consequently, optimal technological parameters for producing export-quality dried figs were developed.

Practical Significance: The research results are of practical value for fig-growing farms, drying enterprises, and clusters in Uzbekistan. The optimal drying technology proposed in this work allows for the reduction of post-harvest losses, enhancement of product quality, and increased production of exportable dried figs. Implementing these results will serve to increase farmers' income, create new jobs, and enhance the competitiveness of our country's dried fruit products in the global market.

2.1. Economic efficiency of drying fig (*Ficus carica* L.) fruits.

Today, the deep processing of agricultural products and the production of export-oriented goods are key priorities in the agricultural sector. In particular, processing highly perishable fruits to extend their shelf life and increase their economic value is of great importance. One such fruit is the fig (*Ficus carica* L.).

Due to its high content of natural sugars, organic acids, vitamins, minerals, and biologically active compounds, the fig possesses high nutritional value. However, fresh figs are extremely delicate and perishable, with a very limited shelf life. Consequently, a significant portion of the harvest is lost during storage and transportation. Drying technology plays a vital role in overcoming this challenge.

The drying process removes excess moisture from the product, which slows down microbial growth and extends shelf life. Dried figs are in high demand in the market and are among the primary exportable goods. Especially in countries like Turkey, Iran, and the Mediterranean region, dried figs are valued as an economically significant commodity.

The climatic conditions of the Republic of Uzbekistan, particularly the hot and dry summers, provide favorable opportunities for the natural drying of figs. This not only reduces production costs but also allows for the production of high-quality dried goods. By increasing the volume of fig cultivation and processing in our republic, it is possible to strengthen export potential, increase the income of farming enterprises,

and develop the food industry.

During the study, the economic efficiency of the Sariq Anjir (Tashkent fig), Qora Anjir, and Kadota varieties, which are widely grown in Uzbekistan, was examined. Calculations were based on 1 ton (1000 kg) of fresh harvest.

Due to the high moisture content in fig fruits, a reduction in mass occurs during the drying process. On average, 1 kg of dried product was obtained from 4 kg of fresh figs. Accordingly, 250 kg of dried product was prepared from 1000 kg of fresh fruit..

Table 1

Economic indicators by fig varieties (2024-2025)

№	Indicators	Sariq Anjir	Qora Anjir	Kadota
1	Fresh harvest quantity	1000 kg	1000 kg	1000 kg
2	Price of 1 kg of fresh fruit	10,000 UZS	15,000 UZS	20,000 UZS
3	Raw material value	10,000,000	15,000,000	20,000,000
4	Drying and technological costs	2,400,000	2,500,000	2,600,000
5	Total costs	12,400,000	17,500,000	22,600,000
6	Quantity of dried product	250 kg	250 kg	250 kg
7	Price of dried product	80,000 UZS	90,000 UZS	95,000 UZS
8	Gross income	20,000,000	22,500,000	23,750,000
9	Net profit	7,600,000	5,000,000	1,150,000
10	Profitability level	61.30%	28.50%	5.10%

As shown in the table data, the highest economic efficiency was observed in the **Sariq Anjir** variety. Due to the relatively low cost of raw materials and lower drying expenses, the net profit for this variety amounted to 7.6 million UZS. The profitability level reached 61.3%, which is significantly higher compared to the other varieties.

In the **Qora Anjir** variety, despite a higher selling price, the net profit was 5 million UZS due to the increase in raw material costs. The profitability level for this variety was

28.5%. At the same time, it was noted that the Qora Anjir variety has good marketability due to its superior appearance and consumer value.

Although the **Kadota** variety possesses high product quality and export potential, the high cost of fresh fruit negatively impacted its economic efficiency. As a result, the net profit was 1.15 million UZS, and the profitability level was 5.1%. This indicates a need to reduce costs or increase the selling price when cultivating the Kadota variety.

The profitability level was determined based on the following formula:

$$R = \frac{SF}{UX} \times 100$$

Where:

- **R** — profitability level (%);
- **NP** — net profit;
- **TC** — total costs.

For the **Sariq Anjir** variety, the calculation was performed as follows:

$$R = \frac{7600000}{12400000} \times 100 = 61.3\%$$

Various technological methods are used in drying fig fruits. During the study, the economic and technological indicators of natural sun drying, artificial convection drying, and combined drying methods were compared.

Table 2.

Economic comparison of different drying methods

№	Indicators	Sun drying	Artificial convection drying	Combined method
1	Drying duration	6–8 days	18–24 hours	2–3 days
2	Energy consumption	Very low	High	Medium
3	Product quality	Medium	High	Very high
4	Color retention	Natural	Good	Very good

5	Texture	Medium	Soft	Elastic
6	Microbiological safety	Medium	High	High
7	Product loss	10–12%	4–5%	3–4%
8	Total cost	Low	High	Medium
9	Net profit	6–8 mln UZS	3–5 mln UZS	8–10 mln UZS
10	Profitability level	50–55%	25–30%	60–65%
11	Exportability level	Medium	High	Very high

As shown in the table results, the natural sun drying method is economically inexpensive. This method requires almost no energy consumption, which results in low total costs. However, the drying period is long, and the product quality depends on environmental factors.

Although artificial convection drying produces high product quality, total costs increase due to high electricity consumption. Consequently, the profitability level is lower compared to other methods.

The combined drying method was evaluated as the most optimal variant in terms of economic efficiency and product quality. In this method, initial sun drying followed by artificial drying results in reduced energy consumption and high product quality. The appearance, color, and texture of the product are well-preserved, meeting export requirements.

The results of the conducted research indicate that implementing fig drying technology is economically efficient for farming enterprises and processing plants. In particular, the high profitability level observed in the Sariq Anjir variety demonstrates its high suitability for drying.

By implementing these technologies in production:

Crop losses are reduced;

Production of export-oriented products is increased;

Income for farming enterprises is raised;

The processing industry is developed;

Opportunities for creating new jobs are expanded.

Furthermore, the growing international demand for dried fig products will contribute to the further development of this sector in the future. The combined drying technology is recommended as the most promising technology in terms of both product quality and economic efficiency.

Conclusions

1. It was determined that the fig (*Ficus carica* L.) is one of the most suitable fruit crops for drying and high-yield production in the hot and dry climatic conditions of Uzbekistan. Specifically, the abundance of sunny days during the summer months ensures an efficient natural drying process.
2. Research results indicated that drying fig fruits extends their shelf life several times over, increases transport durability, and creates opportunities for producing high-demand export products.
3. Among the studied varieties, the Sariq Anjir (Yellow Fig) variety demonstrated the highest economic efficiency. This variety achieved a net profit of 7.6 million UZS and a profitability rate of 61.3%, confirming it as one of the most optimal varieties for drying.
4. Among various drying methods, combined drying technology was evaluated as the most promising in terms of product quality, energy efficiency, and economic viability. This method preserved the color, texture, and organoleptic indicators of the product effectively, resulting in a high-quality product that meets international export standards.
5. It was scientifically and practically substantiated that processing fig fruits using modern drying technologies is crucial for increasing the income of farms, reducing

post-harvest losses, creating new jobs, and expanding the export potential of the country's dried fruit industry.

Recommendations

1. It is recommended to expand the cultivation of Sariq Anjir, Kadota, and Qora Anjir varieties, which are well-suited for drying under Uzbekistan's conditions, and to produce them on an industrial scale.
2. To maintain product quality during the drying process, it is essential to strictly adhere to fruit sorting, sulfur fumigation (bleaching), hygienic requirements, and microbiological safety standards.
3. In order to direct dried fig products toward the export market, modern packaging, certification, and logistics systems must be further developed.
4. It is recommended to continue scientific research on fig processing and drying, create new high-yielding and disease-resistant varieties, and develop innovative technologies aimed at reducing production costs..

References

1. Fayziyev, J.N. (2020). Scientific Substantiation of Technology for Increasing the Yield and Quality of Seedless Grape Varieties under the Conditions of Uzbekistan. Author's abstract of the dissertation. Tashkent. pp. 5–18.
2. Egamberdiyev, P.E. (2023). The Influence of Bud Loading on Grape Yield and Quality in the Cultivation of Table Grape Varieties Using the Overhead Trellis (Voish) Method. Dissertation. Tashkent. pp. 52–85.
3. Сапаева, З. Ш., & Абдуллаева, Б. А. (2021). Влияние низкотемпературной обработки некоторых сортов винограда на их аминокислотный состав. *Молодой ученый*, (22), 117-120.
4. Файзиев, Ж. Н., Эгамбердиев, П. Э., & Жўлбеков, И. С. Ў. (2022). УЗУМНИНГ ХЎРАКИ КАТТА ҚЎРҒОН НАВИНИ ВОИШ УСУЛИДА

ЕТИШТИРГАНДА КУРТАК ЮКЛАМАЛАРИНИ ҲОСИЛДОРЛИК
КЎРСАТКИЧЛАРИГА БОҒЛИҚЛИГИ. *Academic research in educational
sciences*, 3(Special Issue 1), 254-257.

5. Ergashovich, E. P., Mardonovich, K. F., Ogli, J. I. S. O. A. D. U., Shavkatovich, A. A., Djumanazarova, S. D., & Raimovna, R. D. (2022). Effect of buds particle on productivity and quality when growing Katta Kurgan table variety grapes by voish method.

6. Jo'lbekov, I., Ungarov, A., Umrzoqova, I., & Adhamov, A. (2023). UZUMNING SANOATBOP NAVLARINI YETISHRISH USULLARIGA DOIR MAVZULARNI INNOVATSION TEXNOLOGIYALARDAN FOYDALANGAN HOLDA TASHKIL ETISH. *Евразийский журнал технологий и инноваций*, 1(6), 89-93.

7. Rakhmatov, O., Zhulbekov, I. S., & Kabulov, I. M. (2023). Experimental study of a drying installation for drying melon with IR-radiation. In *E3S Web of Conferences* (Vol. 443, p. 02005). EDP Sciences.

8. Жўлбеков, И. С. Ў. (2024). УЗУМНИНГ ШАРОБОП НАВЛАРИНИНГ ХУСУСИЯТЛАРИ ВА УЛАРДАН ТУРЛИ НАВЛИ ШАРОБ ТАЙЁРЛАШ ТЕХНАЛОГИЯЛАРИ. *Central Asian Journal of Multidisciplinary Research and Management Studies*, 1(7), 158-165.

9. Khujakulov, F., Egamberdiev, P., Julbekov, I., Abduraimov, D., & Ungarov, A. (2023). The dependence of grape feeding on the productivity indicator and harvest quality of rizamat and large dry varieties.

10. Sultanov, K., Egamberdiev, P., & Khujakulov, F. (2024). THE DEPENDENCE OF THE AMOUNT OF ORGANIC MATTER ON THE DEVELOPMENT OF THE ROOTS OF GRAPE VARIETIES. *American Journal Of Agriculture And Horticulture Innovations*, 4(03), 15-20.

11. Kamoliddin, S., Pulatjon, E., & Ibrohim, J. (2024). DEPENDENCE ON THE MECHANICAL COMPOSITION OF THE APPLICATION OF GROWTH SUBSTANCES TO THE GROWING VARIETIES OF GRAPES. *Universum: технические науки*, 8(3 (120)), 37-40.
12. Weizhou, Z., O'G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO 'CHATLARINI EKISH SXEMASI VA NAVLARNI JOYLASHTIRISH. *Central Asian Journal of Academic Research*, 3(4), 94-97.
13. Sattarov, K., Eshmurodov, D., Mamatkulova, M., Julbekov, I., & Kharsika, I. (2025). The impact of active packaging and nanocoatings on the safety and shelf life of dairy products. *Scientific Journal'Animal Science & Food Technologies'*, 16(2).
14. Эгамбердиев, П. Э., Хужакулов, Ф. М., Жулбеков, И. С. Ў., & Абдураимов, Д. У. Ў. (2025). ЗАВИСИМОСТЬ ПРИМЕНЕНИЯ РЕГУЛЯТОРОВ РОСТА НА МЕХАНИЧЕСКИЙ СОСТАВ ЯГОД СТОЛОВЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, 6(12 (141)), 31-35.
15. O'G, J. L. I. S., & Qizi, U. I. S. (2025). UZUMNI HOSILDORLIGI VA SIFATIGA ORGANIK VA MINERAL O 'G 'ITLARNING TA'SIRI. *Central Asian Journal of Academic Research*, 3(4-3), 61-66.
16. Weizhou, Z., O'G, J. L. I. S., Qizi, S. S. I., Qizi, J. R. F. O., & Qizi, O. G. X. (2025). UZUM KO 'CHATLARINI EKISH SXEMASI VA NAVLARNI JOYLASHTIRISH. *Central Asian Journal of Academic Research*, 3(4), 94-97.
17. Жулбеков, И. С. У. (2025). ВЛИЯНИЕ ЦИТОГУМИНОВОГО ВЕЩЕСТВА НА РАЗМЕР ЯГОД И МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ КИШМИШНЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, 4(1 (130)), 9-11.

EFFECTIVE METHODS OF FORMING INNOVATIVE THINKING SKILLS IN PRESCHOOL CHILDREN

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Abstract: Each method can successfully address a specific educational objective, while others may prove ineffective in the same situation. Since there are no universal teaching methods, various teaching methods or a combination of them may be used in the classroom. The article discusses the use of some effective methods for developing innovative thinking in preschool children.

Keywords: method, educational task, universal educational methods, exercises, educational methods, complex, preschoolers, innovative developmental skills, formation, effective methods

Annotatsiya: Har bir metod muayyan ta'limiy vazifani muvaffaqiyatli hal etishi mumkin, biroq ayni vaziyatda boshqa metodlar samarasiz bo'lishi ehtimoli mavjud. Universal o'qitish metodlari mavjud emasligi sababli dars jarayonida turli metodlar yoki ularning uyg'unlashgan shakllaridan foydalaniladi. Maqolada maktabgacha yoshdagi bolalarda innovatsion fikrlashni rivojlantirishga xizmat qiluvchi ayrim samarali metodlardan foydalanish masalalari yoritilgan.

Kalit so'zlar: metod, ta'limiy vazifa, universal ta'lim metodlari, mashqlar, o'qitish metodlari, kompleks, maktabgacha yoshdagi bolalar, innovatsion rivojlantiruvchi ko'nikmalar, shakllantirish, samarali metodlar.

Oila jamiyatning eng muhim ijtimoiy instituti bo'lib, bolaning shaxs sifatida shakllanishida asosiy o'rin tutadi. Inson hayotidagi ilk tarbiya, ma'naviy qadriyatlar, axloqiy me'yorlar va ijtimoiy munosabatlar aynan oilada shakllanadi. Bola dunyoni avvalo oila muhiti orqali anglaydi, mehr-muhabbat, e'tibor va g'amxo'rlikni ota-onadan his qiladi. Ayniqsa, onaning mehribonligi, allalari, ertaklari va bolaga bo'lgan samimiy

munosabati bolaning ruhiy rivojlanishiga ijobiy ta'sir ko'rsatadi. Ushbu jarayon bolaning ongida iliq hissiyotlarni shakllantirib, uning kelajakdagi ijtimoiy munosabatlariga mustahkam zamin yaratadi.

Bolaning ijtimoiylashuvi avvalo oilada boshlanadi. Ota-onaning farzand bilan to'g'ri muloqot qilishi, uni tushunishi, qo'llab-quvvatlashi va mustaqil fikr bildirishiga imkon yaratishi bolaning ijtimoiy rivojlanishida muhim ahamiyatga ega. Bola oilada o'zini erkin his qilsa, u boshqalar bilan ham oson muloqotga kirisha oladi, tengdoshlari bilan do'stona munosabatlarni yo'lga qo'yadi va jamoadagi faoliyatga tez moslashadi. Shu bois ota-onalar bolaning tengdoshlari bilan munosabatlarini qo'llab-quvvatlashi, uni bolalar jamoasiga qo'shilishiga rag'batlantirib borishi zarur. Bu esa keyinchalik bolaning maktabgacha ta'lim tashkilotiga moslashuv jarayonini yengillashtiradi.

Maktabgacha yosh davri bolaning intellektual, axloqiy va jismoniy rivojlanishida eng muhim bosqichlardan biri hisoblanadi. Shu sababli maktabgacha ta'lim tizimida qo'llaniladigan metod va vositalar bolaning yosh xususiyatlariga mos bo'lishi lozim. Maktabgacha ta'lim pedagogikasida qo'llaniladigan metodlar umumiy o'rta ta'limdagi metodlardan ma'lum jihatlari bilan farq qiladi. Chunki bu yoshdagi bolalar uchun ta'lim jarayonida ko'rgazmalilik, amaliy faoliyat va o'yin texnologiyalari ustuvor ahamiyat kasb etadi. Ayniqsa, og'zaki, ko'rgazmali va amaliy metodlardan kompleks foydalanish bolalarning bilimni samarali o'zlashtirishiga xizmat qiladi.

Metod tushunchasi yunoncha "metodos" so'zidan olingan bo'lib, maqsadga erishish yo'li yoki usuli degan ma'noni anglatadi. Pedagogik faoliyatda metodlar ta'lim-tarbiya jarayonini samarali tashkil etish, bolalarda bilim, ko'nikma va malakalarni shakllantirish vositasi hisoblanadi. Ta'lim metodlari tarbiyachi va tarbiyalanuvchi faoliyatining o'zaro bog'liqligini ta'minlaydi hamda o'quv jarayonining mazmunini ochib beradi. Har bir metod ma'lum pedagogik vazifani hal qilishga xizmat qiladi va tarbiyachidan yuqori darajadagi kasbiy mahoratni talab etadi. Maktabgacha ta'lim

tashkilotlarida ta'lim metodlaridan foydalanish bolalarning yosh va individual xususiyatlariga qarab murakkablashib boradi. Kichik guruhlarda ko'proq o'yin, kuzatish va ko'rgazmali metodlarga e'tibor qaratilsa, katta va tayyorlov guruhlarida mustaqil fikrlash, mantiqiy tafakkur va ijodkorlikni rivojlantiruvchi metodlardan foydalaniladi. Shu bilan birga, interfaol metodlar, muammoli vaziyatlar yaratish, savol-javob, suhbat va amaliy topshiriqlar bolalarning faolligini oshiradi hamda ularning mustaqil fikrlash qobiliyatini rivojlantiradi. Bugungi kunda zamonaviy pedagogik texnologiyalarni maktabgacha ta'lim tizimiga joriy etish dolzarb masalalardan biri hisoblanadi. Innovatsion metodlardan foydalanish bolalarda kreativ fikrlash, mustaqil qaror qabul qilish va muammolarga noodatiy yechim topish ko'nikmalarini rivojlantiradi. Shuningdek, tarbiyachining kasbiy tayyorgarligi, pedagogik mahorati va metodlarni to'g'ri tanlay bilishi ta'lim samaradorligini oshirishda muhim omil bo'lib xizmat qiladi. Ta'lim metodlarining maqsadga muvofiq qo'llanilishi bolalarning har tomonlama barkamol shaxs sifatida shakllanishiga yordam beradi.

Sharqda "Shayx - ul rais" (Olimlar raisi) unvoni bilan mashhur bo'lgan Husayn ibn Abdulloh ibn al-Hasan Ali ibn Sinoning (980-1037) "Tadbir ul-manozil" asarida bayon etilgan o'qitish usullari hozirgi davr ta'limotlariga mos kelishi xam nazariy, ham amaliy jihatdan qimmatlidir. "Bola baqquvat bo'lib, so'zlashuv nutqini yaxshi tushuna boshlagandan so'ng u savod o'rganishga qobil bo'ladi, shundan so'ng savodga o'rgata borish mumkin". Ibn Sino ta'kidlashicha, tarbiyalanuvchiga bilim berishda o'qituvchining pedagogik mahorati va mas'uliyatli burchi masalasiga alohida to'xtalib, o'qituvchi bolalarga bilim berishga kirishishidan avval, ularning xulq - atvorini o'rganishi va bilimlarini tekshirib ko'rishi, qiziqishini, nimaga qodir ekanligini tavsiya etishi kerakligi haqida fikr yuritir ekan, murabbiylarga quyidagilarga amal qilishni lozimligini ilgarit suradi: Bu o'rinda: bolalar bilan muomilada bosiq, jiddiy bo'lishi, berayotgan bilimning tarbiyalanuvchilar qanday o'zlashtirib olayotganiga alohida

yondashishi muhimligi; ta'limda turli o'qitish usullari va shakllaridan foydalanishi; tarbiyalanuvchining xotirasi, bilimlarni egallash qobiliyati, shaxsiy xususiyatlarini bilishi; bilim olishga qiziqтира olishi; berilayotgan bilimlarning eng muhimini ajratib bera olishi; bilimlarni tarbiyalanuvchilarga tushunarli, uning yoshi, aqliy darajasiga mos ravishda berishi; har bir so'zning bolalar hissiyotini uyg'otish darajasida bo'lishiga erishish zarur. Ta'lim usullari ta'lim metodlaridan foydalanish o'qituvchi va o'quvchilar, tarbiyachi va tarbiyalanuvchilarning birgalikdagi aniq faoliyatidir. Ta'lim usullari yordamida ta'lim metodi zamiridagi vazifalarning bir qismi bajariladi. Ayni usullardan turli metodlar negizida ham foydalanilishi mumkin. Yoki aksincha, ayni metod turli usullar ko'magida ochib berilishi ham mumkin. Usul ta'lim metodining tarkibiy qismi, uning muhim unsuri, metodni joriy qilishdagi alohida qadam sifatida ta'riflanadi. Har bir ta'lim metodi muayyan ta'lim usullarini chog'ishtirish orqali joriy etiladi. Ta'lim usullari metoddan foydalanish asosidir. Har qanday metod bir qancha usullarni o'z ichiga qamrab oladi. Ta'lim amaliyotida, juda ko'p metodlar zamirida qamrab olinadigan, ko'p qo'llaniladigan usullar sifatida: namoyish etish, ko'rgazmali, tajriba, amaliy, aqliy harakatlar; masalani o'rganish; savol yoki topshiriq berish; yo'l-yo'riq ko'rsatish, xulosa chiqarishlarni ajratib ta'kidlash mumkin.

Maktabgacha yoshdagi bolalarda kreativ yondashuv asosida innovatsion fikrlash ko'nikmalarini shakllantirishda o'qitishning ko'rgazmali metodlar - kuzatish, ko'rsatmali tasvirlar (rasmlar, diafilmlar, slaydlar, kompyuter dasturlari)ni namoyish etish, namuna ko'rsatish kabi metodlar muhim o'rin tutadi; Shuningdek, og'zaki metodlar ham bolalarni innovatsion fikrlashga o'rgatishda quyidagilar o'ziga xos ahamiyatga ega. Ularga quyidalar kiradi: hikoya, suhbat, badiiy adabiyotlarni mutolaa qilish, savollar bilan murojaat qilish, ko'rsatma berish va tushuntirish; amaliy metodlar safidan - mashq, tajriba, modellashtirish kabi metodlar o'rin oladi. Har bir metod ma'lum ta'limiy vazifani muvaffaqiyatli hal etishi, qolganlari esa ayni holat uchun

birmuncha samarasiz bo'lishi ham mumkin. Universal ta'lim metodlari mavjud bo'lmagani bois mashg'ulotlarda turli ta'lim metodlaridan yoki ularning majmuasidan foydalanish mumkin bo'ladi. Ta'lim metodlarini tanlash quyidagi mezonlar asosida amalga oshiriladi: didaktik maqsadga ko'ra; ta'lim mazmuniga ko'ra; bolalarning ko'nikmalarni egallash va rivojlanish darajasiga ko'ra; tarbiyachining tajribasi va kasbiy tayyorgarlik darajasiga ko'ra. Innovatsion ta'lim texnologiyalariga shartli kiritish mumkin bo'lgan, Amerikalik pedagog va psixolog Dj.Dyui tomonidan XIX asr oxiri - XX asr boshlarida ishlab chiqilgan - loyihali ta'limga hozirgi kunda katta ahamiyat berilmoqda. Loyihalar metodida, ko'zda tutilgan pedagogik maqsadlar ilmiy yoki amaliy muammolarni hal etishga yo'naltirilganligi bilan ahamiyat kasb etadi. Bu jarayon yakunida konkret va real natija aniqlanadi. Bu metodning asosiy vazifasi tarbiyalanuvchilarga amaliy vazifa yoki muammolarni hal etish jarayonida turli sohalarga oid bilimlarni mustaqil egallashlariga sharoit yaratib berishdan iborat. Ana shu shart-sharoitlar kasbiy kompetensiya va innovatsion fikrlashni rivojlantirish uchun imkoniyatlarni yaratadi. Zamonaviy pedagogikada teatr faoliyati ijtimoiy va kommunikativ vazifalarni hal qilish uchun tobora ko'proq jalb qilinmoqda. Bolalar teatri jamoasiga ular rivojlanayotgan muhit, bola shaxsini o'qitish, tarbiyalash va psixologik korreksiyalash vositasi sifatida qaraladi. Teatr faoliyati bolalarni nutqiy, ijtimoiy, estetik, kognitiv rivojlanishi bilan bog'liq bo'lgan turli xil ta'lim sohalarida bir qator vazifalarni hal qilish uchun katta imkoniyatlarga ega bo'lib, ular bugungi kunda ma'lum darajada tashkil etilgan o'quv jarayonida hal qilinadi.

Foydalanilgan adabiyotlar

1. Abdullaeva N.Sh. Bolalar rivojlanishini nazorat qilishga variativ yondashuv// Maktabgacha ta'lim metodikasi va nazariyasi, T.: 2019. № 3-son, B.10-12.

2. Mirzayeva, Z. S., Fayziev, V. B. (2021). O'quvchilarda mustaqil ta'limini tashkil etish yo'llari. Academic research in educational sciences, 2(5), 362-366.
3. Sodiqova Sh.A. "Maktabgacha pedagogika" "Tafakkur chashmalari" T.2013y.
4. Kayumova N.M. " Maktabgacha pedagogika" "TDPU" nashriyoti T.:2013 y.
5. JUMAYEVA, Mehribon. "Bo'lajak o'qituvchilarni innovatsion faoliyatga tayyorlashda zamonaviy yondashuvlar." *Pedagogik Mahorat* : 62.
6. Олимов Ш.Ш., Ходжиева М.Ш. Возможности применения педагогических технологий в образовательном процессе //Молодежь и XXI век-2020. – 2020. – С. 228-231.

Archival Materials of the Russian State Historical Archive on the Inspection of the Turkestan Governor-Generalship (1908–1909)

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Abstract

This article examines and analyzes archival documents preserved in the Russian State Historical Archive concerning the inspection of the Turkestan Region conducted by Senator Count K.K. Pahlen in 1908–1909. The study explores the process of forming and organizing the commission under the personal leadership of Senator K.K. Pahlen.

Keywords: inspection, report, policy, territory, instruction, regulation, count, ministry, archival documents, official.

**Архивные материалы РГИА по ревизии Туркестанского генерал-
губернаторства (1908-1909гг.)**

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Аннотация:

В данной статье рассматриваются и анализируются архивные документы хранящиеся в Российском государственном историческом архиве по ревизии Туркестанского края, проведённой сенатором, графом К.К.Паленым в 1908-1909гг. Рассматривается процесс формирования, и организации состава комиссии под личным руководством сенатора К.К.Палена.

Ключевые слова: ревизия, отчет, политика, территория, инструкция. Положение, граф, Министерство, архивные документы, чиновник.

Rossiya davlat tarix arxivining Turkiston general gubernatori taftishi (1908-1909) bo'yicha arxiv materiallari

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Аннотация:

Мазкур мақолада 1908-1909-йилларда сенатор, граф К.К.Пален томонидан Туркистон ўлкасини тафтиш қилиш бўйича Россия давлат тарих архивида сақланаётган архив ҳужжатлари ўрганилган ва таҳлил қилинган. Шунингдек, сенатор К. К. Паленнинг шахсий раҳбарлиги остида комиссия таркибини шакллантириш ва ташкил этиш жараёни кўриб чиқилган.

Калит сўзлар: тафтиш, ҳисобот, сиёсат, ҳудуд, йўриқнома, Низом, ҳисобот, вазирлик, архив ҳужжатлари, мансабдор шахс.

В данной статье, приводятся сведения архивных материалов, хранящихся в фондах Российского государственного исторического архива, о вопросах организации, о личном составе комиссии ревизии сенатора, графа К.К.Палена, ревизировавшего Туркестанского генерал-губернаторства в 1908-1909гг..

Сенатор К.К.Пален очень тщательно подбирал личный состав комиссии для ревизии Туркестанского края, велась переписка с Министром внутренних дел П.А.Столыпиным [7]. В результате рекомендаций и отбора в комиссию вошли опытные по своей служебной практике во всех отраслях государственного управления, видные представители всех министерств с кем, К.К.Пален, лично вел переписку.

4 апреля 1908г., в письме Министру внутренних дел П.А.Столыпину, сенатор К.К.Пален, просит откомандировать в его введение некоторых чиновников, с которыми он работал в Министерстве внутренних дел: Непременного члена Виленского Губернского Присутствия Надворного Советника Гашкевича, Крестьянского начальника 1-го участка Иргизского уезда, Тургайской области, Коллежского Ассесора Гарфа, помощника столоначальника Департамента Общих дел, Коллежского Ассесора Столпакова, земских начальников: 1-го участка Виленской губернии и уезда, поручика запаса Попова и 5-го участка Виленского уезда, Коллежского регистратора Князя Шервашидзе [7; Л.1]. Однако, он просит П.А. Столыпина прислать Гошкевича только 1 августа 1908г. в личное распоряжение, для обработки статистического материала и ревизии городского управления, которое он планировал начать в августе месяце.

План проведения ревизии он представил в письме Министру юстиции И.Г.Щегловитову, где раскрыта стратегия проведения ревизии Туркестанского края. Сенатор предполагал начать ревизию одновременно во всех пяти областях края, путем образования для каждой из них особой подкомиссии из 4-х чиновников. При этом, как считал сенатор, при нем должны находиться пять человек, необходимые для немедленной обработки и рассмотрения материалов полученных во время ревизии. Так же, сенатор, обосновав сложность и трудность проведения ревизии Туркестанского края с точки зрения ее обширной географической территорией, с разнообразием народностей проживающих в крае и проблемами в административном управлении края, предлагал иметь в своем распоряжении ещё и 10 старших и 15 младших чиновников и 2-х переводчиков [7;Л. 3]. При этом он сравнил количество членов ревизии, проведённой Сенатором Манасеинным Лифляндской и Курляндской губерний, в составе 15 человек и двух переводчиков [7; Л.3], которые больше года ревизировали всего лишь две

губернии, тогда как его сотрудникам придётся работать в крае, на территории в три раза превышающей район двух указанных губерний.

Значение данной ревизии было велико для рассмотрения вопросов об управлении Туркестанским краем. Главной целью данной сенаторской ревизии заключалось во всестороннем выяснении положения края перед передачей его в ведение Министерства внутренних дел и сборе для составления нового Положения об управлении краем, выполнение «Особых Высочайших наставлений» [1; №153.] Николай II, состоящего из 26 отделов .

Причины ревизии были в самой политике царизма, которые требовали искать новые пути для более прочного закрепления края в составе Российской Империи, что требовало проведения ряда реформ в управлении краем, которое должно было обеспечить упрочнение политического господства в крае и способствовать укреплению экономических позиций. Поэтому, в состав комиссии вошли опытные управленцы и чиновники [7; Л. 3-4].

В результате проведённой работы были собраны материалы по всем направлениям. По каждому направлению был ответственный представитель ревизии. Был подготовлен проект плана по отчету ревизии Туркестанского края и сведения о его выполнении, с приложением документа на таджикском языке. Где были представлены фамилии ответственных чиновников за разделы по отчету: первую часть по правовому строю редактировал Ю.Я.Хейфиц; вторую часть «Экономический строй» редактировал –Н.Н.Кисляков; за третью часть «Административный строй» - Савич. С 7 страницы по 16 страницу, приложены переведенные документы на таджикском (фарси) [8; Л 1-16].

В архивных документах приводятся сведения о составе членов ревизии, куда входило 28 человек [7; Л.38], при этом необходимо отметить, что такого рода архивных источников нет в Национальном архиве Республики Узбекистан, что

конечно же необходимо для современных исследователей данного периода, для понимания насколько серьезен был подход к созданию нового Положения об управлении Туркестанским краем.

Список чиновников, состоящих при Сенаторе, ревизующем по Высочайшему Повелению Туркестанский край.

1. Адиясевич Александр Викторович –сверх штата
2. Аккерман Петр Александрович – надворный советник, младший чиновник
3. Бауер Василий Васильевич - коллежский советник, старший чиновник, низкий оклад
4. Безсонов Дмитрий Дмитриевич – полковник, старший чиновник, высший оклад
5. Васильчиков, Князь Илларион Сергеевич – младший чиновник
6. Витте Рудольф Иванович – коллежский советник, младший чиновник
7. Войт Сергей Сергеевич- коллежский секретарь, младший чиновник
8. Граф, Вильгельм Генрихович- коллежский ассесор, младший чиновник
9. Гошкевич Иосиф Иосифович- коллежский ассесор, старший чиновник
- 10.Денисевич Никифор Иосифович - надворный советник, младший чиновник
- 11.Заккит Карл Карлович – статский советник, младший чиновник
- 12.Калнист, Граф Дмитрий Павлович – младший чиновник
- 13.Логанов Григорий Николаевич – титулярный советник. Младший чиновник
- 14.Мейер Александр Петрович – коллежский советник, младший чиновник
- 15.Островский Вячеслав Францевич- статский советник, старший чиновник, высший оклад
- 16.Писарев Николай Николаевич - статский советник, старший чиновник, высший оклад

17. Попов Александр Васильевич – младший чиновник
18. Фон –Резон Василий Августович – коллежский ассесор, младший чиновник
19. Савич Константин Иванович - коллежский ассесор, младший чиновник
20. Столпаков Николай Александрович - коллежский ассесор, младший чиновник
21. Трегубов Сергей Николаевич – действительный статский советник, старший чиновник, высший оклад
22. Федченко Борис Алексеевич- коллежский ассесор, сверх штата
23. Хейфиц Юлиан Яковлевич - коллежский ассесор, младший чиновник
24. Цейл Сергей Владимирович-полковник, старший чиновник, высший оклад
25. Цивчинский Владимир Васильевич - коллежский ассесор, младший чиновник
26. Штемпель Эмилий Ильич – титульный советник, сверх штата
27. Кисляков Николай Михайлович – сверх штата
28. Резенстанд Вельдеке – сверх штата

Для каждого из указанного списка чиновника, Сенатор переписывался с Министерствами, где они работали. На все запросы о выделении и отправки в командировку необходимого кадра, Министерства писали официальное соглашение, что доказывало о значимости и актуальности проводимой ревизии.

Таким образом, в ходе изучения и анализа архивных материалов хранящихся в Российском государственном историческом архиве, можно сделать следующие выводы: к подготовке, организации и подбора состава ревизионной комиссии был тщательный подход, т.к., цель ревизии состояла в упрочнение политического господства в крае и укрепление экономических

позиций; сенатор К.К.Пален, в отношении каждого кандидата, лично сам консультировался с представителями соответствующих министерств, в результате, в состав комиссии вошли самые опытные юристы, управленцы и чиновники; серьезность проводимой ревизии подтверждает и факт его финансирования; полученные материалы ревизии сенатора К.К.Палена – являются редким целостным источником с многоплановой информацией.

Использованная литература:

1. Высочайшее одобренное 18 июня 1908г. особое наставление сенатору, назначенному по Высочайшему повелению к производству ревизии Туркестанского края. // «Туркестанские ведомости». 1908. №153.
2. Исхаков Ф. Центральная Азия и Россия в XVIII- начале XX вв. -Ташкент, 2009. -291с.
3. Мухамедов Ш.Б. Историко-источниковедческий анализ государственного регулирования ислама Российской Империей в Туркестане (1864-1917). – Ташкент, 2013. – 256 с.
4. Махмудова Н.Б. Развитие административного управления, социально-экономических и культурных процессов в колониальном Туркестане в начале XX в.(по материалам ревизии сенатора К.К.Палена). – Ташкент, 2015. – 200с.
5. Переудина Н.В. Материалы сенаторской ревизии Туркестанского края 1908-1909 (Источниковедческое исследование) //Автореф. на соис. канд. ист.наук. Москва., 1978., 19с.
6. Эргашев Б.Э. Делопроизводственная деятельность канцелярии Туркестанского генерал – губернаторства (историко-источниковедческий анализ). – Ташкент, 2015. – 224с.
7. РГИА Ф.1396. Оп.1. Д. 470
8. РГИА Ф. 1396. оп.1.д.412.

The Role of Business English in the Professional Development of Economics Students

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Annotation

This article analyzes the role of Business English in the professional development of economics students. The study examines the importance of teaching Business English in developing students' communicative competence, professional skills, and critical thinking abilities. It also highlights the role of Business English in enhancing students' competitiveness in the labor market and their adaptation to the global business environment. The findings indicate that effective teaching of Business English significantly improves students' professional readiness and prepares them for active participation in the global economic context.

Keywords: Business English, economics students, professional development, communicative competence, global economy, labor market

Annotatsiya

Mazkur maqolada Business Englishning iqtisod yo'nalishida tahsil olayotgan talabalar kasbiy rivojlanishidagi o'rni ilmiy jihatdan tahlil qilingan. Tadqiqotda Business Englishni o'qitish jarayonining talabalarda kommunikativ kompetensiya, kasbiy ko'nikmalar va tanqidiy fikrlashni rivojlantirishdagi ahamiyati o'rganildi. Shuningdek, ushbu yo'nalishning mehnat bozoridagi raqobatbardoshlikni oshirish va xalqaro biznes muhitiga moslashishda tutgan o'rni tahlil etildi. Natijalar shuni

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ko'rsatadiki, Business Englishni samarali o'qitish talabalarning kasbiy tayyorgarligini oshiradi va ularni global iqtisodiy muhitda faoliyat yuritishga tayyorlaydi.

Kalit so'zlar: Business English, iqtisod talabalari, kasbiy rivojlanish, kommunikativ kompetensiya, global iqtisodiyot, mehnat bozori

Kirish

XXI asrda globallashuv jarayonlarining jadallashuvi va xalqaro iqtisodiy aloqalarning kengayishi natijasida ingliz tili global kommunikatsiya vositasi sifatida mustahkam o'rin egalladi. Xususan, iqtisodiyot, moliya, marketing va menejment kabi sohalarda ingliz tilining ahamiyati sezilarli darajada ortib bormoqda. Bugungi kunda xalqaro biznes muhitida samarali faoliyat yuritish uchun nafaqat nazariy iqtisodiy bilimlar, balki professional darajada ingliz tilida muloqot qilish ko'nikmalari ham zarur hisoblanadi. Shu nuqtayi nazardan, iqtisod yo'nalishida tahsil olayotgan talabalar uchun Business Englishni egallash muhim kasbiy kompetensiyalardan biri sifatida qaralmoqda. Mazkur yo'nalish umumiy ingliz tilidan farqli ravishda, ishbilarmonlik muhitiga xos kommunikativ vaziyatlar, rasmiy yozishmalar, muzokaralar olib borish va taqdimotlar o'tkazish kabi amaliy ko'nikmalarni rivojlantirishga qaratilgan. Zamonaviy ta'lim paradigmasi talabalarning faqat bilim olishiga emas, balki ularni real kasbiy faoliyatga tayyorlashga yo'naltirilgan. Shu bois, oliy ta'lim tizimida Business Englishni o'qitish jarayonini takomillashtirish, uni amaliyot bilan integratsiyalash va innovatsion pedagogik yondashuvlar asosida tashkil etish dolzarb masalalardan biri hisoblanadi. Mazkur tadqiqotning asosiy maqsadi Business Englishning iqtisod talabalari kasbiy rivojlanishidagi o'rnini ilmiy jihatdan asoslash, uning kommunikativ va professional kompetensiyalarni shakllantirishdagi ta'sirini aniqlash hamda ta'lim jarayonida qo'llash samaradorligini tahlil qilishdan iborat.

Adabiyotlar Tahlili

Business English va English for Specific Purposes [ESP] yoʻnalishlari boʻyicha olib borilgan ilmiy tadqiqotlar ushbu sohaning nazariy asoslarini shakllantirishda muhim ahamiyatga ega. Xususan, Hutchinson va Waters [1987] ESPni oʻquvchilarning aniq ehtiyojlariga moslashtirilgan til oʻqitish yondashuvi sifatida izohlab, taʼlim jarayonida kasbiy kontekstga asoslangan materiallardan foydalanish zarurligini taʼkidlaydi. Ularning konsepsiyasiga koʻra, til oʻqitish jarayoni oʻquvchining kelajakdagi kasbiy faoliyati bilan uzviy bogʻliq boʻlishi lozim. Ellis [2003] hamda Nunan [2004]) tomonidan ilgari surilgan kommunikativ va vazifaga asoslangan (task-based) yondashuvlar til oʻrganishda real vaziyatlarga yaqinlashtirilgan faoliyatlarning samaradorligini asoslaydi. Ushbu yondashuvlar Business Englishni oʻqitishda keng qoʻllanilib, talabalarni amaliy kommunikatsiyaga tayyorlashda muhim vosita sifatida xizmat qiladi. Donna [2000]) Business Englishni ishbilarmonlik muhitida samarali muloqotni taʼminlovchi til koʻnikmalari tizimi sifatida tavsiflab, uning professional faoliyatdagi oʻrnini alohida taʼkidlaydi. Muallifning fikricha, biznes ingliz tili nafaqat lingvistik bilimlarni, balki strategik kommunikatsiya, muzokara olib borish va qaror qabul qilish kabi kompetensiyalarni ham oʻz ichiga oladi. Bargiela-Chiappini va Nickerson [1999] biznes kommunikatsiyasining madaniyatlararo xususiyatlarini oʻrganib, ingliz tilining global biznes tiliga aylanish jarayonini tahlil qiladi. Ularning tadqiqotlari xalqaro kompaniyalarda samarali muloqot qilish uchun til bilan bir qatorda madaniy kompetensiyaning ham muhimligini koʻrsatadi. Nickerson [2005] tomonidan olib borilgan izlanishlar esa ingliz tilining xalqaro biznes muhitida lingua franca sifatida keng qoʻllanilishini tasdiqlaydi. Bu esa iqtisod talabalari uchun Business Englishni oʻrganish nafaqat afzallik, balki zarurat ekanligini koʻrsatadi. Shuningdek, zamonaviy tadqiqotlarda Business Englishni oʻqitishda autentik materiallardan foydalanish, interaktiv metodlar va texnologiyalarning qoʻllanilishi taʼlim samaradorligini oshirishi

qayd etiladi. Umuman olganda, ilmiy adabiyotlar tahlili Business Englishning iqtisodiy yo'nalishdagi ta'limda muhim pedagogik vosita ekanligini asoslaydi.

Tadqiqot Metodologiyasi

Mazkur tadqiqot Business Englishning iqtisod talabalari kasbiy rivojlanishiga ta'sirini o'rganishga qaratilgan bo'lib, unda kompleks metodologik yondashuv qo'llanildi. Tadqiqotning nazariy asosini zamonaviy pedagogika, til o'qitish metodikasi va kommunikativ yondashuv tamoyillari tashkil etadi.

Tadqiqot jarayonida quyidagi ilmiy metodlardan foydalanildi:

1. Nazariy tahlil metodi. Mazkur metod orqali Business English va ESPga oid ilmiy manbalar, monografiyalar va maqolalar tizimli ravishda o'rganildi. Ushbu bosqichda mavjud nazariy qarashlar tahlil qilinib, tadqiqotning konseptual asoslari shakllantirildi.
2. Qiyosiy tahlil metodi. Umumiy ingliz tili va Business English o'rtasidagi metodik farqlar tahlil qilindi. Bunda o'qitish maqsadi, mazmuni va natijalari asosiy mezonlar sifatida belgilandi.
3. Sifat [qualitative] tadqiqot yondashuvi. Tadqiqotda talabalarning kasbiy rivojlanishi, kommunikativ kompetensiyasi va til o'zlashtirish jarayonidagi o'zgarishlari sifat jihatdan tahlil qilindi. Ushbu yondashuv orqali o'quv jarayonining ichki dinamikasi o'rganildi.
4. Kuzatuv metodi. O'quv jarayonida talabalar faoliyati muntazam kuzatilib, ularning Business Englishni qo'llash darajasi baholandi. Bu metod real ta'lim jarayonidagi o'zgarishlarni aniqlash imkonini berdi.
5. Umumlashtirish va tizimlashtirish metodi. Olingan natijalar asosida ilmiy xulosalar ishlab chiqildi va Business Englishning kasbiy rivojlanishdagi o'rni umumlashtirildi. Tadqiqot metodologiyasi natijalarning ishonchliligini ta'minlashga xizmat qilib, Business Englishni o'qitishning samaradorligini kompleks tarzda baholash imkonini berdi.

Natijalar

Tadqiqot jarayonida olingan natijalar Business Englishning iqtisod yo'nalishidagi talabalar kasbiy rivojlanishiga sezilarli ijobiy ta'sir ko'rsatishini tasdiqladi. Xususan, mazkur yondashuv til kompetensiyalarini rivojlantirish bilan bir qatorda, talabalarni real biznes muhitiga tayyorlashda muhim vosita ekanligi aniqlandi. Birinchidan, Business Englishni tizimli o'qitish talabalarning kommunikativ kompetensiyasini rivojlantirishda samarali omil sifatida namoyon bo'ldi. Tadqiqot davomida kuzatilganidek, talabalar ishbilarmonlik yozishmalari, muzokaralar va taqdimotlar bilan bog'liq topshiriqlarni bajarish jarayonida ingliz tilida erkinroq va maqsadga yo'naltirilgan holda muloqot qila boshladilar. Bu esa ularning og'zaki va yozma nutq ko'nikmalarining uyg'un rivojlanishiga xizmat qildi. Ikkinchidan, Business English talabalarning kasbiy kompetensiyalarini shakllantirishda muhim rol o'ynashi aniqlandi. Xususan, iqtisodiy terminologiyani o'zlashtirish, moliyaviy hujjatlar bilan ishlash va rasmiy muloqot yuritish ko'nikmalari sezilarli darajada rivojlandi. Bu esa talabalarni kelajakdagi kasbiy faoliyatga tayyorlash jarayonini jadallashtiradi. Uchinchidan, tadqiqot natijalari Business Englishning mehnat bozorida raqobatbardoshlikni oshirishdagi ahamiyatini ko'rsatdi. Ingliz tilini professional darajada egallagan talabalar xalqaro kompaniyalar va tashkilotlarda ishlash imkoniyatiga ega bo'lishi, shuningdek, ularning ishga joylashish imkoniyatlari kengayishi kuzatildi. To'rtinchidan, mazkur yondashuv talabalarning tanqidiy fikrlash va muammo yechish ko'nikmalarini rivojlantirishga ijobiy ta'sir ko'rsatdi. Real biznes vaziyatlariga asoslangan topshiriqlar orqali talabalar muqobil yechimlarni ishlab chiqish va asosli qarorlar qabul qilish tajribasini orttirdilar. Beshinchidan, Business English o'qitilishi madaniyatlararo kommunikativ kompetensiyani shakllantirishga xizmat qilishi aniqlandi. Bu esa global iqtisodiy muhitda samarali faoliyat yuritish uchun zarur omillardan biri hisoblanadi. Umuman olganda, olingan natijalar Business English iqtisod talabalari uchun nafaqat til o'rganish

vositasi, balki ularning kasbiy rivojlanishini ta'minlovchi kompleks pedagogik mexanizm ekanligini ko'rsatadi.

Muhokama

Tadqiqot natijalari asosida olib borilgan muhokama Business Englishning iqtisod talabalari kasbiy rivojlanishidagi o'rnini chuqurroq tahlil qilish imkonini beradi. Olingan natijalar zamonaviy pedagogik nazariyalar va mavjud ilmiy tadqiqotlar bilan uyg'unlikda ekanligi kuzatiladi. Avvalo, Business Englishning kommunikativ kompetensiyani rivojlantirishdagi samaradorligi ESP konsepsiyasi doirasida ilgari surilgan nazariy qarashlarni tasdiqlaydi. Xususan, til o'qitish jarayonining kasbiy ehtiyojlarga moslashtirilishi talabalarning bilimni chuqurroq va amaliy jihatdan o'zlashtirishiga olib keladi. Shuningdek, tadqiqot natijalari Business Englishning talaba markazli yondashuv sifatida ustunliklarini ko'rsatadi. An'anaviy o'qitish usullarida talabalar ko'proq passiv bilim oluvchi sifatida ishtirok etsa, Business English doirasida ular faol muloqotchi va muammo yechuvchi subyekt sifatida shakllanadi. Bu esa ta'lim samaradorligini oshiruvchi muhim omillardan biridir. Muhokama jarayonida yana bir muhim jihat — Business Englishning integrativ xususiyatidir. Ya'ni, u til ko'nikmalarini alohida emas, balki kompleks holda rivojlantiradi. Tinglab tushunish, o'qish, yozish va gapirish ko'nikmalarining o'zaro uyg'un rivojlanishi talabalarni real biznes muhitiga tayyorlashda muhim rol o'ynaydi. Biroq, tadqiqot davomida ayrim muammolar ham aniqlanganini qayd etish lozim. Jumladan, Business Englishni samarali o'qitish uchun maxsus metodik tayyorgarlikka ega o'qituvchilar zarur. Shuningdek, autentik materiallar bilan ta'minlash va o'quv dasturlarini zamonaviy talabalar asosida yangilash masalalari dolzarb bo'lib qolmoqda. Shunga qaramay, umumiy tahlil natijalari Business Englishning iqtisod talabalari kasbiy rivojlanishida muhim o'rin tutishini yana bir bor tasdiqlaydi. To'g'ri tashkil etilgan ta'lim jarayonida ushbu yondashuv yuqori samaradorlikka erishish imkonini beradi.

XULOSA

Mazkur tadqiqot Business Englishning iqtisod yoʻnalishida tahsil olayotgan talabalar kasbiy rivojlanishidagi oʻrnini ilmiy jihatdan tahlil qilishga bagʻishlandi. Oʻrganish natijalari shuni koʻrsatdiki, Business English zamonaviy taʼlim tizimida nafaqat til oʻrgatish vositasi, balki talabalarning kasbiy kompetensiyalarini shakllantiruvchi muhim pedagogik omil sifatida namoyon boʻladi. Tadqiqot davomida Business Englishni oʻqitish talabalarning kommunikativ kompetensiyasini sezilarli darajada rivojlantirishi aniqlandi. Xususan, ular ishbilarmonlik muloqoti, rasmiy yozishmalar, taqdimotlar va muzokaralar olib borish jarayonida ingliz tilidan samarali foydalanish koʻnikmalarini egallaydilar. Bu esa ularning kasbiy faoliyatga tayyorgarlik darajasini oshiradi. Shuningdek, Business English iqtisod talabalari uchun mehnat bozorida raqobatbardoshlikni oshiruvchi muhim omil ekanligi tasdiqlandi. Xalqaro biznes muhitida ingliz tilini puxta bilish mutaxassislarning ishga joylashish imkoniyatlarini kengaytiradi va ularning professional rivojlanishini tezlashtiradi. Bundan tashqari, mazkur yondashuv talabalarda tanqidiy fikrlash, mustaqil qaror qabul qilish va muammolarni hal etish koʻnikmalarini rivojlantirishga xizmat qilishi aniqlandi. Bu esa ularning nafaqat lingvistik, balki intellektual rivojlanishiga ham ijobiy taʼsir koʻrsatadi. Umuman olganda, Business Englishni iqtisod taʼlim jarayoniga keng joriy etish dolzarb pedagogik vazifa hisoblanadi. Ushbu yondashuv talabalarni global iqtisodiy muhitga moslashgan, raqobatbardosh va professional mutaxassislar sifatida shakllantirishga xizmat qiladi.

Foydalanilgan Adabiyotlar

1. Hutchinson, T., & Waters, A. (1987). English for Specific Purposes: A Learning-Centered Approach. Cambridge University Press.
2. Ellis, R. (2003). Task-Based Language Learning and Teaching. Oxford University Press.

3. Nunan, D. (2004). Task-Based Language Teaching. Cambridge University Press.
4. Donna, S. (2000). Teach Business English. Cambridge University Press.
5. Bargiela-Chiappini, F., & Nickerson, C. (1999). Writing Business: Genres, Media and Discourses. Longman.
6. Nickerson, C. (2005). English as a lingua franca in international business contexts. *English for Specific Purposes*, 24(4), 367–380.
7. Richards, J. C., & Rodgers, T. S. (2001). Approaches and Methods in Language Teaching. Cambridge University Press.
8. Dudley-Evans, T., & St John, M. J. (1998). Developments in English for Specific Purposes. Cambridge University Press.
9. Harmer, J. (2007). How to Teach English. Pearson Education.
10. Brieger, N. (1997). The York Associates Teaching Business English Handbook. York Associates.

FATHER AND TRAGEDY: A COMPARATIVE ANALYSIS OF THE FATHER IMAGES IN ULUGBEK HAMDAM'S NOVEL "FATHER" AND SAID AHMAD'S NOVEL "HORIZON"

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ABSTRACT: The article provides a comparative analysis of the characters of Po'latjon in Ulug'bek Hamdam's novel "Father" and Ikromjon in Said Ahmad's novel "Horizon". Po'latjon is a father who, upon hearing that his daughter Sevinch gave birth in a maternity hospital, misinterprets the situation, flies into a rage, and stabs his daughter to death. Ikromjon is a father who experiences severe psychological agony because his son fled from military service and betrayed his duty to the motherland, eventually digging his son's grave with his own hands. In both works, the character of the father stands at the center of the tragedy, offering a literary interpretation of the issues of honor, duty, and ignorance. The study utilizes the works of literary scholars, psychoanalytic theories, and symbolic analysis methods.

Keywords: father image, "Father", "Horizon", Po'latjon, Ikromjon, comparative analysis, honor, duty, ignorance, archetype.

INTRODUCTION: In Uzbek literature, the image of the father is broadly interpreted not only as the head of the family but also as a symbol of moral standards, responsibility, patriotism, and honor. As noted by the literary scholar U. Normatov, the deep layers of the national value system are revealed through the father image within the harmony of "literary character and artistic thinking"¹. In his theory of "archetypes and the collective

¹ U. Normatov. Literary Character and Artistic Thinking. Tashkent: Fan, 1998. - p. 156.

unconscious," psychologist Carl Gustav Jung asserted that the father archetype is one of the oldest and most influential images in the universal collective memory of humanity² The novel "Horizon" by Said Ahmad, a prominent figure of 20th-century Uzbek prose, and the novel "Father" by contemporary writer Ulugʻbek Hamdam interpret the image of the father within this archetypal depth. In both works, the father is depicted at the center of severe psychological conflicts and tragedies in connection with the fate of his child. This article specifically focuses on the comparative analysis of these two characters — Poʻlatjon ("Father") and Ikromjon ("Horizon"). The objective is to scientifically identify the similarities and differences between the two father figures, as well as to shed light on the literary interpretation of concepts such as honor, duty, and ignorance expressed through them.

LITERATURE REVIEW

1. Ulugʻbek Hamdam — The Novel "Father" and the Character of Poʻlatjon

Ulugʻbek Hamdam (Hamdamov Ulugʻbek Abduvahobovich) was born in 1968 in the Marhamat district of Andijan region. He is one of the bright representatives of Uzbek literature, whose works have brought a fresh breath into Uzbek national literature. The novel "Father" is being studied with great interest by literary critics as one of his most famous works.

Analyzing the conceptual foundations of the novel "Father," literary scholar M. Imamberdiyeva notes that "the work artistically examines the connection between human life, family values, the image of the father, and the moral-psychological problems in society"³ Furthermore, the author skillfully utilizes conceptual tools such as father

² Carl Gustav Jung. Archetypes and the Collective Unconscious. Tashkent: Sharq, 2005. - p. 240.

³ M. Imamberdiyeva. ANALYSIS OF THE CONCEPT OF ULUGBEK HAMDAM'S NOVEL "FATHER". Theoretical Aspects of the Formation of Pedagogical Sciences, 4(1), 2025. - pp. 185-187.

archetypes, psychological realism, symbolic and philosophical images, narrative structure, and literary thinking.

Po‘latjon is a village elder, a respected and reputable man. His daughter Sevinch was left with a scar on her face due to a childhood burn. She graduates from a medical institute, works in her local area, and travels abroad to gain experience. The main conflict of the story arises from a piece of news Po‘latjon hears from his neighbor: upon hearing that his daughter is giving birth in a maternity hospital in Asaka, Po‘latjon returns home in a fury. Disregarding his wife's explanations, he goes to the maternity hospital and slashes his daughter's throat down to her stomach. Sevinch dies. Po‘latjon is imprisoned, where he later learns the truth: his daughter was actually married, and the child was legitimate.

In her article titled "The Harmony of National Values in the Novel 'Father' by Ulugbek Hamdam," researcher N.Sh. Tosheva highlights that the novel deeply portrays "the harmony of spiritual-moral, philosophical-aesthetic values, and individual-society relations," thereby revealing the tragic consequences of a distorted concept of honor embodied by Po‘latjon.⁴ Another study notes that "a masterful representation of the psychological depiction of the father character can be observed in the works of Ulug‘bek Hamdam and Isajon Sulton"⁵ According to Zaripova Muxlisa Xamid qizi, "Ulug‘bek Hamdam’s novel 'Father' sheds light on the social and spiritual problems of our time through its narrative that reflects national identity"⁶. Concurrently, the characters' inner

⁴ Nilufar Sh. Tosheva. THE HARMONY OF NATIONAL VALUES IN THE NOVEL "FATHER" BY ULUGBEK HAMDAM. *Oriental Journal of Philology*, 2(3), 2022. pp. 45-52.

⁵ Nilufar Oqiljon qizi Avazova, Oyjamol Jasur qizi Jalilova. DESCRIPTION OF CERTAIN CHARACTERS IN ULUGBEK HAMDAM’S NOVEL "FATHER". *Theoretical Aspects in the Formation of Pedagogical Sciences International scientific-online conference*, 1(5), 2024. pp. 112-115.

⁶ Muxlisa Xamid qizi Zaripova, Nodira Gulmirzayevna Allambergenova. NATIONAL TOUCHES IN ULUGBEK HAMDAM’S NOVEL "FATHER". *Mezhdunarodny zhurnal teorii noveyshikh nauchnykh issledovaniy*, 2(12), 2024. pp. 82-88.

experiences, memory flashbacks, and conflictual situations are masterfully expressed in the work.

2. Said Ahmad's Character of Ikromjon in the Novel "Horizon"

Said Ahmad (Husanxo'jayev) is a People's Writer of Uzbekistan and a Hero of Uzbekistan. His novel "Horizon" was written between 1967 and 1974, artistically depicting the historical life of the Uzbek people in the 20th century. As literary scholar A.N. Qodirova points out, the novel artistically interprets "the complex life paths of the characters, their psychological experiences, the courage shown during the construction of the 'Great Fergana Canal,' and the humane qualities of the Uzbek people during the war years"⁷

Ikromjon participated in the canal excavation and the war; he is a loyal, patriotic man devoted to his duty. The main conflict of the novel begins when his son, Tursunboy, deserts his military service, betraying his duty to the motherland. The novel "Horizon" is recognized as an immortal work that addresses themes of the Homeland, loyalty, civic duty, and responsibility.

In their article titled "The Price of Fatherly Love: A Test Written on the Pages of Conscience," Gulbahor Fozil qizi Ubaydullayeva and X.Q. Hamroqulova analyze the character of Ikromjon in detail. According to the researchers, "the novel artistically analyzes how the dreams in the heart of a loyal, honest, patient, and honorable father shatter, and instead of becoming a reality, turn into internal torment". While Ikromjon embodies "the traditional family values of the Uzbek people, their moral standards, and a fatherly upbringing based on patience and love," Tursunboy is depicted as a child who denies this love and fails to appreciate his father's dedication.

⁷ Aziza Nurillayevna Qodirova. ANALYSIS OF THE DEVELOPMENT OF EVENTS IN SAID AHMAD'S NOVEL "HORIZON". JOURNAL OF IQRO, 15(02), 2025. pp. 832-833.

In a famous scene of the novel, Ikromjon fires a shot at his son, but seeing that the bullet missed, he says, "Thank goodness, it didn't hit him". Here, Said Ahmad masterfully depicts Ikromjon's feelings and suffering both as a Father and a Human. At the end of the novel, he digs a grave with his own hands and buries his son's body. Although director Marat Azimov interpreted this episode in a theatrical production as "shooting the son to death," it still manages to convey the core idea advanced in the novel.

In her article dedicated to the interpretation of characters in "Horizon," researcher S.D. Ahmadjonova notes that the work deeply expresses "the inner world of man, spiritual quests, and various complex life themes in a profound artistic style, allowing the reader to understand the complex sides of life through the characters' psychological experiences, dialogues, and actions".⁸ Additionally, the novel explores themes like the human consciousness, realizing the truth, and self-examination through the symbol of the horizon (mirror).

3. Comparative Analytical Foundations of Both Works

In literary criticism, the character of the father is often interpreted alongside concepts of "honor," "duty," and "pride." According to Jung's theory of archetypes, the father archetype represents universal human experiences such as fatherly protection, guidance, and authority. The characters of Po'latjon and Ikromjon reflect two different applications of these concepts — ignorant and conscious. While Po'latjon acts based on rumor without verifying it, Ikromjon fires a shot knowingly, yet hoping it will not hit. In both cases, the father becomes the cause of his child's death, but the underlying reasons and psychological experiences differ fundamentally.

⁸ So'najon Dilmurod qizi Ahmadjonova. INTERPRETATION OF CHARACTERS IN SAID AHMAD'S NOVEL "HORIZON". TADQIQOTLAR, 68(1), 2025. - pp. 280-284.

Tosheva notes that the novel "Father" illuminates "the attitude toward national and spiritual-moral values, as well as the problem of the psychological world of the modern human". Meanwhile, research on the novel "Horizon" analyzes "the social, psychological, and philosophical problems of man, along with personal and social changes".

RESULTS

The analysis identified the following primary results:

Similarities:

1. Both fathers find themselves in a severe situation tied to the fate of their child.
2. Both become the cause of their child's death due to their actions: Po'latjon kills directly by stabbing; Ikromjon fires a shot and his son dies subsequently, making him an indirect cause.
3. In both works, the father character is interpreted in connection with concepts such as "honor," "duty," and "pride".
4. Both works reveal different facets of the "father archetype" in Uzbek literature.

Differences:

1. The Basis and Nature of the Action: Po'latjon acts out of a momentary rage based on a rumor, without any investigation. He ignores his wife's explanations and stabs his daughter despite the doctors' attempts to stop him. Ikromjon, on the other hand, fires the shot after a grueling internal struggle, knowing the full truth. His action is a conscious, intentional, yet emotionally devastating decision.
2. Legal and Moral Consequences: Po'latjon is sentenced to prison for his deed, making him a criminal before the law. Conversely, Ikromjon faces no legal accountability; his suffering is entirely moral and psychological in nature.
3. The Source of the Tragedy: Po'latjon's tragedy is the product of ignorance and gossip. Upon his release from prison, he learns the truth that his daughter was married and the

child was legitimate, but it is too late. Ikromjon's tragedy stems from the irreconcilable conflict between his duty to the motherland and his fatherly love. He foresees the consequence of every step, yet his fatherly heart suffers immensely.

4.The Persona of the Characters and Expressed Ideas: Po‘latjon is a father who becomes a victim of a distorted concept of "honor," ignorance, and gossip. Ikromjon, meanwhile, is a tragic father who places his duty to the homeland above all else, yet his love for his son never fades.

5.General Conclusions of the Studies: Imamberdiyeva notes that in "Father," "the author highlights the stability of the nation and society through the lens of the family, emphasizing generational continuity. The author underscores that a person must not lose their identity in modern times". Studies on "Horizon" emphasize that "concepts such as conscience, dignity, duty, and honesty are artistically interpreted and tightly intertwined with modern family and upbringing dynamics".

DISCUSSION

When comparing Po‘latjon and Ikromjon, the central point of discussion is the varying interpretation of the concepts of "honor" and "duty".

Ignorance and the Issue of Honor. Through Po‘latjon, the novel demonstrates how destructive public gossip and the concept of "a daughter's honor to her father" can be within a society. According to Tosheva, the novel sheds light on philosophical problems such as "the relationship between the individual and society, and the environment's impact on human fate". Po‘latjon does not even attempt to find out his daughter's actual situation, because the truth "dictated by society" is more important to him. This serves as a striking example of Ulug‘bek Hamdam's style of "drawing grand conclusions from simple aspects of life to induce reader reflection". The author demonstrates how gossip

can entirely tear a family apart, showing the tragedy of how a single moment of rage and reckless action can override decades of fatherly love.

The Conflict of Duty and Love. In Ikromjon's case, civic duty is placed above personal fatherly love. However, the author does not depict this in a cold or ruthless manner. The words "Thank goodness, it didn't hit him" and the grave-digging scene expose Ikromjon's deep internal suffering. Researchers note that "Ikromjon's persona vividly reflects a fatherly upbringing rooted in patience and affection". Thus, the tragedy of Said Ahmad's hero is an unresolvable conflict between duty and love. He fires a shot at his son with his own hands, yet genuinely hopes the bullet will miss. Afterwards, he digs the grave for his son's corpse and buries him himself. These actions reflect boundless love and pain, rather than hatred.

Artistic Style and Psychologism. Comparing the artistic styles of both works, Ulug'bek Hamdam stands out for his "distinct literary language, his skill in precisely depicting psychological states, and his ability to paint life events with unique artistic coloring"⁹. He strives to captivate the reader via a modern, fast-paced plot. In the novel "Father," events unfold rapidly; only a few hours pass from the moment the rumor is heard to the occurrence of the tragedy. This enables the reader to feel Po'latjon's rage and subsequent regret more acutely. Said Ahmad, utilizing the epic novel genre, develops events gradually, placing the primary emphasis on psychologism. The work's ability to "allow the reader to grasp the complexities of life through the characters' psychological experiences, dialogues, and actions" is a clear manifestation of his artistic mastery. In "Horizon," Ikromjon's inner emotions, his relationship with his son, and his search within himself for flaws regarding his son's upbringing are revealed over extensive episodes.

⁹ Muxlisa Xamid qizi Zaripova, Nodira Gulmirzayevna Allambergenova. NATIONAL TOUCHES IN ULUGBEK HAMDAM'S NOVEL "FATHER". International Journal of Theory of Newest Scientific Research, 2(12), 2024. - pp. 82-88.

Interpretation of National Values. National values hold a significant place in both works. In the novel "Father," "the author effectively applies Uzbek national values in the interpretation of characters". Po'latjon's deed stems precisely from an extreme and flawed interpretation of the concept of "honor". Meanwhile, "Horizon," as a leading work in Uzbek literature, interprets the inner world and spiritual quests of man. The foundation of Ikromjon's actions rests upon national values such as the sanctity of the "Homeland" and the unpardonable nature of betrayal.

While both writers place the father character at the center of the tragedy, the conclusions of the works prompt the reader into deep contemplation. Realizing his mistake too late, Po'latjon tries to dedicate the remainder of his life to his grandchild, but the grandchild has grown up in an orphanage. Ikromjon, on the other hand, spends the night beside the grave he dug for his son with his own hands. These endings urge the reader to avoid delaying critical choices, to verify the truth, and to find a balance between duty and love.

CONCLUSION

The father characters in Ulug'bek Hamdam's novel "Father" and Said Ahmad's novel "Horizon" hold a vital position in the artistic interpretation of fatherhood, honor, duty, and responsibility in Uzbek literature. According to Imamberdiyeva, the novel "Father" uncovers "the connection between family values, the father character, and the moral-psychological issues in society". While the character of Po'latjon demonstrates how catastrophic the consequences of ignorance and gossip can be, the character of Ikromjon embodies the complex and tragic synthesis of duty to the homeland and fatherly affection. Both characters compel the reader to think seriously about the weight of fatherly responsibility, the significance of every decision, and the necessity of knowing the truth.

These two father figures from modern and classical literature represent two opposite poles — distorted and noble — of the concept of "honor" in the Uzbek national mentality. Research shows that "the artistic interpretation of concepts such as conscience, dignity, duty, and honesty is essential for understanding modern family and upbringing issues"¹⁰. Studying these two works in the future based on gender studies, sociological, and psychoanalytic approaches also holds significant scientific value.

Furthermore, the title of the novel "Ota" carries the meaning of "The Father's Melody," hinting at the traditions of Uzbek folk singing — through this symbol, the author intended to express a unique "melody" of happy and tragic fatherhood. The symbol of the "Horizon," on the other hand, signifies striving toward the boundless possibilities and goals of human life. Both symbolic meanings enrich the artistic interpretation of the father character.

REFERENCES

- 1.U. Normatov. Literary Character and Artistic Thinking. Tashkent: Fan, 1998. - p. 156.
- 2.Carl Gustav Jung. Archetypes and the Collective Unconscious. Tashkent: Sharq, 2005. – p. 240.
- 3.M. Imamberdiyeva. ANALYSIS OF THE CONCEPT OF ULUGBEK HAMDAM'S NOVEL "FATHER". Teoreticheskie aspekty stanovleniya pedagogicheskikh nauk, 4(1), 2025. – pp. 185-187.
- 4.Nilufar Sh. Tosheva. THE HARMONY OF NATIONAL VALUES IN THE NOVEL "FATHER" BY ULUGBEK HAMDAM. Oriental Journal of Philology, 2(3), 2022. - pp. 45-52.

¹⁰ Gulbahor Fozil qizi Ubaydullayeva, X.Q. Hamroqulova. THE PRICE OF FATHERLY LOVE: A TEST WRITTEN ON THE PAGES OF CONSCIENCE (In the interpretation of the characters of Ikromjon and Tursunboy in Said Ahmad's novel "Horizon"). TADQIQOTLAR, 15(3), 2025. pp. 120-125.

5. Nilufar Oqiljon qizi Avazova, Oyjamol Jasur qizi Jalilova. DESCRIPTION OF CERTAIN CHARACTERS IN ULUGBEK HAMDAM'S NOVEL "FATHER". Theoretical Aspects in the Formation of Pedagogical Sciences International scientific-online conference, 1(5), 2024. pp. 112-115.
6. Muxlisa Xamid qizi Zaripova, Nodira Gulmirzayevna Allambergenova. NATIONAL TOUCHES IN ULUGBEK HAMDAM'S NOVEL "FATHER". Mezhdunarodny zhurnal teorii noveyshikh nauchnykh issledovaniy, 2(12), 2024. pp. 82-88.
7. Aziza Nurillayevna Qodirova. ANALYSIS OF THE DEVELOPMENT OF EVENTS IN SAID AHMAD'S NOVEL "HORIZON". JOURNAL OF IQRO, 15(02), 2025. - pp. 832-833.
8. Rustamjon Ortiqov. ANALYSIS OF MONOLOGUES IN "FATHER" BY ULUGBEK HAMDAM. Scientific Journal of the Fergana State University, 29(6-TOM), 2024. - p. 25.
9. Gulbahor Fozil qizi Ubaydullayeva, X.Q. Hamroqulova. THE PRICE OF FATHERLY LOVE: A TEST WRITTEN ON THE PAGES OF CONSCIENCE (In the interpretation of the characters of Ikromjon and Tursunboy in Said Ahmad's novel "Horizon"). TADQIQOTLAR, 15(3), 2025. - pp. 120-125.
10. Said Ahmad. Horizon (Trilogy). Tashkent: G'afur G'ulom Publishing House of Literature and Art, 1976. - p. 686.
11. So'najon Dilmurod qizi Ahmadjonova. INTERPRETATION OF CHARACTERS IN SAID AHMAD'S NOVEL "HORIZON". TADQIQOTLAR, 68(1), 2025. pp. 280-284.
12. Ulug'bek Hamdam. The Novel "Father". Tashkent: Yoshlar matbuoti, 2022. - p. 208.

METHODOLOGICAL FOUNDATIONS OF ASSESSING COMPETITIVENESS IN THE TRANSPORT SECTOR

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Abstract: This article examines the methodological foundations for assessing competitiveness in the transport network. The study analyzes key indicators of transport system efficiency, including labor productivity, freight and passenger transportation efficiency, and transport service volume. Based on expert evaluation and benchmark comparison methods, an integrated approach to assessing regional transport system competitiveness is proposed. The application of Sturges' rule for indicator normalization and grouping is also substantiated.

Key words: transport network, competitiveness, transport system, efficiency indicators, expert evaluation, normalization, freight transportation, passenger transportation, economic efficiency.

Аннотация: В данной статье исследованы методологические основы оценки конкурентоспособности транспортной сети. Проанализированы основные показатели эффективности транспортной системы, включая производительность труда, эффективность грузовых и пассажирских перевозок, а также объем транспортных услуг. На основе методов экспертной оценки и сравнения с эталонными регионами предложен интегральный подход к оценке конкурентоспособности региональной транспортной системы. Также обосновано применение правила Стерджесса для нормализации и группировки показателей.

Ключевые слова: транспортная сеть, конкурентоспособность, транспортная система, показатели эффективности, экспертная оценка,

нормализация, грузоперевозки, пассажирские перевозки, экономическая эффективность.

The competitiveness of the transport network is one of the important factors of modern economic and social development. A competitive transport system serves to improve interregional communications, increase economic activity and improve the quality of life of the population. A systematic approach is necessary to assess such systems and improve their efficiency, which can be carried out on the basis of specific indicators, taking into account many factors. A systematic approach to indicators when assessing the competitiveness of the transport network is an important tool for improving infrastructure efficiency, analyzing market dynamics and promoting socio-economic development.

The issues of competitiveness in the transport network have been studied in the studies of many foreign scholars. In particular, scholars such as David Boyce and Joseph B. Lemaire studied the number of transport enterprises in assessing competition in transport systems, conducted research on how to divide the market and how to increase competition. They considered the number of transport enterprises as the main tool for measuring market competition.

Scholars such as Peter Nijkamp and Kenneth Button studied the labor resources of transport systems and the efficiency of enterprises. These scholars use the labor force of transport enterprises to measure the competitiveness of enterprises. In their studies, the number and efficiency of workers were studied in terms of the operation and competitiveness of the system.

Scientists such as D.T. Gavrilov and Y.P. Vasiliev analyzed the distance expansion of transport systems and road infrastructure. They considered the impact of infrastructure by studying the routes traveled by the transport system and the

competitiveness of the system. This indicator indicates the efficiency and competitiveness of transport networks.

Scientists such as C.A. Sims and J.F. Kain analyzed the impact of freight transport on competitiveness. This indicator is related to the volume of freight transport and the economic efficiency of the system. They considered the volume of freight transport in transport systems as an indicator of competitiveness and efficiency.

Scientists such as J.R. McNally and D.A. Hensher studied the volume of transport services and their impact. This indicator indicates the efficiency and quality of transport services. An increase in the volume of services is necessary to create competitive systems and to remain in a good position in the market.

Scientists such as J.L. Hellerstein and G.S. Bobinsky studied the volume of passenger traffic and its impact on the transport system. The volume of passenger traffic and its place in the system indicate the development and competitiveness of the transport system. This indicator helps to increase the social and economic importance of transport.

Summarizing the results of the above studies, we believe that it is appropriate to assess the competitiveness of the transport system by the following indicators:

- Number of transport enterprises;
- Number of employees;
- Efficiency indicators;
- Distance traveled;
- Cargo transportation volume;
- Volume of transport services;
- Passenger transportation volume;

These indicators have been systematized and reflected in Table 1. It reflects the main indicators for assessing the competitiveness of the regional transport system, their calculation formulas, names and meanings.

Table 1

A system of indicators for assessing the competitiveness of transport system enterprises¹

Indicator name	Formula	Essence
Density of transport enterprises	$Z_k = \frac{N_k}{A}$	The number of transport enterprises per 1 km ² of area in the region. Where: N_k - the number of transport enterprises, A - the area of the region (km ²).
Labor productivity	$E_h = \frac{H}{N_i}$	N_i – transport sohasidagi ishchilar soni. Average volume of services provided per worker. Where: H – volume of services provided (in billion soums). N_i – number of workers in the transport sector.
Shipping efficiency	$E_y = \frac{V_y}{L}$	The volume of transported cargo per 1 unit of distance traveled. Where: V_y – total volume of transported cargo (tons), L – total distance traveled
Passenger transport efficiency	$E_p = \frac{P}{L}$	The number of passengers transported per 1 unit of distance traveled. Where: P is the number of passengers transported, L is the total distance traveled.
Efficiency of transport enterprises	$E_k = \frac{H}{N_k}$	The average volume of services provided per transport enterprise.

¹ it was formed by the author based on various sources.

		Where: H – volume of services provided (in billion soums), N_k – number of transport enterprises.
Number of transport enterprises' transports per capita	$K = \frac{N_{avto}}{N_{aholi}}$	The number of transport enterprises' transports per capita. Here: N_{avto} - the number of transport enterprises' transports.
Marginal efficiency coefficient by volume of transport services	$b = \frac{\Delta H}{\Delta N_{avto}}$	This is an indicator that represents the average growth in the volume of transport services, with the number of vehicles increasing by one.

The indicators presented in Table 1 allow for a comprehensive assessment of the efficiency and competitiveness of the transport system in the region. The large number of such indicators creates the need to determine the competitiveness of the regional transport system in a single value. This issue can be solved through a methodological solution.

It is known that the reference region is a region with high efficiency. When comparing the competitiveness of the transport system across regions, the ratio of these indicators to the value of the reference region gives the degree of its lagging behind the maximum.

Also, in a methodological approach to competitiveness, it is possible to determine the level of significance of the relative indicator through expert assessment and obtain more accurate competitiveness coefficients of the transport system. To assess the

efficiency of transport enterprises, the scoring method can be implemented as follows, using the weight coefficients determined by the expert assessment method:

$$S = \sum_{i=1}^n w_i \cdot \frac{I_i}{I_{\max}} \quad (1)$$

where: S - the overall score of the transport enterprise; I_i - the value of the indicator; $I_{\max}$ - the value of the highest indicator in the region; w_i - the weight coefficient;

Each indicator is normalized to the highest value and a general score is obtained based on its significance level.

It allows assessing the state of transport enterprises in the region relative to the best indicator.

Using (1), it is possible to identify the strengths and weaknesses of the region and develop specific measures for them.

In addition to the above indicators, some relative indicators can also be calculated for the indicators of the regional transport system. They allow for comparison of the region with other regions and assessment of efficiency against benchmark levels (Table 2).

Table 2

Indicators for assessing the competitiveness of the regional transport network

Indicator name	Formula	Essence
Relative density of transport enterprises	$Z_n = \frac{Z_k}{Z_{k_o}}$	Comparison of the density of transport enterprises of the region with the reference region Z_{k_o} .
Relative indicator of worker efficiency	$E_{h_n} = \frac{E_h}{E_{h_o}}$	Compare the area's labor efficiency with the reference area E_{h_o} .

Relative indicator of freight efficiency	$E_{y_n} = \frac{E_y}{E_{y_o}}$	Comparison of transportation efficiency with the reference area E_{y_o} .
Relative indicator of passenger transport efficiency	$E_{p_n} = \frac{E_p}{E_{p_o}}$	Comparison of passenger transport efficiency with the reference area E_{p_o}
Relative efficiency of transport enterprises	$E_{k_n} = \frac{E_k}{E_{k_o}}$	Compare the efficiency of each enterprise with the reference area E_{k_o}
Relative indicator of the number of vehicles of transport enterprises per capita	$K_{k_n} = \frac{K_k}{K_{k_o}}$	Comparison of the number of vehicles of transport enterprises per capita with the reference area K_{k_o}
Relative indicator of the volume of relative services per transport	$S_{k_n} = \frac{S_k}{S_{k_o}}$	Comparison of the relative volume of services per transport with the reference area S_{k_o}
Relative indicator of the marginal efficiency coefficient by volume of transport services	$b_{k_n} = \frac{b_k}{b_{k_o}}$	The ratio of the average increase in the volume of transport services to the reference area when the number of vehicles increases by one unit

$Z_{k_o}, E_{h_o}, E_{y_o}, E_{p_o}, E_{k_o}, I_{t_o}, K_{k_o}, b_{k_o}$ in Table 2 are the highest coefficients at the reference regional or general level.

The rules of quality management play an important role in implementing quality management, improvement and optimization processes in social, economic, technological and scientific systems, and according to this rule, the number of experts in the group is considered to be from 7 to 14 people. Based on the rule, a group of experts with many years of professional and practical experience in the field can be formed, consisting of 10 people.

The ratings given by experts for each indicator and their average are calculated.

Sturges' rule can be used to construct a standardized efficiency coefficient scale for the indicators representing the assessed competitiveness. This method is used to calculate the number of groups.

In this method, the number of groups k and the interval width h are determined as follows:

$$k = 1 + \log_2 n \quad (2)$$

$$h = \frac{\text{maksimum value} - \text{minimum value}}{k} \quad (3)$$

As a result, it is possible to obtain standardized values for several indicators and multiply and sum them by expert ratings, thereby creating an opportunity to compare the competitiveness of the transport system.

LIST OF USED LITERATURE

1. Boyce D., Lemaire J.B. Competition and Regulation in Transport Markets. – London: Elsevier, 1999. – 215p. (45-52, 78-85).
2. Nijkamp P., Button K. Transport Network Economics. Cheltenham: Edward Elgar, 2000. – 320 p. (112-120, 156-163).
3. Gavrilov D.T., Vasiliev Y.P. Transport Systems and Infrastructure Expansion. Moscow: Transport Publishing, 2005. – 180 p. (33-40, 92-98).
4. Sims C.A., Kain J.F. Housing Segregation, Negro Employment, and Metropolitan Decentralization. Harvard University Press, 1973. – 275 p. (67-74, 105-112).
5. McNally J. R. P. Hensher, D. A. Handbook of Transport Economics. – Bingley: Emerald Group, 2007. – 420 p. (201-210, 255-263).
6. Hellerstein, J. L., & Bobinskiy, G. S. Transportation Systems Analysis. New York: Springer, 2010. – 310 p. (88-95, 134-142).

THE USE AND SEMANTIC DEVELOPMENT OF VERBS FROM “DEVONU LUG‘OTIT TURK” IN THE CURRENT UZBEKISTAN LANGUAGE

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Annotation

This article presents a comparative analysis of the verbs used in Mahmud Kashgari's "Devoni lug‘otit turk" and the verbs of the modern Uzbek language. The study examines the grammatical structure of ancient Turkic verbs, their semantic features, and the expression of tense, mood, voice, person, and number categories. Particular attention is paid to verb formation means, their functional possibilities, and the similarities and differences between these forms and the verbs of the modern Uzbek language. The article substantiates the historical and linguistic relationship between the ancient Turkic language and the modern Uzbek language. The results of the study are of significant scientific importance for the history of Turkic languages, historical grammar, and comparative linguistics.

Keywords

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“Devonil ug‘otit turk”, verb, modern Uzbek language, comparative analysis ,ancient Turkic language, grammatical form, semantic feature, historical development

**“DEVONU LUG‘OTIT TURK” ASARIDAGI FE‘LLARNING HOZIRGI
O‘ZBEK TILIDAGI QO‘LLANISHI VA SEMANTIK TARAQQIYOTI**

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Annotatsiya: Ushbu maqolada Mahmud Qoshg‘ariyning “Devoni lug‘atit turk” asaridagi fe‘l shakllari hozirgi o‘zbek tilidagi fe‘llar bilan qiyosiy jihatdan tahlil qilinadi. Tadqiqotda qadimgi turkiy tilga mansub fe‘llarning grammatik tuzilishi, ma’no xususiyatlari, zamon, mayl, nisbat, shaxs va son kategoriyalaridagi ifodalanishi o‘rganiladi. Shuningdek, fe‘l yasovchi vositalar, ularning funksional imkoniyatlari hamda hozirgi o‘zbek tilidagi fe‘l shakllari bilan o‘xshash va farqli tomonlari yoritiladi. Maqolada qadimgi turkiy til bilan hozirgi o‘zbek tili o‘rtasidagi tarixiy va lingvistik bog‘liqlik asoslab beriladi. Tadqiqot natijalari turkiy tillar tarixi, tarixiy grammatika va qiyosiy tilshunoslik uchun muhim ilmiy ahamiyatga ega.

Kalit so‘zlar: “Devoni lug‘otit turk”, fe‘l, hozirgi o‘zbek tili, qiyosiy tahlil, qadimgi turkiy til, grammatik shakl, semantik xususiyat, tarixiy taraqqiyot

ИСПОЛЬЗОВАНИЕ И СЕМАНТИЧЕСКОЕ РАЗВИТИЕ ГЛАГОЛОВ ИЗ «DEVONU LUG‘OTIT TURK» В СОВРЕМЕННОМ УЗБЕКСКОМ ЯЗЫКЕ

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Аннотация: В данной статье проводится сравнительный анализ глаголов, употреблённых в произведении Махмуда Кашгари Девони луг‘ати ат турк, и глаголов современного узбекского языка. В исследовании рассматриваются грамматическая структура древнетюркских глаголов, их семантические особенности, а также выражение категорий времени, наклонения, залога, лица и числа. Особое внимание уделяется средствам словообразования глагола, их функциональным возможностям, сходствам и различиям с глагольными формами современного узбекского языка. В статье обосновывается историческая и лингвистическая связь между древнетюркским языком и современным узбекским языком. Результаты исследования имеют важное научное значение для истории тюркских языков, исторической грамматики и сравнительного языкознания.

Ключевые слова: “Девони лугатит турк”, глагол, современный узбекский язык, сравнительный анализ, древнетюркский язык, грамматическая форма, семантическая особенность, историческое развитие

Kirish

Mahmud Qoshg‘ariyning “Devonu lug‘ati at turk” asari turkiy tillar tarixini o‘rganishda eng tayanch manbalardan biri sifatida qadrlanadi. Ushbu yodgorlik XI asr turkiy tilining faqat lug‘aviy qatlamini emas, balki uning grammatik qurilishi, sintaktik imkoniyatlari va fe‘l tizimidagi tarixiy xususiyatlarini ham yoritib beradi. Asarning 1072–1074 yillarda tuzilganligi uning ilmiy qiymatini yanada oshiradi, chunki u turkiy tillarning o‘rta asrlardagi real holatini bevosita aks ettirgan eng qadimgi mukammal manbalardan biridir. 2024–2025 yillarda ushbu asarning 950 yilligi UNESCO doirasida esga olingani ham uning jahon miqyosidagi ilmiy va madaniy nufuzini tasdiqlaydi.

Maqola mavzusining dolzarbligi shundaki, hozirgi o‘zbek tili turkiy tillarning janubi-sharqiy, ya’ni chig‘atoy-uyg‘ur tarmog‘iga mansub bo‘lib, uning tarixiy ildizlari qadimgi va o‘rta turkiy til qatlamlari bilan uzviy bog‘langan. Britannica ma’lumotiga ko‘ra, o‘zbek tili hozirda O‘zbekiston bilan birga Turkmaniston, Tojikiston, Qozog‘iston, Afg‘oniston va Xitoyning ayrim hududlarida ham qo‘llanadi. Turkiy tillar esa juda keng geografik maydonga tarqalgan bo‘lib, zamonaviy davrda kamida yigirma uchta yozma tilni o‘z ichiga oladi. Shu jihatdan qaralganda, “Devonu lug‘ati at turk”dagi fe‘llarni hozirgi o‘zbek tilidagi fe‘llar bilan qiyoslash alohida bir til hodisasini emas, balki butun bir tarixiy-lisoniy davomiylilikni tadqiq etish deganidir.

Fe‘l turkiy tillar tizimida eng faol va eng serqatlam grammatik birliklardan biri hisoblanadi. Aynan fe‘l orqali harakat, holat, jarayon, zamon, mayl, nisbat va shaxs-son munosabatlari ifodalanadi. Turkiy tillarning fonologiya, morfologiya va sintaksisdagi yaqinligi haqida berilgan ilmiy tavsiflar fe‘l kategoriyasini qiyosiy o‘rganish uchun mustahkam nazariy asos yaratadi. “Devonu lug‘ati at turk”dagi fe‘llar bilan hozirgi

o‘zbek tilidagi fe’llarni solishtirish orqali qaysi grammatik shakllar saqlanib qolganini, qaysilari fonetik yoki semantik o‘zgarishga uchraganini, yana qaysi birliklar tarixiy taraqqiyot jarayonida iste’moldan chiqqanini aniqlash mumkin bo‘ladi. Bu esa til tarixini faqat umumiy tavsif bilan emas, balki konkret grammatik dalillar asosida tushuntirish imkonini beradi. Mazkur tadqiqotning ilmiy ahamiyati shundaki, unda fe’l shakllari oddiy formal qiyos orqali emas, balki tarixiy semantika, grammatik funktsionallik va til taraqqiyoti nuqtai nazaridan baholanadi. Hozirgi o‘zbek adabiy tili shakllanishida turli sheva qatlamlari ishtirok etgan bo‘lsa-da, uning asosiy negizi janubi-sharqiy turkiy an’ana bilan chambarchas bog‘liqdir. Shu sababli “Devonu lug‘atit turk”dagi fe’l birliklarini hozirgi o‘zbek tilidagi parallel shakllar bilan qiyoslash nafaqat o‘xshashliklarni ko‘rsatadi, balki tilning ichki rivojlanish qonuniyatlarini ham ochib beradi. Mavzuning yana bir muhim tomoni shundaki, bu kabi tadqiqotlar bugungi o‘zbek tilining tarixiy xotirasini tiklashga, qadimgi turkiy meros bilan zamonaviy til tafakkuri o‘rtasidagi ko‘prikn ilmiy asosda tushuntirishga xizmat qiladi.

Ushbu maqolada asosiy e’tibor “Devonu lug‘atit turk”da uchraydigan fe’l shakllarining hozirgi o‘zbek tilidagi shakllari bilan qiyosiy tahliliga qaratiladi. Tadqiqot davomida fe’llarning morfologik tuzilishi, semantik yuklamasi, grammatik kategoriyalar bo‘yicha ifodalanishi va tarixiy taraqqiyotdagi o‘zgarish dinamikasi tahlil qilinadi. Natijada qadimgi turkiy fe’l tizimi bilan hozirgi o‘zbek fe’l tizimi o‘rtasidagi vorislik, yangilanish va farqlanish jarayonlari ilmiy dalillar asosida yoritiladi.

Adabiyotlar tahlili

Mahmud Qoshg‘ariyning “*Devonu lug‘otit turk*” asari o‘zbek tilshunosligida ko‘p yillardan beri tayanch manba sifatida o‘rganilib kelinadi. O‘zbekiston ilmiy muhitida bu yodgorlikni tizimli o‘rganishning eng muhim bosqichlaridan biri Solih Mutallibov nomi bilan bog‘liq bo‘lib, u asarni o‘zbek tiliga tarjima qilish ustida XX asrning qirquinchi yillaridan ishlagan, tarjima esa 1960–1963 yillarda Toshkentdagi “Fan” nashriyotida

uch jildda va 3000 nusxada chop etilgan. Keyingi bibliografik ma'lumotlarda Mutallibov nashrida 9222 ta so'z va ibora qayd etilgani, ayrim boshqa nashrlarda esa bu ko'rsatkich 7993 va 8783 birlik atrofida berilgani ko'rinadi. Bu holat matnni o'qish, segmentatsiya qilish, variantlarni ajratish va izohli birliklarni hisoblash metodlari bir xil bo'lmaganini ko'rsatadi. Demak, "*Devon*"ni o'rganishda faqat matnning o'zi emas, balki nashrlararo tafovut ham alohida ilmiy masala hisoblanadi. [1],[2]

O'zbekiston olimlarining yangi avlod tadqiqotlari ushbu manbani bir yo'nalishda emas, balki turli lingvistik kesimlarda tahlil qilayotganini ko'rsatadi. Samarqand davlat universiteti huzuridagi *Turkologik tadqiqotlar* jurnalining 2024 yilgi maxsus sonida Qosimjon Sodiqov, Hamidulla Dadaboyev, Shuhrat Sirojiddinov, Zulxumor Xolmanova, Jo'ra Xudoyberdiyev, Baxtiyor Abdushukurov, Vazira Alimbekova, Shuxrat Abdullayev kabi olimlarning maqolalari bir to'plamda berilgani bu mavzuning hozirgi ilmiy faolligini ko'rsatadi. Mazkur sonning mundarijasiga qaraganda, tadqiqotlarning asosiy qismi fonetika, leksikologiya, tarjimashunoslik, tarixiy-semantik qatlam va dialektologik aloqalarga bag'ishlangan. Shu jihatdan qaralganda, fe'ning morfologik taraqqiyoti masalasi qisman yoritilgan bo'lsa-da, u hali ham chuqurroq maxsus tahlilni talab qiladigan yo'nalish sifatida namoyon bo'ladi. Bu xulosa jurnal mundarijasidagi mavzular nisbatidan chiqarilgan ilmiy kuzatuvdir.[3]

Qosimjon Sodiqovning maqolasida "*Devonu lug'otit turk*" "qo'lyozmasidagi ikki xil harakat belgisi va ayrim so'zlarning ikki xil yozilishi eski turkiy talaffuzning variantlilikini aks ettirishi ta'kidlanadi. Olimning ushbu kuzatuvini fe'l shakllarini hozirgi o'zbek tili bilan qiyoslashda juda muhim, chunki fe'l negizi va qo'shimcha shakllaridagi fonetik almashinuv ko'pincha ma'no emas, talaffuz an'anasi bilan bog'liq bo'lishi mumkin. Shuning uchun tarixiy fe'lni hozirgi o'zbek tilidagi shakli bilan to'g'ridan to'g'ri tashqi ko'rinish asosida emas, balki fonetik transformatsiya qonuniyatlari asosida qiyoslash zarur bo'ladi.[4]

Baxtiyor Abdushukurovning o'g'uzcha qatlamga bag'ishlangan tadqiqoti esa *Devondagi* leksik birliklarning ayrim o'zbek shevalari, hozirgi turk va ozarbayjon tillari bilan qiyoslab o'rganilganini ko'rsatadi. Bu yondashuv fe'llarni tekshirish uchun ham metodologik ahamiyatga ega, chunki qadimgi shakllarning hammasi ham bevosita adabiy o'zbek tilida emas, balki shevalarda yoki qardosh tillarda saqlanib qolgan bo'lishi mumkin. Adabiyotlar tahlili shuni ko'rsatadiki, hozirgi o'zbek tilidagi fe'l tizimini *Devon* bilan solishtirishda adabiy til, sheva materiallari va qiyosiy turkologik manbalarni birgalikda qo'llash eng to'g'ri ilmiy yo'ldir.[5]

Shuningdek, Jo'ra Xudoyberdiyevning maqolasida o'zbek tarjimashunosligi tarixida *Devonu lug'otit turkning* tarjima va nashr an'analari alohida tahlil qilingani, maxsus sonning kirish qismida esa 2024 yil asarning 950 yilligi munosabati bilan ramziy ilmiy yil sifatida e'tirof etilgani qayd etiladi. Bu faktlar asarga bo'lgan qiziqish tasodifiy emasligini, aksincha, u milliy filologiya uchun qayta-qayta murojaat qilinadigan fundamental manba ekanini ko'rsatadi.[6]

Tadqiqot metodologiyasi

Mazkur tadqiqotda Mahmud Qoshg'ariyning *Devonu lug'ati at turk* asaridagi fe'l shakllari hozirgi o'zbek tilidagi fe'llar bilan tarixiy-qiyosiy asosda o'rganildi. Tadqiqot jarayonida qiyosiy, tavsifiy va semantik tahlil usullaridan foydalanildi. Avvalo, asardagi fe'l birliklari tanlab olinib, ularning grammatik tuzilishi, ma'nosi va funksional xususiyatlari aniqlandi. So'ng ushbu birliklar hozirgi o'zbek tilidagi mos shakllar bilan solishtirildi. Tahlil davomida fe'llarning zamon, mayl, nisbat, shaxs-son kabi grammatik kategoriyalariga alohida e'tibor qaratildi. Shuningdek, fe'l shakllaridagi o'xshashlik va farqlar fonetik, morfologik hamda semantik jihatdan baholandi. Natijada qadimgi turkiy til bilan hozirgi o'zbek tili o'rtasidagi tarixiy vorislik va fe'l tizimidagi rivojlanish jarayonlari ilmiy asosda yoritildi.

Maqola natijalari va muhokama

Tahlil natijalari shuni ko'rsatadiki, "*Devonu lug'otit turk*"dagi fe'l tizimi bilan hozirgi o'zbek tilidagi fe'l tizimi o'rtasida uzviy tarixiy vorislik mavjud. Eng avvalo, harakatni ifodalash markazi sifatida fe'lning sintaktik va semantik mavqei saqlanib qolgan. Biroq bu vorislik mutlaq ayniyat ko'rinishida emas, balki fonetik yangilanish, semantik torayish yoki kengayish, ayrim shakllarning passivlashuvi va boshqalar orqali yuzaga chiqqan. Adabiyotlar tahlili asosida aytish mumkinki, qadimgi manbadagi ko'plab fe'l negizlari hozirgi o'zbek tilida yashab qolgan, ammo ularning ayrimlari shaklan o'zgargan, ayrimlari esa adabiy qatlamdan ko'ra shevalarda faolroq saqlangan.[6] Ikkinchi muhim natija shundan iboratki, fe'lni qiyosiy o'rganishda sof lug'aviy moslik yetarli emas. Sodiqov qayd etganidek, qo'lyozmadagi ikki xil harakat belgisi va parallel yozilish holatlari qadimgi turkiy birliklarning variantli talaffuzini bildiradi. Shu sababli hozirgi o'zbek tilida boshqacha ko'rinadigan ayrim fe'llar tarixiy jihatdan ayni bir negizning davomchisi bo'lishi mumkin. Bu esa fe'l shakllarini qiyoslashda fonetik tarix, yozuv an'anasi va dialektologik material birgalikda ko'rib chiqilmasa, noto'g'ri xulosalar yuzaga kelishini anglatadi.[7]

Uchinchi natija sifatida aytish joizki, o'zbek olimlari olib borgan izlanishlar *Devon* tadqiqotlarida leksik qatlam ancha faol o'rganilganini ko'rsatadi. 2024 yilgi maxsus sonda berilgan maqolalar tarkibida o'g'uzcha so'zlar, savdo-moliya istilohlari, tarjimalar, dialektal yaqinlik, qoraqalpoq va o'zbek leksikasi bilan aloqadorlik kabi yo'nalishlar salmoqli o'rin olgan. Demak, hozirgi bosqichda fe'l morfologiyasi, ayniqsa zamon, mayl, nisbat, ravishdosh va sifatdosh tizimining tarixiy qiyosi alohida maxsus tadqiqot sifatida yanada chuqurlashtirilishi lozim. Bu yerda aytilayotgan ustuvorlik bahosi jurnal soni mundarijasi asosida chiqarilgan tahliliy xulosadir. [8]

To'rtinchi natija sifatida, Mutallibov nashrida 9222 ta so'z va ibora qayd etilgani, boshqa hisoblarda esa 7993 va 8783 ko'rsatkichlar uchrashi *Devon* materialining hajmi va tarkibini aniqlashda nashriy-fiqhiy farqlar mavjudligini ko'rsatadi. Bu ko'rsatkichlar

fe'llar sonini aniqlash, ularning qaysi qismi mustaqil leksema, qaysi qismi frazeologik yoki izohli birlik ekanini belgilashda ehtiyotkorlikni talab etadi. Shunday ekan, fe'lni hozirgi o'zbek tili bilan solishtirish jarayonida tayanch manba sifatida birgina ikkilamchi qayddan emas, imkon qadar Mutallibov matni, indeks-lug'at va yangi tadqiqotlarni qiyosan ishlatish maqsadga muvofiq bo'ladi.

Umuman olganda, maqola natijalari "*Devonu lug'otit turk*"dagi fe'llar hozirgi o'zbek tilidagi fe'l tizimining tarixiy ildizlarini ochib beruvchi muhim qatlam ekanini ko'rsatadi. Bu yerdagi asosiy ilmiy xulosa shuki, fe'l tizimidagi davomiylik leksik bir xillikdan ko'ra kengroq hodisa bo'lib, u fonetik variantlilik, grammatik modelning saqlanishi, semantik qayta taqsimlanish va uslubiy funksiyaning o'zgarishi orqali namoyon bo'ladi. Shu sababli *Devon* materialini hozirgi o'zbek tili bilan qiyoslash tarixiy grammatika, qiyosiy turkologiya va o'zbek tilining taraqqiyot bosqichlarini tiklashda samarali ilmiy asos bo'lib xizmat qiladi.

Xulosa

Mahmud Qoshg'ariyning "*Devonu lug'atit turk*" asaridagi fe'llarni hozirgi o'zbek tilidagi fe'llar bilan qiyosiy o'rganish turkiy tillar o'rtasidagi tarixiy uzviylikni yaqqol ko'rsatadi. Tadqiqot natijasida qadimgi turkiy tildagi ko'plab fe'l shakllari hozirgi o'zbek tilida ma'lum fonetik, morfologik va semantik o'zgarishlar bilan saqlanib qolganligi aniqlandi. Tahlillar fe'l kategoriyasining til taraqqiyotida eng barqaror va ayni paytda eng faol o'zgaruvchan qatlamlardan biri ekanini ko'rsatdi. Xususan, zamon, mayl, nisbat va shaxs-son shakllarida tarixiy davomiylik bilan birga, yangilanish va soddalashish jarayonlari ham kuzatildi. Ayrim fe'llar bugungi adabiy tilda faol qo'llansa, ayrimlari shevalarda yoki tarixiy qatlamda saqlanib qolgan. Shu tariqa, "*Devonu lug'atit turk*" asari hozirgi o'zbek tilining fe'l tizimini tarixiy nuqtai nazardan anglashda muhim manba ekanligi tasdiqlandi. Mazkur qiyosiy tahlil o'zbek tilining shakllanish bosqichlarini yoritish, uning qadimgi turkiy ildizlarini ochib berish hamda

tarixiy grammatika va qiyosiy tilshunoslik bo'yicha keyingi tadqiqotlar uchun ilmiy asos yaratadi.

Foydalanilgan adabiyotlar

1. Koshg'ariy, M. Devonu lug'otit turk. – Toshkent: Fan, 1960–1963.
2. Koshg'ariy, M. Turkiy so'zlar devoni / o'zbek tiliga tarjima qilgan S. Mutallibov. – Toshkent: Fan, 1960–1963. – 3 jild.
3. Koshg'ariy, M. Turkiy so'zlar devoni / nashrga tayyorlovchi Q. Sodiqov. – Toshkent, 2017.
4. Sodiqov, Q. “Devonu lug'oti-t-turk” matnidagi harakat belgilari va turkiy so'zlarning o'qilishi masalasi // Turkologik tadqiqotlar xalqaro ilmiy jurnali. – Toshkent, 2020. – № 1. – B. 45–56.
5. Dadaboyev, H. Devonu lug'otit turk va eski turkiy til tarixiga oid ilmiy qarashlar. – Toshkent: Fan, 2019. – 184 b.
6. Xudoyberdiyev, J. “Devonu lug'otit turk”ning o'zbek tarjimonlari va ularning tarjimalari nashrlari haqida // Turkologik tadqiqotlar xalqaro ilmiy jurnali. – Toshkent, 2021. – № 2. –
7. Abdushukurov, Baxtiyor. “Devonu lug'otit turk”dagi o'g'uzcha so'zlar. *Turkologik tadqiqotlar xalqaro ilmiy jurnali*.
8. *Turkologik tadqiqotlar xalqaro ilmiy jurnali*. 2024-yil, 2-son, maxsus son. *Devonu lug'otit turkka bag'ishlangan ilmiy maqolalar to'plami*.
9. *Turkologik tadqiqotlar xalqaro ilmiy jurnali*. 2025-yil, 1-son. Qadimgi turkiy leksika va semantik taraqqiyotga oid maqolalar.
10. UNESCO. *Diwan Lughat al-Turk (Compendium of the Turkic Dialects)*. Asarning turkiy xalqlar til tarixi va etnografiyasini o'rganishdagi o'rni ko'rsatilgan.

Advanced Analysis of Primality Testing Algorithms for Secure Cryptographic Applications

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Abstract

This thesis presents an analysis of the theoretical background, working mechanisms, and practical performance of primality testing algorithms. It discusses the significance of prime numbers in contemporary cryptographic systems and the importance of verifying large integers. The study examines the mathematical principles, strengths, and weaknesses of the Fermat, Solovay–Strassen, Miller–Rabin, and AKS primality tests. Furthermore, the computational complexity of deterministic and probabilistic approaches and their influence on cryptographic security are assessed. The findings indicate that primality testing algorithms constitute an essential component of public-key cryptographic schemes, particularly RSA.

Keywords

prime number, primality test, Miller–Rabin algorithm, Fermat test, AKS algorithm, cryptography, RSA, number theory, probabilistic algorithms, deterministic algorithms.

The ongoing evolution of digital technologies and the expansion of information infrastructures have significantly increased the importance of secure cryptographic mechanisms. Modern cryptographic systems widely employ mathematical methods involving large integers to ensure secure communication, data confidentiality, and system integrity. The effectiveness of such systems is closely linked to the mathematical properties of prime numbers and efficient methods for determining the primality of large integers. As a result, primality testing has become a key research domain bridging theoretical mathematics and practical cybersecurity applications.

Prime numbers constitute the mathematical basis of public-key cryptographic algorithms such as RSA, Diffie–Hellman, and ElGamal. Because the generation and verification of large prime values require intensive computational processing, probabilistic primality tests including Fermat, Miller–Rabin, and Solovay–Strassen are widely adopted due to their favorable balance between computational efficiency and accuracy. Moreover, the emergence of quantum computing and post-quantum cryptographic paradigms has increased the importance of evaluating the robustness and performance of primality testing methods. Therefore, this article focuses on investigating the mathematical foundations, operational mechanisms, and practical efficiency of primality testing algorithms.

The problem of determining whether a number is prime or composite is one of the fundamental problems in number theory. A natural number $n > 1$ is called a prime number if it is divisible only by 1 and itself. Otherwise, the number is considered composite [1]. Since prime numbers are widely used in cryptography, especially in public-key algorithms, the efficiency of primality testing algorithms for large integers is of great importance.

One of the simplest methods for determining primality is the trial division method. In this approach, divisibility of the number n is checked for all integers satisfying $2 \leq d \leq \sqrt{n}$. If the following condition holds:

$$d \mid n$$

then n is considered a composite number. Although this method is straightforward, its computational complexity becomes extremely high for large integers [2].

One of the efficient primality tests for large numbers is the Fermat primality test. This test is based on Fermat's Little Theorem. If p is a prime number and a is not divisible by p , then the following congruence holds [3]:

$$a^{p-1} \equiv 1 \pmod{p}$$

If the above relation is not satisfied for a chosen value of a , then the number is composite. However, there exist certain composite numbers for which this congruence still holds. Such numbers are known as Carmichael numbers [4].

An improved version of the Fermat test is the Solovay-Strassen primality test. This algorithm is based on Euler's criterion and uses the Jacobi symbol. The test is performed using the following expression [5]:

$$a^{\frac{n-1}{2}} \equiv \left(\frac{a}{n}\right) \pmod{n}$$

where $\left(\frac{a}{n}\right)$ denotes the Jacobi symbol. Compared to $\downarrow$ Fermat test, this method provides more reliable results.

One of the most widely used primality tests in practical cryptography is the Miller-Rabin algorithm [6]. In this algorithm, the value $n - 1$ is represented in the following form:

$$n - 1 = 2^s \cdot d$$

where d is an odd number. Then, for randomly selected values of a , the following quantity is computed:

$$a^d \pmod{n}$$

If the result is neither 1 nor -1, repeated squaring operations are performed. During this process, if the following condition is not satisfied:

$$a^{2^r d} \equiv -1 \pmod{n}$$

then n is considered composite. Although the Miller-Rabin test is probabilistic, after several iterations it provides extremely high accuracy [7].

Among deterministic primality tests, the AKS algorithm occupies a special place. This algorithm was proposed in 2002 by Agrawal, Kayal, and Saxena and became the first universal primality test operating in polynomial time [8]. The main idea of the AKS algorithm is based on the following congruence:

$$(x - a)^n \equiv x^n - a \pmod{n}$$

if and only if n is a prime number. Despite its theoretical significance, in practice the Miller-Rabin test is much faster than the AKS algorithm.

Primality testing algorithms are an essential component of key generation processes in modern cryptographic systems. In the RSA algorithm, two large prime numbers p and q are selected to generate the following value [9]:

$$n = pq$$

The computational difficulty of factorizing this number ensures the security of the system. Therefore, the efficiency and reliability of primality testing algorithms directly affect the overall robustness of cryptographic systems.

Primality testing algorithms are among the fundamental components of modern cryptography. Since simple deterministic methods become inefficient for very large integers, probabilistic primality tests are widely used in practice. The Fermat, Solovay–Strassen, and Miller–Rabin tests allow large integers to be tested rapidly with high accuracy. The AKS algorithm, on the other hand, proved that the primality testing problem can be solved in polynomial time from a theoretical perspective. In the future, the development of quantum computing technologies may require reconsideration of the security of primality tests and prime-based cryptographic systems.

REFERENCES

1. Hardy G. H., Wright E. M. *An Introduction to the Theory of Numbers*. — Oxford University Press, 2008.
2. Crandall R., Pomerance C. *Prime Numbers: A Computational Perspective*. — Springer, 2005.
3. Rosen K. H. *Elementary Number Theory and Its Applications*. — Pearson, 2010.
4. Carmichael R. D. “On Composite Numbers P Which Satisfy the Fermat Congruence”. *American Mathematical Monthly*, 1910.

5. Solovay R., Strassen V. "A Fast Monte-Carlo Test for Primality". *SIAM Journal on Computing*, 1977.
6. Miller G. L. "Riemann's Hypothesis and Tests for Primality". *Journal of Computer and System Sciences*, 1976.
7. Rabin M. O. "Probabilistic Algorithm for Testing Primality". *Journal of Number Theory*, 1980.
8. Agrawal M., Kayal N., Saxena N. "PRIMES is in P". *Annals of Mathematics*, 2004.
9. Rivest R., Shamir A., Adleman L. "A Method for Obtaining Digital Signatures and Public-Key Cryptosystems". *Communications of the ACM*, 1978.

A PLACE LINKING CENTURIES: HISTORICAL AND CULTURAL HERITAGE AS A BRIDGE BETWEEN GENERATIONS

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Abstract

This article examines the phenomenon of historical and cultural heritage as a bridge between eras. Based on an analysis of historical and cultural monuments in the Fergana Valley and Uzbekistan as a whole, the author explores the mechanisms of transmitting historical memory and the role of sacred and secular spaces in shaping national identity. It demonstrates how ancient cities, architectural ensembles, and cultural traditions continue to influence modern society, serving as living witnesses to the historical journey of the people.

Keywords

historical and cultural heritage, Fergana Valley, Uzbekistan, historical memory, cultural identity, historical monuments, architectural heritage, inter-era connections, sacred spaces, national history.

ASRLARNI BOG‘LAGAN MAKON: TARIXIY-MADANIY MEROS DAVRLAR O‘RTASIDAGI KO‘PRIK SIFATIDA

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Tarix fani o‘qituvchisi, Farg‘ona tuman 1-son texnikumi

Annotatsiya. Ushbu maqolada tarixiy-madaniy merosning davrlar o‘rtasidagi bog‘lovchi bo‘g‘in sifatidagi fenomeni ko‘rib chiqiladi. Farg‘ona vodiysi va butun O‘zbekiston tarix va madaniyat yodgorliklarini tahlil qilish asosida muallif tarixiy xotirani uzatish mexanizmlarini, muqaddas va dunyoviy makoning milliy identlikni shakllantirishdagi o‘rnini tadqiq etadi. Qadimiy shaharlar, me'moriy majmualar va madaniy an'analar xalqning tarixiy yo‘lining jonli guvohi sifatida zamonaviy jamiyatga

qanday ta'sir ko'rsatishini ko'rsatib beriladi.

Kalit so'zlar: tarixiy-madaniy meros, Farg'ona vodiysi, O'zbekiston, tarixiy xotira, madaniy identlik, tarix yodgorliklari, me'moriy meros, davrlararo bog'liqlik, muqaddas makon, milliy tarix.

МЕСТО, СВЯЗЫВАЮЩЕЕ ВЕКА: ИСТОРИКО-КУЛЬТУРНОЕ НАСЛЕДИЕ КАК МОСТ МЕЖДУ ПОКОЛЕНИЯМИ

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Аннотация. В данной статье рассматривается феномен историко-культурного наследия как связующего звена между эпохами. На основе анализа памятников истории и культуры Ферганской долины и Узбекистана в целом автор исследует механизмы трансляции исторической памяти, роль сакральных и светских пространств в формировании национальной идентичности. Показано, как древние города, архитектурные ансамбли и культурные традиции продолжают оказывать влияние на современное общество, выступая живыми свидетелями исторического пути народа.

Ключевые слова: историко-культурное наследие, Ферганская долина, Узбекистан, историческая память, культурная идентичность, памятники истории, архитектурное наследие, межэпохальная связь, сакральные пространства, национальная история.

KIRISH

Yerdagi har bir joy o'z ichida zamonning izlarini saqlab keladi - devor toshlarida, ko'cha tartibida, mahalla nomlarida va avloddan avlodga og'zaki uzatilgan rivoyatlarda. Biroq shunday alohida joylar borki, ular nafaqat guvoh, balki tarixiy jarayonning faol ishtirokchisiga aylanib, o'tgan davrlar bilan zamonaviylik o'rtasida ko'rinmas ko'priklar vazifasini o'taydi. Bunday joylar - haqiqiy "asrlarni bog'lovchi" makob - insoniyat

sivilizatsiyasining noyob hodisasini ifodalaydi.

Zamonaviy O'zbekiston hududi, xususan Farg'ona vodiysi, ming yillar davomida buyuk sivilizatsiyalarning kesishish joyi bo'lib kelgan. Bu yerdan Buyuk ipak yo'li o'tgan, bu yerda Dovon va Kushon davlatlari gullab-yashnagan, bu yerda o'rta asrlar Sharqining buyuk mutafakkirlari va shoirlari ijod etgan. Bularning barchasi ushbu mintaqani tarixiy o'tmish so'zma-so'z hozirgi zamonda mavjud bo'lgan makonga aylantirdi.

Mavzuning dolzarbligi nafaqat madaniy merosni saqlash masalalariga ilmiy qiziqish bilan, balki yoshlar o'rtasida o'z xalqining tarixiy o'tmishiga hurmat tuyg'usini tarbiyalashning amaliy zarurati bilan ham belgilanadi. Globallashuv va jadal madaniy o'zgarishlar sharoitida aynan tarixiy-madaniy meros milliy identlikning langari, ildizlarni eslatuvchi va ma'naviy kuch manbai bo'lib xizmat qiladi.

Ushbu maqolaning maqsadi - tarixiy-madaniy ob'ektlar davrlar o'rtasidagi aloqani ta'minlash funksiyasini bajaradigan mexanizmlarni o'rganish, shuningdek ushbu aloqalarning jamiyat madaniy o'zini anglashini shakllantirishdagi ahamiyatini ko'rsatib berishdan iborat.

TARIXIY-MADANIY MEROS: TUSHUNCHA VA MOHIYAT

"Tarixiy-madaniy meros" tushunchasi keng hodisalar doirasini qamrab oladi - monumental me'moriy inshootlardan nomoddiy xalq ijodiyatigacha, qadimiy qo'lyozmalardan tirik hunarmandchilik an'alarigacha. YuNESKO xalqaro ta'rifiga ko'ra, madaniy meros alohida xalqlar ham, umuman insoniyatning ham identligining ajralmas qismidir.

Merosning shunchaki o'tmish ob'ektlari yig'indisi emas, balki faol ishlayotgan ma'no va qadriyatlar tizimi ekanligini tushunish juda muhimdir. Har bir yodgorlik, har bir an'ana o'zida ma'lum bir davr kishilarining hayot tarzi, dunyoqarashi va intilishlari haqida kodlangan ma'lumotni saqlaydi. Ushbu ob'ektlar bilan o'zaro munosabatda

bo'lib, zamonaviy inson ajdodlar bilan o'ziga xos muloqotga - vaqt orqali muloqotga kirishadi. O'zbekiston hududida minglab tarixiy-madaniy meros ob'ektlari mavjud. Samarqand, Buxoro, Xiva, Shahrisabz YuNESKOning Jahon merosi ro'yxatiga kiritilgan. Biroq Farg'ona vodiysi shaharlari ham - Qo'qon, Marg'ilon, Andijon, Namangan - tarixiy o'tmish bilan kam boylikka ega emas, ularning har biri asrlar qa'riga ketadigan tarix qatlamlarini o'z ichida saqlaydi.

FARG'ONA VODIYSI DAVRLARARO BOG'LIQLIK MAKONI SIFATIDA

Farg'ona vodiysi - Markaziy Osiyoning eng qadimiy sivilizatsiya o'choqlaridan biri. Bu hududdagi dastlabki shahar manzilgohlari miloddan avvalgi asrlarda paydo bo'lgan. Xitoy yilnomalarida miloddan avvalgi II–I asrlarda tilga olingan Dovon davlati allaqachon rivojlangan shahar madaniyatiga, Xitoy, Parfiya va qadimgi dunyo boshqa davlatlari bilan savdo aloqalariga ega edi.

Vodiyning madaniy qiyofasini shakllantirishda Kushon shohligi (milodiy I–IV asrlar) davri alohida o'rin tutadi. Bu davrda yunon-baqtriya, hind va mahalliy an'analarning uyg'unlashuvi yuz berdi. Farg'ona hududida topilgan kushon tangalari jadal savdo va madaniy almashinuvlardan dalolat beradi. Bu davr mintaqani bugungi kunda ham xarakterlayotgan madaniy rang-baranglikning asosiga aylandi.

O'rta asrlar Farg'ona vodiysiga islom ilm-fani va me'morchiligining gullab-yashnashini olib keldi. Qo'qon xonligi poytaxti (1709–1876) - Qo'qon kabi shaharlar yirik madaniyat va ma'rifat markazlariga aylandi. Bugungi kunda saqlanib qolgan Xudoyorxon saroyi bu buyuk davlatning shon-shuhrati va qudratining jonli guvohi hisoblanadi. Uning me'morchiligi farg'onalik, samarqandlik va xitoy qurilish maktablarining an'alarini o'zida mujassam etib, "asrlarni bog'lagan makon" g'oyasining yaqqol timsoli bo'lib xizmat qiladi.

Marg'ilon - Farg'ona vodiysining eng qadimiy shaharlaridan biri - asrlar davomida ipakchilik markazi bo'lib kelmoqda. Mahalliy ustalar bugun ham ajdodlardan

meros bo'lib qolgan texnologiyalar yordamida mashhur "adras" va "bekasam" to'qiydilar. Bu hunarmand shaharda tirik an'ana o'tmish va hozirgi zamon o'rtasidagi eng bevosita ko'prik hisoblanadi: zamonaviy usta xuddi ajdodining harakatlarini takrorlaydi, xuddi o'sha ipak ipiga qo'l tekkizadi.

TARIXIY XOTIRANI UZATISH MEXANIZMLARI

Tarixiy-madaniy meros bir necha o'zaro bog'liq mexanizmlar orqali davrlar o'rtasidagi aloqa funksiyasini bajaradi. Birinchi va eng ko'zga ko'ringan mexanizm - moddiy: me'moriy yodgorliklar, turmush buyumlari va san'at asarlari, hujjatlar o'tgan davr haqida bevosita ma'lumot tashuvchisi bo'lib xizmat qiladi. XV asrda yaratilgan qo'lyozma varaqlarini ushlab ko'rgan yoki madrasa naqshli bezaklarini tomosha qilgan zamonaviy inson o'tmish bilan bevosita muloqot tajribasini oladi.

Ikkinchi mexanizm - ramziy. Tarixiy joylar o'zida ma'no va qadriyatlarni jamlash qobiliyatiga ega bo'lib, madaniy identlikning timsollariga aylanadi. Farg'onadagi Boʻbo-Ayub maqbarasi, Uzgandagi Shoh-Fazil qabri, qadimiy Ershi shahar xarobalari - bu ob'ektlarning har biri nafaqat o'tmish yodgorligi, balki atrofida xalqning jamoaviy tarixiy xotirasi shakllanadigan timso hamdir.

Uchinchi mexanizm - pedagogik. Tarixiy-madaniy ob'ektlar tarixiy tarbiyaning o'rnini bosa olmaydigan vositasi hisoblanadi. Tarixiy xotira joylarini ziyorat qilish, me'morchilik va san'at yodgorliklari bilan tanishish yoshlarning o'z xalqining buyuk tarixiy yo'liga mansublik his-tuyg'usini shakllantiradi. Bu kontekstda tarix o'qituvchisining vazifasi o'quvchilarga tarixiy dalillar tilini "o'qishga" yordam berishdan iborat - jim toshlarni so'zlaydigan hikoyachilarga aylantirishdan.

To'rtinchi mexanizm - narrativ. Tarixiy rivoyatlar, afsonalar, epik asarlar - "Alpomish" yoki "Manas" kabi - haqiqiy tarixiy voqealar va shaxslar haqidagi xotirani badiiy-obrazli shaklda saqlaydi. Avloddan avlodga uzatiladigan bu matnlar ijtimoiy larzalar davrlarida ham madaniy an'ananing uzluksizligini ta'minlaydi.

MEROS ZAMONAVIY KONTEKSTDA: MUAMMOLAR VA IMKONIYATLAR

Zamonaviy O'zbekiston tarixiy-madaniy merosni saqlash va ommalashtirish borasida izchil siyosat olib borayotganini namoyon etmoqda. Samarqand, Buxoro, Xivadagi keng ko'lamli restavratsiya ishlari, Jahon merosi ob'ektlari atrofida turizm infratuzilmasini yaratish, muzey ishini rivojlantirish - bularning barchasi davlatning tarixiy o'tmishni milliy taraqqiyot resursi sifatida baholashidan dalolat beradi.

Shu bilan birga, jamiyat oldida merosni saqlash sohasida jiddiy muammolar ham turibdi. Jadal shaharsozlik ko'pincha shaharlarning tarixiy mahallalariga tahdid soladi. Turizmning tijoratlashtilishi tirik madaniy muhitning "muzeylashtilishi"ga olib kelishi mumkin. Globallashtirish madaniy amaliyotlarning unifikatsiyasi va mahalliy o'ziga xosliklarning yo'qolishi xavfini tug'diradi. Bu ziddiyatlarni hal etish merosning haqiqiylikini saqlab qolish bilan uni zamonaviy madaniy muomalaga jalb etishni uyg'unlashtiruvchi muvozanatli siyosat ishlab chiqishni talab qiladi.

Bu jarayonda ta'lim tizimi alohida o'rin egallaydi. Aynan maktab va o'rta maxsus o'quv yurtlari yoshlarda tarixiy merosga nisbatan birlamchi munosabatni shakllantiradi. Haqiqiy tarixiy ob'ekt fonida o'tkazilgan tarix darsi, o'lkashunoslik muzeyiga ekskursiya, mahalliy toponymika va rivoyatlarni o'rganish - bularning barchasi o'quvchi bilan u yashaydigan tarixiy makon o'rtasida jonli bog'liqlik hosil qiladi.

XULOSA

Tarixiy-madaniy meros o'tmishning yuki emas, balki hozirgi va kelajakning tirik resursidir. O'tgan davrlar xotirasini o'zida saqlagan joylar noyob funktsiyani bajaradi: ular zamonaviy insonga o'zini uzluksiz tarixiy oqimning bir qismi sifatida anglashga, o'tmishdan bugungi muammolarni hal etish uchun donolik va ilhom olishga imkon beradi. Farg'ona vodiysi ming yillik tarixi bilan o'tmish va hozirgi zamon muloqotda yashayotgan makoning yorqin namunasidir. Qadimiy shaharlar, me'moriy yodgorliklar,

tirik hunarmandchilik an'analari - bularning barchasi yaxlit madaniy organizmning qismlari bo'lib, uning hayotchanligi zamonaviy jamiyatning meros bilan qanchalik ehtiyotkorlik bilan munosabatda bo'lishiga bog'liq.

Tarixchi, pedagog, har bir befarq bo'lmagan fuqaroning vazifasi - bu asrlar bog'liqligini saqlab, uni keyingi avlodlarga to'la va jonli holda yetkazib berishdan iborat. Zero, o'z o'tmishi bilan aloqasini yo'qotgan xalq nafaqat tarixiy xotirasini, balki kelajakka yo'l topa olish yo'nalishlarini ham boy beradi. Asrlarni bog'lagan makon - bu avvalombor avlodlar zanjirini ongli ravishda his etgan insonning o'zidir.

Foydalanilgan adabiyotlar:

1. Askarov A.A. Janubiy O'zbekistonning bronza davri qadimgi dehqonchilik madaniyati. Toshkent: Fan, 1977. 234 b.
2. Bartold V.V. Turkiston madaniy hayoti tarixi. Leningrad: SSSR FA nashriyoti, 1927. 256 b.
3. Buryakov Yu.F. Toshkent vohasi qadimgi shaharlarining tarixiy topografiyasi. Toshkent: Fan, 1975. 200 b.
4. Nabiev R.N. Qo'qon xonligi tarixidan. Toshkent: O'zbekiston, 1973. 315 b.
5. Rtveladze E.V. Markaziy Osiyo sivilizatsiyalari, davlatlari, madaniyatlari. - Toshkent: UMƏD, 2005. 278 b.
6. Sagdullayev A.S. Qadimgi Baqtriya usadybalari. Toshkent: Fan, 1987. 148 b.
7. Tolstov S.P. Qadimgi Xorazm. - Moskva: MGU nashriyoti, 1948. 452 b.
8. Kadirov T. O'zbekiston moddiy madaniyat yodgorliklarini muhofaza qilish muammolari. Toshkent: Fan, 2003. 190 b.
9. Xo'jayev A. Buyuk ipak yo'li va O'rta Osiyo. Toshkent: O'zbekiston, 1992. 220 b.
10. UNESCO. Jahon madaniy va tabiiy merosini muhofaza qilish to'g'risidagi Konvensiya. Paris: UNESCO, 1972. 18 b.

Methodological foundations of teaching history, physics and English in the context of interdisciplinary convergence

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Annotation

The article examines the theoretical and methodological foundations of interdisciplinary convergence in the modern education system. Special attention is paid to the CLIL approach, a competency-based learning model, and digital educational technologies. The need for a transition from traditional subject-based learning to an integrative educational paradigm is substantiated. Attention is paid to the CLIL approach, a competency-based learning model, and digital educational technologies. The necessity of transition from traditional subject-oriented learning to an integrative educational paradigm is substantiated.

Key words

interdisciplinary convergence, integrative learning, CLIL, competence approach, history, physics, English, pedagogical methodology, digital education.

**Fanlararo konvergentsiya sharoitida tarix, fizika va ingliz tili ta'limining
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Annotatsiya: Ushbu maqola zamonaviy ta'lim tizimida fanlararo konvergentsiyaning nazariy va metodologik asoslarini o'rganadi. Unda tarix, fizika va ingliz tillarining integratsiyasi o'quvchilarning meta-fan kompetensiyalari, tanqidiy fikrlash, tadqiqot ko'nikmalari va kommunikativ kompetentsiyasini rivojlantirishga qaratilgan yagona ta'lim modeli sifatida tahlil qilinadi. KLIO' yondashuviga, kompetensiyaga asoslangan o'qitish modeliga va raqamli ta'lim texnologiyalariga alohida e'tibor qaratilgan. An'anaviy fanga yo'naltirilgan o'qitishdan integrativ ta'lim paradigmasiga o'tish zarurati asoslanadi.

Kalit so'zlar: fanlararo konvergensiya, integrativ o'rganish, KLIO', kompetensiyaga asoslangan yondashuv, tarix, fizika, ingliz tili, pedagogik metodologiya, raqamli ta'lim.

Fanlararo konvergensiya — bu fanlar chegaralarining yo'qolib, yagona va yaxlit bilim tizimining shakllanish jarayonidir. Tarix, fizika va ingliz tilini integratsiyalash orqali o'quvchilarda tanqidiy fikrlash, global dunyoqarash va fanga bo'lgan ishtiyoqni kuchaytirish mumkin. Zamonaviy ta'lim tizimi bilimlarning globallashuvi, raqamli texnologiyalarning rivojlanishi va madaniyatlararo muloqotning o'sishi bilan bog'liq chuqur o'zgarish davrini boshidan kechirmoqda.¹

Bunday sharoitda, fanga yo'naltirilgan o'qitishning an'anaviy modeli

¹ Dewey J. Democracy and Education. New York: Macmillan, 1916. p. 91–93.

o'quvchilarda yaxlit dunyoqarashni rivojlantirish uchun yetarli emasligini isbotlaydi. Fanlararo yaqinlashuv - bu turli bilim sohalarini yagona ta'lim tizimiga integratsiyalashga qaratilgan metodologik yondashuv.²

Gumanitar fanlar (tarix), tabiiy fanlar (fizika) va tilshunoslik (ingliz tili) fanlarining integratsiyasi, ayniqsa, dolzarb bo'lib bormoqda.

Tarix jamiyatning ijtimoiy-madaniy rivojlanishini tushunishni ta'minlaydi, fizika ilmiy tafakkurni shakllantiradi va tabiat qonunlarini tushuntiradi, ingliz tili esa xalqaro aloqa va ilmiy ma'lumotlarga kirish vositasi bo'lib xizmat qiladi.³

Tizimli yondashuv ta'lim jarayonini o'zaro bog'liq elementlarning yaxlit tuzilishi sifatida ko'rib chiqadi.⁴ Fanlararo integratsiya doirasida bilim izolyatsiya qilinmaydi, balki yagona kognitiv tizimga birlashadi.

Masalan, „Ilmiy va texnologik inqilob“ mavzusi quyidagilarni o'z ichiga oladi: fan rivojlanishining tarixiy tahlili, fizik qonunlar va kashfiyotlar hamda ingliz ilmiy terminologiyasi.

Kompetensiyaga asoslangan ta'lim modeli real hayotdagi vaziyatlarda bilimlarni qo'llash uchun rivojlangan ko'nikmalar ko'rinishidagi natijalarga qaratilgan.⁵

Fanlarni integratsiyalash sharoitida quyidagilar shakllanadi: analitik kompetensiyalar, tadqiqot ko'nikmalari, til kompetensiyasi, tanqidiy fikrlash.

J. Piaget va L. S. Vygotskiyning fikriga ko'ra, bilim o'quvchining faol faoliyati jarayonida shakllanadi.⁶ Fanlararo integratsiya mustaqil tahlil va axborot sintezini talab qilish orqali bu jarayonni kuchaytiradi.

KLIO'(Kontent va tilni integratsiyalashgan o'rganish) integrativ o'rganishning

² Bruner J. The Process of Education. Harvard University Press, 1960. p. 33–37.

³ Richards J., Rodgers T. Approaches and Methods in Language Teaching. Cambridge University Press, 2014. p. 102–108.

⁴ Bertalanffy L. General System Theory. 1968. p. 45–50.

⁵ Зимняя И. А. Ключевые компетенции как результат образования. Москва, 2004. С. 17–22.

⁶ Выготский Л. С. Мышление и речь. Москва, 1982. С. 88–92.

asosiy vositalaridan biridir.⁷ Bu chet tili orqali fan mazmunini o'rganishni o'z ichiga oladi. Masalan:

Fizika	Tarix	Inglizcha
Nyuton qonunlari	Sanoat inqilobi	akademik terminologiya

Loyiha usuli fanlarni amaliy tadqiqot faoliyatiga integratsiyalash imkonini beradi.⁸



Talabalar oldiga hal qilinishi kerak bo'lgan haqiqiy ilmiy va tarixiy muammolar qo'yiladi.⁹

Masalan: Nima uchun Angliyada sanoatlashtirish boshlandi?

Qanday jismoniy kashfiyotlar taraqqiyotni tezlashtirdi?

⁷ Coyle D. CLIL: Content and Language Integrated Learning. Cambridge University Press, 2010. p. 25–33.

⁸ Dewey J. Experience and Education. 1938. p. 45–49.

⁹ Hattie J. Visible Learning. Routledge, 2012. p. 80–86.

Raqamli resurslardan (virtual laboratoriyalar, onlayn arxivlar, MOOC platformalari) foydalanish integratsiya imkoniyatlarini sezilarli darajada kengaytiradi.¹⁰

Integrativ yondashuv quyidagilarni ta'minlaydi: tizimli fikrlashni rivojlantirish:

- tanqidiy tahlilni rivojlantirish;
- motivatsiyani oshirish;
- til amaliyotini yaxshilash;
- tadqiqot ko'nikmalarini rivojlantirish

Ammo amalga oshirishdagi quydagi qiyinchiliklar mavjud:

- Samaradorlikka qaramay, qiyinchiliklar saqlanib qolmoqda;
- O'qituvchilarni yetarli darajada o'qitishning yo'qligi;
- Integratsiyalashgan o'quv dasturlarining yo'qligi;
- O'qitish vaqtining cheklanganligi;
- Materiallarning tilga moslashuvining murakkabligi.¹¹

Shu bilan birga quyidagi yechimlar ham mavjud:

- Samaradorlikni oshirish uchun quyidagilar zarur;
- KLIO' dasturlarini joriy etish;
- o'qituvchilar malakasini oshirish;
- fanlararo darsliklarni ishlab chiqish;
- ta'lim jarayonini raqamlashtirish.¹²

Tarix, fizika va ingliz tili fanlarining fanlararo yaqinlashuvi yaxlit ilmiy dunyoqarashni rivojlantirishga qaratilgan zamonaviy ta'lim strategiyasini ifodalaydi.

Bu yondashuv o'quvchilarning kognitiv moslashuvchanligi, tadqiqot ko'nikmalari va lingvistik kompetentsiyasini rivojlantirishga yordam beradi. Integrativ o'rganish

¹⁰ Selwyn N. Education and Technology. 2016. p. 60–66.

¹¹ Hasanboeva O. Pedagogika nazariyasi. Toshkent, 2019. B. 80–85.

¹² Biggs J., Tang C. Teaching for Quality Learning at University. Open University Press, 2011. p. 70–78.

modeliga o'tish zamonaviy ta'limni modernizatsiya qilishning zaruriy shartidir.

Xulosa o'rnida shuni aytish mumkinki, fanlararo konvergensiya xorijiy pedagogik amaliyotda yuqori samara berib, ta'lim samaradorligini oshirishning strategik asosi hisoblanadi. Tadqiqot va metodik maqolalarni shakllantirishda, ayniqsa orqali pedagogik mahoratni oshirish tavsiya etiladi. Ilm-fanning dolzarb muammolariga bag'ishlangan to'plamlarda ham bu kabi metodologiyalar yoritilgan.

Foydalingan adabiyotlar.

1. Dewey J. Democracy and Education. New York: Macmillan, 1916.
2. Bruner J. The Process of Education. Harvard University Press, 1960. Richards J., Rodgers T. Approaches and Methods in Language Teaching. Cambridge University Press, 2014.
3. Bertalanffy L. General System Theory. 1968.
4. Зимняя И. А. Ключевые компетенции как результат образования. Москва, 2004.
5. Выготский Л. С. Мышление и речь. Москва, 1982.
6. Coyle D. CLIL: Content and Language Integrated Learning. Cambridge University Press, 2010.
7. Dewey J. Experience and Education. 1938.
8. Hattie J. Visible Learning. Routledge, 2012.
9. Selwyn N. Education and Technology. 2016.
10. Hasanboeva O. Pedagogika nazariyasi. Toshkent, 2019.
11. Biggs J., Tang C. Teaching for Quality Learning at University. Open University Press, 2011.

Clinical and Immunogenetic Features of Liver Fibrosis Development in Chronic Hepatitis of Various Etiologies: A Literature Review

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Abstract. Chronic hepatitis of various etiologies remains one of the major causes of progressive liver damage worldwide. Persistent inflammatory processes in the liver can lead to fibrosis, cirrhosis, and ultimately liver failure. The development and progression of liver fibrosis are determined not only by the etiological factor but also by complex interactions among immune, genetic, and environmental mechanisms.

This literature review examines current scientific data on the clinical and immunogenetic characteristics of liver fibrosis development in patients with chronic hepatitis of different origins. Particular attention is given to the role of cytokines, immune response pathways, genetic polymorphisms, and molecular markers involved in fibrogenesis. The review also discusses the prognostic significance of immunogenetic factors and their potential application in early diagnosis, risk stratification, and personalized therapeutic approaches.

Keywords: chronic hepatitis, liver fibrosis, immunogenetics, cytokines, genetic polymorphism, fibrogenesis, chronic inflammation, liver cirrhosis, molecular markers, personalized medicine.

**TURLI ETIOLOGIYALI SURUNKALI GEPATITLARDA JIGAR FIBROZI
RIVOJLANISHINING KLINIK-IMMUNOGENETIK XUSUSIYATLARI**

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Annotatsiya

Surunkali hepatitlar turli etiologik omillar — virusli hepatit B va C, autoimmun jarayonlar, metabolik buzilishlar hamda toksik ta'sirlar natijasida rivojlanib, jigar fibrozi, sirroz va hepatotsellyulyar karsinoma bilan asoratlanishi mumkin bo'lgan dolzarb tibbiy muammo hisoblanadi. Jahon sog'liqni saqlash tashkiloti ma'lumotlariga ko'ra, surunkali hepatit B va C global miqyosda millionlab bemorlarda uchrab, jigar sirrozi va jigar saratoni bilan bog'liq o'limlarning muhim sabablaridan biri bo'lib qolmoqda [1].

Jigar fibrozi rivojlanishida nafaqat etiologik omilning davomiyligi va virus yuklamasi, balki bemorning immun javobi, yallig'lanish mediatorlari, fibrogenezga aloqador sitokinlar va genetik moyillik ham muhim ahamiyatga ega. Ayniqsa IL-6, IL-17A, IL-17F, IL-23R, TGF- β 1 va COL1A1 kabi immun-yallig'lanish hamda fibrozlanish yo'llariga aloqador markerlar surunkali hepatitlarda fibroprogressiyani baholash uchun istiqbolli ilmiy yo'nalish hisoblanadi [2–6].

Kalit so'zlar: surunkali hepatit, jigar fibrozi, immunogenetika, IL-6, IL-17A, IL-17F, IL-23R, TGF- β 1, COL1A1, fibrogenez.

Kirish

Jigar fibrozi surunkali shikastlanishga javoban rivojlanadigan reparativ, ammo nazoratsiz davom etganda patologik tus oladigan jarayondir. Hepatotsitlar zararlanishi, Kupffer hujayralari faollashuvi, yallig'lanish sitokinlari ajralishi va yulduzsimon hujayralarning miofibroblastlarga aylanishi natijasida kollagen va boshqa ekstrasellyulyar matriks komponentlari ortiqcha to'planadi. EASL tavsiyalarida

surunkali jigar kasalliklarida fibroz darajasini baholash uchun elastografiya, noinvaziv indekslar va klinik-laborator ko'rsatkichlarni birgalikda qo'llash zarurligi ta'kidlangan [2; 659–689-b.].

Turli etiologiyali surunkali hepatitlarda fibroz rivojlanish tezligi bir xil emas. Virusli hepatitlarda virus replikatsiyasi, yallig'lanish faolligi va immun javobning xususiyati muhim bo'lsa, autoimmun hepatitlarda immun agressiya, metabolik zararlanishlarda esa insulinrezistentlik va oksidlovchi stress fibrogenezni kuchaytiradi. Shunga qaramay, ushbu etiologiyalarning umumiy yakuniy patogenetik bo'g'ini — surunkali yallig'lanish, yulduzsimon hujayralar faollashuvi va kollagen sintezining ortishidir.

Immunogenetik jihatdan Th17/IL-17 yo'li jigar fibrozining muhim mexanizmlaridan biri sifatida qaraladi. IL-17 yo'li yulduzsimon hujayralar faollashuvi, TGF- β ekspressiyasi, kollagen sintezi va yallig'lanish hujayralari migratsiyasini kuchaytirishi mumkin. Surunkali B va C hepatitlarda Th17, IL-17 o'qi fibrogenez va sirrozga o'tish jarayonida immunopatogenetik va prognostik ahamiyatga ega ekani ko'rsatilgan [3].

IL-23R, IL-17A va IL-17F genlaridagi polimorfizmlar immun javobning davomiyligi, yallig'lanish intensivligi va fibrozlanish xavfiga ta'sir qilishi mumkin. Ayrim tadqiqotlarda IL-17A rs2275913, IL-17F rs763780 va IL-23R rs10889677 polimorfizmlari hepatit B infeksiyasi oqibati, sirroz va hepatotsellyulyar karsinoma xavfi bilan bog'liq bo'lishi mumkinligi qayd etilgan [4].

IL-6 surunkali hepatitlarda yallig'lanish faolligi, hepatotsit shikastlanishi va fibroprogressiya bilan bog'liq sitokinlardan biridir. IL-6 genidagi ayrim polimorfizmlar yallig'lanish mediatorlari ishlab chiqarilishiga ta'sir qilib, kasallikning surunkalashuvi, fibrozlanish darajasi va klinik og'irligini belgilashi mumkin. Yallig'lanish genlari bo'yicha meta-tahlillarda TGF- β 1, IL-10, IL-18 va IFN- γ polimorfizmlari jigar sirroziga moyillik bilan bog'liq bo'lishi mumkinligi ko'rsatilgan [5].

COL1A1 geni esa fibrogenezning struktur komponenti bilan bog'liq muhim nomzod genlardan biridir. Ushbu gen I-tip kollagen sintezida ishtirok etadi va jigar to'qimasida ekstrasellyulyar matriks to'planishiga bevosita aloqador. COL1A1 polimorfizmlari HBV bilan bog'liq jigar sirrozi va fibrozlanish jarayonlari bilan bog'liq bo'lishi mumkinligi haqidagi ma'lumotlar ushbu genni klinik-immunogenetik tadqiqotlar uchun muhim marker sifatida ko'rib chiqishga asos beradi [6].

Shu nuqtai nazardan, turli etiologiyali surunkali hepatitlarda jigar fibrozini baholashda faqat klinik, biokimyoviy va instrumental ko'rsatkichlar bilan cheklanish yetarli emas. IL-6, IL-17A, IL-17F, IL-23R, TGF- β 1 va COL1A1 kabi markerlarni kompleks o'rganish fibroz rivojlanish xavfini erta aniqlash, yuqori xavf guruhlarini ajratish va individual prognostik model yaratish imkonini beradi.

Xulosa

Turli etiologiyali surunkali hepatitlarda jigar fibrozi ko'p omilli jarayon bo'lib, uning rivojlanishida etiologik omil, yallig'lanish faolligi, immun javob turi va genetik moyillik o'zaro bog'liq holda ishtirok etadi. IL-17/IL-23 o'qi, IL-6 vositachiligidagi yallig'lanish javobi, TGF- β 1 bilan bog'liq fibrogenez va COL1A1 orqali kollagen sintezining faollashuvi jigar fibrozining asosiy immunogenetik bo'g'inlari sifatida qaraladi. Mazkur markerlarni klinik, laborator va elastografik ko'rsatkichlar bilan integratsiyalash surunkali hepatitlarda fibrozlanish xavfini erta baholash va individual prognozlash tizimini ishlab chiqish uchun muhim ilmiy-amaliy asos yaratadi.

Foydalanilgan adabiyotlar

1. World Health Organization. Global hepatitis report 2024: action for access in low- and middle-income countries. – Geneva: WHO, 2024. ISBN: 978-92-4-009167-2.
2. European Association for the Study of the Liver. EASL Clinical Practice Guidelines on non-invasive tests for evaluation of liver disease severity and

- prognosis – 2021 update // *Journal of Hepatology*. – 2021. – Vol. 75, №3. – P. 659–689. DOI: 10.1016/j.jhep.2021.05.025.
3. Paquissi F.C.F. Immunity and Fibrogenesis: The Role of Th17/IL-17 Axis in HBV and HCV-induced Chronic Hepatitis and Progression to Cirrhosis // *Frontiers in Immunology*. – 2017. – Vol. 8. – Article 1195. DOI: 10.3389/fimmu.2017.01195.
 4. Gheshlaghi A., va hammualliflar. IL-17 Genetic Variations Increase the Risk of Cirrhotic/Hepatocellular Carcinoma in Patients with Hepatitis B Virus Infection // *Iranian Journal of Immunology*. – 2021. – Vol. 18, №2. – P. 130–140. DOI: 10.22034/iji.2021.88020.1852.
 5. Xiao S., Zhou L., Li J., Pan X., Huang X., Liu Y., Wen S.W., Liu A. Gene polymorphisms of inflammatory factors in liver cirrhosis // *Frontiers in Genetics*. – 2023. – Vol. 14. – Article 1140427. DOI: 10.3389/fgene.2023.1140427.
 6. Zhao Y.P., Wang H., Fang M., Ji Q., Yang Z.X., Gao C.F. Study of the association between polymorphisms of the COL1A1 gene and HBV-related liver cirrhosis in Chinese patients // *Digestive Diseases and Sciences*. – 2009. – Vol. 54, №2. – P. 369–376. DOI: 10.1007/s10620-008-0340-9.
 7. Vujovic A., Isakovic A.M., Misirlic-Dencic S., Juloski J., Mirkovic M., Cirkovic A., Djelic M., Milošević I. IL-23/IL-17 Axis in Chronic Hepatitis C and Non-Alcoholic Steatohepatitis—New Insight into Immunohepatotoxicity of Different Chronic Liver Diseases // *International Journal of Molecular Sciences*. – 2023. – Vol. 24, №15. – Article 12483. DOI: 10.3390/ijms241512483.

IMPROVING COMPETITIVENESS OF RETAIL ENTERPRISES THROUGH PRICING POLICY OPTIMIZATION

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Abstract: This thesis examines the current issues of improving competitiveness of retail enterprises through pricing policy optimization. The importance of strategic pricing approaches in the regional retail market is analyzed and practical recommendations are developed based on international experience.

Keywords: pricing policy, retail competitiveness, pricing strategy, dynamic pricing, price optimization, competitive pricing, profit margin, consumer behavior.

Аннотация: В данном тезисе рассматриваются актуальные вопросы повышения конкурентоспособности предприятий розничной торговли путём оптимизации ценовой политики. Проанализировано значение стратегических подходов к ценообразованию на региональном рынке розничной торговли и разработаны практические рекомендации на основе зарубежного опыта.

Annotatsiya: Ushbu tezisdagi chakana savdo korxonalarining raqobatbardoshligini narx siyosatini takomillashtirish orqali oshirishning dolzarb masalalari ko'rib chiqilgan. Mintaqaviy chakana savdo bozorida strategik narxlash yondashuvlarining ahamiyati tahlil qilingan va xorij tajribasi asosida amaliy tavsiyalar ishlab chiqilgan.

Ключевые слова: ценовая политика, конкурентоспособность розничной торговли, стратегия ценообразования, динамическое ценообразование, оптимизация цен, конкурентное ценообразование, маржа прибыли, поведение потребителей.

Kalit so'zlar: narx siyosati, chakana savdo raqobatbardoshligi, narxlash strategiyasi, dinamik narxlash, narxni optimallashtirish, raqobatbardosh narxlash, foyda margini, iste'molchi xulq-atvori.

In the modern market economy, pricing policy serves as one of the most powerful tools for ensuring retail enterprise competitiveness. Within the framework of the "Uzbekistan — 2030" strategy, developing competitive trade infrastructure and protecting consumer interests have become priority directions of state policy. In 2024, retail trade turnover in Uzbekistan reached 187.4 trillion UZS, with intensifying competition between modern retail formats and traditional trade channels. Research indicates that pricing decisions directly influence 78% of consumer purchase decisions, and a 1% improvement in pricing effectiveness can increase operating profits by 8-11%. However, many regional retail enterprises continue to rely on cost-plus pricing methods without considering competitive dynamics, consumer psychology, or demand elasticity. This approach significantly limits their competitiveness and profitability, requiring systematic transformation of pricing policy management [1].

When analyzing the current state of pricing practices, significant differences between sophisticated retail chains and traditional regional enterprises become evident. Large retail networks such as Korzinka, Makro, and Havas employ dedicated pricing teams, utilize analytical software, and implement dynamic pricing strategies. In contrast, survey data reveals that 67% of regional retail enterprises in Khorezm, Karakalpakstan, and Surkhandarya regions determine prices primarily through cost-plus methods, 54% lack systematic competitor price monitoring, and only 12% adjust prices based on demand fluctuations. This gap in pricing sophistication results in either excessive margins driving customers to competitors or insufficient margins eroding profitability. Developing strategic pricing capabilities is essential for regional retail competitiveness [2].

The first important direction of pricing policy optimization is implementing value-based pricing strategies. Value-based pricing sets prices according to perceived customer value rather than solely on costs or competitor prices. This approach requires understanding what customers truly value: product quality, convenience, service, brand reputation, or unique features. Research demonstrates that retailers successfully implementing value-based pricing achieve 15-25% higher profit margins compared to cost-plus pricing approaches. Key implementation steps include conducting customer research to understand value drivers, segmenting customers by willingness to pay, communicating value effectively through marketing, and differentiating offerings to justify premium positioning. For regional retail enterprises, identifying local value preferences and tailoring assortments accordingly creates sustainable competitive advantages [3].

The second important direction involves adopting competitive pricing intelligence and monitoring systems. In highly competitive retail markets, understanding competitor pricing is essential for strategic positioning. Modern competitive intelligence encompasses systematic price monitoring across competitor stores and websites, analysis of competitor promotional patterns and timing, identification of price-sensitive product categories, and benchmarking against market price indices. Technology solutions ranging from manual price surveys to automated web scraping tools enable continuous monitoring. Research shows that retailers with structured competitive intelligence programs achieve 8-12% better price positioning and respond to competitive threats 3-4 times faster. For regional retailers, establishing weekly competitor price checks on key value items and adjusting positioning accordingly represents an accessible starting point [4].

The third direction focuses on implementing psychological pricing techniques and promotional optimization. Consumer price perception often diverges from objective

price levels, creating opportunities for psychological pricing approaches. Effective techniques include charm pricing (ending prices in 9 or 99), price anchoring (displaying original prices alongside discounts), bundle pricing (combining products at perceived value), and tiered pricing (good-better-best options). Additionally, promotional effectiveness varies significantly: research indicates that 20-30% of retail promotions generate negative ROI due to poor design or cannibalization. Optimizing promotional calendars, targeting promotions to price-sensitive segments, and measuring incremental lift versus baseline sales improves promotional profitability. For regional retail enterprises, training staff in psychological pricing principles and systematically evaluating promotion outcomes enhances pricing effectiveness [5].

The fourth direction involves developing dynamic pricing capabilities adapted to demand patterns. Dynamic pricing adjusts prices in real-time based on demand, inventory levels, time factors, and competitive conditions. While sophisticated algorithmic pricing remains primarily the domain of e-commerce and large chains, regional retailers can implement simplified dynamic approaches: time-based markdowns for perishable goods, seasonal pricing adjustments, demand-responsive pricing during peak periods, and clearance optimization for slow-moving inventory. Research demonstrates that effective markdown optimization alone can improve gross margins by 2-4 percentage points. Technology requirements range from basic spreadsheet models to integrated point-of-sale systems with pricing modules. For Khorezm region retailers, implementing systematic markdown policies for fresh produce and seasonal merchandise represents high-impact, accessible improvement.

Improving competitiveness of retail enterprises through pricing policy optimization requires a comprehensive and systematic approach. Implementing value-based pricing strategies, adopting competitive intelligence systems, utilizing psychological pricing techniques, and developing dynamic pricing capabilities are

interconnected priority directions that should be implemented progressively based on enterprise capabilities. Consistent implementation of these measures will not only increase retail enterprise profitability and competitiveness but also improve market efficiency, benefit consumers through better price-value alignment, and strengthen the regional economy. In an era of increasing competition and price transparency, pricing excellence has evolved from a tactical function to a strategic imperative. Regional retail enterprises that invest in pricing capabilities will achieve sustainable competitive advantages, while those relying solely on traditional cost-plus approaches will face growing margin pressures and market share erosion.

References:

1. O'zbekiston Respublikasi Prezidentining "O'zbekiston — 2030" strategiyasi, 2023.
2. Nagle T.T., Müller G. The Strategy and Tactics of Pricing: A Guide to Growing More Profitably. 6th Edition. Routledge, 2018.
3. State Statistics Committee. Retail Trade and Price Statistics. Tashkent, 2024.
4. Simon H., Fassnacht M. Price Management: Strategy, Analysis, Decision, Implementation. Springer, 2019.
5. Kopalle P.K., Kannan P.K. Dynamic Pricing on the Internet: Importance and Implications for Consumer Behavior // International Journal of Electronic Commerce. 2001. Vol. 5(3). P. 63-83.

DEVELOPMENT OF TRAINEES' COGNITIVE COMPETENCIES IN THE PROFESSIONAL DEVELOPMENT SYSTEM

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Abstract

This article focuses on the development of cognitive competence among trainees. It examines the concept of competence, presents the views and opinions of Uzbek and Russian pedagogues on this issue, and provides conclusions and recommendations regarding the pedagogical approaches that should be applied in the teaching process to develop this competence.

Keywords

competence, cognition, competency, interactive learning, problem-based learning, critical thinking, metacognitive approach, metaphors, and analogies.

In the system of professional development, the enhancement of trainees' cognitive competencies is a continuous process aimed at developing their critical and analytical thinking skills, independent acquisition of new knowledge, and creative problem-solving abilities.

The most effective approaches for developing this competence in professional development courses are implemented through the following pedagogical strategies:

- **Use of reflective technologies:** These enable trainees to analyze their own learning activities, engage in self-assessment, and develop metacognitive skills (i.e., awareness of how they learn). [1]

- **Problem-based learning (PBL):** Through the analysis of real-life situations and case studies in classroom activities, trainees strengthen their abilities to draw logical conclusions and make innovative decisions. [1, 2]

- **Differentiated approach and modular learning:** Creating individualized learning trajectories tailored to the personal and professional needs of trainees enhances cognitive engagement and learning effectiveness. [1, 2]

- **Encouraging critical thinking:** This involves tasks that require the evaluation of information flow, identification of inaccurate data, and the application of creative approaches to current problems. [1]

In order to further accelerate these processes in professional development centers in Uzbekistan, modern digital technologies and pedagogical innovations are being widely implemented. [1]

Three-Stage Algorithm of Cognitive Competence

First stage (basic level) – the information acquisition stage, during which information is memorized, stored, and transferred from short-term to long-term memory. This stage involves the initial mental processing of source information.

Second stage (intermediate level) – the processing of information through logical operations and conceptual systems (such as symbols, tables, and other representational tools). At this stage, information is transformed and evaluated.

Third stage (advanced level) – the transformation and evaluation of information at the level of creative thinking. This stage includes the search for and selection of hypotheses and possible assumptions, as well as their practical implementation using various tools of activity.

Objective: The development of cognitive competence among trainees contributes to their learning and cognitive activities, as well as to ensuring their personal development. Education, which is regarded as a valuable form of human capital, plays

a key role in improving the effectiveness of education starting from the lower stages, introducing enhanced mechanisms, and preparing learners for future communicative activities in their social lives as a result of quality education. This is considered one of the main tasks of the teaching and learning process in general secondary education schools.

In the context of increasing research aimed at organizing processes that effectively prepare learners for social life through the formation of practical experience and various competencies in general secondary education, the development of communicative competence among learners also remains highly relevant.

Materials and Methods: In order to develop trainees' cognitive competence, several effective approaches and methods can be applied in classroom instruction. These approaches help to enhance trainees' cognitive skills such as thinking ability, analysis, creativity, and problem-solving. The following approaches may be particularly effective in achieving this goal:

- interactive teaching methods;
- problem-based learning (PBL);
- development of critical thinking;
- metacognitive approach;
- use of interactive technologies;
- creative and practical activities;
- peer assessment and feedback;
- repetition and reinforcement;
- use of metaphors and analogies.

Discussion and Results: Learners are divided into small groups to discuss specific problems or develop solutions collaboratively. This method fosters the development of critical thinking and collaborative problem-solving skills among trainees. Allowing

trainees to take on different roles enhances their creativity and their ability to view situations from multiple perspectives.

In addition, presenting real-life problems to trainees and guiding them toward solving these issues contributes to the development of their research and analytical skills. For example, analyzing pedagogical, social, or global problems and attempting to propose viable solutions helps strengthen their cognitive engagement and practical reasoning abilities.

Conclusion: The development of cognitive competence enables trainees to effectively apply their knowledge, solve problems, and think independently. This not only ensures their academic success but also contributes to their achievements in real-life situations. Modern teaching methods play an important role in developing trainees' cognitive competence, as these approaches strengthen their thinking and analytical abilities.

Cognitive competence is also closely related to learners' intrinsic motivation. If a trainee has a high level of self-efficacy and confidence in their abilities, they are more likely to engage in further learning. The cognitive development of each trainee is individual in nature; therefore, it is essential for teachers to organize the learning process by taking into account the individual needs of trainees.

Literature and Internet Resources Used

1. "Raqqamli O'zbekiston-2010" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risida. O'zR Prezidentining Farmoni PF-6079. 05.10.2020 y.
2. M.P.Masharipov "Sun'iy intellekt va ta'lim": T-2024 yil Metodik qo'llanma/152 bet.
3. S.S.Jumanazarov "Raqqamli ta'lim transformatsiyasi". T.: 2021 yil

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