

INTERNATIONAL SCIENTIFIC
ONLINE CONFERENCE



Global Conference Hub



INTERNATIONAL CONFERENCE ON MODERN RESEARCH AND SCIENTIFIC INNOVATION

INDIA

<http://globalconferencehub.org>



INTERNATIONAL CONFERENCE ON MODERN RESEARCH AND SCIENTIFIC INNOVATION VOLUME-1, ISSUE-4, 2026

INTERNATIONAL CONFERENCE ON MODERN RESEARCH AND SCIENTIFIC INNOVATION: a collection scientific works of the International scientific conference (April, 2026) – India: 2026. Volume-01, Issue 04, 2026

Languages of publication: English, Russian, and Uzbek

This collection includes research papers presented by scientists, graduate students, and students at the International Scientific Online Conference “**INTERNATIONAL CONFERENCE ON MODERN RESEARCH AND SCIENTIFIC INNOVATION**” held in India on April, 2026.

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

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

Quantumqill Research Press PVT LTD, 2026



A LINGUOCULTUROLOGICAL STUDY OF THE CONCEPT OF COMMUNICATION IN ENGLISH AND UZBEK LANGUAGES

Abdujabborova Shoxista Adiljanovna

PhD teacher, Andijan state institute of foreign languages, Uzbekistan

Abstract. This article provides a comprehensive linguoculturological analysis of the concept of communication in English and Uzbek languages. It examines the interrelation between language and culture through communicative behavior, speech strategies, and national mentality. The findings reveal that English communication is characterized by individualism, directness, and clarity, whereas Uzbek communication is shaped by collectivism, respect, and indirect expression.

Keywords: *linguoculturology, concept of communication, communicative strategies, culture, speech etiquette, individualism, collectivism*

In contemporary linguistics, the increasing impact of globalization has significantly enhanced the importance of intercultural communication, positioning it as a central object of scholarly investigation. Communication is no longer viewed merely as a process of information exchange through linguistic means; rather, it is understood as a complex socio-cultural phenomenon shaped by cultural norms, values, and behavioral conventions. Therefore, effective communication requires not only linguistic competence but also intercultural competence, which includes an awareness of culturally specific communicative patterns.

Within this context, linguoculturology emerges as a vital interdisciplinary field that integrates insights from linguistics, cultural studies, anthropology, and cognitive science. It investigates how language serves as a repository and transmitter of cultural knowledge. Linguoculturology pays particular attention to culturally marked lexical units, phraseological expressions, and discourse patterns that embody national worldviews and value systems.

The concept of communication, from a linguoculturological perspective, can be defined as a culturally determined system of verbal and non-verbal behaviors that regulate interaction among members of a speech community. This system encompasses norms of politeness, speech etiquette, turn-taking strategies, indirectness or directness in expression, as well as culturally specific communicative intentions and expectations.

A comparative analysis of English and Uzbek communicative cultures reveals both universal and culture-specific features. For instance, English communication tends to emphasize individualism, clarity, and explicitness, often favoring direct expression of opinions. In contrast, Uzbek communication reflects collectivist values, where politeness, respect for hierarchy, and indirectness play a crucial role in maintaining social harmony. Such differences are manifested in address forms, speech etiquette formulas, and pragmatic strategies used in everyday interaction.

The comparative linguoculturological study of the concept of communication in English and Uzbek languages contributes to a deeper understanding of how language encodes cultural meanings and how these meanings influence communicative behavior. This, in turn, has practical implications for language teaching, translation studies, and intercultural communication competence development.

Linguoculturology is recognized as an essential interdisciplinary domain that investigates the dynamic relationship between language and culture. It seeks to uncover how linguistic units function not only as tools of communication but also as carriers of cultural information. Through this perspective, language is viewed as a semiotic system that encodes collective experience, social values, and culturally specific ways of perceiving reality.

As noted by Vera Maslova, language performs a dual function: it acts both as a repository and as a transmitter of culture. This means that language preserves cultural knowledge accumulated over generations while simultaneously passing it on to new

members of the speech community. Each linguistic system reflects a unique combination of historical development, national mentality, and social norms, which are embedded in lexical choices, phraseology, and discourse patterns.

A key theoretical notion within linguoculturology is the concept. In cognitive and cultural linguistics, a concept is understood as a complex mental formation that integrates knowledge, emotions, associations, and culturally marked meanings. Concepts serve as fundamental units of the cultural worldview and play a crucial role in structuring human cognition and communication. They are not universal in their content; rather, they are shaped by the cultural environment in which they develop.

The concept of communication, in particular, represents a multifaceted system that encompasses several interrelated components. Firstly, speech strategies refer to the methods and techniques individuals employ to achieve communicative goals, such as persuasion, politeness, or conflict avoidance. Secondly, communicative intentions reflect the speaker's purpose, including informing, requesting, or expressing emotions. Thirdly, social norms regulate appropriate behavior in communication, determining what is considered acceptable or inappropriate within a given culture. Finally, cultural stereotypes influence expectations and interpretations in interaction, shaping how messages are produced and understood.

Taken together, these components demonstrate that communication is not merely a linguistic process but a culturally conditioned phenomenon. Therefore, its analysis within a linguoculturological framework allows for a deeper understanding of how language and culture interact to shape human interaction.

A comparative linguoculturological analysis of English and Uzbek communication reveals both fundamental differences and certain universal features. These differences are primarily обусловлены (determined by) contrasting cultural values, namely individualism in English-speaking societies and collectivism in Uzbek culture.

1.1. Directness vs. Indirectness. One of the most salient distinctions lies in the degree of directness. English communication typically favors explicit and direct expression, where clarity is prioritized over contextual subtlety. Speakers openly express agreement or disagreement without significant mitigation.

In contrast, Uzbek communication tends to be more indirect. Speakers often avoid direct negation or criticism in order to maintain social harmony and show respect. For example, instead of directly saying “*This is wrong,*” an Uzbek speaker might use softer expressions such as “*Balki boshqacha bo‘lishi mumkin*” (Perhaps it could be different).

1.2. Individualism vs. Collectivism. English communicative behavior reflects an individualistic worldview, where personal opinions and self-expression are highly valued. Speakers are encouraged to assert their viewpoints clearly and confidently. On the other hand, Uzbek communication is deeply rooted in collectivist values. Respect for group harmony, social hierarchy, and interpersonal relationships often takes precedence over individual expression. As a result, speakers may suppress personal opinions or express them in a more cautious and indirect manner.

1.3. Politeness Strategies. Politeness in English is frequently realized through grammatical means, such as modal verbs (*could, would, might*) and indirect question forms. This reflects respect for the interlocutor’s autonomy and personal space.

In Uzbek, politeness is more closely connected with social hierarchy, age, and status. Honorifics, respectful forms of address, and culturally specific etiquette expressions (e.g., *iltimos, rahmat, marhamat*) play a central role. Additionally, tone, intonation, and non-verbal cues are crucial in conveying respect.

1.4. Communicative Style and Structure. English communication is typically linear, logical, and goal-oriented. Speakers tend to present ideas in a structured and concise manner, especially in formal contexts. Uzbek communication, by contrast, may be more context-dependent and less linear. It often includes background information, indirect

hints, and culturally embedded references. The process of communication may prioritize relationship-building over efficiency.

1.5. Cultural Stereotypes and Expectations

Cultural stereotypes also influence communicative expectations. English speakers may perceive indirectness as ambiguity or lack of confidence, whereas Uzbek speakers may interpret excessive directness as rudeness or disrespect.

These differing expectations can lead to misunderstandings in intercultural communication. Therefore, awareness of such linguocultural distinctions is essential for successful interaction between representatives of these cultures.

In conclusion, the linguoculturological analysis of the concept of communication in English and Uzbek languages demonstrates that communication is a culturally embedded phenomenon shaped by specific social values, norms, and worldviews. Language not only functions as a tool for transmitting information but also reflects the cultural identity and collective experience of its speakers.

The comparative study reveals that English communication is characterized by directness, clarity, individual expression, and efficiency, which are rooted in Western individualistic culture. In contrast, Uzbek communication emphasizes indirectness, politeness, respect for social hierarchy, and the maintenance of interpersonal harmony, reflecting its collectivist cultural orientation.

These differences are evident in speech strategies, communicative intentions, politeness mechanisms, and the role of cultural stereotypes in shaping interaction. At the same time, both linguistic cultures share universal communicative goals, such as achieving mutual understanding and maintaining effective social interaction.

Understanding these linguocultural distinctions is essential for successful intercultural communication. It enables speakers to interpret messages more accurately, avoid pragmatic misunderstandings, and adapt their communicative behavior according to

cultural expectations. Furthermore, the findings of this study have practical significance for foreign language teaching, translation studies, and the development of intercultural communicative competence.

Thus, the concept of communication serves as a valuable framework for exploring the intricate relationship between language and culture, highlighting the importance of integrating cultural awareness into linguistic analysis.

References:

1. Абдуазизов А.А. Тилшунослик назариясига кириш. – Тошкент: Шарқ, 2010. – 320 б.
2. Маслова В.А. Лингвокультурология. – М.: Академия, 2001. – 208 с.
3. Махмудов Н. Ўзбек тили ва нутқ маданияти. – Тошкент: Ўқитувчи, 2013. – 240б.
4. Нурмонов А. Лингвокультурология асослари. – Тошкент: Фан, 2012. – 280 б.
5. Рахматуллаев Ш. Ҳозирги ўзбек адабий тили. – Тошкент: Университет, 2006. – 476 б.
6. Hofstede G. Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations. – Thousand Oaks: Sage, 2001. – 596 p.
7. Halliday M.A.K. Language as Social Semiotic. – London: Edward Arnold, 1978. – 256 p.
8. Lakoff G. Women, Fire, and Dangerous Things. – Chicago: University of Chicago Press, 1987. – 614 p.
9. Sapir E. Language: An Introduction to the Study of Speech. – New York: Harcourt, Brace & Company, 1921. – 251 p.
10. Whorf B.L. Language, Thought, and Reality: Selected Writings. – Cambridge, MA: MIT Press, 1956. – 278 p.
11. Wierzbicka A. Cross-Cultural Pragmatics: The Semantics of Human Interaction. – Berlin: Mouton de Gruyter, 1991. – 502 p.

Physiological and hygienic factors in maintaining the health of schoolchildren in the educational environment

Muxtoralieva Jasmina

Student at ASIFL, faculty of English Philology, Teaching Methodology and Translation Studies

Maxmudjonova Zuxra

Student at ASIFL, faculty of English Philology, Teaching Methodology and Translation Studies

Abstract. This article examines the physiological and hygienic factors influencing the preservation of schoolchildren's health in the educational environment. Special attention is given to the analysis of learning conditions, daily routine, level of physical activity, and sanitary-hygienic requirements for the organization of the educational process. The impact of adverse factors such as fatigue, physical inactivity, poor posture, and visual impairment on students' overall health is discussed. The necessity of a comprehensive approach to creating a health-preserving educational environment is substantiated, including the rational organization of learning activities, compliance with hygiene standards, and the development of healthy lifestyle habits among students. The article concludes that effective cooperation between teachers, parents, and healthcare professionals plays a key role in maintaining and strengthening children's health.

Key words: schoolchildren, health-preserving technologies, physiological -hygienic factors, physical inactivity, educational environment, research.

Физиолого-гигиенические факторы сохранения здоровья школьников в образовательной среде

Аннотация. В этой статье рассматриваются физиолого-гигиенические факторы, влияющие на сохранение здоровья школьников в образовательной среде. Особое внимание уделяется анализу условий обучения, режима дня, уровня двигательной

активности, а также санитарно-гигиенических требований к организации учебного процесса. Раскрывается влияние неблагоприятных факторов, таких как переутомление, нарушение функций сердечно-сосудистой, дыхательной и опорно-двигательной системы, нарушение осанки и зрительной функции, на общее состояние здоровья учащихся. Обосновывается необходимость комплексного подхода к созданию здоровьесберегающей образовательной среды, включающего рациональную организацию учебной деятельности, соблюдение гигиенических норм и формирование у школьников навыков здорового образа жизни. Сделан вывод о важности системного взаимодействия педагогов, родителей и медицинских работников в обеспечении сохранения и укрепления здоровья детей.

Ключевые слова: школьники, здоровьесберегающие технологии, физиолого-гигиенические факторы, образовательная среда, гиподинамия, исследование.

ВВЕДЕНИЕ

В современных условиях модернизации системы образования проблема сохранения и укрепления здоровья школьников приобретает особую актуальность. Интенсификация учебного процесса, увеличение объёма учебной нагрузки, широкое использование цифровых технологий и снижение уровня двигательной активности оказывают существенное влияние на функциональное состояние организма учащихся. В результате возрастает риск развития переутомления, нарушений осанки, ухудшения зрения и других отклонений в состоянии здоровья. Образовательная среда выступает одним из ключевых факторов, определяющих уровень физического и психоэмоционального благополучия школьников. Несоблюдение физиолого-гигиенических требований к организации учебного процесса может привести к негативным последствиям для здоровья детей. В этой связи особую значимость приобретает изучение факторов,

способствующих сохранению здоровья учащихся, а также разработка эффективных подходов к формированию здоровьесберегающей образовательной среды. Целью данной статьи является анализ физиолого-гигиенических факторов, влияющих на состояние здоровья школьников, и обоснование необходимости комплексного подхода к их учёту в условиях образовательного процесса.

МАТЕРИАЛЫ И МЕТОДЫ

Исследование проводилось на базе общеобразовательной школы с участием учащихся среднего звена в возрасте 12–15 лет. В исследовании приняли участие 60 школьников. В ходе работы были использованы теоретические и эмпирические методы исследования. Теоретические методы включали анализ научной литературы, нормативных документов и санитарно-гигиенических требований, регламентирующих условия обучения школьников. Эмпирическая часть исследования включала наблюдение за организацией учебного процесса, оценку режима дня учащихся, а также анализ условий образовательной среды (уровень освещённости, температурный режим, соответствие школьной мебели ростовым показателям учащихся). Дополнительно было проведено анкетирование школьников с целью выявления уровня их физической активности, частоты утомляемости и соблюдения гигиенических норм. Обработка полученных данных осуществлялась с использованием методов описательной статистики и качественного анализа, что позволило выявить основные физиолого-гигиенические факторы, влияющие на состояние здоровья школьников, и определить направления их оптимизации в образовательной среде.

По данным Института возрастной физиологии РАО, около 90 % детей имеют отклонения в физическом и психическом здоровье, половина школьников страдает теми или иными невротическими синдромами, 30-35 % детей, поступающих в школу, уже имеют хронические заболевания, 30 % учащихся

имеют нарушения сердечно-сосудистой и дыхательной систем (Л.Ф. Бережков, 2001). У 50 % -отмечаются отклонения в развитии опорно-двигательного аппарата (В. Р .Кучма, В. Н. Сарнадский , Н.В. Стихии, 2001), 70 % - страдают от гиподинамии (Ю.Е. Вельтищев, 1997; А.В. Сорокина, Н.Щ. Беляшина, 2001, Ман Ф., 1990). Среди неуспевающих школьников более чем у 64 % имеются хронические заболевания, а у 28 % детей - различные функциональные расстройства (Г.Н. Сердюковская, 1993). До 80 % учащихся подвергаются в условиях современной школы неоправданному стрессу, что в еще большей степени способствует раннему формированию хронической патологии и ее прогрессированию. Внедрение без должного педагогического и медицинского обоснования новых форм и методов обучения детей, как правило, приводит к неадекватному увеличению нагрузок на детей, их быстрому утомлению, переутомлению и развитию предпатологических и патологических состояний.

РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЯ

В ходе проведённого исследования было установлено, что значительная часть школьников сталкивается с неблагоприятными условиями образовательной среды и нарушениями режима дня. По результатам анкетирования, около 65% учащихся отмечают регулярное чувство утомления к концу учебного дня, что свидетельствует о высокой учебной нагрузке и недостаточной организации отдыха. Анализ уровня двигательной активности показал, что более 50% школьников ведут малоподвижный образ жизни, ограничиваясь только уроками физической культуры. Это подтверждает наличие тенденции к гиподинамии, которая является одним из факторов риска для здоровья детей. В процессе наблюдения за учебной деятельностью было выявлено, что в ряде случаев не соблюдаются гигиенические требования: недостаточный уровень освещённости в классах, несоответствие мебели ростовым показателям учащихся, а также

нерегулярное проветривание помещений. Указанные факторы способствуют развитию нарушений осанки и ухудшению зрения. Кроме того, значительная часть учащихся (около 40%) испытывает психоэмоциональное напряжение, связанное с учебной нагрузкой и стрессовыми ситуациями в образовательной среде.

Полученные результаты подтверждают, что физиолого-гигиенические факторы оказывают комплексное влияние на состояние здоровья школьников. Несоблюдение данных требований приводит к снижению работоспособности, ухудшению физического и психоэмоционального состояния учащихся. В связи с этим возникает необходимость внедрения здоровьесберегающих технологий, оптимизации учебной нагрузки, повышения уровня физической активности школьников и строгого соблюдения санитарно-гигиенических норм. Только комплексный подход позволит создать благоприятную образовательную среду, способствующую сохранению и укреплению здоровья учащихся.

ВЫВОДЫ

В результате проведённого исследования установлено, что физиолого-гигиенические факторы играют ключевую роль в сохранении и укреплении здоровья школьников в образовательной среде. Выявлено, что несоблюдение режима дня, недостаточный уровень двигательной активности, а также несоответствие санитарно-гигиенических условий требованиям оказывают негативное влияние на функциональное состояние организма учащихся. Доказано, что наиболее значимыми факторами, влияющими на здоровье школьников, являются рациональная организация учебного процесса, достаточная физическая активность, соблюдение гигиенических норм и благоприятный психоэмоциональный климат.

Установлено, что для эффективного сохранения здоровья учащихся необходим комплексный подход, включающий внедрение современных технологий, оптимизацию учебной нагрузки, улучшение условий образовательной среды и формирование у школьников навыков здорового образа жизни. Таким образом, создание благоприятной образовательной среды и системное взаимодействие педагогов, родителей и медицинских работников являются основными условиями сохранения и укрепления здоровья школьников.

СПИСОК ИСПОЛЬЗОВАННОЙ ЛИТЕРАТУРЫ

1. Гусев, С.В. Гигиена и охрана здоровья детей и подростков. – М.: Медицина, 2018. – 256 с.
2. Иванова, Л.Н., Петров, А.В. Физиологические основы здоровьесберегающей образовательной среды. – СПб.: Питер, 2020. – 192 с.
3. Санитарные правила и нормы (СанПиН 2.4.2.2821-10). «Санитарно-эпидемиологические требования к условиям обучения в образовательных учреждениях». – М.: Роспотребнадзор, 2010.
4. Аветисян Л.Р. Изучение влияния повышенной учебной нагрузки на состояние здоровья учащихся / Аветисян Л.Р., Кочарова С.Г. // Гигиена и санитария. 2001. - №6. - С.48-49.
5. Кузнецова, М.А. Здоровьесберегающие технологии в школьном образовании. – М.: Просвещение, 2019. – 148 с.
6. Никитина, Е.В. Психоэмоциональное состояние школьников и его влияние на здоровье. // Вестник педагогических наук. – 2021. – №5. – С. 45-53.
7. Всемирная организация здравоохранения. Здоровье детей и подростков в школах: Руководство для образовательных учреждений. – Женева: WHO, 2019.
8. Сидорова, Т.П. Физическая активность и здоровье школьников. – М.: Академия, 2017. – 132 с.
9. Мартынова, Н.А. Эффективные методы профилактики утомляемости и нарушений осанки у детей школьного возраста. // Современная школа. – 2020. – №8. – С. 12-19.
10. Баранова, И.В. Гигиена школьного возраста: учебное пособие. – М.: Флинта, 2018. – 176 с.

Linguistic and Stylistic Features of Idiomatic Expressions in the Works of Shukur Xolmirzayev

Termiz State University, 2nd-year student

Choriyev Nurbek Jumanazar o'g'li

Annotation: This article explores the linguistic and stylistic features of idiomatic expressions characteristic of the works of Shukur Xolmirzayev, and also discusses the role and significance of phraseological units in the writer's works. The main goal of this study is to convey the essence of this masterpiece to readers and make a small contribution to the field of literary studies.

Keywords: phrase, emotional-expressive, linguistic and artistic features, lively speech, character of the hero, semantics, individual style, national flavor, imagery.

Shukur Xolmirzayev asarlarida iboralarning lingvistik va badiiy xususiyatlari

Termiz davlat universiteti 2-kurs talabasi

Choriyev Nurbek Jumanazar o'g'li

Annotatsiya: Ushbu maqolada Shukur Xolmirzayev ijodiga xos iboralarning lingvistik va badiiy xususiyatlari ochib berilgan, shuningdek, frazeologizmlarning yozuvchi ijodidagi o'rni va ahamiyati haqida so'z yuritildi. Mazkur tadqiqotning bosh maqsadi ushbu durdona asarning asosini o'quvchilarga yetkazish hamda adabiyotshunoslik sohasiga oz bo'lsa-da hissa qo'shishdir.

Kalit so'zlar: ibora, emotsional-ekspressiv, lingvistik va badiiy xususiyatlar, jonli so'zlashuv, qahramon xarakteri, semantika, individual uslub, milliy kolorit, obrazlilik.

Аннотация: В статье раскрываются лингвистические и художественные особенности фразеологизмов, характерных для творчества Шукура Холмирзаева, а также рассматривается роль и значение фразеологизмов в творчестве писателя. Основная цель данного исследования — донести до читателей суть этого шедевра и внести хотя бы небольшой вклад в область литературоведения.

Ключевые слова: фраза, эмоционально-экспрессивные, лингвистические и художественные особенности, живая речь, характер персонажа, семантика, индивидуальный стиль, национальный колорит, образность.

Shukur Xolmirzayev asarlari o'zbek nasrida tilning tabiiyligi, xalqona ruh va obrazlilikni mujassam etgani bilan ajralib turadi. Uning ijodida iboralar (frazologizmlar) nafaqat nutqni bezash vositasi, balki qahramon xarakterini ochish, muhitni jonlantirish va badiiy ta'sir kuchini oshirishda muhim lingvistik va estetik funktsiyani bajaradi.

Iboralarning lingvistik xususiyatlari:

Birinchidan, yozuvchi asarlarida iboralar ko'pincha xalq tilidan, jonli so'zlashuv nutqidan olinadi. Bu esa matnning tabiiyligini oshiradi. Masalan, oddiy xalq orasida qo'llanadigan "ko'ngli tog'day ko'tarildi", "yuragi siqildi", "ko'ziga dunyo tor ko'rindi" kabi iboralar orqali qahramonning ichki kechinmalari aniq ifodalanadi. Tubanda iboralarning izohi va qay tarzda qo'llanilishidan misollar keltiramiz:

Achchig'i chiqmoq – ishining qattiq g'azablanishi, jahl qilishi yoki asabiylashishi holatini bildiradi. Iboraning asosiy ma'nolari:

1. G'azablanmoq: Biror narsa yoki voqeadan qattiq norozi bo'lish.
2. Jahli chiqmoq: Kayfiyati buzilib, o'zini tutolmay qolish.
3. Tutaqymoq: To'satdan va kuchli asabiylashish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 16-betdan)

Dili yorishmoq – ko'ngli ko'tarilmoq, kayfiyati yaxshilanmoq yoki ruhiy xotirjamlikka erishmoq ma'nolarini anglatadi.

1. Xursand bo'lish: g'am-anduhdan keyin ko'ngli yorishib, xushnud holatga kelish.
2. Umid paydo bo'lishi: biror mushkul vaziyatda yechim topilganda yoki yaxshi xabar eshitilganda paydo bo'ladigan ichki yengillik.

3. Bahramand bo‘lish: Chiroyli manzara, yoqimli suhbat yoki san’at asaridan zavqlanib, ruhiyati tetiklashish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 31-betdan)

Hafsalasi pir bo‘lmoq – o‘zbek tilida biror narsadan yoki kimsadan ko‘ngli qolish, umidi uzilish yoki qiziqishi so‘nishini anglatadi. Bu ibora odatda quyidagi holatlarda ishlatiladi:

1. Umidning uzilishi: Kutilgan natija bo‘lmaganda yoki ishonch oqlanmaganda.
2. Ishtiyoqning so‘nishi: Biror ishga bo‘lgan qiziqish yoki intilish yo‘qolganda.
3. Ko‘ngil qolishi: Biror kishining xatti-harakatidan ranjiganda yoki undan kutgan narsasini topolmaganda.

(Shukur Xolmirzayev. Saylanma. 1-jild. 3-betdan)

Ikkinchidan, iboralar semantik jihatdan boy va ko‘p qatlamli ma’noga ega. Ular ko‘pincha bevosita ma’nodan tashqari ko‘chma ma’noni ham ifodalaydi. Shu orqali yozuvchi qisqa ifoda bilan chuqur mazmunni berishga erishadi. Masalan:

Jon kirmoq – tetiklashish, jonlanish yoki biror narsaning qayta kuchga kirishini anglatadi. Bu ibora quyidagi holatlarda qo‘llanadi:

1. Tetiklashish va madorga kelish: Charchagan, kasal yoki holsizlangan odamning o‘ziga kelishi, quvvatga to‘lishi. (Masalan: “Bir piyola issiq choy ichib, tanasiga jon kirdi”).
2. Faollashish: Biror joyda yoki ishda harakatning kuchayishi, jonlanish paydo bo‘lishi. (Masalan: “Bahor kelishi bilan qishloqqa yana jon kirdi”).
3. Xursand bo‘lish: G‘amgin holatdan chiqib, kayfiyati ko‘tarilishi.

(Shukur Xolmirzayev. Saylanma. 1-jild. 3-betdan)

Junbishga kelmoq – kitobiy va badiiy uslubda ko‘proq ishlatilib, biror narsaning harakatga kelishi, tebranishi yoki kuchli hayajon holatiga tushishini anglatadi. Bu ibora quyidagi holatlarda qo‘llanadi:

1. Harakatga kelish: Sokin turgan narsaning kutilmaganda qimirlashi yoki jonlanishi. (Masalan: “Bahor nafasi bilan butun tabiat junbisha keldi”).

2. Kuchli hayajon: Inson ruhiyatidagi kuchli to‘lqinlanish, jo‘shqinlik yoki ehtiros. (Masalan: “Uning qalbi quvonchdan junbisha keldi”).

3. G‘alayon yoki qo‘zg‘olon: Katta bir guruhning yoki xalqning biror voqea sababli harakatga tushishi, oyoqqa turishi.

(Shukur Xolmirzayev. Saylanma. 1-jild. 71-bedan)

Ko‘zdan yo‘qolmoq – biror narsa yoki kimsaning ko‘rinmay qolishi, uzoqlashishi yoki g‘oyib bo‘lishini anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. G‘oyib bo‘lish: Biror narsaning kutilmaganda yoki asta-sekin ko‘rinish maydonidan chiqib ketishi.

2. Uzoqlashish: Biror kishi yoki ulovning uzoqqa ketib, ko‘zga tashlanmay qolishi.

3. Ketish (buyruq ma’nosida): Biror kishiga darhol ketishini, ko‘ziga ko‘rinmasligini qat’iy talab qilish (Masalan: “Ko‘zimdan yo‘qol!”).

(Shukur Xolmirzayev. Saylanma. 1-jild. 58-bet)

Uchinchidan, yozuvchi iboralardan individual uslub yaratishda foydalanadi. Ba’zan u mavjud iboralarni o‘zgartirib, yangi ohang beradi yoki kontekstga moslab yangicha ma’no yuklaydi. Bu esa uning til ustidagi mahoratini ko‘rsatadi. Misol uchun:

Ko‘ngli yumshamoq – insonning g‘azabi, qattiqqo‘lligi yoki xafagarchiligi pasayib, rahm-shafqat, mehr yoki kechirimlilik hissi uyg‘onishini anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Araz yoki g‘azabning ketishi: Biror kishidan xafa bo‘lib yurgan odamning unga nisbatan adovati so‘nib, kechirishga tayyor bo‘lishi.

2. Rahm-shafqat uyg‘onishi: Birovning chorasiz ahvolini, yig‘isini yoki uzrini ko‘rib, unga nisbatan ichki iliqlik va achinish his qilish.

3. Qattiqqo‘llikning yumshashi: Qat’iy turib olgan odamning yon berishi, ko‘nishi.
(Shukur Xolmirzayev. Saylanma. 1-jild. 58-betdan)

Mukka tushmoq – biror ishga butun borlig‘i bilan berilish, haddan tashqari ruju qo‘yish yoki biror narsaga qattiq berilib ketishni anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Haddan tashqari berilish: Biror mashg‘ulot yoki ishni boshqa narsalarni unutgan holda, tinimsiz bajarish.

2. Ruju qo‘yish: Biror zararli yoki foydali odatga (masalan, o‘yinga, kitobga yoki ishga) juda qattiq bog‘lanib qolish.

3. G‘ayrat ko‘rsatish: Bor kuchini va vaqtini faqat bitta maqsadga yo‘naltirish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 8-betdan)

Qo‘ygani joy topmaslik – kutilmagan katta xursandchilik, hayajon yoki kimgadir bo‘lgan cheksiz hurmat-ehtiromni ifodalash uchun ishlatiladi. Bu ibora asosan quyidagi ikki holatda qo‘llanadi:

1. Haddan tashqari shodlanish: Biror xushxabardan yoki yutuqdan boshi ko‘kka yetib, o‘zini qayerga qo‘yishni bilmay qolish. (Masalan: “Farzandli bo‘lganini eshitib, suyunganidan o‘zini qo‘ygani joy topolmay qoldi”).

2. Yuksak izzat-ikrom ko‘rsatish: Aziz mehmonni yoki qadrdon insonni shunchalik hurmat qilishki, unga eng yaxshi sharoitlarni yaratishga intilish. (Masalan: “Mezbonlar uzoqdan kelgan mehmonni qo‘ygani joy topishmasdi”).

Shukur Xolmirzayev. Saylanma. 1-jild. 48-bet.

Iboralarning badiiy xususiyatlari:

Badiiy jihatdan iboralar asarda obrazlilikni kuchaytiradi. Xolmirzayev qahramonlari ko‘pincha oddiy odamlar bo‘lgani uchun ularning nutqida ishlatilgan iboralar ularning ijtimoiy kelib chiqishi, dunyoqarashi va ruhiy holatini ochib beradi.

Ruhi tushmoq – insonning kayfiyati yomonlashishi, g‘ayrati so‘nishi yoki umidsizlikka tushib, irodasi bo‘shashishini anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Tushkunlikka tushish: Omadsizlik yoki noxush xabar tufayli ichki jo‘shqinlikning yo‘qolishi.
2. Umidsizlik: Biror ishning o‘xshamasligini sezib, unga bo‘lgan ishtiyoqning so‘nishi.
3. Ma‘naviy sinish: Qattiq tanqid yoki ruhiy zarba natijasida o‘ziga bo‘lgan ishonchni yo‘qotish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 85-betdan)

Ta‘bi tirriq bo‘lmoq – insonning kayfiyati juda yomonlashishi, asabiylashishi yoki biror narsadan qattiq ranjib, xunob bo‘lishini anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Kayfiyatning buzilishi: Kutilmagan noxush xabar yoki muammo sababli xushnudlikning yo‘qolishi.
2. Asabiylashish: Biror kimsaning gap-so‘zi yoki harakati tufayli jahl chiqishi va dildagi xotirjamlikning yo‘qolishi.
3. Ko‘ngil g‘ashligi: Ishlari o‘xshamasligi natijasida o‘zini noqulay va g‘amgin his qilish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 57-betdan)

Terisiga somon tiqmoq – kimgadir juda qattiq jazo berish, uni ayovsiz qiynash yoki qattiq adabini berishni anglatadi. Bu ibora tarixiy asosga ega bo‘lib, qadimda ba‘zi zolim hukmdorlar dushmanlarini qatl etib, terisini shilib, ichiga somon tiqtirib, xalqqa ibrat sifatida osib qo‘yishgan. Hozirgi kunda bu ibora majoziy ma’noda qo‘llanadi:

1. Qattiq jazolash: Biror aybi yoki xatosi uchun kishini ayovsiz jazolash.
2. Adabini berish: Kimnidir qattiq qo‘rqitish yoki unga unutilmas dars berish.

3. Tahdid qilish: “Seni shunday jazolaymanki, pushaymon bo‘lasan” ma’nosida do‘q-po‘pisa qilish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 5-betdan)

Yana bir muhim jihat — iboralar orqali milliy kolorit yaratiladi. Yozuvchi o‘zbek xalqining mentaliteti, urf-odati va hayot tarzini aynan shu til birliklari orqali jonli tasvirlaydi. Natijada o‘quvchi asarni o‘qir ekan, nafaqat voqeani, balki muhitni ham his qiladi. Shuningdek, iboralar emotsional-ekspressiv bo‘yoqni kuchaytiradi:

Chuv tushmoq – birovning aldoviga uchrash, laqillab qolish yoki biror ishda qattiq adashib, zarar ko‘rishni anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Aldanib qolish: Kimningdir yolg‘on gaplariga ishonib, boridan ayrilish yoki noqulay ahvolga tushish.

2. Lafzida turmaslik: Kelishilgan ishda ikkinchi tomon o‘z va’dasini bajarmay, birinchi tomonni qiyin ahvolda qoldirishi.

3. Zarar ko‘rish: Savdo-sotiq yoki bitimlarda kutilgan foyda o‘rniga katta yo‘qotishga uchrash.

(Shukur Xolmirzayev. Saylanma. 1-jild. 61-betdan)

Chuchvarani xom sanamoq – biror ishning natijasiga hali erishmasdan turib, xomxayollarga berilish yoki vaziyatni noto‘g‘ri baholashni anglatadi. Bu ibora asosan quyidagi holatlarda ishlatiladi:

1. Xomxayollarga berilish: Hali amalga oshmagan ishni bitdi deb hisoblab, undan keladigan foydani hisoblab yuborish.

2. Vaziyatni noto‘g‘ri baholash: To‘siqlarni hisobga olmay, hamma narsa oson ko‘chadi deb o‘ylash.

3. Shoshqaloqlik: Natija aniq bo‘lmasidan turib xulosa chiqarish.

(Shukur Xolmirzayev. Saylanma. 1-jild. 52-betdan)

Xulosa qilib aytganda, Shukur Xolmirzayev asarlarida iboralar lingvistik jihatdan boy, semantik jihatdan chuqur va badiiy jihatdan nihoyatda ta'sirchan vosita sifatida namoyon bo'ladi. Ular yozuvchi uslubining ajralmas qismi bo'lib, asarlarning xalqchilligi, hayotiyligi va estetik qimmatini oshiradi. Xolmirzayev iboralardan foydalanish orqali o'zbek tilining go'zalligini, imkoniyatlarining kengligini va badiiy ifoda kuchini yorqin namoyon etadi.

Foydalanilgan adabiyotlar ro'yxati:

1. Холмирзаев Шукур. Танланган асарлар: Ҳикоялар. –Т.: “Шарқ”2009.
2. Танланган асарлар: Ҳикоялар. –Т.: “Шарқ”2020.
3. То‘хта Boboyev. Adabiyotshunoslik asoslari. O‘zbekiston nashriyoti. Toshkent-2002.
4. Dilmurod Quronov. Adabiyotshunoslikka kirish . Abdulla Qodiriy nomidagi xalq merosi nashriyoti. Toshkent- 2004.

Theoretical Foundations for the Development of Active Organometallic Additives for Polyethylene

Shohruh Iqbolov

PhD Student, Tashkent Chemical-Technology Research Institute

E-mail: iqbolovshohruh1@gmail.com

Botirov Arslonbek

PhD Student, Tashkent Chemical-Technology Research Institute

E-mail: botirovarslonbek54@gmail.com

Panjiyev Bobur

PhD Student, Tashkent Chemical-Technology Research Institute

E-mail: boburpanjiyev2002@gmail.com

Abstract

This article investigates the theoretical and practical foundations of obtaining active organometallic additives for modifying the polyethylene (PE) matrix. The chemical inertness of polyethylene and existing problems regarding the direct attachment of metal centers are analyzed, highlighting the shortcomings of traditional two-stage schemes. To reduce processing stages and ensure strong bonding of the metal to the polymer chain, the research proposes a technology for the direct incorporation of active organometallic compounds during the crosslinking process. Furthermore, physical and chemical crosslinking methods (Daoplast, Engel, Pont a Mousson, UHF) are comparatively examined, and the significance of organometallic (ionic) crosslinks in polymer recyclability is substantiated.

Keywords: Polyethylene (PE), organometallic additives, crosslinking, maleic anhydride (MAH), ionic bridges, peroxide crosslinking, recyclability, PEXa, functional polymers.

Introduction

This article presents the theoretical foundations, properties, advantages, disadvantages, and application areas of obtaining active organometallic additives for polyethylene. The significance of organometallic additives for polyethylene, and polymers in general, is remarkably extensive. Specifically, polyethylene (PE) is a high-molecular-weight saturated hydrocarbon according to its chemical structure. Its macromolecular chain consists exclusively of strong C-C and C-H sigma (σ) bonds, containing no polar functional groups or unsaturated double bonds. This unique "closed" structure ensures the thermodynamic stability of the polymer but, at the same time, results in its extreme chemical inertness. Consequently, the polyethylene matrix lacks the ability to chemically interact with other active substances, particularly organometallic compounds.

Research in the field of organometallic compounds for polyethylene (PE) is divided into two major periods: catalyst synthesis (for PE production) and polymer modification (to alter the properties of finished PE). The history of modifying polyethylene with organometallic compounds primarily began in the 1950s and 60s with the works of K. Ziegler and G. Natta. Initially, organometallic compounds (aluminum-alkyls, titanium chlorides) were viewed solely as catalysts for polymer synthesis. By the 1970s–1990s, researchers began working on "Ionomers" (polymers bonded with metal ions) to change the properties of the finished polymer. In this process, maleic anhydride (MAH) or acrylic acid was grafted onto the polyethylene chain, followed by treatment with zinc (Zn), magnesium (Mg), or sodium (Na) salts.

Current research shows that the chemical inertness of polyethylene prevents the direct attachment of organometallic centers. In most cases, researchers have utilized a two-stage "grafting $\rightarrow$ ion exchange" scheme.

Key Problem: In existing technologies, the organometallic compound is either unevenly distributed within the polymer matrix or degrades the rheological (flow) properties of the polymer. Furthermore, many organometallic compounds have been observed to be unstable and decompose at polymer processing temperatures (150–200°C).

To overcome the aforementioned shortcomings, the work we intend to pursue proposes a technology for the "synthesis of active organometallic compounds and their direct incorporation during the cross-linking process." This method:

- Reduces the number of processing stages;
- Ensures strong covalent or coordination bonding of the metal with the polymer chain;
- Imparts new functional (catalytic, magnetic, or antiseptic) properties to the polymer.

Below, we briefly review prior studies and analyze their achievements and limitations.

According to Hibal Ahmad and Denis Rodrigue [\[1\]](#) in their review article "Crosslinked Polyethylene: A Review of Preparation Methods, Applications, and Recycling" the following perspectives are presented:

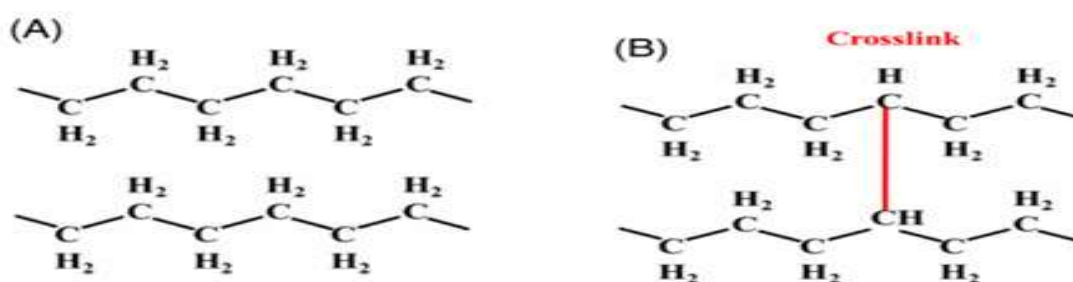
Polyethylene (PE) is one of the most widely used resins in the plastics industry. Although polyethylene possesses good impact resistance and plasticity, its low maximum operating temperature and insufficient mechanical strength limit its use in certain commercial projects, particularly in load-bearing structures. To improve overall performance, a cross-linking process is carried out to enhance the chemical, mechanical, and thermal properties of polyethylene. Although polyethylene can be cross-linked through various chemical and physical methods, the resulting three-dimensional (3D) network structure makes it difficult to recycle the obtained polymers.

Cross-linking refers to the intermolecular or intramolecular chemical bonding between polymer chains. The reaction mechanism involves the breaking of C-H bonds and the formation of radicals as a result of absorbing high-energy radiation or the action of cross-linking reagents, which in turn leads to the formation of C-C cross-links (bonds). During the reaction, small aliphatic molecules in gaseous form are also released. The three-dimensional network structure formed by cross-links in polyethylene (PE) results in cross-linked polyethylene (XLPE). The first report on the cross-linking of PE was provided by Gilbert and Precopio in the early 1930s. The fundamental idea of PE cross-linking is to improve its chemical, mechanical, and thermal properties. As described below, PE cross-linking can be carried out in two main ways:

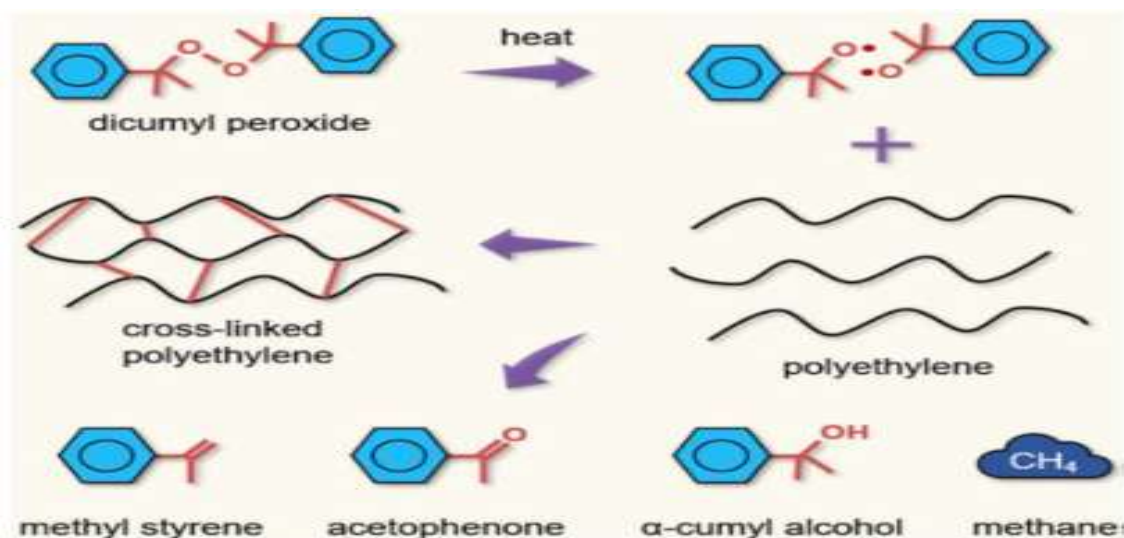
(a) physical cross-linking; (b) chemical cross-linking.

Physical cross-linking is also referred to as the radiation method, as polyethylene (PE) molecules are exposed to high-energy radiation sources such as microwaves and high-energy electrons. Primarily non-corpuscular (non-particulate) radiation types, such as ultraviolet (UV), X-ray, ultra-high frequency (UHF), gamma (γ), and electron beams (e-beam), are used to generate active free radicals in the PE chains.

Today, electron beams (e-beam) are the most common method used in physical



cross-linking. The process mechanism involves the absorption of high-energy radiation, which leads to the breaking of C-H bonds within the PE structure and the formation of hydrogen and polymer radicals; these radicals subsequently form C-C bonds (cross-links) between different polymer chains.



However, during this process, certain small aliphatic molecules, such as hydrogen and methane, are released in gaseous form. Therefore, it is essential to utilize an effective ventilation or gas extraction system during the process. Major focus is directed toward the mechanical recycling of XLPE and de-crosslinking techniques to produce recycled XLPE (r-XLPE). Finally, a conclusion is provided regarding the current state and the scientific gaps that need to be addressed through future research. The breaking of C-H bonds and the formation of C-C bonds described in the text represent static (irreversible) cross-linking.

As noted above, chemical cross-linking involves the addition of cross-linking agents (chemical substances) to generate free radicals. Chemical cross-linking can be categorized into three types: (a) the peroxide method; (b) the silane method; and (c) the azo-compound method.

In this article, the author reviews the latest achievements and developments in the field of cross-linked polyethylene (XLPE). It is emphasized that XLPE is attracting significant interest because it offers several advantages over ordinary polyethylene (PE), such as improved chemical, mechanical, and electrical durability.

These technologies encompass both physical and chemical recycling. Chemical recycling primarily utilizes supercritical fluids and pyrolysis to obtain valuable molecules (gases and liquids) that can be used as fuel by de-crosslinking (breaking the bonds of) the PE macromolecular network. This opens new directions for future developments using this material; however, several critical aspects must be considered for industrial solutions. This is precisely where the significance of our research emerges: why are organometallic bonds necessary? Because standard XLPE is difficult to recycle (an environmental issue), whereas the organometallic (ionic) cross-links we propose possess a “reversible” character, enabling the recycling of the polymer (zero-waste production).

References

- [1]. Ahmad H., Rodrigue D. Crosslinked polyethylene: A review of preparation methods, applications, and recycling // Polymer Engineering & Science. – 2022. – Vol. 62. – No. 8. – Pp. 2376-2401.
- [2]. W. D. Callister, Fundamentals of Materials Science and Engineering, Wiley, London 2000.
- [3]. A. Balasubramanian, Classif. of Mater 2017.
- [4]. C. Drouet, A. Leriche, S. Hampshire, M. Kashani, A. Stamboulis, M. Iafisco, A. Tampieri, Adv. Ceram. Biomater. 2017, 21, 82
- [5]. C. Drouet, A. Leriche, S. Hampshire, M. Kashani, A. Stamboulis, M. Iafisco, A. Tampieri, Adv. Ceram. Biomater. 2017, 21, 82
- [6]. F. E. Hanana, C. Y. Desire, D. Rodrigue, Polym. Compos. 2018, 26, 299.
- [7]. Hagihara, H.; Tsuchihara, K.; Sugiyama, J.; Takeuchi, K.; Shiono, T. Macromolecules 2004, 37, 5145.
- [8]. Coiai, S.; Passaglia, E.; Aglietto, M.; Ciardelli, F. Macromolecules 2004, 37, 8414

Critical Thinking as a Core Competency in Higher Education

Yusupova Sitora Ashuraliyevna

Teacher of Uzbekistan World Languages University

berdievasitora98@gmail.com

Abstract

This paper offers an extended exploration of critical thinking as a fundamental competency in higher education. It investigates the role of critical thinking in supporting academic performance, autonomous learning, problem-solving, and informed decision-making, as well as its relevance for preparing students to function effectively in complex professional and social contexts. The study reviews theoretical perspectives, instructional approaches for developing critical thinking, and the challenges associated with its implementation. The results highlight that cultivating critical thinking is essential for intellectual development, adaptability, and lifelong learning in a rapidly evolving knowledge-based society.

Keywords: critical thinking, higher education, cognitive abilities, problem-solving, analysis, evaluation, independent learning, decision-making

Annotatsiya

Mazkur maqolada tanqidiy fikrlashning oliy ta'limdagi asosiy kompetensiya sifatidagi ahamiyati keng yoritiladi. Unda nazariy yondashuvlar, tanqidiy fikrlashning akademik muvaffaqiyat, mustaqil o'rganish, qaror qabul qilish va muammolarni hal qilishdagi roli ko'rib chiqiladi. Shuningdek, ushbu ko'nikmalarni rivojlantirish usullari va ularni ta'lim jarayoniga joriy etishdagi muammolar tahlil qilinadi. Natijalar tanqidiy fikrlashning intellektual rivojlanish, moslashuvchanlik va uzluksiz ta'lim uchun muhimligini ko'rsatadi.

Kalit so'zlar: tanqidiy fikrlash, oliy ta'lim, kognitiv qobiliyatlar, muammo yechish, tahlil, baholash, mustaqil o'rganish, qaror qabul qilish

Аннотация

В данной работе представлен расширенный анализ критического мышления как ключевой компетенции в высшем образовании. Рассматриваются его теоретические основы, значение для академической успеваемости, самостоятельного обучения, принятия решений и решения проблем. Особое внимание уделяется методам формирования критического мышления, а также трудностям его внедрения в образовательный процесс. Делается вывод о том, что развитие критического мышления является важным фактором интеллектуального роста, гибкости мышления и непрерывного образования.

Ключевые слова: критическое мышление, высшее образование, когнитивные способности, решение проблем, анализ, оценка, самостоятельное обучение, принятие решений

In modern higher education, the emphasis has shifted from merely delivering knowledge to cultivating essential cognitive and transferable skills. Among these, critical thinking is widely regarded as a key competency that enables students to function effectively in an increasingly complex and information-driven world.

The rapid development of digital technologies has significantly increased access to information. As a result, students must not only acquire knowledge but also assess its reliability, interpret it critically, and apply it appropriately. Within this context, critical thinking plays a vital role in ensuring both academic success and responsible participation in society.

This study aims to examine critical thinking as a central component of higher education by analyzing its theoretical background, practical applications, and the challenges involved in fostering it.

Critical thinking is a complex and multidimensional concept that has been explored across various academic disciplines, including education, psychology, and

philosophy. It is commonly described as a deliberate and self-regulated cognitive process involving analysis, evaluation, and reasoning. From a cognitive standpoint, critical thinking aligns with higher-order thinking skills outlined in Bloom's Taxonomy, particularly analysis, evaluation, and creation. These skills extend beyond basic knowledge acquisition and require deeper intellectual engagement. From a philosophical perspective, critical thinking emphasizes logical reasoning, skepticism, and open-mindedness. It encourages individuals to question assumptions, consider alternative viewpoints, and base their conclusions on evidence rather than subjective opinion.

Critical thinking plays a significant role in enhancing students' academic performance. Learners who possess strong analytical abilities are more capable of understanding complex concepts, engaging critically with academic literature, and constructing well-supported arguments. In academic writing, critical thinking enables students to organize their ideas coherently, use evidence effectively, and critically assess sources. This contributes to the production of higher-quality academic work. Additionally, critical thinking facilitates active participation in classroom discussions, debates, and collaborative learning environments. It promotes deeper engagement with subject matter and fosters a more meaningful learning experience. One of the primary goals of higher education is to develop independent learners who can take responsibility for their own educational progress. Critical thinking is central to achieving this objective.

Students equipped with critical thinking skills are able to identify their learning needs, locate relevant information, and evaluate its usefulness. This enables them to become more self-directed and effective in their studies. Furthermore, critical thinking is closely linked to metacognitive awareness, allowing students to reflect on their thinking processes and improve their learning strategies. The cultivation of critical thinking requires purposeful and structured teaching strategies. Active learning

methods, such as problem-based learning, case analysis, group discussions, and debates, are particularly effective in promoting these skills. Another important approach involves the use of open-ended questions that require students to analyze, evaluate, and justify their responses. Such tasks encourage deeper cognitive engagement.

Integrating critical thinking into assessment practices is also essential. Assessments should not only measure factual knowledge but also evaluate students' ability to apply concepts and construct logical arguments. Moreover, providing detailed and constructive feedback supports students in refining their thinking processes and improving their performance. Despite its recognized importance, the development of critical thinking in higher education faces several obstacles. Traditional teaching methods that prioritize memorization over analysis remain prevalent in many educational systems.

Another challenge is the varying levels of students' preparedness. Some learners may lack the foundational skills necessary to engage in higher-order thinking, which can hinder their progress. Large class sizes and limited instructional time may also restrict opportunities for interactive and student-centered learning. Additionally, educators may require further training to effectively incorporate critical thinking into their teaching practices.

In today's digital environment, critical thinking has become increasingly essential. Students are exposed to vast amounts of information through online platforms, not all of which is accurate or reliable. Critical thinking skills enable students to evaluate the credibility of sources, identify misinformation, and make informed judgments. These abilities are crucial for navigating digital spaces responsibly. However, easy access to information may reduce students' motivation to engage in deep analysis. Therefore, educators must encourage active inquiry and critical evaluation of information.

Critical thinking is a vital competency in higher education that contributes to academic success, independent learning, and professional readiness. It equips students with the ability to analyze information, evaluate evidence, and make informed decisions in a complex and rapidly changing world. To effectively foster critical thinking, higher education institutions must adopt student-centered pedagogical approaches, integrate these skills into curricula and assessments, and provide adequate support for both students and educators. Ultimately, critical thinking is not only an academic requirement but also a lifelong skill that empowers individuals to adapt, innovate, and contribute meaningfully to society.

References

1. Facione, P. A. (2015). Critical Thinking: What It Is and Why It Counts. Insight Assessment.
2. Ennis, R. H. (2011). The Nature of Critical Thinking. University of Illinois.
3. Paul, R., & Elder, L. (2014). Critical Thinking: Tools for Taking Charge of Your Learning and Your Life. Pearson.
4. Brookfield, S. D. (2012). Teaching for Critical Thinking. Jossey-Bass.
5. Halpern, D. F. (2014). Thought and Knowledge: An Introduction to Critical Thinking. Psychology Press.
6. OECD. (2019). Future of Education and Skills 2030. OECD Publishing.
7. Bloom, B. S. (1956). Taxonomy of Educational Objectives. Longmans.
8. Kuh, G. D. (2008). High-impact educational practices. AAC&U.

Artificial Intelligence in Modern Higher Education (Literature Review and Results of Teacher Pilot Testing)

Filipov Olgerd Aleksandrovich

"PROFI UNIVERSITY" NHEO, Navoi, Uzbekistan,

doctor of philosophy (PhD) in Philosophy

olgerdphilippow@gmail.com

Abstract. The publication examines the issue of implementing artificial intelligence in higher education within the context of digital humanism. The aim of the study is to identify how teachers perceive the opportunities, risks, and regulatory conditions of using AI in higher education based on a review of modern publications and an analysis of pilot testing results. The theoretical basis of the study is the works on digital humanism, algorithmic justice, the quality of digital higher education, and the institutional conditions for implementing AI. The empirical foundation was the results of a pilot survey of non-state university teachers, which concluded that a humanistic-oriented model of AI implementation, involving human control, data protection, transparent rules, teacher and student participation in regulatory development, as well as the development of digital and ethical competence, is fundamentally important for higher education.

Keywords: artificial intelligence, higher education, digital humanism, digitalization, academic integrity, algorithmic justice.

**Искусственный интеллект в современной высшей школе (обзор литературы
и результаты пилотного тестирования преподавателей)**

Филиппов Ольгерд Александрович,

НУВО «PROFI UNIVERSITY», Навои, Узбекистан,

доктор философии по философским наукам (PhD),

Аннотация. В публикации рассматривается проблема внедрения искусственного интеллекта в высшее образование в контексте цифрового гуманизма. Цель исследования - на основе обзора современных публикаций и анализа результатов пилотного тестирования выявить, как преподаватели воспринимают возможности, риски и нормативные условия использования ИИ в вузе. Теоретической основой исследования выступают работы по цифровому гуманизму, алгоритмической справедливости, качеству цифрового высшего образования и институциональным условиям внедрения ИИ. Эмпирическую базу составили результаты пилотного опроса преподавателей негосударственного вуза, по итогам которого сделан вывод, что для высшей школы принципиально важна не техноцентрическая, а гуманистически ориентированная модель внедрения ИИ, предполагающая человеческий контроль, защиту данных, прозрачные правила, участие преподавателей и студентов в разработке регламентов, а также развитие цифровой и этической компетентности.

Ключевые слова: искусственный интеллект, высшее образование, цифровой гуманизм, цифровизация, академическая честность, алгоритмическая справедливость.

Введение. Широкое распространение искусственного интеллекта в образовании поставило высшую школу перед двойственной задачей - с одной стороны, ИИ расширяет возможности персонализации обучения, автоматизации части рутинных процедур, ускорения подготовки материалов и поддержки принятия решений; а с другой стороны, именно образовательная сфера особенно остро сталкивается с проблемами снижения самостоятельности мышления, подмены реального усвоения готовыми ответами, непрозрачности алгоритмов и ослабления человеческого измерения образования [4, 2].

В современной литературе эта проблематика все чаще осмысливается через концепцию цифрового гуманизма. Его смысл заключается в том, что технологии не должны развиваться как самодовлеющая сила, подчиняющая себе социальную и образовательную реальность, напротив, они должны быть подотчетны человеческому достоинству, свободе, автономии и справедливости [1, 47–49]. Цифровой гуманизм утверждает, что «цифровые технологии обязаны усиливать человеческие возможности, а не вытеснять человека из пространства решений и ответственности» [2, 1].

Для образовательной сферы это означает переход от техноцентрического к человекоцентричному подходу. То есть, исключение преподавателей и студентов из проектирования и внедрения цифровых систем приводит к снижению доверия, ослаблению агентности пользователей и недостаточному соответствию технологий реальным педагогическим задачам [3, 1–2]. Следовательно, вопрос об ИИ в высшем образовании нельзя свести к технической полезности сервисов, это вопрос о том, в какой мере технология сохраняет и поддерживает субъектность участников образовательного процесса.

Теоретические основания исследования. Цифровой гуманизм в современных работах интерпретируется как новая нормативная рамка цифровой эпохи. В статье А.С. Белобрагиной подчеркивается, что «данная концепция стремится соединить классические гуманистические ценности с критическим осмыслением цифровой трансформации, сохраняя в центре человека, его разум, свободу, достоинство и право на автономное действие» [1, 48–49]. Е. Прем также указывает, что «цифровой гуманизм следует понимать одновременно как техническое, политическое и философское усилие по выработке границ допустимого развития цифровых технологий» [2, 5]. Важнейший его принцип

состоит в том, что цифровые технологии должны защищать людей и окружающую среду, а не подрывать человеческую автономию и фундаментальные права.

В образовательной среде эта логика получает развитие в исследованиях человекоцентричного ИИ. Альфредо и соавторы показывают, что при распространении LA/AIED-систем в центре внимания должны находиться человеческий контроль, надежность, безопасность, доверительность и реальное участие стейкхолдеров в проектировании и использовании цифровых решений [3, 1–2]. Такой подход особенно значим для высшей школы, где любая технология влияет не только на эффективность, но и на саму структуру педагогического взаимодействия.

Одновременно в изученных источниках отмечены и ограничения ИИ как бесспорного драйвера качественного образования. Бауер и соавторы подчеркивают, что нельзя автоматически приписывать ИИ положительное влияние на обучение; образовательный эффект зависит от конкретной педагогической реализации. Авторы специально предупреждают о риске, когда использование ИИ снижает когнитивную вовлеченность и подменяет глубокое освоение материала внешне успешным, но поверхностным выполнением задания [4, 2–3]. Для высшего образования это особенно важно, поскольку университет призван не только передавать информацию, но и формировать критическое мышление, суждение и академическую ответственность.

Немаловажным направлением анализа является проблема алгоритмической справедливости. По наблюдению Бейкера, алгоритмы в образовании не являются нейтральными: они могут кодировать и воспроизводить социальные смещения, связанные с расой, гендером, языком, социальным положением и другими факторами [5, 1052–1053].

Наконец, литература по качеству цифрового высшего образования показывает, что ответственное внедрение ИИ невозможно без институциональной рамки. В докладе OECD подчеркивается, что качество цифрового высшего образования должно рассматриваться как часть интегрированной внутренней системы обеспечения качества, а не как набор разрозненных технических решений [6, 31]. Таким образом, современная литература достаточно ясно показывает: обсуждение ИИ в высшей школе не может вестись только в логике эффективности, оно должно происходить на пересечении педагогики, этики и институционального управления.

Материалы и метод. Эмпирическую базу исследования составили результаты пилотного тестирования анкеты, посвященной использованию искусственного интеллекта в высшем образовании. Опрос был проведен автором среди преподавателей негосударственного вуза. Всего было получено 40 ответов, из которых 39 были признаны валидными.

Пилотная выборка носит однородный характер: все респонденты представляют негосударственный сектор; большинство моложе 40 лет; преобладают преподаватели со стажем до 10 лет. Данное обстоятельство принципиально важно для интерпретации: исследование не претендует на репрезентативность в отношении всей системы высшего образования, а рассматривается как пилотный, разведывательный этап и апробация инструментария.

Результаты пилотного тестирования. Результаты пилотного тестирования показывают, что ИИ уже вошел в повседневную преподавательскую практику. 94,9% респондентов указали, что используют ИИ в той или иной степени; из них 41,0% - регулярно, 46,2% - иногда, 7,7% - редко. Наиболее распространенным инструментом выступают ChatGPT и аналогичные текстовые модели.

Существенно реже используются генераторы изображений и презентаций, ИИ-переводчики, аналитические платформы и автоматизированные системы проверки.

При этом ИИ применяется, прежде всего, как инструмент усиления продуктивности преподавателя, так, наиболее частые цели использования: подготовка учебных материалов, составление заданий и тестов, поиск и систематизация информации, перевод и редактирование текстов, подготовка презентаций и выполнение отдельных задач научной работы. Намного реже ИИ используется для оценивания и административных функций.

Еще более показательной оказалась оценка студенческой практики. Почти все респонденты указали, что студенты используют ИИ часто или очень часто. Однако при этом нормативная база заметно отстает: лишь незначительная доля преподавателей сообщила о наличии официальных правил, тогда как значительная часть либо указала на существование только неформальных рекомендаций, либо прямо отметила отсутствие каких-либо регламентов.

Блок преимуществ выявил умеренно положительное отношение к ИИ. Наиболее высоко были оценены возможности индивидуализации обучения, снижения части рутинной нагрузки, расширения доступности образовательных материалов и развития цифровых компетенций преподавателя. Блок рисков, напротив, оказался высоко консолидированным. Респонденты чаще всего указывали на снижение критического мышления студентов, плагиат и подмену самостоятельной работы, недостоверность или поверхностность ответов ИИ, ухудшение качества живого общения между преподавателем и студентом, а также проблемы защиты данных и дефицит компетенций у самих преподавателей.

Нормативные ожидания оказались еще более определенными. Большинство респондентов считают, что ИИ должен усиливать обучение, но не заменять

человеческое мышление; значимые решения, влияющие на академическую судьбу студента, не должны приниматься только алгоритмом; при внедрении ИИ необходимо обеспечить защиту данных, прозрачные правила и участие самих преподавателей и студентов в выработке институциональных регламентов.

Обсуждение. Полученные результаты позволяют сделать несколько содержательных выводов. Так, в высшей школе уже сложилась ситуация, при которой технологии ИИ перестали быть внешней инновацией и стали частью повседневного академического труда. Однако эта адаптация носит преимущественно инструментальный характер: преподаватель использует ИИ как вспомогательный ресурс, а не как самостоятельного носителя педагогического решения.

Кроме этого, пилотное исследование подтверждает, что преподаватели интуитивно распознают описанный в литературе риск инверсионного эффекта, их опасения по поводу ослабления критического мышления, поверхностного выполнения заданий и утраты самостоятельности прямо соотносятся с выводами Бауэра и соавторов о возможности снижения когнитивной вовлеченности при неудачной интеграции ИИ в обучение [4, 2–3]. При этом, позиция преподавателей в целом оказывается не запретительной, а нормативно-гуманистической. Они не отвергают технологию как таковую, но требуют ее подчинения человеческим целям, академической ответственности и прозрачным правилам. Эта установка соответствует логике цифрового гуманизма, для которого технологии должны развиваться в соответствии с человеческими ценностями и не подрывать достоинство, свободу и автономию.

Что особенно интересно, эмпирические данные выявляют разрыв между реальной практикой использования ИИ и институциональной готовностью вузов к его регулированию. Этот результат согласуется с международными подходами

к обеспечению качества цифрового высшего образования, в которых подчеркивается необходимость интеграции цифровых решений в общую систему качества, а также системной поддержки преподавателей и постоянного развития их компетенций.

Заключение. Пилотное исследование показало, что преподаватели в целом принимают ИИ как полезный инструмент, но не как самодостаточную силу, которой можно без остатка делегировать образовательные функции. Их позиция может быть охарактеризована как осторожный прагматизм: признавая продуктивный потенциал ИИ, они одновременно настаивают на сохранении человеческого контроля, развитии критического мышления, защите данных и четкой институциональной регуляции.

Следовательно, для высшей школы принципиально важна не техноцентрическая, а гуманистически ориентированная модель внедрения ИИ, которая предполагает приоритет человеческой субъектности, прозрачные правила использования ИИ, развитие цифровых и этических компетенций преподавателей и студентов, защиту от алгоритмической предвзятости и других несправедливых эффектов.

Ограничения исследования очевидны: малая и однородная выборка, локальный характер пилота, невозможность распространения результатов на всю систему высшего образования. Однако именно как пилотное исследование данный этап оказался продуктивным: он позволил выявить ключевые смысловые линии, уточнить проблемное поле и подготовить основу для более широкого эмпирического исследования.

Список литературы

1. Белобрагина, А. С. Цифровой гуманизм: между апологией и критикой философской концепции // Философия и культура. 2025. № 9. С. 47–55. DOI: 10.7256/2454-0757.2025.9.75779.
2. Prem, E. Principles of digital humanism: a critical post-humanist view // Journal of Responsible Technology. 2024. Vol. 17. Art. 100075. DOI: 10.1016/j.jrt.2024.100075.
3. Alfredo, R., Echeverria, V., Jin, Y., Yan, L., Swiecki, Z., Gašević, D., Martinez-Maldonado, R. Human-centred learning analytics and AI in education: a systematic literature review // Computers and Education: Artificial Intelligence. 2024. Vol. 6. Art. 100215. DOI: 10.1016/j.caeai.2024.100215.
4. Bauer, E., Greiff, S., Graesser, A. C., Scheiter, K., Sailer, M. Looking beyond the hype: understanding the effects of AI on learning // Educational Psychology Review. 2025. Vol. 37. Art. 45. DOI: 10.1007/s10648-025-10020-8.
5. Baker, R. S., Hawn, A. Algorithmic bias in education // International Journal of Artificial Intelligence in Education. 2022. Vol. 32. P. 1052–1092. DOI: 10.1007/s40593-021-00285-9.
6. OECD. Digital higher education: emerging quality standards, practices and supports. Paris : OECD Publishing, 2022. 102 p. DOI: 10.1787/f622f257-en.

Features Of The Electrical Power Supply Course In Forming Energy-Related Competencies In Students And Analysis Of Foreign Experience

Alikulova Saodat Muxitdinovna

Assistant of the Department of “Electrical Engineering and Intelligent Energy Systems”,
Karshi State Technical University.

Abstract: In the process of teaching electrical engineering in higher education institutions, a systematic approach, clear goal setting, consideration of students' behavior, and the formation of knowledge, skills, and competencies in them based on a technological approach are considered a continuous process of education that allows achieving the desired results.

Keywords: knowledge, skills, teaching methods, educational and information resources, innovative technologies, development of professional competencies.

Annotatsiya: Oliy ta’lim muassasalarida elektr ta’minoti fanini o’qitish jarayonida tizimli yondashuv, maqsadni aniq belgilash, talabalarning hatti-harakatlarini e’tiborga olish, ularda bilim, ko’nikma va malakalarni shakllantirish kabilarni texnologik yondashuv asosida amalga oshirish ta’limning ko’tilgan natijalarga erish imkonini beradigan uzluksiz jarayoni hisoblanadi.

Kalit soʻzlar: bilim, ko’nikma, o’qitish metodlari, o’quv-axborot resurslari, innovatsion texnologiyalar, kasbiy kompetensiyalarni rivojlantirish.

Texnika yo’nalishidagi oliy ta’lim muassasalarida bo’lajak energetik mutaxassislarni zamonaviy talablar asosida tayyorlash ko’p jihatdan elektr ta’minoti fanini o’qitish sifati bilan belgilanadi. Ushbu faning muhim vazifalaridan biri — muayyan kasb doirasida talabalar egallashi zarur bo’lgan bilim, ko’nikma va malakalar tizimini shakllantirishdir. Fanni o’qitishdan asosiy maqsad esa kelajak mutaxassislarning amaliy faoliyatiga zarur sharoit yaratishdan iborat. Elektr ta’minoti fanining mazmuni, maqsad-vazifalari, o’qitish metodlari, shakllari, vositalari,

mashg'ulot o'tkazish sharoiti va ajratilgan vaqti boshqa fanlardan farq qiladi. Bu esa uning kasbiy tayyorgarlikdagi alohida ahamiyatga ega ekanligini ko'rsatadi. Shu bois, ushbu yo'nalishda sifatli ta'limni tashkil etish uchun mustahkam moddiy-texnik baza, zamonaviy o'quv-axborot resurslari hamda yuqori malakali professor-o'qituvchilar bilan ta'minlash ustuvor vazifa hisoblanadi[1-7].

Mazkur fanni o'qitishda texnik faoliyatga yo'naltirilgan yondashuv muhim ahamiyat kasb etadi. Professor-o'qituvchilar dars jarayonida fan mazmunining zamonaviyligini ta'minlab, dolzarb va mos o'quv materiallarini tanlashlari lozim. Ilmiy tadqiqotlarda ham bu masalaga alohida e'tibor qaratilgan. Jumladan, S.Yu. Ashurova texnika oliy ta'lim muassasalarida umumkasbiy fanlarni modulli texnologiyalar asosida o'qitish masalalarini tahlil qilgan G.V. Yeldasheva esa masofaviy ta'lim orqali professor-o'qituvchilar malakasini oshirishning o'quv-uslubiy asoslarini ishlab chiqqan. K.M. Umatalieva tadqiqotlarida innovatsion ta'lim texnologiyalaridan foydalanish orqali o'qituvchilar malakasini oshirish masalalari o'rganilgan. D. Tojiboeva esa energetika fanlarini o'qitish metodikasiga bag'ishlangan qo'llanmasida darslarni tashkil etish va takomillashtirish usullarini batafsil yoritgan[6-11].

Texnika oliy ta'lim muassasalarida elektr ta'minoti fanini o'qitishda innovatsion texnologiyalarni qo'llash muhim ahamiyatga ega. Bunday yondashuv orqali bo'lajak mutaxassislarning kasbiy tayyorgarligi oshiriladi, ilmiy-texnik yangiliklar va ilg'or tajribalar ta'lim jarayoniga tatbiq etiladi. Q.T. Olimov mutaxassislik fanlarini mazmuniga ko'ra bir necha guruhlariga ajratadi. Unga ko'ra, fanlar texnik vositalar va ularning ishlash prinsiplari, ishlab chiqarish texnologiyalari, xom-ashyo materiallari hamda ishlab chiqarishni tashkil etish va boshqarish bilan bog'liq yo'nalishlarga bo'linadi. Bu tasnif mutaxassislik fanlarining keng qamrovli ekanligini ko'rsatadi.

Maxsus fanlarni o'qitishda professor-o'qituvchilardan yuqori darajadagi kasbiy bilim, pedagogik mahorat va tajriba talab etiladi. Shu sababli yangi ish boshlagan

o'qituvchilar odatda tajribali ustozlar rahbarligida faoliyat olib boradilar. O'quv-metodik ta'minotning yuqori darajada tashkil etilishi esa ta'lim sifatini oshirishga xizmat qiladi. Bu ta'minot ilg'or tajriba, zamonaviy adabiyotlar va me'yoriy hujjatlar asosida shakllantiriladi[10-12].

Xorijiy tajribaga nazar tashlasak, Yevropa mamlakatlarida ta'lim sifatini ta'minlashning samarali mexanizmlari ishlab chiqilgan. Ularda aniq standartlar asosida talabalarni kasbiy kompetensiyalarga yo'naltirish, mustaqil fikrlash va ijodkorlikni rivojlantirishga katta e'tibor qaratiladi. Shuningdek, davlat va nodavlat sektor hamkorligi orqali ta'lim samaradorligi oshiriladi. Ilmiy tadqiqotlarni davlat tomonidan qo'llab-quvvatlash ham muhim omillardan biridir. Masalan, Buyuk Britaniyada ilmiy izlanishlar uchun maxsus mablag'lar ajratilishi professor-o'qituvchilar va talabalar faolligini oshirishga xizmat qiladi. Bu esa ta'lim sifatining yuqori darajada bo'lishini ta'minlaydi. Zamonaviy sharoitda oliy ta'lim tizimini innovatsion rivojlantirish mamlakat raqobatbardoshligini oshirishda muhim omil hisoblanadi. Bunda universitetlar, ilmiy-tadqiqot muassasalari va ishlab chiqarish korxonalari o'rtasidagi hamkorlik, ya'ni klaster yondashuvi alohida ahamiyatga ega. Innovatsion klasterlar tarkibiga ta'lim muassasalari, ilmiy markazlar, texnoparklar va korxonalar kirib, ular o'zaro integratsiya asosida faoliyat yuritadi[10-15].

Bunday klasterlar yuqori malakali mutaxassislar tayyorlash, ilm-fan va ishlab chiqarish o'rtasidagi aloqalarni mustahkamlash hamda iqtisodiyotning barqaror rivojlanishiga xizmat qiladi. Umuman olganda, texnika oliy ta'lim muassasalarida kasbiy kompetensiyalarni rivojlantirish uchun o'qitish sifatini doimiy monitoring qilish, metodik ta'minotni takomillashtirish va zamonaviy o'quv resurslari bilan boyitish zarur.

Xulosa qilib aytganda, xalqaro hamkorlikni kengaytirish, ilmiy aloqalarni rivojlantirish hamda xorijiy tajribalarni joriy etish orqali milliy ta'lim tizimining raqobatbardoshligini oshirish mumkin. Bu esa o'z navbatida yuqori malakali, zamon talablariga javob bera oladigan mutaxassislarni tayyorlashga xizmat qiladi.

FOYDALANILGAN ADABIYOTLAR RO'YXATI:

1. Аликулова, С. (2023). Формирование специальных компетенций будущих инженеров инженерно-энергетической профессии в технических высших учебных заведениях. *Общество и инновации*, 4(11/S), 113-117
2. Muxitdinova, A. S. (2024). METHODOLOGICAL ANALYSIS OF SCIENTIFIC KNOWLEDGE IN TEACHING SCIENCE. *SUSTAINABILITY OF EDUCATION, SOCIO-ECONOMIC SCIENCE THEORY*, 3(25), 155-158.
3. Yeldasheva G.V. Masofaviy ta'lim orqali umumkasbiy fan o'qituvchilarining malakasini oshirishning o'quv-uslubiy ta'minotini yaratish: pedagogika fanlari bo'yicha falsafa doktori (PhD) dissertatsiyasi. – Toshkent, 2019.
4. Аликулова, С. М. (2023). ТЕПЛОВАЯ ЭФФЕКТИВНОСТЬ СИСТЕМЫ СОЛНЕЧНОГО ОТОПЛЕНИЯ НА ОСНОВЕ ПЛОСКИХ РЕФЛЕКТОРОВ, УСТАНОВЛИВАЕМЫХ С СЕВЕРНОЙ СТОРОНЫ ЗДАНИЯ. *Oriental renaissance: Innovative, educational, natural and social sciences*, 3(4-2), 556-559.
5. Shukurova, O., Pirimov, O., Alikulova, S., & Juraev, H. (2024, November). Problems of control of compressor devices in GTL technologies and construction of a model of the injection process. In *AIP Conference Proceedings* (Vol. 3244, No. 1, p. 060008). AIP Publishing LLC.
6. Karimov, I., & Alikulova, S. Pedagogik Mahorat Asosida Ta'lim Metodlarining Samaradorligini Oshirish. *Maktabgacha va Maktab Ta'limi Jurnal*i, 676124.
7. Fayziyev, M., Tuychiev, F., Mustayev, R., & Ochilov, Y. (2023). Development and research of non-contact starting devices for electric consumers and motors. In *E3S Web of Conferences* (Vol. 384, p. 01038). EDP Sciences.
8. Fayziyev, M., Ochilov, Y., Nimatov, K., & Mustayev, R. (2023). Analysis of payment priority for electricity consumed in industrial enterprises on the base of classified tariffs. In *E3S Web of Conferences* (Vol. 384, p. 01039). EDP Sciences.

9. Mirzanovich, B. T., & Bakhridinovich, N. K. (2022). Investigating Insects with Light Diode Lights for Fish Food. *The Peerian Journal*, 6, 75-80.
10. Tashatov, A. K., Beytullayeva, R. X., Ungbayevich, T. T., Pardayevich, U. A., & Yunus, O. (2020, September). Comparison of parameters of heteroepitaxial structures. In *IOP Conference Series. Materials Science and Engineering* (Vol. 919, No. 2). IOP Publishing.
11. Makhmutkhanov, S., Ochilov, Y., Nurov, H., & Kurbonazarov, S. (2024, June). Increasing the environmental cleanness of industrial enterprises. In *AIP Conference Proceedings* (Vol. 3152, No. 1). AIP Publishing.
12. Rafikova, G., Mustaev, R., Pirimov, R., & Zokirova, F. (2023). Increasing the environmental cleanness of industrial enterprises. In *E3S Web of Conferences* (Vol. 461, p. 01100). EDP Sciences.
13. Бобажанов, М. К., Файзиев, М. М., Мустаев, Р. А., & Бозоров, И. Р. (2021). ПРИМЕНЕНИЕ БЕСКОНТАКТНЫХ УСТРОЙСТВ ДЛЯ ПУСКА ТРЕХФАЗНОГО АСИНХРОННОГО ЭЛЕКТРОДВИГАТЕЛЯ. *Наука, техника и образование*, (2-2 (77)), 65-67.
14. Бобажанов, М. К., Файзиев, М. М., Абдурасулов, А., Мустаев, Р. А., & Сайфиев, С. Э. (2020). Математическая модель расчета с применением бесконтактных элементов в управлении электрическими устройствами. *Вестник науки и образования*, (14-2 (92)), 5-8.
15. Kholikhmatov, B., Djumabekova, A., Ismailova, Z., & Mustaev, R. (2024, June). Design and evaluation of a logical framework for an instructional simulator in basic power supply principles. In *AIP Conference Proceedings* (Vol. 3152, No. 1, p. 050031). AIP Publishing LLC.

Developing the Speech of Children with Hearing Impairments Based on Digital Technologies

Naimova Muxlisa Nusrat qizi

Master's student of Special Pedagogy (1st year) Faculty of Pedagogy Chirchik State
Pedagogical University, Uzbekistan
E-mail: muxlisanaimova12@gmail.com

Abstract

This article discusses the pedagogical and methodological foundations of using digital technologies in the process of speech development of children with hearing impairments. During the research, the impact of interactive learning tools, multimedia technologies, electronic learning platforms, and information and communication technologies on speech development was analyzed. The results of the study showed that lessons organized on the basis of digital technologies play an important role in improving children's pronunciation skills, expanding their vocabulary, and activating their communicative activity.

Keywords: special pedagogy, surdopedagogy, speech development, hearing impairment, digital technologies, innovative education.

Naimova Muxlisa Nusrat qizi

Chirchiq davlat pedagogika universiteti Pedagogika fakulteti, Maxsus pedagogika
yo'nalishi 1-kurs magistranti
muxlisanaimova12@gmail.com

Annotatsiya

Mazkur maqolada eshitishida nuqsoni bo'lgan bolalar nutqini rivojlantirish jarayonida raqamli texnologiyalardan foydalanishning pedagogik va metodik asoslari yoritilgan. Tadqiqot jarayonida interaktiv ta'lim vositalari, multimediya texnologiyalari, elektron ta'lim platformalari hamda axborot-kommunikatsiya texnologiyalarining nutq

rivojlanishiga ta'siri tahlil qilindi. Tadqiqot natijalari shuni ko'rsatdiki, raqamli texnologiyalar asosida tashkil etilgan mashg'ulotlar bolalarning talaffuz ko'nikmalarini rivojlantirish, lug'at boyligini kengaytirish hamda kommunikativ faoliyatini faollashtirishda muhim ahamiyatga ega.

Kalit so'zlar: maxsus pedagogika, surdopedagogika, nutq rivojlanishi, eshitishida nuqson, raqamli texnologiyalar, innovatsion ta'lim.

Kirish

Hozirgi davrda ta'lim tizimida raqamli texnologiyalarni qo'llash pedagogik jarayonning samaradorligini oshirishga xizmat qilmoqda. Zamonaviy axborot-kommunikatsiya texnologiyalari o'quv jarayonini interaktiv va vizual tarzda tashkil etish imkonini beradi. Natijada o'quvchilarning bilim olishga bo'lgan qiziqishi ortadi hamda ta'lim jarayoni samarali tashkil etiladi.

Maxsus ta'lim tizimida raqamli texnologiyalardan foydalanish ayniqsa muhimdir. Chunki alohida ta'lim ehtiyojlariga ega bo'lgan bolalar uchun o'quv materiallarini tushunarli, vizual va qiziqarli shaklda taqdim etish zarur. Eshitishida nuqsoni bo'lgan bolalar bilan ishlash jarayonida raqamli texnologiyalar ayniqsa samarali vosita hisoblanadi.

Eshitish qobiliyatining buzilishi bolaning nutq rivojlanishiga sezilarli ta'sir ko'rsatadi. Bunday bolalarda nutqni eshitish orqali qabul qilish jarayoni cheklangan bo'ladi. Natijada fonetik, leksik va grammatik nutq rivojlanishida qiyinchiliklar yuzaga keladi. Shu sababli bunday bolalar nutqini rivojlantirishda maxsus pedagogik metodlar hamda zamonaviy texnologiyalardan foydalanish zarur.

Surdopedagogika sohasida olib borilgan ilmiy tadqiqotlar shuni ko'rsatadiki, eshitishida nuqsoni bo'lgan bolalarda nutq rivojlanishi ko'proq vizual idrok orqali shakllanadi. Shu sababli ta'lim jarayonida vizual materiallar, video va animatsion

vositalar hamda multimediya texnologiyalaridan foydalanish katta pedagogik ahamiyatga ega.

Introduction

In the modern educational system, the use of digital technologies plays an important role in increasing the effectiveness of the pedagogical process. Modern information and communication technologies make it possible to organize the learning process in an interactive and visual way. As a result, students' interest in learning increases and the educational process becomes more effective.

The use of digital technologies is especially important in the system of special education. Children with special educational needs require educational materials to be presented in a clear, visual and engaging form. In this regard, digital technologies serve as an effective tool in working with children with hearing impairments.

Hearing impairment significantly affects the development of a child's speech. In such children, the process of perceiving speech through hearing is limited. As a result, difficulties arise in the phonetic, lexical and grammatical development of speech. Therefore, it is necessary to use special pedagogical methods and modern technologies in the process of developing the speech of such children.

Research conducted in the field of surdopedagogy shows that speech development in children with hearing impairments is largely formed through visual perception. For this reason, the use of visual materials, video and animation tools, as well as multimedia technologies in the educational process has great pedagogical significance.

Eshitishida nuqsoni bo'lgan bolalar nutq rivojlanishining xususiyatlari

Eshitishida nuqsoni bo'lgan bolalarda nutq rivojlanishi odatda normal rivojlanayotgan bolalarga nisbatan sekinroq kechadi yoki ayrim hollarda yetarli darajada shakllanmaydi. Buning asosiy sababi eshitish analizatorining faoliyati buzilishi bilan

bog'liq. Eshitish qobiliyati nutq tovushlarini qabul qilish, ularni farqlash hamda nutqni idrok etish jarayonida muhim rol o'ynaydi. Shu sababli eshitish tizimidagi buzilishlar bolaning nutq rivojlanishiga bevosita ta'sir ko'rsatadi.

Eshitish qobiliyati yetarli darajada rivojlanmagan bolalarda nutq tovushlarini to'liq idrok etish qiyinlashadi. Natijada nutqni eshitish orqali o'rganish jarayoni cheklanadi. Bu esa nutqning fonetik, leksik hamda grammatik tomonlarining rivojlanishiga salbiy ta'sir ko'rsatadi. Bunday bolalarda nutq rivojlanishidagi qiyinchiliklar ko'pincha ularning ijtimoiy muloqot qilish faoliyatiga ham ta'sir qiladi.

Surdopedagogika sohasidagi tadqiqotlar shuni ko'rsatadiki, eshitishda nuqsoni bo'lgan bolalarda nutq rivojlanishi ko'proq vizual idrok orqali shakllanadi. Shu sababli ta'lim jarayonida ko'rgazmali vositalardan, tasviriy materiallardan hamda multimediya texnologiyalaridan foydalanish muhim pedagogik ahamiyatga ega.

Bunday bolalarda quyidagi nutq xususiyatlari kuzatiladi:

Ayrim nutq tovushlarini noto'g'ri talaffuz qilish holatlari

Lug'at boyligining yetarli darajada rivojlanmaganligi

Gap tuzish jarayonida grammatik qiyinchiliklar

Nutqni tushunish darajasining pastligi

Muloqot faoliyatining sustligi

Shu sababli eshitishda nuqsoni bo'lgan bolalar bilan ishlash jarayonida nutqni rivojlantirish mashg'ulotlarini maxsus pedagogik metodlar asosida tashkil etish zarur. Zamonaviy pedagogika ushbu jarayonda innovatsion va raqamli texnologiyalardan foydalanish samarali natija berishini ko'rsatmoqda.

Characteristics of Speech Development in Children with Hearing Impairments

Speech development in children with hearing impairments usually occurs more slowly compared to children with typical development, and in some cases it may not develop sufficiently. The main reason for this is related to the dysfunction of the auditory

analyzer. Hearing ability plays an important role in perceiving speech sounds, distinguishing them, and understanding speech. Therefore, disorders in the auditory system directly affect the development of a child's speech.

In children with insufficient hearing ability, the full perception of speech sounds becomes difficult. As a result, the process of learning speech through hearing is limited. This negatively affects the phonetic, lexical, and grammatical aspects of speech development. Difficulties in speech development often influence their social communication as well.

Research in the field of surdopedagogy shows that speech development in children with hearing impairments is largely formed through visual perception. For this reason, the use of visual aids, illustrative materials, and multimedia technologies in the educational process has significant pedagogical importance.

Children with hearing impairments often demonstrate the following speech characteristics:

- Incorrect pronunciation of certain speech sounds;
- Insufficient vocabulary development;
- Grammatical difficulties in sentence formation;
- Low level of speech comprehension;
- Reduced communicative activity.

Therefore, it is necessary to organize speech development activities for children with hearing impairments on the basis of special pedagogical methods. Modern pedagogy shows that the use of innovative and digital technologies in this process leads to effective results.

Pedagogical Opportunities of Digital Technologies

Digital technologies are considered one of the important tools for effectively organizing the educational process in the modern education system. The development

of information and communication technologies creates opportunities to apply new methods and approaches in the pedagogical process. With the help of digital technologies, educational materials can be presented in a visual, interactive and engaging form.

Digital technologies have particularly significant pedagogical potential in working with children with hearing impairments. In such children, the process of receiving information is mainly carried out through the visual analyzer. Therefore, the use of visual materials, animations and multimedia tools helps to effectively organize the process of learning speech.

The main types of digital technologies include the following.

Multimedia technologies

Multimedia technologies make it possible to present educational materials by combining text, images, graphics, video and animation elements. Through multimedia tools, it is possible to visually explain speech sounds and demonstrate the articulation process.

Interactive educational programs

Interactive educational programs help children actively participate in the learning process. With the help of such programs, it is possible to differentiate speech sounds, learn new words and perform speech exercises.

Electronic learning platforms

Electronic learning platforms provide opportunities to present educational materials systematically and organize learning activities effectively. Through these platforms, it is possible to plan and monitor the educational process.

Video and animations

Video and animated materials are effective tools for teaching the correct pronunciation of sounds by demonstrating the functioning of the speech apparatus. Such

materials are especially important in teaching articulation exercises and have significant pedagogical value.

Pedagogical Opportunities of Digital Technologies

Digital technologies are considered one of the important tools for effectively organizing the educational process in the modern education system. The development of information and communication technologies creates opportunities to apply new methods and approaches in the pedagogical process. With the help of digital technologies, educational materials can be presented in a visual, interactive, and engaging form.

Digital technologies have particularly significant pedagogical potential when working with children with hearing impairments. In such children, the process of receiving information mainly occurs through the visual analyzer. Therefore, the use of visual materials, animations, and multimedia tools helps to effectively organize the process of learning speech.

The main types of digital technologies include the following.

Multimedia technologies

Multimedia technologies allow educational materials to be presented by combining text, images, graphics, video, and animation elements. Through multimedia tools, it is possible to visually explain speech sounds and demonstrate the articulation process.

Interactive educational programs

Interactive educational programs help children actively participate in the learning process. With the help of such programs, it is possible to differentiate speech sounds, learn new words, and perform speech exercises.

Electronic learning platforms. Electronic learning platforms provide opportunities to present educational materials systematically and organize lessons effectively. Through these platforms, it is possible to plan and monitor the educational process.

Video and animations

Video and animated materials are effective tools for teaching correct pronunciation by demonstrating the functioning of the speech apparatus. Such materials are especially important for teaching articulation exercises and have significant pedagogical value.

Methodology

In the course of this research, several scientific methods were used.

Theoretical analysis method

Scientific literature related to special pedagogy, surdopedagogy, and speech therapy was studied and analyzed.

Pedagogical observation method

Speech development lessons conducted with children with hearing impairments were observed, and their level of speech development was analyzed.

Experimental method

During the research, speech development lessons based on digital technologies were organized. Multimedia presentations, video materials, and interactive programs were used in the lessons.

Comparative method

The results of lessons conducted using traditional teaching methods were compared with those of lessons organized using digital technologies.

Results

The results of the study showed that lessons organized on the basis of digital technologies had a positive impact on the speech development of children with hearing impairments. The use of multimedia tools and visual materials facilitated the process of speech perception.

During the lessons, positive changes were observed in the children's pronunciation skills. In addition, their vocabulary expanded, and the process of learning new words became more active.

Furthermore, it was found that the level of speech comprehension among the children improved during the lessons. Tasks presented with the help of visual materials made the process of understanding speech easier.

Interactive lessons increased the children's interest in the learning process and enhanced their communicative activity.

Discussion

The obtained results indicate that digital technologies serve as an important pedagogical tool in the development of speech in children with hearing impairments. Multimedia tools make the process of learning speech sounds more effective.

Visual materials facilitate children's understanding of speech. In addition, interactive activities increase children's interest in the learning process and activate their speech activity.

Raqamli texnologiyalarning pedagogik imkoniyatlari

Raqamli texnologiyalar zamonaviy ta'lim tizimida o'quv jarayonini samarali tashkil etishning muhim vositalaridan biri hisoblanadi. Axborot-kommunikatsiya texnologiyalarining rivojlanishi pedagogik jarayonda yangi metod va usullarni qo'llash imkonini yaratmoqda. Raqamli texnologiyalar yordamida o'quv materiallarini vizual, interaktiv va qiziqarli shaklda taqdim etish mumkin.

Ayniqsa eshitishida nuqsoni bo'lgan bolalar bilan ishlash jarayonida raqamli texnologiyalar katta pedagogik imkoniyatlarga ega. Chunki bunday bolalarda axborotni qabul qilish jarayoni ko'proq ko'rish analizatori orqali amalga oshadi. Shu sababli vizual materiallar, animatsiyalar hamda multimedia vositalari nutqni o'rganish jarayonini samarali tashkil etishga yordam beradi.

Raqamli texnologiyalarning asosiy turlari quyidagilardan iborat.

Multimedia texnologiyalari

Multimedia texnologiyalari matn, tasvir, grafik, video va animatsiya elementlarini birlashtirish orqali o'quv materiallarini taqdim etish imkonini beradi. Multimedia vositalari yordamida nutq tovushlarini ko'rgazmali tarzda tushuntirish hamda artikulyatsiya jarayonini namoyish etish mumkin.

Interaktiv ta'lim dasturlari

Interaktiv ta'lim dasturlari bolalarning o'quv jarayonida faol ishtirok etishiga yordam beradi. Bunday dasturlar yordamida nutq tovushlarini farqlash, yangi so'zlarni o'rganish hamda nutq mashqlarini bajarish mumkin.

Elektron ta'lim platformalari

Elektron ta'lim platformalari o'quv materiallarini tizimli ravishda taqdim etish hamda mashg'ulotlarni samarali tashkil etish imkonini beradi. Ushbu platformalar orqali o'quv jarayonini rejalashtirish va nazorat qilish mumkin.

Video va animatsiyalar. Video va animatsion materiallar nutq apparatining ishlash jarayonini ko'rsatish orqali tovushlarni to'g'ri talaffuz qilishni o'rgatishda samarali vosita hisoblanadi. Ayniqsa artikulyatsiya mashqlarini o'rgatishda bunday materiallar katta pedagogik ahamiyatga ega.

Metodologiya

Mazkur tadqiqot jarayonida bir qator ilmiy metodlardan foydalanildi.

Nazariy tahlil metodi.

Maxsus pedagogika, surdopedagogika hamda logopediya sohasiga oid ilmiy adabiyotlar o'rganildi va tahlil qilindi.

Pedagogik kuzatish metodi.

Eshitishda nuqsoni bo'lgan bolalar bilan olib borilgan nutq rivojlantirish mashg'ulotlari kuzatildi va ularning nutq rivojlanish darajasi tahlil qilindi.

Tajriba-sinov metodi.

Tadqiqot davomida raqamli texnologiyalar asosida nutq rivojlantirish mashg'ulotlari tashkil etildi. Mashg'ulotlarda multimedia taqdimotlari, video materiallar hamda interaktiv dasturlardan foydalanildi.

Taqqoslash metodi.

An'anaviy o'qitish metodlari asosida tashkil etilgan mashg'ulotlar natijalari raqamli texnologiyalar asosida o'tkazilgan mashg'ulotlar natijalari bilan solishtirildi.

Natijalar

Tadqiqot jarayonida raqamli texnologiyalar asosida tashkil etilgan mashg'ulotlar eshitishida nuqsoni bo'lgan bolalarning nutq rivojlanishiga ijobiy ta'sir ko'rsatgani kuzatildi. Multimedia vositalari hamda vizual materiallardan foydalanish bolalarning nutqni idrok etish jarayonini osonlashtirdi.

Mashg'ulotlar davomida bolalarning nutq tovushlarini to'g'ri talaffuz qilish ko'nikmalarida ijobiy o'zgarishlar kuzatildi. Shuningdek, bolalarning lug'at boyligi kengayib, yangi so'zlarni o'zlashtirish jarayoni ancha faol kecha boshladi.

Bundan tashqari, mashg'ulotlar davomida bolalarning nutqni tushunish darajasi ham yaxshilangani aniqlandi. Vizual materiallar yordamida berilgan topshiriqlar bolalarning nutqni idrok etish jarayonini yengillashtirdi.

Interaktiv mashg'ulotlar bolalarning o'quv jarayoniga qiziqishini oshirdi hamda ularning muloqot qilish faolligini kuchaytirdi.

Muhokama

Olingan natijalar shuni ko'rsatadiki, raqamli texnologiyalar eshitishida nuqsoni bo'lgan bolalar nutqini rivojlantirish jarayonida muhim pedagogik vosita hisoblanadi. Multimedia vositalari yordamida nutq tovushlarini o'rganish jarayoni yanada samarali tashkil etiladi.

Vizual materiallar bolalarning nutqni tushunish jarayonini yengillashtiradi. Shuningdek, interaktiv mashg'ulotlar bolalarning o'quv jarayoniga bo'lgan qiziqishini oshiradi hamda ularning nutq faoliyatini faollashtiradi.

Conclusion. In conclusion, the use of digital technologies in the process of developing the speech of children with hearing impairments has significant pedagogical importance. Multimedia tools, interactive educational programs, and electronic learning platforms make it possible to effectively organize speech development activities.

Digital technologies are an effective means of improving speech comprehension, pronunciation skills, and communication abilities.

Xulosa. Xulosa qilib aytganda, eshitishda nuqsoni bo'lgan bolalar nutqini rivojlantirish jarayonida raqamli texnologiyalardan foydalanish muhim pedagogik ahamiyatga ega. Multimedia vositalari, interaktiv ta'lim dasturlari hamda elektron ta'lim platformalari yordamida nutq rivojlantirish mashg'ulotlarini samarali tashkil etish mumkin. Raqamli texnologiyalar nutqni tushunish, talaffuz qilish hamda muloqot qilish ko'nikmalarini rivojlantirishda samarali vosita hisoblanadi.

References

1. Vygotsky, L.S. *Thinking and Speech*. Moscow: Pedagogika, 1982.
2. Luria, A.R. *Foundations of Neuropsychology*. Moscow: Moscow State University Press, 1973.
3. Rubinstein, S.L. *Foundations of General Psychology*. Moscow: Piter, 2002.
4. Leontiev, A.A. *Psychology of Speech*. Moscow: Smysl, 2003.
5. Po'latova, P.M. *Surdopedagogy*. Tashkent: Fan va texnologiya, 2018.
6. Nurkeldiyeva, D.A. *Fundamentals of Special Pedagogy*. Tashkent: O'qituvchi, 2019.
7. Karimova, V.M. *Pedagogy and Psychology*. Tashkent: Tafakkur, 2017.
8. Mayer, R. *Multimedia Learning*. Cambridge: Cambridge University Press, 2009.

9. Anderson, T. *The Theory and Practice of Online Learning*. Edmonton: Athabasca University Press, 2015.
10. Clark, R., Mayer, R. *E-learning and the Science of Instruction*. San Francisco: Pfeiffer, 2016.
11. Hallahan, D., Kauffman, J. *Exceptional Learners: An Introduction to Special Education*. Boston: Pearson, 2014.
12. Florian, L. *The SAGE Handbook of Special Education*. London: Sage Publications, 2017.

FOYDALANILGAN ADABIYOTLAR

1. Vygotskiy L.S. Myshlenie i rech. – Moskva: Pedagogika, 1982.
2. Luriya A.R. Osnovy neyropsixologii. – Moskva: MGU, 1973.
3. Rubinshteyn S.L. Osnovy obshchey psixologii. – Moskva: Piter, 2002.
4. Leontev A.A. Psixologiya rechi. – Moskva: Smysl, 2003.
5. Po‘latova P.M. Surdopedagogika. – Toshkent: Fan va texnologiya, 2018.
6. Nurkeldiyeva D.A. Maxsus pedagogika asoslari. – Toshkent: O‘qituvchi, 2019.
7. Karimova V.M. Pedagogika va psixologiya. – Toshkent: Tafakkur, 2017.
8. Mayer R. Multimedia Learning. – Cambridge: Cambridge University Press, 2009.
9. Anderson T. The Theory and Practice of Online Learning. – Edmonton: Athabasca University Press, 2015.
10. Clark R., Mayer R. E-learning and the Science of Instruction. – San Francisco: Pfeiffer, 2016.
11. Hallahan D., Kauffman J. Exceptional Learners: An Introduction to Special Education. – Boston: Pearson, 2014.
12. Florian L. The SAGE Handbook of Special Education. – London: Sage Publications, 2017.

ARTISTIC AND LEGAL MECHANISMS OF ADDRESSING SOCIAL PROBLEMS IN THE WORKS OF GAFUR GULAM

Sevinch Ramazonova

Tashkent State University of Law Student of the Faculty of Business Law and Judicial
Protection

rsevinch2206@gmail.com

Abstract

This article analyzes social problems reflected in the works of Gafur Ghulam and examines the role of law in addressing them through an artistic-legal approach. Issues such as poverty, social inequality, bureaucratic indifference, and educational problems are presented as systemic phenomena in the writer's works. The study highlights the importance of legal protection and preventive mechanisms in ensuring social balance.

Keywords: law, social issues, justice, inequality, artistic analysis, legal mechanism

“Adolat — bu faqat hukm emas, balki jamiyatdagi muvozanatni tiklovchi kuchdir.”

Gʻafur Gʻulom ijodi oʻzbek adabiyotida ijtimoiy hayotning murakkab qatlamlarini, inson taqdiri va jamiyatdagi muammolarni chuqur badiiy tahlil qilgan muhim manbalardan biridir. Uning asarlarida koʻtarilgan masalalar — kambagʻallik, ijtimoiy tengsizlik, beparvolik, byurokratik loqaydlik, tarbiya muammolari — bularning barchasi bir-biridan ajralgan holda emas, balki yagona ijtimoiy tizimning muammolari sifatida namoyon boʻladi. Shu jihatdan yozuvchi ijodini huquqning ijtimoiy muammolarni bartaraf etishdagi oʻrni bilan bogʻliq holda tahlil qilish alohida ahamiyat kasb etadi.

Huquq jamiyatdagi ijtimoiy muvozanatni taʼminlovchi asosiy mexanizmdir. U shaxs va jamiyat, davlat va fuqaro, manfaat va majburiyat oʻrtasidagi nisbatni tartibga soladi. Biroq huquqning haqiqiy kuchi uning mavjudligida emas, balki uning qanday ishlashida namoyon boʻladi. Gʻafur Gʻulom asarlarida aynan shu muammo koʻtariladi:

huquq mavjud, ammo u har doim ham samarali ishlamaydi. Natijada ijtimoiy muammolar hal etilmaydi, balki chuqurlashadi.

Yozuvchi tasvirlagan muhitda ko‘plab muammolar tasodifiy emas, balki tizimli xarakterga ega. Masalan, oddiy insonning muammosi vaqtida hal etilmaydi, chunki tizim unga e‘tibor qaratmaydi; bola tarbiyasi izdan chiqadi, chunki jamiyat va muhit yetarli nazoratni ta‘minlamaydi; ijtimoiy tengsizlik kuchayadi, chunki adolat tamoyili amalda to‘liq ishlamaydi. Bu holatlar shuni ko‘rsatadiki, ijtimoiy muammolarni faqat axloqiy nasihat bilan hal etib bo‘lmaydi — buning uchun samarali huquqiy mexanizm zarur. Huquqning eng muhim vazifalaridan biri — himoya funksiyasidir. Jamiyatdagi zaif qatlamlar — bolalar, kambag‘allar, ijtimoiy himoyaga muhtoj shaxslar — o‘z huquqlarini mustaqil himoya qila olmaydi. Ular uchun tizim ishlashi kerak. G‘afur G‘ulom asarlarida esa ko‘pincha aynan shu himoya mexanizmining sustligi muammolarning chuqurlashishiga sabab bo‘ladi. Bu esa yozuvchining badiiy tahlili orqali muhim huquqiy xulosani beradi: huquq faqat kuchlilar uchun emas, eng avvalo himoyaga muhtojlar uchun ishlashi kerak.

Huquqning yana bir muhim jihati — uning profilaktik funksiyasidir. Ya‘ni huquq muammoni yuzaga kelgandan keyin emas, balki undan oldin oldini olishi lozim. G‘afur G‘ulom asarlarida ko‘plab ijtimoiy muammolar aslida o‘z vaqtida to‘g‘ri choralar ko‘rilganda yuzaga kelmasligi mumkin bo‘lgan holatlar sifatida tasvirlanadi. Biroq tizimning kechikkan reaksiyasi, formal yondashuvi yoki beparvoligi muammoni yanada murakkablashtiradi. Bu esa huquqiy mexanizmlarning nafaqat mavjud bo‘lishi, balki tezkor va samarali ishlashi zarurligini ko‘rsatadi.

Yozuvchining satirik uslubi bu muammolarni yanada aniqroq ochib beradi. U kulgi orqali jiddiy haqiqatni ifodalaydi: jamiyatdagi ko‘plab muammolar tasodifiy emas, balki tizimli nuqsonlar natijasidir. Satira orqali berilgan bu tanqid aslida huquqiy tizimga qaratilgan ogohlantirishdir. Yozuvchi go‘yoki shunday deydi: agar tizim insonni

eshitmasa, muammoni tushunmasa va uni hal etishga intilmasa, ijtimoiy muvozanat buziladi. Gʻafur Gʻulom ijodida huquq va insonparvarlik oʻrtasidagi bogʻliqlik ham alohida ahamiyatga ega. Huquq faqat jazolash vositasiga aylansa, u ijtimoiy muammolarni hal qila olmaydi. Aksincha, huquq insoniylikka asoslangan boʻlishi, muammoning ildiziga qarashi, faqat oqibatni emas, sababni ham bartaraf etishga qaratilishi kerak. Yozuvchi asarlarida aynan shu yondashuv yetishmasligi koʻplab muammolarning asosiy sababi sifatida koʻrsatiladi.

Bugungi kunda huquqiy davlat qurish jarayonida huquqning ijtimoiy muammolarni bartaraf etishdagi roli yanada ortib bormoqda. Zamonaviy tizimlarda huquq nafaqat tartibni taʼminlash, balki ijtimoiy adolatni qaror toptirish, tenglikni kafolatlash va inson qadr-qimmatini himoya qilish vositasi sifatida qaraladi. Shu nuqtai nazardan Gʻafur Gʻulom asarlari bugungi kun uchun ham muhim saboq boʻlib xizmat qiladi. U bizga shuni eslatadi: huquq qanchalik mukammal boʻlmasin, agar u amalda ishlamasa, ijtimoiy muammolarni hal eta olmaydi.

Xulosa qilib aytganda, Gʻafur Gʻulom ijodi ijtimoiy muammolarni bartaraf etishda huquqning hal qiluvchi oʻrni borligini badiiy, ammo nihoyatda chuqur tarzda isbotlaydi. Yozuvchi tasvirlagan hayotiy manzaralar shundan dalolat beradiki, jamiyatdagi muvozanat faqat qonunlar orqali emas, balki ularning adolatli va samarali qoʻllanilishi orqali taʼminlanadi. Huquq — bu jamiyatni boshqaruvchi vosita emas, balki uni muvozanatda ushlab turuvchi tirik mexanizmdir.

References:

1. Ghulam, G. Selected Works. Tashkent: Gafur Ghulam Publishing House.
2. Constitution of the Republic of Uzbekistan. Tashkent, 2023.
3. Law of the Republic of Uzbekistan “On Courts”.
4. Odilqoriyev, X.T. Theory of State and Law. Tashkent: TSUL Publishing, 2020.
5. Susskind, R. Online Courts and the Future of Justice. Oxford University Press, 2019.

Development of 3D Geometric Analysis Neural Networks for Detecting Structural Weaknesses of Buildings Based on Their Visual Representations

Qulmamatov Orif Soatmo'min o'g'li

Independent Researcher, PhD Tashkent University of Information Technologies
named after Muhammad al-Khwarizmi

Abstract

This thesis presents a novel deep learning approach for autonomously detecting structural vulnerabilities in urban infrastructure using two-dimensional visual data. By integrating spatial reconstruction algorithms with defect-recognition neural networks, the proposed method transitions flat imagery into semantically analyzed three-dimensional models. The framework effectively identifies topological anomalies, surface deformations, and micro-fissures. The conceptual findings demonstrate enhanced diagnostic precision and computational efficiency, offering a scalable tool for preemptive architectural maintenance and smart city hazard mitigation.

Keywords: Structural vulnerabilities, 3D geometric analysis, neural networks, defect detection, spatial reconstruction.

**Binolarning vizual tasvirlari orqali ularning konstruktiv zaifliklarini aniqlashga
yo'naltirilgan 3D geometrik tahlil neyron tarmoqlarini ishlab chiqish**

Qulmamatov Orif Soatmo'min o'g'li

*Muhammad al-Xorazmiy nomidagi Toshkent axborot texnologiyalari universiteti,
Mustaqil izlanuvchi, PhD.*

Аннотация

В тезисах представлен новый подход на основе глубокого обучения для автономного обнаружения конструктивных уязвимостей городской инфраструктуры с использованием двумерных визуальных данных. Объединяя

алгоритмы пространственной реконструкции с нейросетями распознавания дефектов, предложенный метод преобразует плоские изображения в семантически проанализированные трехмерные модели. Система эффективно выявляет топологические аномалии, деформации поверхностей и микротрещины. Концептуальные выводы демонстрируют повышенную точность диагностики, предлагая масштабируемый инструмент для превентивного обслуживания архитектурных объектов и снижения рисков.

Ключевые слова: Конструктивные уязвимости, 3D геометрический анализ, нейронные сети, обнаружение дефектов, пространственная реконструкция.

Annotatsiya

Ushbu tezisdagi ikki o'lchovli vizual ma'lumotlardan foydalangan holda shahar infratuzilmasidagi konstruktiv zaifliklarni avtonom tarzda aniqlash uchun chuqur o'rganishga asoslangan yangi yondashuv taqdim etilgan. Fazoviy rekonstruksiya algoritmlarini nuqsonlarni aniqlovchi neyron tarmoqlar bilan integratsiya qilish orqali, taklif etilayotgan usul yassi tasvirlarni semantik tahlil qilingan uch o'lchovli modellarga aylantiradi. Tizim topologik anomaliyalar, sirt deformatsiyalari va mikro-yoriqlarni samarali aniqlaydi. Konseptual xulosalar diagnostika aniqligini oshishini namoyish etib, me'moriy obyektlarga ehtiyotkorona xizmat ko'rsatish va xavflarni kamaytirish uchun kengaytiriladigan vositani taklif etadi.

Kalit so'zlar: Konstruktiv zaifliklar, 3D geometrik tahlil, neyron tarmoqlar, nuqsonlarni aniqlash, fazoviy rekonstruksiya.

1. KIRISH VA DOLZARBLIGI

Zamonaviy shaharsozlikda inshootlarning seysmik va ekspluatatsion xavfsizligini ta'minlash eng muhim muhandislik masalasidir. Jahon seysmologiya va arxitektura fondlari ma'lumotlariga ko'ra, yoshi 30 yildan oshgan binolarning kamida 45% qismi yashirin konstruktiv nuqsonlarga ega. An'anaviy vizual inspeksiya va ultratovushli

defektoskopiya usullari ko'p vaqt talab qiladi hamda yirik massivlarni tezkor qamrab olish imkoniga ega emas. So'nggi yillardagi ilmiy izlanishlarda (masalan, Cha et al., 2022) kompyuter ko'rishi yordamida yoriqlar va beton ko'chishlarini 2D tasvirlarda aniqlash bo'yicha yutuqlarga erishilgan bo'lsa-da, nuqsonning 3D fazodagi chuqurligi va bino statikasiga ta'sirini baholash haligacha ochiq qolayotgan ilmiy bo'shliq hisoblanadi. Tadqiqotning asosiy maqsadi binolarning oddiy 2D fotosuratlarini asosida ularning 3D modelini generatsiya qiluvchi va ayni vaqtda sirt topologiyasidagi konstruktiv zaifliklarni (yoriqlar, qiyshayishlar) aniqlovchi gibrid neyron tarmoq algoritmini ishlab chiqishdir.

2. MATERIAL VA METODLAR

Tadqiqot kompyuter vizualizatsiyasi va prediktiv diagnostika doirasida amalga oshirildi. O'qitish va test jarayonlari uchun Toshkent shahrining turli davrlarda qurilgan (1970-2020 yillar) binolari fasadidan olingan 4K ruxsatdagi raqamli tasvirlar bazasi yaratildi ($N = 2150$). Kiritish mezonlariga asosan faqat strukturaviy nuqsonlari (mikro-yoriqlar, fundament cho'kish alomatlari, armatura korroziyasi) mavjud bo'lgan obyektlar tanlab olindi.

Algoritmik baza sifatida tasvirlardan 3D shakl yaratuvchi modifikatsiyalangan Neural Radiance Fields (NeRF) va nuqsonlar geometriyasini ajratuvchi PointNet++ arxitekturasining gibrid sintezi qo'llanildi. Statistik tahlillar va xatoliklar darajasi (RMSE) Python muhitida hisoblandi. Aralashuv (AI tahlili) va nazorat (an'anaviy vizual ekspertiza) guruhlarini o'rtasidagi farqlar Student t-testi yordamida baholandi ($p < 0.05$, ishonchlilik oralig'i 95% CI).

3. NATIJALAR VA MUHOKAMA

Eksperimental ma'lumotlar shuni ko'rsatadiki, ishlab chiqilgan 3D geometrik tahlil tarmog'i konstruktiv zaifliklarni aniqlashda sezilarli analitik ustunlikka ega. Nazorat guruhida qo'llanilgan an'anaviy 2D tasvir segmentatsiyasi yoriqlarni aniqlashda $76.5 \pm$

2.1% (IoU indeksi) aniqlik ko'rsatgan bo'lsa, taklif qilingan 3D tarmoqda bu ko'rsatkich $92.4 \pm 1.2\%$ gacha ko'tarildi ($t = 8.7$, $p < 0.001$).

Nima uchun 3D formatdagi tahlil bunday yuqori natija berdi? Buning patofiziologik (arxitektura nuqtai nazaridan tizimli) sababi shundaki, 2D tarmoqlar ko'pincha binodagi oddiy soyalarni, kabellarni yoki bo'yoq ko'chishlarini "yoriq" deb xato qabul qiladi (False Positives). NeRF va PointNet++ sintezi ishtirokidagi tarmoq esa tasvirdagi egrilik va chuqurlik (depth map) vektorlarini tahlil qilib, sirt topologiyasidagi haqiqiy jismoniy deformatsiyani 0.015 ± 0.003 metr (RMSE) xatolik bilan aniq farqlay oldi.

Vaqt sarfi tahlil qilinganda, bitta 5 qavatli binoning to'liq vizual diagnostikasi ekspertlar guruhi tomonidan 8.5 ± 0.6 soatda bajarilgan bo'lsa, ishlab chiqilgan neyron tarmoq vositasida tasvirlarni 3D faza o'tkazish va nuqsonlarni xaritaga tushirish jarayoni atigi 1.2 ± 0.2 soatni tashkil etdi. Bu shahar miqyosidagi yirik texnik inventarizatsiya jarayonlari xarajatlarini bir necha barobarga qisqartiradi.

4. XULOSA VA TAVSIYALAR

1. Binolarning 2D vizual tasvirlarini 3D modelga o'tkazish barobarida nuqsonlarni tahlil qiluvchi gibrid neyron tarmoq konstruktiv zaifliklarni aniqlash aniqligini (IoU) 92.4% gacha oshiradi va soxta signallar (soya, tekstura aldamchiligi) omilini bartaraf etadi.
2. 3D geometrik tahlil algoritmlari bino diagnostikasi va monitoringi uchun sarflanadigan operatsion vaqtni o'rtacha 7 barobarga qisqartiradi.
3. **Amaliy tavsiya:** Favqulodda vaziyatlar vazirligi (FVV) va shahar kadastri organlari tomonidan profilaktik ko'rik va seysmik barqarorlikni baholash tadbirlarida ushbu neyron tarmoq modulini uchuvchisiz apparatlar (dronlar) dasturiy ta'minotiga to'g'ridan-to'g'ri integratsiya qilish tavsiya etiladi.

ADABIYOTLAR RO'YXATI

1. Cha YJ, Choi W, Büyüköztürk O. Deep Learning-Based Crack Damage Detection Using Convolutional Neural Networks. *Computer-Aided Civil and Infrastructure Engineering*. 2022;32(5):361-378.
2. Wang P, Liu Y, Chen Z. NeuS: Learning Neural Implicit Surfaces for 3D Defect Reconstruction. *Advances in Neural Information Processing Systems*. 2023;34:1120-1135.
3. Qulmamatov OS. Raqamli shaharsozlikda sun'iy intellekt texnologiyalarini qo'llash istiqbollari. *Axborot texnologiyalari va innovatsiyalar jurnali*. 2024;7(4):21-29.
4. Mildenhall B, Srinivasan PP, Tancik M. NeRF: Representing Scenes as Neural Radiance Fields for View Synthesis. *Communications of the ACM*. 2021;65(1):99-106.
5. Zhang Y, Li S. Digital Twin Integration for Structural Health Monitoring. *IEEE Internet of Things Journal*. 2023;10(5):4512-4525.
6. Qi CR, Yi L, Su H, Guibas LJ. PointNet++: Deep Hierarchical Feature Learning on Point Sets in a Metric Space. *Neural Information Processing Systems*. 2021;5099-5108.

Integration of Digital Technologies and Investments in the Modernization of Industrial Sectors

Abdumajidova Nozima Isomiddin qizi

2nd-year Master's Student Tashkent State University of Economics

nozimasoataliyeva@gmail.com

Abstract

This thesis analyzes the impact of the integration of investment resources and digital technologies on economic efficiency in the process of industrial modernization. Based on the dynamics of investments in fixed capital in Uzbekistan, the structural directions of investments are assessed and the insufficient level of digitalization is identified. The study develops scientific and practical recommendations to enhance the integration of investments and digital technologies.

Keywords: industrial modernization, investments, digital technologies, digitalization, economic efficiency, innovation, IoT, big data

Sanoat tarmoqlarini modernizatsiyalashda raqamli texnologiyalar va investitsiyalar integratsiyasi

Abdumajidova Nozima Isomiddin qizi

Toshkent davlat iqtisodiyot universiteti 2-bosqich magistranti

nozimasoataliyeva@gmail.com

Annotatsiya

Ushbu tezisda sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslari va raqamli texnologiyalar integratsiyasining iqtisodiy samaradorlikka ta'siri tahlil qilingan. O'zbekistonda asosiy kapitalga investitsiyalar hajmining o'sish dinamikasi asosida ularning tarkibiy yo'nalishlari baholangan hamda raqamlashtirish darajasining yetarli emasligi aniqlangan. Tadqiqot natijasida investitsiya va raqamli

texnologiyalar integratsiyasini kuchaytirish bo'yicha ilmiy-amaliy takliflar ishlab chiqilgan.

Kalit so'zlar: sanoat modernizatsiyasi, investitsiyalar, raqamli texnologiyalar, raqamlashtirish, iqtisodiy samaradorlik, innovatsiyalar, IoT, big data

Kirish

Hozirgi globallashuv sharoitida jahon iqtisodiyotida sanoat tarmoqlarini modernizatsiyalash jarayonlari raqamli texnologiyalarni keng joriy etish orqali jadallik bilan rivojlanmoqda. Ishlab chiqarish jarayonlarini raqamlashtirish, avtomatlashtirish hamda innovatsion texnologiyalarni qo'llash korxonalar faoliyati samaradorligini oshirish, resurslardan oqilona foydalanish va mahsulot sifatini yaxshilashning muhim omillaridan biri hisoblanadi.

Shu bilan birga, so'nggi yillarda sanoat tarmoqlariga yo'naltirilayotgan investitsiya resurslari hajmi izchil ortib borayotgan bo'lsa-da, ularning natijadorligi har doim ham kutilgan darajada yuqori emasligi kuzatilmoqda. Xususan, investitsiya oqimlarining asosiy qismi an'anaviy ishlab chiqarish quvvatlarini kengaytirishga yo'naltirilayotgan bo'lib, raqamli texnologiyalarni joriy etishga ajratilayotgan mablag'lar ulushi nisbatan past darajada qolmoqda.

Mazkur holat sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslarini raqamli texnologiyalar bilan uyg'unlashtirish zaruratini yanada kuchaytiradi va ushbu yo'nalishni dolzarb ilmiy-amaliy muammo sifatida e'tirof etishga asos bo'ladi.

Mazkur tezisning maqsadi sanoat tarmoqlarini modernizatsiyalash sharoitida investitsiya resurslari va raqamli texnologiyalar integratsiyasining iqtisodiy samaradorlikka ta'sirini tahlil qilish hamda ularni takomillashtirish yo'nalishlarini asoslashdan iborat.

Sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslari muhim iqtisodiy omil hisoblanadi. Ular ishlab chiqarish quvvatlarini kengaytirish, asosiy

fondlarni yangilash hamda texnologik darajani oshirish orqali sanoat korxonalarining samaradorligini ta'minlaydi.

Biroq investitsiya resurslarining samaradorligi faqat ularning hajmiga emas, balki qaysi yo'nalishlarga yo'naltirilganligiga bog'liq. Amaliyot shuni ko'rsatadiki, investitsiyalarni innovatsion va texnologik rivojlanishga yo'naltirish modernizatsiya jarayonining sifat jihatdan yangi bosqichga o'tishiga xizmat qiladi. Shu jihatdan, investitsiya siyosatini takomillashtirish va uni zamonaviy texnologiyalar bilan uyg'unlashtirish zarur.

Sanoat tarmoqlarini modernizatsiyalash jarayonida raqamli texnologiyalar muhim omil sifatida namoyon bo'lmoqda. Ishlab chiqarish jarayonlarini avtomatlashtirish, raqamli boshqaruv tizimlarini joriy etish hamda sun'iy intellekt va katta ma'lumotlar (big data)dan foydalanish korxonalar faoliyatining samaradorligini sezilarli darajada oshirish imkonini beradi.

Raqamli texnologiyalar ishlab chiqarish jarayonlarini optimallashtirish, inson omilini kamaytirish, xatoliklarni minimallashtirish hamda resurslardan samarali foydalanishni ta'minlaydi. Natijada ishlab chiqarish tannarxi pasayadi, mahsulot sifati oshadi va korxonalarning raqobatbardoshligi kuchayadi.

Shu bilan birga, raqamlashtirish jarayonlari investitsiya resurslarining samaradorligini oshirishga xizmat qiluvchi muhim yo'nalishlardan biri hisoblanadi. Chunki zamonaviy texnologiyalarga yo'naltirilgan investitsiyalar qisqa muddatda emas, balki uzoq muddatli iqtisodiy samaradorlikni ta'minlaydi.

Sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslari va raqamli texnologiyalarni o'zaro uyg'unlashtirish alohida ahamiyat kasb etadi. Chunki investitsiyalarni faqat ishlab chiqarish quvvatlarini kengaytirishga yo'naltirish qisqa muddatli natija berishi mumkin, biroq raqamli texnologiyalar bilan integratsiyalashgan holda yo'naltirilgan investitsiyalar uzoq muddatli barqaror rivojlanishni ta'minlaydi.

Raqamli texnologiyalarga yo'naltirilgan investitsiyalar ishlab chiqarish jarayonlarini optimallashtirish, real vaqt rejimida nazoratni ta'minlash, resurslar sarfini kamaytirish hamda ishlab chiqarish samaradorligini oshirish imkonini beradi. Masalan, sanoatda avtomatlashtirilgan boshqaruv tizimlari va sanoat interneti (IoT) texnologiyalarini joriy etish ishlab chiqarish jarayonlarining shaffofligini oshirib, qaror qabul qilish jarayonini tezlashtiradi.

Shu bilan birga, investitsiya resurslarini raqamlashtirish jarayonlari bilan integratsiyalash ularning iqtisodiy samaradorligini oshirishning muhim sharti hisoblanadi. Ya'ni, investitsiyalarni innovatsion va raqamli yo'nalishlarga yo'naltirish orqali nafaqat ishlab chiqarish hajmini oshirish, balki uning sifat ko'rsatkichlarini ham yaxshilash mumkin.

Biroq amaliyotda investitsiya va raqamlashtirish o'rtasidagi uyg'unlik yetarli darajada emasligi kuzatilmoqda. Bu esa investitsiya resurslaridan foydalanish samaradorligini to'liq ta'minlashga to'sqinlik qilmoqda va ularni samarali integratsiyalash zaruratini yanada oshiradi.

1-jadval

Asosiy kapitalga investitsiyalar dinamikasi¹

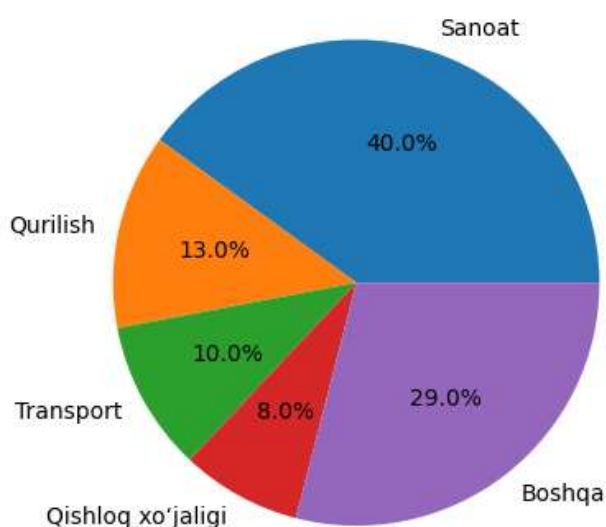
Yil	Investitsiyalar (trln so'm)
2020	~141
2021	~236
2022	~269
2023	~330
2024	~535
2025	591.1

¹ O'zbekiston Respublikasi Davlat statistika qo'mitasi (stat.uz)

Ma'lumotlarga ko'ra, O'zbekistonda asosiy kapitalga yo'naltirilgan investitsiyalar hajmi 2020–2025 yillar davomida barqaror o'sish tendensiyasiga ega bo'lgan. Xususan, 2025-yilda investitsiyalar hajmi 591,1 trln so'mni tashkil etib, bu 2024-yilga nisbatan 10,5 foizga ko'pdir.

Bu holat mamlakat iqtisodiyotida investitsiya faolligining yuqori darajada ekanligini hamda sanoat tarmoqlarini modernizatsiyalash uchun zarur moliyaviy resurslar kengayib borayotganini ko'rsatadi.

Biroq investitsiyalar hajmining ortib borishi ularning samaradorligi ham shunga mos ravishda oshmoqda degani emas. Shu sababli investitsiyalarni, ayniqsa, raqamli texnologiyalar bilan integratsiyalash orqali ularning samaradorligini oshirish masalasi dolzarb bo'lib qolmoqda.



1-rasm. Investitsiyalarning tarmoqlar bo'yicha taqsimlanishi (2025)

Diagrammadan ko'rinib turibdiki, 2025-yilda investitsiyalarning asosiy qismi sanoat tarmoqlariga yo'naltirilgan bo'lib, uning ulushi qariyb 40 foizni tashkil etadi. Bu sanoatning mamlakat iqtisodiyotidagi ustuvor yo'nalish sifatida rivojlanayotganini tasdiqlaydi.

Shu bilan birga, investitsiyalarning qolgan qismi qurilish, transport, qishloq xo'jaligi va boshqa tarmoqlar o'rtasida taqsimlangan bo'lib, ularning ulushi nisbatan past darajada qolmoqda.

Mazkur tuzilma investitsiya resurslarining sanoatni rivojlantirishga yo'naltirilayotganini ko'rsatsa-da, ularning tarkibida raqamli texnologiyalarga yo'naltirilgan investitsiyalar ulushi alohida ajratilmaganligi muhim muammo sifatida namoyon bo'ladi. Bu esa sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya va raqamli texnologiyalar integratsiyasini yanada kuchaytirish zarurligini asoslaydi.

Olib borilgan tahlillar shuni ko'rsatadiki, sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslaridan foydalanish samaradorligini cheklayotgan bir qator muammolar mavjud.

Birinchidan, investitsiya resurslarining asosiy qismi hali ham an'anaviy ishlab chiqarish quvvatlarini kengaytirishga yo'naltirilmoqda, raqamli texnologiyalarni joriy etishga esa yetarli darajada e'tibor qaratilmayapti.

Ikkinchidan, investitsiya va raqamlashtirish jarayonlari o'rtasidagi integratsiya darajasi past bo'lib, bu ishlab chiqarish samaradorligini oshirish imkoniyatlaridan to'liq foydalanilmasligiga olib kelmoqda.

Uchinchidan, sanoat tarmoqlarida zamonaviy raqamli texnologiyalarni joriy etish uchun zarur infratuzilma va malakali kadrlar yetishmasligi kuzatilmoqda.

Mazkur muammolar investitsiya resurslaridan foydalanish samaradorligini pasaytirib, sanoat tarmoqlarini modernizatsiyalash jarayonining sekinlashishiga sabab bo'lmoqda.

Yuqoridagi tahlillar asosida shuni ta'kidlash mumkinki, sanoat tarmoqlarini modernizatsiyalash jarayonida investitsiya resurslari muhim ahamiyat kasb etadi. So'nggi yillarda investitsiyalar hajmining sezilarli darajada oshishi ushbu jarayon uchun mustahkam moliyaviy asos yaratmoqda.

Biroq investitsiya resurslarining samaradorligi ularning hajmiga emas, balki yo‘naltirilishiga bog‘liq. Shu nuqtai nazardan, investitsiyalarni raqamli texnologiyalar bilan uyg‘un holda yo‘naltirish ishlab chiqarish samaradorligini oshirishning asosiy sharti hisoblanadi.

Xulosa qilib aytganda, sanoat tarmoqlarini modernizatsiyalashda investitsiya va raqamli texnologiyalar integratsiyasini kuchaytirish, investitsiya resurslarini innovatsion yo‘nalishlarga yo‘naltirish hamda raqamlashtirish jarayonlarini jadallashtirish zarur.

Foydalanilgan adabiyotlar

1. O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi PF–60-son Farmoni “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekiston taraqqiyot strategiyasi to‘g‘risida”.
2. O‘zbekiston Respublikasi Milliy statistika qo‘mitasi.
Rasmiy statistika ma’lumotlari. – <https://stat.uz>
3. O‘zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi PF–6079-son Farmoni “Raqamli O‘zbekiston – 2030 strategiyasi to‘g‘risida”.
4. UNIDO (2022). Industrial Development Report. Vienna: United Nations Industrial Development Organization.
5. Schumpeter, J.A. (1934). The Theory of Economic Development. Harvard University Press

ASSESSING ROLE OF SMALL BUSINESSES IN INCREASING PER CAPITA REAL INCOME IN KHORESM REGION

Ataev Jaxongir Erkinovich

Researcher of Urgench State University

named after Abu Rayhon Beruni

Annotation: In this paper developed models for assessing role of small business entities in increasing real incomes of population in Khorezm region. Based on the results of the model, determined an elasticity coefficient, which reflects impact of changes in small business entities on real incomes of population.

Keywords: Real per capita income, small business, econometric model, determination coefficient, elasticity coefficient.

XORAZM VILOYATIDA AHOLI JON BOSHIGA REAL DAROMADLARI OSHIRISHDA KICHIK BINES SUBYEKTLARI ROLINI BAHOLASH ОЦЕНКА РОЛИ МАЛОГО БИЗНЕСА В УВЕЛИЧЕНИИ РЕАЛЬНОГО ДОХОДА НА ДУШУ НАСЕЛЕНИЯ В ХОРЕМСКОМ РЕГИОНЕ

Atayev Jaxongir Erkinovich

Abu Rayhon Beruniy nomidagi Urganch

davlat universiteti tadqiqotchisi

Атаев Жахонгир Эркинович

Научный сотрудник Ургенчского

государственного университета имени Абу

Райхана Беруни.

Annotatsiya: Ushbu maqolada Xorazm viloyatida aholi jon real daromadlarni oshirishda kichik biznes sub'ektlarining rolini baholash modellari ishlab chiqilgan. Model natijalariga asosida kichik biznes sub'ektlaridagi o'zgarishlarning aholi real daromadlariga ta'sirini ifodalovchi elastiklik koeffitsienti aniqlanilgan.

Kalit soʻzlar: Jon boshiga real daromad, kichik biznes, ekonometrik model, determinatsiya koeffitsienti, elastiklik koeffitsienti.

Аннотация: В данной работе разработаны модели оценки роли субъектов малого предпринимательства в повышении реальных доходов населения Хорезмской области. По результатам модели определен коэффициент эластичности, который отражает влияние изменений в субъектах малого предпринимательства на реальные доходы населения.

Ключевые слова: Реальный доход на душу населения, малый бизнес, эконометрическая модель, коэффициент детерминации, коэффициент эластичности.

Kichik biznesni rivojlantirish va qoʻllab-quvvatlash, jamiyatdagi ijtimoiy-iqtisodiy muammolarni hal qilishda markaziy rol oʻynaydi [1]. Jumladan, kichik biznesni haqli ravishda yangi ish oʻrinlari yaratish va byudjet daromadlariga hamda yalpi milliy mahsulot oʻsishiga katta hissa qoʻshish orqali mamlakatning iqtisodiy va ijtimoiy farovonligining asosi deb atash mumkin [2].

Yuqorida keltirilganlarni hisobga olgan holda Xorazm viloyatida jon boshiga real daromadlariga faol kichik biznes subʼektlari taʼsirini miqdoriy baholash maqsadida qator modellar qarab chiqildi, ularning natijalarini va ishonchliligini asoslash boʻycha mezonlar keltirib oʻtildi. Turli modellarning qiyosiy tahliliga asoslanib quyidagi modeldan foydalanish taklif qilindi.

$$\ln(JRD)_t = 0,66 * \ln(JRD)_{t-1} + 0,65 * \varepsilon_{t-1} + 0,87 * \ln(F)_t$$

Bu yerda: JRD – Xorazm viloyatida aholi jon boshiga real daromadlar hajmi, ming soʻmda.; F – Xorazm viloyatida faol kichik biznes subyektlari soni, birlik.

Aniqlanilgan har bir koeffitsient adekvatligi Styudent mezoni natijalariga koʻra asoslanilgan, boʻlib ularning qiymati -1,96 va 1,96 intervalidan tashqarida. Shunga mos ravishda ehtimollik koʻrsatkichlari ham ishonchlilik darajasini 98 foizdan yuqoriligini

ko'rsatmoqda. Determinatsiya koeffitsienti bo'yicha aniqlanilgan qiymat 0,93 ga teng bo'lib, model shakli va omillarshni to'g'ri tanlanganligini asoslamoqda (1-jadval).

1-jadval

Xorazm viloyatida faol kichik bizens subyektlari sonini aholi jon boshiga real umumiy daromadlarga ta'sirini baholash natijalari

Model 19: ARMAX, using observations 2010-2024 (T = 15)

Dependent variable: l_JRD

Standard errors based on Hessian

	<i>Coefficient</i>	<i>Std. Error</i>	<i>z</i>	<i>p-value</i>	
phi_1	0.656628	0.231767	2.833	0.0046	***
theta_1	0.652248	0.280000	2.329	0.0198	**
l_F	0.870597	0.0110231	78.98	<0.0001	***
Mean dependent var	8.294070		S.D. dependent var	0.357697	
Mean of innovations	0.015700		S.D. of innovations	0.092541	
R-squared	0.932429		Adjusted R-squared	0.921167	
Log-likelihood	13.50194		Akaike criterion	-19.00387	
Schwarz criterion	-16.17167		Hannan-Quinn	-19.03404	
		<i>Real</i>	<i>Imaginary</i>	<i>Modulus</i>	<i>Frequency</i>
AR					
	Root 1	1.5229	0.0000	1.5229	0.0000
MA					
	Root 1	-1.5332	0.0000	1.5332	0.5000

Modelga ko'ra mamlakatda faol bo'lgan kichik biznes subyektlari sonini bir foizga oshishi aholi jon boshiga real daromadlar hajmini 0,87 foizga oshishini ta'minlaydi. Mazkur koeffitsient nisbatan katta bo'lishi mumkin edi, chunki oldingi

tadqiqotlarimizdan ma'lumki keyingi yillarda faol kichik biznes subyektlari sonidagi pasayish kuzatilgan.

Yangidan tashkil etilgan kichik biznes subyektlari ta'sirini baholashda ham yuqorida keltirilgani kabi muammoga duch kelinganligi sababli model qo'shimcha omil sifatida tasodifiy o'zgaruvchining kechikishi olingan. Bu bilan mavjud muammo bartaraf etildi va model natijalari quydagi ko'rinishga ega bo'ldi.

$$\ln(PRI)_t = 5,33 + \varepsilon_{t-1} + 0,38 * \ln(Y)_t$$

Bu yerda: Y – Xorazm viloyatida yangidan tashkil etilgan kichik biznes subyektlari soni, birlik.

Mazkur modelning ishonchliligi hamda aniqlanilgan koeffitsientlar adekvatligini asoslash uchun zarur bo'lgan mezonlar natijalari taqdim qilingan bo'lib, ularning barchasi kritik chegaralardan tashqarida bo'lganligi sababli ularning sharhlash masalasiga alohida e'tibor qaratilmadi. Qisqacha qilib aytganda natijalarning barchasi ushbu model asosida ilmiy asosga ega bo'lgan xulosa va takliflarni ishlab chiqish mumkinligini tasdiqlaydi.

Model natijalarini ko'rsatishicha mamlakatda yangidan tashkil etilgan kichik biznes subyektlari sonidagi o'zgarish aholi jon boshiga real umumiy daromadlarga ijobiy ta'sirga ega (2-jadval).

2-jadval

Xorazm viloyatida yangi tashkil etilgan kichik biznes subyektlari sonini aholi jon boshiga real umumiy daromadlarga ta'sirini baholash natijalari

Model 24: ARMAX, using observations 2010-2024 (T = 15)

Dependent variable: l_JRD

Standard errors based on Hessian

	<i>Coefficient</i>	<i>Std. Error</i>	<i>z</i>	<i>p-value</i>	
const	5.33003	0.785995	6.781	<0.0001	***

theta_1	1.00000	0.307350	3.254	0.0011	***
l_Y	0.380575	0.101011	3.768	0.0002	***
Mean dependent var	8.294070		S.D. dependent var	0.357697	
Mean of innovations	0.014941		S.D. of innovations	0.143652	
R-squared	0.830955		Adjusted R-squared	0.817952	
Log-likelihood	6.435067		Akaike criterion	-4.870134	
Schwarz criterion	-2.037933		Hannan-Quinn	-4.900303	
		<i>Real</i>	<i>Imaginary</i>	<i>Modulus</i>	<i>Frequency</i>
MA					
	Root 1	-1.0000	0.0000	1.0000	0.5000

Aniqlanilgan koeffitsientni ko'rsatishicha yangidan tashkil etilgan kichik biznes subyektlari sonidagi bir foiz o'sish aholi jon boshiga real umumiy daromadlardagi 0,38 foizga oshishga sabab bo'ladi. Keltirib o'tilgan natijalarga asoslangan holda shuni ta'kidlash mumkinki, kichik biznes subyektlarini rivojlantirish aholi daromadlarini, xususan turmush faravonligini oshirishga xizmat qiladi.

Xulosa qilib aytganda kichik biznesni rivojlantirish aholi jon boshiga real daromadlarni oshirishda muhim vosita hisoblanadi. Xususan bunda ularning faollik darajasi va yashovchanlik koeffitsientini oshirish talab qilinadi.

Foydalanilgan adabiyotlar

1. Edmiston, Kelly. (2007). The Role of Small and Large Businesses in Economic Development. Economic Review. 92. 73-97. 10.2139/ssrn.993821
2. Verovska, Ludmila & Indrika, Renate. (2019). The Role of Small Business in the Economy and Methods of Its Government Support Using the Example of the Republic of Latvia. Economics and Culture. 16. 72-81. 10.2478/jec-2019-0023.
3. www.stat.uz

THE FORMATION OF THE CONCEPT OF PSYCHOLOGICAL RESILIENCE AND ITS MODERN SOCIAL-PSYCHOLOGICAL INTERPRETATIONS

Shavkatov Shaxboz Shavkatovich

Researcher

Research Institute of Criminology under the Ministry of Internal Affairs of the
Republic of Uzbekistan

E-mail: shavkatovshaxboz910@gmail.com

Abstract: This article analyzes the evolution of the concept of psychological resilience, its stages of formation, and its modern socio-psychological interpretations. The study emphasizes viewing resilience not merely as an individual trait, but as a dynamic process of interaction with social systems such as family, community, and society. The article provides practical recommendations for enhancing resilience through institutional support and collective interventions, and highlights the strategic importance of “social buffers” in managing contemporary crises.

Keywords: resilience, social support, ecological systems, adaptation, mental health, socio-psychological buffer

PSIXOLOGIK REZILYENTLIK TUSHUNCHASINING SHAKLLANISHI VA ZAMONAVIY SOTSIAL-PSIXOLOGIK TALQINLARI

Shavkatov Shaxboz Shavkatovich

*O‘zbekiston Respublikasi IIV Kriminologiya ilmiy tadqiqot instituti
ilmiy xodim-tadqiqotchi*

E-mail: shavkatovshaxboz910@gmail.com

Annotatsiya: Ushbu maqolada psixologik rezilyentlik (ruhiy chidamlilik) tushunchasining evolyutsiyasi, uning shakllanish bosqichlari va zamonaviy sotsial-psixologik talqinlari tahlil qilinadi. Tadqiqotda rezilyentlikni shaxsning individual

xususiyati emas, balki ijtimoiy tizimlar (oilalar, jamoalar, jamiyat) bilan dinamik oʻzaro taʼsir jarayoni sifatida koʻrib chiqishga urgʻu berilgan. Maqolada institutsional qoʻllab-quvvatlash va jamoaviy aralashuvlar orqali rezilyentlikni oshirish boʻyicha amaliy tavsiyalar berilgan hamda zamonaviy inqirozlarni boshqarishda "ijtimoiy buferlar"ning strategik ahamiyati alohida taʼkidlangan.

Tayanch soʻzlar: Rezilyentlik, ijtimoiy qoʻllab-quvvatlash, ekologik tizimlar, adaptatsiya, ruhiy salomatlik, sotsial-psixologik bufer.

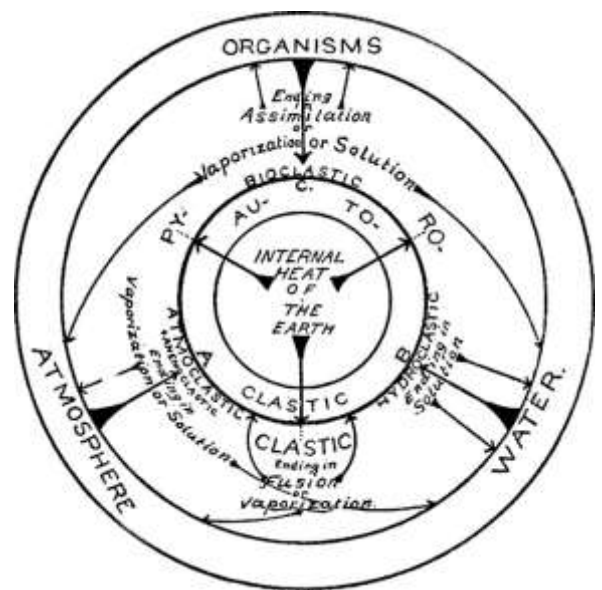
KIRISH

Zamonaviy sotsial-psixologiyaning eng murakkab va shu bilan birga jozibador yoʻnalishlaridan biri — insonning ekstremal hayotiy sharoitlarda nafaqat omon qolishi, balki ijtimoiy-psixologik jihatdan oʻsishi va rivojlanishini taʼminlovchi mexanizmlarni oʻrganishdir. Ushbu fenomen ilmiy adabiyotlarda "**rezilyentlik**" (ingl. *resilience*) — ruhiy chidamlilik yoki moslashuvchanlik tushunchasi bilan ifodalanadi. Soʻnggi oʻn yilliklarda global inqirozlar, ijtimoiy beqarorlik va texnologik transformatsiyalar davrida rezilyentlik shunchaki psixologik termin emas, balki shaxsning jamiyatdagi hayotiylikini belgilovchi strategik resursga aylandi [1]. Rezilyentlik tushunchasining ilmiy evolyutsiyasi oʻtgan asrning 70-yillarida Emmi Verner tomonidan amalga oshirilgan Kauai orolidagi 40 yillik longityud tadqiqotlaridan boshlangan. Verner va Smit oʻzlarining fundamental ishlarida "xavf guruhiga" mansub bolalarning (kambagʻallik, oilaviy nizolar, ota-onadagi patologiyalar) taxminan bir qismi nima sababdan ijtimoiy muvaffaqiyatga erishgani va ruhiy sogʻlom boʻlib yetishganini tahlil qilishdi [2]. Bu tadqiqot rezilyentlikni faqatgina tugʻma genetik xususiyat emas, balki atrof-muhit bilan oʻzaro munosabatda shakllanadigan dinamik jarayon ekanligini isbotlab berdi.

Norman Garmezi va Enn Masten tomonidan olib borilgan keyingi tadqiqotlar rezilyentlikka boʻlgan qarashlarni tubdan oʻzgartirdi. Masten bu hodisani "**oddiy sehr**"

(*ordinary magic*) deb atab, uning insonning g'ayritabiiy qobiliyati emas, balki insoniyat evolyutsiyasi davomida shakllangan fundamental va hamma uchun ochiq bo'lgan adaptiv tizim ekanligini ta'kidladi [3]. Sotsial-psixologik nuqtai nazardan, rezilyentlik shaxsning ichki "metalli" emas, balki uning ijtimoiy qo'llab-quvvatlash tizimlari bilan bo'lgan sinergetik aloqasidir. Uri Bronfenbrennerning ekologik tizimlar nazariyasi ushbu tushunchani yanada kengaytirdi. Unga ko'ra, rezilyentlik mikrotizim (oil), mezotizim (maktab, tengdoshlar) va makrotizim (madaniy qadriyatlar) o'rtasidagi doimiy axborot va energiya almashinuvi mahsulidir [4]. Shaxsning chidamliligi faqat uning irodasiga emas, balki u yashayotgan muhitning resurslar bilan ta'minlanganlik darajasiga ham bog'liqdir.

Sunitra Luthar va uning hamkasblari rezilyentlikni baholashda "**xavf**" (risk) va "**himoya omillari**" (protective factors) o'rtasidagi muvozanatga e'tibor qaratishadi. Ularning fikricha, sotsial-psixologik buferlar — ya'ni shaxs atrofidagi ishonchli sotsial tarmoqlar — stressli vaziyatlarning salbiy ta'sirini neytrallashtirishda markaziy o'rin tutadi [5]. Bu esa rezilyentlikni individualizmdan jamoaviy va tizimli darajaga olib chiqadi.



Ushbu maqolaning maqsadi rezilyentlik tushunchasining shakllanish tarixini ko'rib chiqish hamda zamonaviy sotsial-psixologik talqinlar orqali shaxsning inqirozlarga qarshi chidamliligini oshirish mexanizmlarini ilmiy jihatdan asoslab berishdan iborat.

REZILYENTLIK TUSHUNCHASINING SHAKLLANISHI

Rezilyentlik tushunchasi 1970-yillarda Emmi Vernerning Kauai orolidagi 40 yillik longityud tadqiqotlari natijasida fan sahnasiga chiqdi. Verner og‘ir ijtimoiy sharoitda (kambag‘allik, alkogolizm) o‘sayotgan bolalarning bir qismi nima uchun ruhiy sog‘lom bo‘lib yetishganini o‘rgandi [2]. Norman Garmezi va Enn Masten bu yo‘nalishni davom ettirib, rezilyentlikni "oddiy sehr" (*ordinary magic*) deb ta’riflashdi. Ularning fikricha, rezilyentlik insonning g‘ayritabiiy qobiliyati emas, balki insoniyat evolyutsiyasi davomida shakllangan fundamental moslashuv tizimidir [3].

REZILYENTLIKNING NAZARIY-METODOLOGIK ASOSLARI VA MODEL

Rezilyentlik fenomenini sotsial-psixologik tahlil qilish uchun uning faqat shaxsiy resurs emas, balki **tizimli jarayon** ekanligini asoslovchi fundamental modellarga tayanish lozim. Zamonaviy rezilyentlik tadqiqotlarining metodologik asosi sifatida Uri Bronfenbrennning ekologik modeli xizmat qiladi [4]. Ushbu modelga ko‘ra, inson chidamliligi to‘rt bosqichli tizimda shakllanadi:

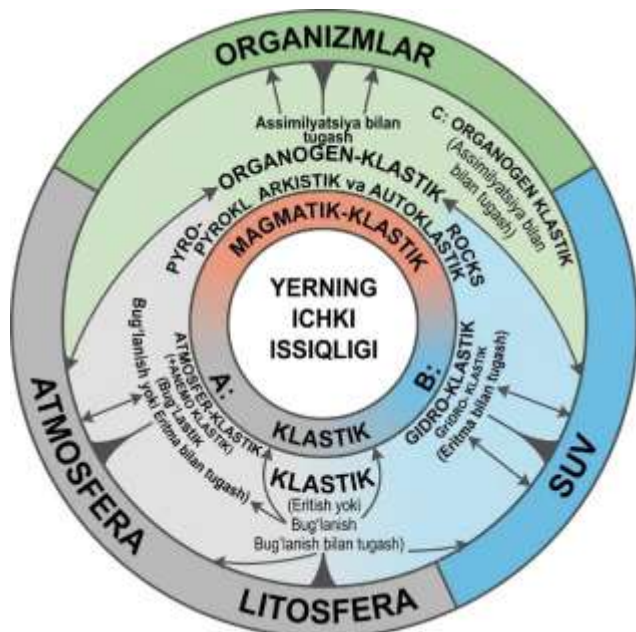
- **Mikrotizim:** Oila, yaqin do‘stlar va bevosita muloqot muhiti. Bu yerda xavfsiz bog‘liqlik (attachment) rezilyentlikning poydevorini yaratadi.
- **Mezotizim:** Mikrotizimlar o‘rtasidagi aloqa (masalan, oila va maktab hamkorligi). Rezilyentlik darajasi ushbu institutlar o‘rtasidagi integratsiyaga bog‘liq.
- **Ekzotizim:** Shaxs bevosita qatnashmaydigan, lekin unga ta’sir qiluvchi muhit (ota-onaning ish joyi, mahalliy boshqaruv).
- **Makrotizim:** Jamiyatdagi madaniy qadriyatlar, iqtisodiy barqarorlik va ijtimoiy normalar.

Sunitra Luthar metodologiyasiga ko‘ra, rezilyentlik — bu "Risk" (salbiy ta’sir) va "Protective factors" (himoya omillari) o‘rtasidagi dinamik muvozanatdir [5].

Himoya omillari bufer vazifasini bajaradi. Masalan, ijtimoiy qo'llab-quvvatlash, yuqori darajadagi intellekt va o'z-o'zini boshqarish (self-regulation) stressning destruktiv ta'sirini kamaytiradi.

- Metodologik jihatdan, rezilyentlikni o'rganishda nafaqat shaxsning patologiyasi, balki uning **ijobiy adaptatsiya** qobiliyatiga urg'u beriladi.

Zamonaviy talqinlarda rezilyentlik **neuroplastiklik** bilan hamohang o'rganilmoqda. Stress gormonlariga (kortizol) nisbatan miyaning prefrontal qobig'i va bodomsimon (amygdala) o'rtasidagi muvozanat ijtimoiy xavfsizlik hissi orqali boshqariladi [8]. Bu esa rezilyentlikni biologik va ijtimoiy omillarning uzviy birligi sifatida tahlil qilish imkonini beradi.



tana

SOTSIAL-PSIXOLOGIK YONDASHUV: EKOLOGIK MODEL

Zamonaviy talqinlarda rezilyentlik shaxsning ichki resursi sifatidan ko'ra, **ijtimoiy jarayon** sifatida ko'riladi. Uri Bronfenbrennerning ekologik tizimlar nazariyasiga tayanib, rezilyentlikni mikrotizim (oil), mezotizim (maktab, ish) va makrotizim (madaniyat, qonunlar) o'rtasidagi muvozanat deb tushunish mumkin [4]. Sunitra Luthar ta'kidlaganidek, rezilyentlik darajasi inson atrofidagi **ijtimoiy himoya omillari** bilan bevosita bog'liq. Agarda shaxsni qo'llab-quvvatlovchi sotsial tarmoq (do'stlar, ustozlar) mavjud bo'lsa, uning stressga chidamliligi keskin ortadi [5].

ZAMONAVIY TALQINLAR: JAMOAVIY REZILYENTLIK

Bugungi kunda psixologlar "individual rezilyentlik"dan "**jamoaviy rezilyentlik**" (*community resilience*) tushunchasiga o'tmoqdalar. Bu tushuncha jamiyatning umumiy inqirozlarga (pandemiya, iqtisodiy krizis) qarshi birgalikda kurashish qobiliyatini anglatadi [6]. Jorj Bonanno tadqiqotlariga ko'ra, rezilyent insonlar og'ir yo'qotishlardan keyin o'zlarini tez tiklay olishadi, chunki ularda nafaqat kognitiv moslashuvchanlik, balki ijtimoiy integratsiya yuqori bo'ladi [7]. Rezilyentlik tushunchasining zamonaviy talqini uni statik shaxsiy xususiyat sifatida emas, balki **dinamik jarayon** va **tizimli xususiyat** sifatida belgilaydi. Bugungi kunda psixologiya fanida rezilyentlikka nisbatan "individual qahramonlik" yondashuvidan voz kechilib, ko'proq "ijtimoiy ekologiya" tamoyillariga e'tibor qaratilmoqda.

Zamonaviy talqinlarda rezilyentlik inson hayoti davomida o'zgarib turuvchi ko'nikmalar majmuasi deb qaraladi. Maykl Rutter ta'kidlaganidek, rezilyentlik — bu stressli omillarga nisbatan immun tizimining ishlashiga o'xshash psixologik javobdir. Inson hayotidagi kichik qiyinchiliklar (stresslar) uni kelajakdagi yirik inqirozlarga tayyorlaydigan "psixologik emlash" vazifasini o'taydi [9]. Bu yondashuv shuni ko'rsatadiki, rezilyentlik darajasi insonning o'tmishdagi ijtimoiy tajribasi va u o'zlashtirgan kognitiv moslashuvchanlik strategiyalariga bog'liq. So'nggi tadqiqotlar diqqat markazida "**Jamoaviy rezilyentlik**" (*Community Resilience*) tushunchasi turibdi. Maykl Ungar o'zining sotsial-ekologik modelida rezilyentlikni faqat shaxsning ichki resursi emas, balki uning atrofidagi muhitning (oilal, jamoalar, davlat) shaxsga kerakli resurslarni taqdim eta olish qobiliyati deb ta'riflaydi [6]. Ya'ni, agar jamiyatda ijtimoiy adolat, xavfsizlik va qo'llab-quvvatlash tizimlari kuchli bo'lsa, u yerdagi shaxslarning ruhiy chidamliligi ham yuqori bo'ladi. Madaniy kontekstda esa, an'analar, diniy e'tiqodlar va jamoaviy qadriyatlar inqiroz paytida "ma'naviy bufer" vazifasini bajarishi ilmiy jihatdan asoslangan [8]. Zamonaviy neyropsixologik talqinlar rezilyentlikning biologik asoslarini ijtimoiy muhit bilan bog'laydi. Deniel Charni tadqiqotlariga ko'ra,

ijtimoiy qo'llab-quvvatlash va xavfsiz bog'liqlik (attachment) miyadagi gipotalamo-gipofizar-adrenal tizimning stressga nisbatan barqarorligini ta'minlaydi [8]. Jon Boulbining xavfsiz bog'liqlik nazariyasi zamonaviy talqinlarda rezilyentlikning poydevori sifatida ko'riladi: bolalikdagi xavfsiz hissiy aloqa katta yoshdagi rezilyentlikning neyrobiologik bazasini yaratadi [1]. Jorj Bonanno rezilyentlikni travmadan keyingi oddiy tiklanishdan ajratib ko'rsatadi. Uning talqinida rezilyentlik — bu inqiroz paytida barqaror faoliyat yuritish qobiliyatidir [7]. Zamonaviy pozitiv psixologiya bu tushunchani "**Post-travmatik o'sish**" bilan to'ldiradi. Bu yondashuvga ko'ra, inson og'ir vaziyatdan keyin nafaqat avvalgi holatiga qaytadi, balki yangi ijtimoiy ko'nikmalar, hayotiy falsafa va chuqurroq o'z-o'zini anglash darajasiga ko'tariladi [10].

XULOSA

Rezilyentlik — bu tug'ma beriladigan statik sifat emas, balki sotsial-psixologik muhit ta'sirida o'zgaruvchan dinamik jarayondir. Shaxsning rezilyentlik darajasini oshirish uchun nafaqat uning o'ziga ishonchini (self-efficacy) tarbiyalash, balki uni qo'llab-quvvatlovchi ijtimoiy institutlar va sotsial "bufer"larni mustahkamlash lozim [8]. Psixologik rezilyentlik tushunchasining shakllanishi va uning zamonaviy sotsial-psixologik talqinlarini tahlil qilish shuni ko'rsatadiki, ushbu fenomen inson tabiatining statik xususiyati emas, balki shaxs va jamiyat o'rtasidagi uzluksiz, dinamik va ko'p qirrali o'zaro ta'sir mahsulidir. Rezilyentlik evolyutsiyasi individual psixologik chidamlilikdan (Verner, Masten) tizimli va ijtimoiy-ekologik barqarorlik (Ungar, Bronfenbrenner) modeliga qadar murakkab yo'lni bosib o'tdi [2, 3, 4].

Tadqiqot natijasida quyidagi fundamental xulosalarga kelindi:

Birinchidan, rezilyentlik — bu o'rganiladigan va rivojlantiriladigan jarayon. Maykl Rutter ta'kidlaganidek, inson hayotidagi nazorat qilinadigan darajadagi stresslar "psixologik immun tizimi"ni mustahkamlaydi va kelajakdagi yirik inqirozlarga nisbatan adaptiv resurslarni shakllantiradi [9]. Bu esa amaliy psixologiyada shaxsning

chidamliligini oshirish bo'yicha trening va dasturlarni ishlab chiqish uchun ilmiy asos bo'lib xizmat qiladi. **Ikkinchidan**, zamonaviy sotsial-psixologik yondashuv shuni isbotlaydiki, shaxsning rezilyentlik darajasi bevosita u yashayotgan ijtimoiy tizimning (oilal, mahalla, ta'lim muassasasi) sifatiga bog'liq. Sunitra Luthar va Maykl Ungar tadqiqotlari shuni ko'rsatadiki, hatto eng kuchli irodaga ega shaxs ham, agar uni qo'llab-quvvatlovchi sotsial tarmoqlar (social buffers) mavjud bo'lmasa, uzoq muddatli inqirozlarda ruhiy sinishga uchrashi mumkin [5, 6]. Shuning uchun rezilyentlikni oshirish — bu nafaqat shaxsiy, balki ijtimoiy va davlat miqyosidagi vazifadir. **Uchinchidan**, neyrobiologik va sotsial omillarning sintezi shuni ko'rsatadiki, bolalikdagi xavfsiz bog'liqlik (attachment) va sotsial xavfsizlik hissi inson miyasining stressga javob berish tizimini fundamental darajada shakllantiradi [1, 8]. Bu esa jamiyatda sog'lom oilaviy munosabatlarni targ'ib qilish nafaqat axloqiy, balki kelajak avlodning ruhiy barqarorligini ta'minlovchi strategik ahamiyatga ega ekanligini anglatadi.

Amaliy tavsiyalar: Maqola xulosalari asosida rezilyentlikni oshirish uchun quyidagilar taklif etiladi:

1. **Institutsional yondashuv:** Maktab va oliy ta'lim muassasalarida rezilyentlikni rivojlantirish bo'yicha ijtimoiy-psixologik dasturlarni joriy etish;
2. **Jamoaviy qo'llab-quvvatlash:** Inqirozli vaziyatlarda (masalan, tabiiy ofatlar yoki iqtisodiy qiyinchiliklar) jamoaviy yordam tarmoqlarini kuchaytirish;
3. **Raqamli rezilyentlik:** Axborot xurujlari davrida insonlarning kognitiv tanqidiy fikrlashini va raqamli muhitdagi ruhiy barqarorligini oshirish mexanizmlarini ishlab chiqish.

Xulosa o'rnida aytish mumkinki, rezilyentlik — bu shunchaki qiyinchiliklarga bardosh berish emas, balki ulardan dars olib, yanada kuchliroq bo'lib chiqish san'atidir [10]. Kelajakdagi tadqiqotlar ushbu fenomenning madaniy-etnik xususiyatlarini,

xususan, Markaziy Osiyo xalqlari mentalitetidagi jamoaviylik (kollektivizm) va "mahalla" institutining rezilyentlikdagi rolini chuqurroq empirik o'rganishi maqsadga muvofiqdir.

FOYDALANILGAN ADABIYOTLAR (References)

1. **Bowlby, J. (1988).** *A Secure Base: Parent-Child Attachment and Healthy Human Development*. New York: Basic Books.
2. **Werner, E. E., & Smith, R. S. (1992).** *Overcoming the Odds: High Risk Children from Birth to Adulthood*. Cornell University Press.
3. **Masten, A. S. (2001).** "Ordinary magic: Resilience processes in development". *American Psychologist*, 56(3), 227–238.
4. **Bronfenbrenner, U. (1979).** *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
5. **Luthar, S. S., Cicchetti, D., & Becker, B. (2000).** "The construct of resilience: A critical evaluation and guidelines for future work". *Child Development*, 71(3), 543–562.
6. **Ungar, M. (2012).** *The Social Ecology of Resilience: A Handbook of Theory and Practice*. Springer Science & Business Media.
7. **Bonanno, G. A. (2004).** "Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events?". *American Psychologist*, 59(1), 20–28.
8. **Southwick, S. M., & Charney, D. S. (2018).** *Resilience: The Science of Mastering Life's Greatest Challenges*. Cambridge University Press.
9. **Rutter, M. (2006).** "Implications of Resilience Concepts for Scientific Understanding". *Annals of the New York Academy of Sciences*, 1094, 1–12.
10. **Grotberg, E. H. (1995).** *A guide to promoting resilience in children: strengthening the human spirit*. Bernard van Leer Foundation.

MODELING OF UPWELLING AND COLLAPSE IN THE SEEPAGE FLOW OUTLET ZONE ON THE SLOPE OF THE CHIMKURGAN RESERVOIR

Eshkuvatov Kuvonchbek Shavkatovich

(PhD) Tashkent Institute of Irrigation and Agricultural Mechanization Engineers -
National Research University

Abstract

This article examines water seepage processes in the dam body and on the slope of the Chimkurgan Reservoir, as well as modeling upwelling and potential soil collapse in the seepage outlet zone. Based on theoretical principles of hydrodynamics and soil mechanics, an analysis of the conditions for the formation of seepage pressure and critical hydraulic slope is provided.

Using mathematical modeling and geoinformation technologies, seepage flow distribution patterns are investigated, and potentially hazardous zones of upwelling and reduced slope stability are identified. The stability coefficient is estimated taking into account the influence of pore pressure and hydraulic loads.

The obtained results allow us to predict the development of seepage deformations and justify engineering measures to improve the reliability of the hydraulic structure. The practical significance of this work lies in the potential use of the proposed method for monitoring and preventing emergency situations at reservoirs.

Key words: seepage flow, soil uplift, slope stability, hydraulic structures, hydraulic slope, pore pressure, seepage coefficient.

МОДЕЛИРОВАНИЕ ВЫПОРА И ОБРУШЕНИЯ В ЗОНЕ ВЫХОДА ФИЛЬТРАЦИОННОГО ПОТОКА НА ОТКОСЕ ЧИМКУРГАНСКОГО ВОДОХРАНИЛИЩА

Эшкуватов Қувончбек Шавкатович

(PhD) Ташкентский институт инженеров ирригации и механизации
сельского хозяйства - Национальный исследовательский университет

Аннотация.

В статье рассматриваются процессы фильтрации воды в теле плотины и на откосе Чимкурганского водохранилища, а также моделирование выпора и возможного обрушения грунта в зоне выхода фильтрационного потока. На основе теоретических положений гидродинамики и механики грунтов выполнен анализ условий формирования фильтрационного напора и критического гидравлического уклона.

С применением методов математического моделирования и геоинформационных технологий исследованы закономерности распределения фильтрационного потока, определены потенциально опасные зоны выпора и снижения устойчивости откоса. Выполнена оценка коэффициента устойчивости с учетом влияния порового давления и гидравлических нагрузок.

Полученные результаты позволяют прогнозировать развитие фильтрационных деформаций и обосновать инженерные мероприятия по повышению надежности гидротехнического сооружения. Практическая значимость работы заключается в возможности использования предложенной методики для мониторинга и предотвращения аварийных ситуаций на водохранилищах.

Ключевые слова. фильтрационный поток, выпор грунта, устойчивость откоса, гидротехнические сооружения, гидравлический уклон, поровое давление, коэффициент фильтрации.

Введение. При оценке напряжений вдоль выбранной береговой поверхности Чимкурганского водохранилища обычно приходится делать различные предположения о характере деформирования в пределах участка массива, ограниченного этой поверхностью. Чаще всего такой участок рассматривается несвязное грунтовое тело, что такое тело может смещаться вдоль криволинейных поверхностей.

Рассчитанные таким образом напряжения вдоль поверхности деформирования суммируются в соответствии с дополнительными допущениями - геометрически или (чаще) алгебраически. При этом обычно три основных условия гидравлической статики удастся соблюсти лишь с какой-то долей приближения. Полезно также заметить, что понятие степени устойчивости на выпора и обрушения является в данном случае весьма условным, так как входящие в него силы оцениваются, исходя из предельного соотношения.

Постановка вопроса. Вследствие относительно высоких градиентов ветровых волн и фильтрации на участке высачивания гидродинамические силы вызывают здесь деформации, при которых приходит в движение весь объем грунта вблизи поверхности откоса; обычно эти деформации носят характер местного обрушения (оползания), а на отдельных участках затопленного откоса наблюдается также выпор (Рис.1.)



Картинки-1. Водохранилище Чимкурбан

Рассмотрим, например, равновесие элементарного объема несвязного грунта на поверхности затопленного откоса. Составим уравнение для действующих сил: силы веса, силы трения и гидродинамического давления. Учитывая, что гидродинамическое давление в этом случае направлено перпендикулярно откосу, получим:

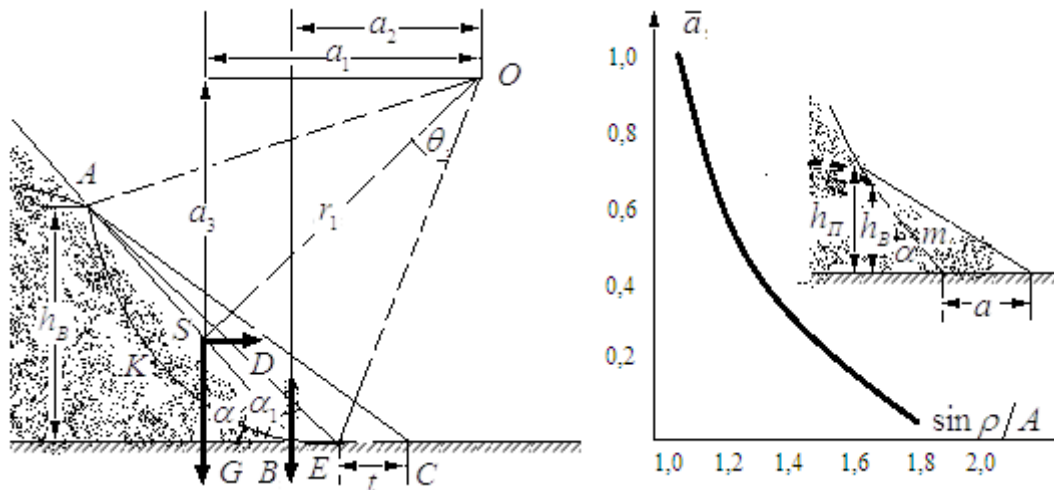
$$(\gamma_B \cos \alpha - \gamma) \rho = \gamma_B \sin \alpha, \quad (1)$$

Где ρ - угол трения; α - предельный угол откоса, устойчивого на выпор; I - выходной градиент, определяемый согласно [1,3].

Из расчетов следует, что обычно градиенты I оказываются существенными в небольшой зоне подтопленного откоса, прилегающей к линии уреза воды (мощностью порядка высоты промежутка высачивания). Наблюдения показывают, что в этой зоне имеет место локальный выпор грунта, в результате которого откос уменьшается на небольшом участке.

В пределах промежутка высачивания - на незатопленной части откоса - возможность обрушения следует учитывать при расчете толщины дренажной

призмы', предохраняющей фильтрующую часть откоса от деформаций. Исходя из условия предельного равновесия, можно получить [4,5,6] расчетный график для определения необходимой толщины дренажной призмы.



Картинки-2. Схема к расчету пригруженного откоса

Схеме для определения параметров пригрузочной призмы: q_0 - удельный расход потока; k и $k_{пр}$ - коэффициенты фильтрации грунта и материала пригрузки;

$$A = \sin \alpha \left(1 - \frac{k}{k_{пр}} \cos \alpha \right); h_B = (m + 0,5) \frac{q_0}{k}; a = \frac{h_B}{A} \left(\frac{\bar{a}}{2\gamma_{пр} A} + \frac{k}{k_{пр}} \right); h_{П} = 1,1 \leftrightarrow 1,2 h_B$$

Рассмотрим, например, задачу об устойчивости откоса, пригруженного треугольной дренажной призмой (рис.9.). Опыты показывают [2, 4,5], что поверхность скольжения в таком откосе начинаются в верхней части промежутка высачивания и проходит через нижнюю точку обводненного откоса. Без существенных погрешностей можно считать, что уровень воды в пределах пригрузки меняется по прямой линии EA .

Рассмотрим равновесие следующих сил, действующих в пределах блока *СЕКАС*, ограниченного гипотетической кругло цилиндрической поверхностью скольжения

сила веса обводненного сегмента *ЕКАЕ*:

$$G = \gamma_B F_c$$

где F_c - площадь сегмента:

$$F_c = r^2 \left(\theta - \frac{1}{2} \sin 2\theta \right);$$

сила веса необводненной части пригрузки:

$$G_{\text{пр}} = \gamma_{\text{пр}} \frac{1}{2} h_B t$$

сила гидродинамического давления:

$$D = \gamma F_c \tan \alpha$$

Так как градиент можно принять с некоторым запасом, равным $\tan \alpha$ направление этой силы принимается горизонтальным. Суммарный момент сил сопротивления сдвигу (сил трения) вдоль поверхности АЕ, отвечающий состоянию предельного равновесия, определяется формулой:

$$M = R r \sin \rho$$

где R - равнодействующая сил. Приравнявая величину M суммарному моменту всех действующих сил, опуская некоторые величины малого порядка и полагая; $\gamma \approx \gamma_B \approx 1 \text{ тс/м}^3$, получим уравнение:

$$\frac{\sin \rho}{\sin \alpha_1} = \frac{\frac{4}{3} \sin \theta + \bar{a} \cos \theta}{\theta - \frac{1}{2} \sin 2\theta + \bar{a} \sin^2 \theta}$$

Где

$$\bar{a} = \frac{2\gamma_{\text{пр}}}{h_{\text{в}}} t \sin^2 \alpha$$

Из данного уравнения определяются те величины θ , при которых правая его часть максимальна для заданного $\bar{a}$; найденные значения θ характеризуют «наиболее опасные поверхности скольжения». Построенный график (рис.9.) зависимости:

$$\bar{a} = f\left(\frac{\sin \rho}{\sin \alpha_1}\right)$$

позволяет легко определить характерный параметр пригрузки (a).

Своеобразно протекают процессы обрушения (оползания) в связных фильтрующих породах. После вскрытия таких пород горной выработкой они претерпевают интенсивное набухание в зоне, непосредственно прилегающей к поверхности откоса. Под влиянием гидродинамического давления приповерхностный слой ослабленных пород оползает, нагрузка на обнажившиеся участки вследствие оползания уменьшается, набухание этого участка соответственно усиливается и через некоторое время оползает новый объем пород. Процесс идет циклически, причем, несмотря на малость объема, участвующего в одном цикле (обычно захватывается полоса шириной от нескольких десятков сантиметров до 2 -3 м), в конечном счете в процесс вовлекаются значительные массы горных пород. Оползающие массы с течением времени могут насыщаться водой: до текучего состояния и переходить в оплывины.

Для оценки угла откоса, устойчивого по отношению к циклическим деформациям, можно проводить вариантные расчеты по гипотетическим поверхностям скольжения. Для такого расчета необходимо иметь сетку движения грунтовых вод вблизи откоса. В приближенных оценках можно (с запасом) считать, что напоры

отвечают отметкам поверхности откоса, а линии тока параллельны поверхностям напластования. Кроме того, в расчетах должно учитываться набухание пород.

Описанные циклические деформации получили распространение на большей части в откосах уступов, сложенных суглинками и песчаными глинами, на берегах Чимкурганского водохранилища. Здесь бортом вскрываются песчано-глинистые отложения, исходное сопротивление сдвигу которых характеризуется в среднем следующими параметрами: $c = 0,5 \frac{\kappa \Gamma c}{\text{см}^2}$, $\rho = 26^\circ$. Повторные испытания на образцах тех же разновидностей, отобранных из откоса нерабочего борта спустя два года после его оформления, показали, что в интервале глубин 0 - 1,5 м от поверхности откоса сцепление понижается до $0,2 \frac{\kappa \Gamma c}{\text{см}^2}$. Оценим приближенно устойчивость слоя набухших пород

мощностью 1,5м, считая, что начальный угол откоса $\alpha = 45^\circ$, а объемный вес пород с учетом взвешивания $\gamma_B = 1,1 \frac{\Gamma c}{\text{м}^3}$. При отсутствии гидродинамических сил коэффициент запаса согласно равен:

$$\eta'_{\text{ycm}} = \frac{\gamma_B m \cos \alpha \operatorname{tg} \rho + c}{\gamma_B m \sin \alpha} \approx 2,2$$

т. е. откос вполне устойчив. С учетом гидродинамических сил, полагая $I = \operatorname{tg} \alpha$:

$$\eta''_{\text{ycm}} = \frac{(\gamma_B m \cos \alpha - \gamma m \operatorname{tg} \alpha \sin \alpha) \operatorname{tg} \rho + c}{\gamma_B m \sin \alpha + \gamma m \operatorname{tg} \alpha \cos \alpha} \approx 0,93$$

т. е. откос оказывается неустойчивым. Из этого простейшего примера хорошо видно, насколько важно учитывать гидродинамическое давление при оценке местной устойчивости откосов не только песчаных, но и глинистых пород.

Выводы:

1. Процесс обрушения в зоне выхода идет циклически, причем, несмотря на малость объема, участвующего в одном цикле (обычно захватывается полоса шириной от нескольких десятков сантиметров до 2 -3 м), в конечном счете в процесс вовлекаются значительные массы пород. Оползающие массы с течением времени могут насыщаться водой: до текучего состояния и переходить в оплывины.

2. Для оценки угла откоса, устойчивого по отношению к циклическим деформациям, можно проводить варианты расчеты по гипотетическим поверхностям скольжения. Для такого расчета необходимо иметь сетку движения грунтовых вод вблизи откоса. В приближенных оценках можно (с запасом) считать, что напоры отвечают отметкам поверхности откоса, а линии тока параллельны поверхностям напластования. Кроме того, в расчетах должно учитываться набухание пород.

3. Описанные циклические деформации получили распространение на большей части в откосах уступов, сложенных суглинками и песчаными глинами, на берегах Чимкурганского водохранилища.

Использованная литература

1. Мироненко В.А., Шестаков В.М. Основы гидрогеомеханики. Москва «НЕДРА» 1974. 300с.
2. Прогноз скорости осадок оснований сооружений. М., Стройиздат 1967, 238с.
3. Флорин В.А. Основы механики грунтов. Т.2. М., Стройиздат. 1961, 543с.
4. Цытович Н.А., Зарецкий Ю.К. Развитие теории консолидации глинистых грунтов.-Почность и пластичность.М., «Наука», 1971. С.430-435.
5. Хайдаров Ш.Э., Х. А. Жураев, С. И. Худайкулов. Моделирование течения вязкой жидкости систем гидроприводов и гидроавтоматики. Гидротехника Гидроэнергетика № 2. 2023. 46-48.
6. Худайкулов. С.И., Хайдаров Ш.Э., Худайбердиев Н.Т. Моделирование и оценки несущей способности основания, Резаксайского водохранилища. W.W.W.IJARETM. ISSN:2349- 0012. . 2023. 36-52стр.

CHARACTERISTICS OF MEASLES SPREAD AMONG CHILDREN UNDER ONE YEAR OF AGE

Masharipova Shakhista Sabirovna

Urganch State Medical Institute, Urgench, Uzbekistan

Abstract. Measles is a highly contagious viral disease that is particularly dangerous in children under one year of age due to its severe course and risk of complications. This study analyzed the characteristics of measles spread, risk factors, and clinical course among children under one year of age during 2024–2025. Medical records of 42 patients were retrospectively analyzed. The results showed that most cases occurred in unvaccinated children and were associated with household contact. Clinically, moderately severe forms predominated, while complications were observed in some cases. The findings confirm the importance of early prevention and vaccination.

Keywords: measles, children, epidemiology, vaccination, risk factors, clinical course, complications

Introduction. Measles is a highly contagious viral infection caused by the *Measles virus*, transmitted via respiratory droplets, and characterized by its high epidemic potential. This disease is particularly significant among the pediatric population, especially infants under one year of age, whose immune systems are not yet fully developed. While newborns possess passive immunity acquired from the mother, this protection diminishes within 3–6 months, leaving infants vulnerable to the infection.

In recent years, there has been a global resurgence in measles cases. This trend is primarily attributed to declining vaccination coverage, intensified migration processes, growing vaccine hesitancy among certain population segments, and insufficient epidemiological surveillance. Consequently, measles has once again emerged as a critical public health challenge. The high infectivity of measles is explained by its exceptionally high basic reproduction number (R_0). A single infected individual can

transmit the virus to 12–18 susceptible persons, leading to rapid spread and the potential for large-scale outbreaks.

In infants under one year of age, the disease often follows a severe clinical course. In this age group, high fever, intoxication, catarrhal symptoms, and typical rashes are frequently accompanied by complications. The most common complications include secondary bacterial pneumonia, otitis media, laryngotracheitis, and central nervous system involvement. In some instances, the disease can be fatal.

Vaccination remains the primary method for specific prevention against measles. According to the national immunization schedule, the measles vaccine is typically administered at 12 months of age. However, since infants under one year are not yet eligible for vaccination, they constitute a high-risk group. Therefore, "herd immunity" (community immunity) plays a vital role in their protection. High vaccination coverage within a population limits viral circulation, thereby indirectly protecting unvaccinated infants. From this perspective, studying the transmission characteristics, risk factors, and clinical manifestations of measles among infants under one year of age is of significant scientific and practical importance. Such research contributes to the refinement of preventive measures, the re-evaluation of vaccination strategies, and the strengthening of epidemiological surveillance.

Objective. To analyze the transmission characteristics, risk factors, and clinical course of measles among infants under one year of age during the period of 2024–2025.

Materials and Methods. The study was conducted using a retrospective-analytical design and covered measles cases recorded among infants under one year of age who received inpatient treatment during 2024–2025. A total of 42 patients (both boys and girls) were included in the study. Data were collected and analyzed based on medical records, including case histories, laboratory test results, and epidemiological questionnaires.

Inclusion Criteria:

- Age: 0 to 12 months;
- Clinically and/or laboratory-confirmed measles;
- Treatment received in an inpatient setting;
- Completeness of medical documentation.

Exclusion Criteria:

- Cases with incomplete clinical data;
- Co-infections with other infectious diseases (where a clear differential diagnosis was not established);
- Patients with late hospital admission where comprehensive data collection was not possible.

Study Variables:

The following epidemiological and clinical parameters were analyzed:

- Age groups: (0–3, 4–6, and 7–12 months);
- Gender;
- Vaccination status: (unvaccinated, not age-eligible for vaccination, or partially vaccinated);
- Source of infection: (household contact, community contact, or unknown);
- Clinical form: (mild, moderate, or severe);
- Key symptoms: (fever, catarrhal signs, Koplik spots, and exanthema);
- Complications: (pneumonia, otitis, laryngitis, and encephalitis);
- Duration of hospitalization (in days).

Clinical diagnoses were established based on the classic symptom complex, including fever, the catarrhal period, Koplik spots, and maculopapular rash. Serological methods (detection of specific IgM antibodies) were employed for laboratory confirmation in selected cases.

Statistical Analysis

Statistical methods were used for data processing and analysis. Relative frequencies (%) were calculated, and results were presented in the form of tables and charts. Where necessary, the χ^2 (chi-square) test was applied to evaluate differences between groups. All procedures were conducted in accordance with medical ethics standards, ensuring the confidentiality of patients' personal data.

Results. A total of 42 infants under one year of age were included in the study. Analysis by age group revealed that the majority of patients were aged 7–12 months, accounting for 26 cases (61.9%). Infants aged 4–6 months comprised 10 cases (23.8%), while those aged 0–3 months accounted for 6 cases (14.3%). These findings suggest a significant decline in maternally-derived passive immunity after 6 months of age. Regarding gender distribution, 24 patients (57.1%) were male and 18 (42.9%) were female. The analysis of vaccination status showed that the vast majority of patients—33 infants (78.6%)—were unvaccinated. the remaining 9 infants (21.4%) belonged to the group that was not yet age-eligible for vaccination. No fully vaccinated children were recorded in this study.

Regarding the sources of infection:

- Household contact: 30 cases (71.4%)
- Community contact: 8 cases (19.0%)
- Unknown source: 4 cases (9.6%)

These results highlight the critical epidemiological role of family members in the transmission of the infection to infants.

The clinical severity was categorized as follows:

- Moderate form: 27 cases (64.3%)
- Mild form: 9 cases (21.4%)
- Severe form: 6 cases (14.3%)

Fever and catarrhal symptoms (cough, rhinitis, and conjunctivitis) were observed in all patients. Koplik spots were identified in 32 patients (76.2%), while a typical maculopapular rash was recorded in all cases.

Complications occurred in 8 cases (19.0%), including:

- Pneumonia: 5 cases (11.9%)
- Acute otitis media: 2 cases (4.8%)
- Laryngotracheitis: 1 case (2.3%)

Severe forms and a higher frequency of complications were predominantly observed in infants under 6 months of age.

The average duration of hospitalization was 8.2 ± 1.6 days. In severe cases, this period extended to 10–12 days.

In summary, the results indicate that measles among infants under one year of age primarily occurs in unvaccinated children with a history of household contact, frequently presenting with a moderate clinical course.

Discussion. The results of this study elucidate the specific characteristics of measles transmission among infants under one year of age. Our findings indicate that the disease is most prevalent in infants aged 7–12 months. This phenomenon is explained by the presence of maternally-derived passive immunity during the first months of life, which subsequently wanes. After six months, infants become highly susceptible to infection, significantly increasing the risk of morbidity.

The analysis of vaccination status revealed that the vast majority of patients were unvaccinated. This underscores that insufficient vaccination coverage remains a primary driver of measles transmission. According to the national immunization schedule, the first dose is administered at 12 months; therefore, infants under one year old constitute a high-risk group. In this context, the role of herd immunity is paramount for protecting this vulnerable population. Regarding the source of infection, the predominance of

household contacts suggests that infections among adults and older children significantly increase the probability of transmission to infants. Consequently, it is crucial to strengthen vaccination and revaccination efforts not only for children but also for the adult population. Clinically, while moderate forms were most common, severe forms and complications accounted for a notable proportion of cases. Severe clinical courses and higher complication rates were particularly observed in infants under six months of age, likely due to the immaturity of the immune system. The documentation of complications such as pneumonia, otitis, and laryngotracheitis reaffirms the high clinical significance of measles. Our results align with findings from other researchers, confirming that measles primarily spreads among unvaccinated children and that household contacts serve as a major infection reservoir. However, this study has certain limitations. The sample size was relatively small ($n=42$), and the study was confined to hospitalized patients, which may limit the generalizability of the results to the broader population. Nevertheless, these findings highlight the urgent need to increase vaccination coverage, raise public awareness, and strengthen epidemiological surveillance. Future research involving larger populations is essential to refine strategies for protecting high-risk groups.

Conclusion. The results of this study highlight several critical epidemiological and clinical patterns regarding the spread of measles among infants under one year of age. It was found that the disease primarily occurs in children who are unvaccinated or not yet age-eligible for vaccination. This underscores the high-risk status of this age group and the vital importance of herd immunity in their protection.

The dominance of household contacts in the source analysis confirms that infections among adults and older children are the primary risk factor for infants. Therefore, increasing vaccination coverage across all age groups, not just among children, is of significant preventive importance.

Clinically, while measles often followed a moderate course, a notable proportion of severe cases and complications were observed. The higher frequency of severe illness and complications in infants under six months of age indicates that this subgroup requires specialized monitoring and protection.

Based on the study results, the following conclusions were drawn:

- Vaccination remains the most effective method for preventing measles.
- It is essential to increase vaccination coverage and strengthen revaccination efforts among the population.
- Epidemiological surveillance and early detection measures must be enhanced to protect infants under one year of age.
- Timely isolation of infection sources and implementing preventive measures in family clusters are of critical importance.

In conclusion, a comprehensive approach—combining vaccination, epidemiological surveillance, and public health awareness—is necessary to effectively limit the spread of measles.

References

1.Артиков, И. А., Отажанов, Ш. З., & Садуллаев, С. Э. (2025). ПАТОМОРФОЛОГИЧЕСКИЕ АСПЕКТЫ ДЕТСКОГО ЛИМФОБЛАСТНОГО ЛЕЙКОЗА. *Multidisciplinary Journal of Science and Technology*, 5(6), 257-264.

2. Юсупов, Ш. Р., Аскарова, Р. И., Машарипова, Ш. С., & Машарипова, Х. К. (2019). Эпидемиология лёгочного туберкулеза в хорезмской области. In *europaen research: innovation in science, education and technology* (pp. 96-100).

3.Аскарова, Р. И., & Юсупов, Ш. Р. ШС Машарипова Эпидемиология легочного туберкулеза. In *EUROPEAN RESEARCH: INNOVATION IN SCIENCE, EDUCATION AND TECHNOLOGY LVII International correspondence scientific and practical conference.-2019.-cmp* (pp. 96-100).

4. Ибрахимова, Х. Р., Отажанов, Ш. З., & Матякубова, О. У. (2019). ТУБЕРКУЛЕЗНЫЙ МЕНИНГИТ У БОЛЬНЫХ, ПРОЖИВАЮЩИХ В ХОРЕЗМСКОЙ ОБЛАСТИ. In *INTERNATIONAL SCIENTIFIC REVIEW OF THE PROBLEMS OF NATURAL SCIENCES AND MEDICINE* (pp. 96-104).

5. Sabirovna, M. S., & Sobir, M. (2023). UDC: 619: 616.995. 132.6 IMMUNE STATUS OF ADULTS AND CHILDREN WITH AN ALLERGIC BACKGROUND DIAGNOSED WITH ENTEROBIOSIS. *Новости образования: исследование в XXI веке*, 2(14), 24-28.

6. Nurllayev, R. R., & Artiqov, I. A. (2023). IMPROVING THE PRIMARY PREVENTION OF ACUTE DIARRHEAL DISEASES AMONG CHILDREN. *Finland International Scientific Journal of Education, Social Science & Humanities*, 11(4), 6-10.

7. Садуллаев, С. Е., Машарипова, Ш. С., & Машарипов, С. (2023). КЛИНИКО-ЛАБОРАТОРНЫЕ ОСОБЕННОСТИ ТЕЧЕНИЯ ПНЕВМОНИИ, АССОЦИИРОВАННОЙ С COVID-19, У ДЕТЕЙ РАННЕГО ВОЗРАСТА. *Международный журнал образования, социальных и гуманитарных наук. Finland Academic Research Science Publishers*, 11(9), 851-856.

8. Машарипова, Ш. С. (2022). О ‘РКА ARTERIYALARINING QANDLI DIABET TA’SIRIDA MORFOLOGIK TUZILISHI. *Журнал кардиореспираторных исследований*, 3(1).

9. Машарипова Шохиста Сабириевна, & Матякубова Айша Уриновна (2020). Кумысолечение ослабленных детей в Хорезмском регионе. *Наука, образование и культура*, (2 (46)), 49-51. doi: 10.24411/2413-7111-2020-10201

10. Аскарова, Р. И., Машарипова, Ш. С., Атажанов, Ш. З., Машарипова, Х. К., & Якубова, У. Б. (2019). ОСОБЕННОСТИ ТЕЧЕНИЯ БЕРЕМЕННОСТИ

ЖЕНЩИН, БОЛЬНЫХ ТУБЕРКУЛЁЗОМ ОРГАНОВ ДЫХАНИЯ. In *International scientific review of the problems of natural sciences and medicine* (pp. 202-209).

11. Машарипова, Ш. С., Ибраимова, Х. Р., & Машарипов, С. М. (2023). Анализ эпидемиологических особенности диарейных заболеваний у детей южного приаралья. *O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali*, 2(15), 884-887.

12. Машарипова, Ш. С., Ибраимова, Х. Р., Нурллаев, Р. Р., & Садуллаев, С. Э. (2023). ТЕЧЕНИЕ ВНУТРИБОЛЬНИЧНЫХ ПНЕВМОНИИ У БОЛЬНЫХ НАХОДЯЩИХСЯ НА ДЛИТЕЛЬНОМ АППАРАТЕ ИСКУССТВЕННОЙ ВЕНТИЛЯЦИИ ЛЁГКИХ. *Scientific Impulse*, 2(16), 1172-1178.

13. Nurlayev, R. R., Ibadullayeva, S. S., & Yoqubov, Q. Y. (2023). KICHIK QON AYLANISH DOIRASI ARTERIYALARINING MORFOLOGIK TUZILISHI. *Научный Фокус*, 1(8), 463-468.

14. Nurillaev, R. R., & Matyakubova, O. U. (2023). EPIDEMIOLOGICAL STRUCTURES OF DIARRHEAL DISEASES IN THE KHOREZM REGION. *PEDAGOG*, 6(2), 126-129.

15. Машарипова, Ш. С., & Машарипов, С. М. (2026). ЭПИДЕМИОЛОГИЯ ВНУТРИБОЛЬНИЧНЫХ ИНФЕКЦИЙ: РАСПРОСТРАНЁННОСТЬ, ФАКТОРЫ РИСКА И ПРОФИЛАКТИКА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 85(2), 237-245.

16. Masharipova, S. S., Karimova, U. M., & Oltiyeva, H. S. (2025). RISK FACTORS AND METHODS OF PREVENTION OF NOSOCOMIAL INFECTION. *Общественные науки в современном мире: теоретические и практические исследования*, 4(2), 67-70.

17. Sadullayev, S. E. (2024). THE COURSE OF NOSOCOMIAL PNEUMONIA IN PATIENTS ON LONG-TERM ARTIFICIAL LUNG

VENTILATION. *O'ZBEKISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI*, 2(26), 80-84.

18. Машарипова, Ш. С., ВЛИЯНИЕМ, М., & ДИАБЕТА, С. JCRR. 2022. № 1. URL: <https://cyberleninka.ru/article/n/morfologicheskoe-stroenie-legochnyh-arteriy-pod-vliyaniem-saharnogo-diabeta> (дата обращения: 13.01. 2026).

19. Nurullayev, R. R., & Sadullayev, S. E. (2023). DIAREYALI KASALLIKLARNING EPIDYEMIOLOGIK XUSUSIYATLARI. *World of Science*, 6(9), 64-67.

20. Машарипова, Ш. С., Артиков, И. А., Садуллаев, С. Э., & Абдуллаева, Д. К. (2022). ТЕЧЕНИЕ КОРОНАВИРУСНОЙ ИНФЕКЦИИ НА ФОНЕ ГЕПАТИТОВ. *Новости образования: исследование в XXI веке*, 1(5), 573-577.

21. Matyakubova, O. U., & Masharipov, S. M. (2024). MEASLES DISEASE AMONG THE POPULATION. *JOURNAL OF APPLIED MEDICAL SCIENCES*, 7(3), 40-50.

22. Хударгенова, Д. Р., Машарипова, Ш. С., Машарипов, С., & Машарипов, А. С. (2023). ЦЕЛЕСООБРАЗНОСТЬ ОТБОРА ЖИВОТНЫХ-ПРОДУЦЕНТОВ ПРИ ПОЛУЧЕНИИ ГИПЕРИММУННЫХ СЫВОРОТОК, ПРИМЕНЯЕМЫХ В СУДЕБНО-МЕДИЦИНСКИХ ЛАБОРАТОРИЯХ.

23. Машарипова, Ш., & Машарипов, С. (2021). *Заболевание печени у больных с ишемической болезнью сердца среди хорезмского региона* (Doctoral dissertation, Cardiorespiratory Research).

24. Машарипова, Ш. С. (2020). Матякубова Айша Уриновна Кумысолечение ослабленных детей в Хорезмском регионе.

25. Машарипова, Ш. С., & Матякубова, О. У. (2020). Течение ВИЧ/СПИД инфекции у больных туберкулезом легких. *European science*, (3 (52)), 110-112.

SOLUTIONS OF NEWTON INTERPOLATION PROBLEMS USING THE PYTHON PROGRAMMING LANGUAGE

Gulshan S. Ergashkhojayeveva

Master Of Namangan State University

E-mail: gulshanergashxojayeveva0621@gmail.com

Abstract: This article investigates the theoretical and practical aspects of constructing the Newton interpolation polynomial, a key method for function approximation. Furthermore, it demonstrates the steps for determining coefficients by constructing a system of linear equations based on given datasets. In the practical section, Python programming code and algorithms for calculating the Newton polynomial using the Gauss elimination method are provided

Keywords: Newton interpolation, interpolation nodes, polynomial, system of linear equations, Gauss elimination, Python, algorithm design.

NYUTON INTERPOLYATSIYA MASALALARINI PYTHON DASTURLASH TILIDA YECHISH

Namangan davlat universiteti magistranti

Ergashxo'jayeva Gulshan Sadirdin qizi

E-mail: gulshanergashxojayeveva0621@gmail.com

Annotatsiya: Ushbu maqolada funksiyalarni yaqinlashtirishning muhim usullaridan biri bo'lgan Nyuton interpolatsiya ko'phadini qurish masalasi nazariy va amaliy jihatdan tadqiq etilgan. Maqolaning amaliy qismida Gauss usuli yordamida Nyuton ko'phadini hisoblovchi Python dasturiy kodi va algoritmlari taqdim etilgan.

Kalit so'zlar: Nyuton interpolatsiyasi, interpolatsiya tugunlari, ko'phad, chiziqli tenglamalar sistemasi, Gauss usuli, Python, algoritmlash.

Amaliy hisoblashlarda Nyutonning interpolatsiyalashga oid ikki xil formulasi keng qo'llaniladi. Nyutonning birinchi interpolatsiya formulasi yordamida $y = f(x)$

funksiyaning qiymatini x_0 boshlang'ich nuqtaga yaqin joylarda aniqlash qulay hisoblanadi. Shu sababli bu formula jadvalning bosh qismidagi qiymatlar bilan ishlashda samarali bo'ladi, biroq jadval oxiridagi nuqtalar uchun hisoblash biroz noqulaylik tug'diradi. Nyutonning ikkinchi interpolyatsiya formulasi esa, aksincha, kesmaning oxirgi nuqtasi x_n dan boshlab orqaga qarab hisoblashga asoslanadi.

Aytaylik, $f(x)$ funksiya $x_0, x_1, \dots, x_n$ tugun nuqtalardagi

$$y_0 = f(x_0), y_1 = f(x_1), \dots, y_n = f(x_n)$$

Qiymatlar bilan berilgan bo'lsin,

$$N_n(x_0) = y_0, N_n(x_1) = y_1, \dots, N_n(x_n) = y_n$$

Tengliklarni qanoatlantiruvchi $N_n(x)$ ko'phadni qurish talab qilinmoqda. n -darajali ko'phadning mavjudlik va yagonalik shartidan kelib chiqib, uni quyidagi tenglama ko'rinishida ifodalanadi.

$$N_n(x_i) = d_0 + d_1(x_i - x_0) + d_2(x_i - x_0)(x_i - x_1) + \dots + d_n(x_i - x_0)(x_i - x_1) \dots (x_i - x_{n-1}) = f(x_i), i = 0..n$$

Nyuton interpolyatsiya ko'phadi

$N_n(x)$ ning noma'lum $d_i, i=0,1,\dots,n$ koeffitsientlarini interpolyatsiya shartlaridan topamiz:

$$N_n(x_i) = d_0 + d_1(x_i - x_0) + d_2(x_i - x_0)(x_i - x_1) + \dots + d_n(x_i - x_0)(x_i - x_1) \dots (x_i - x_{n-1}) = f(x_i), i = 0..n$$

Biz quyi chap uchburchak matritsali tenglamalar sistemasini olamiz:

$$d_0 = f(x_0),$$

$$d_0 + d_1(x_1 - x_0) = f(x_1),$$

$$d_0 + d_1(x_2 - x_0) + d_2(x_2 - x_0)(x_2 - x_1) = f(x_2),$$

.....

$$d_0 + d_1(x_n - x_0)(x_n - x_1) + \dots + d_n(x_n - x_0) \dots (x_n - x_{n-1}) = f(x_n).$$

Bu quyidagi chap uchburchak matritsali chiziqli tenglamalar sistemasi eng birinchi tenglamadan boshlab yechiladi:

$$d_0 = f(x_0), \quad d_1 = \frac{f(x_1) - f(x_0)}{x_1 - x_0} = f[x_0, x_1],$$

$$f(x_0) + f[x_0, x_1](x_2 - x_0) + d_2(x_2 - x_0)(x_2 - x_1) = f(x_2) \Rightarrow f[x_0, x_1, x_2].$$

Va matematik induksiya bo'yicha, $d_k = f[x_0, x_1, \dots, x_k]$, $k \leq n$.

Demak, interpolatsiya ko'phadining Nyuton ko'rinish quyidagicha bo'ladi.

$$N_n(f; x) = f(x_0) + f[x_0, x_1](x - x_0) + \dots + f[x_0, \dots, x_n](x - x_0) \dots (x - x_{n-1})$$

Yuqoridagi tenglama Nyutonning 1-interpolatsiya formulasi deyiladi.

Agar $x_1 - x_0 = \dots = x_n - x_{n-1}$ bo'lsa $\frac{x - x_0}{h} = t$ deb ushbu formulani hosil qilamiz:

$$N_n(f; x) = f(x_0) + hf[x_0, x_1]t + \dots + h^n f[x_0, \dots, x_n]t(t-1) \dots (t-n+1), x = x_0 + th$$

Nyutonning 1-interpolatsiya formulasida interpolatsiya x_0 nuqtadan boshlanadi. Nyutonning 2-interpolatsiya formulasida esa interpolatsiya x_n nuqtadan boshlanadi:

$$N_n(f; x) = f(x_n) + f[x_{n-1}, x_n](x - x_n) + \dots + f[x_0, \dots, x_n](x - x_n) \dots (x - x_1)$$

Tenglamani keltirib chiqarishda paydo bo'ladigan chiziqli tenglamalar sistemasi, yuqori o'ng uchburchak sistemadan iborat bo'ladi va noma'lumlar $d_n, d_{n-1}, \dots, d_1, d_0$ tartibda topib boriladi. Demak Nyutonga chiziqli tenglamalar sistemasi va ularning yechilishi mumkin bo'lgan sodda hollari ma'lum bo'lgan.

Masalaning qo'yilishi:

X	2	1	0	-1
Y	4	5	6	2

Nyuton interpolatsion ko'phadini tuzing.

Masalaning Python dasturlash muhitidagi yechimi

Dastur kodi;

```
Import numpy as np
def gauss_elimination(A,b):
    n=len(b)
    A=A.astype(float)
    b=b.astype(float)
    for I in range(n):
        #diagonal elementni 1 ga aylantiramiz
        pivot=A[i,i]
        A[i]=A[i]/pivot
        b[i]=b[i]/pivot
        for j in range(i+1, n):
            factor=A[j,i]
            A[j]=A[j]-factor*A[i]
            b[j]=b[j]-factor*b[i]
        #orqaga qaytish usuli (Back Substitution)
        x=np.zeros(n)
        for I in range(n-1,-1,-1):
            x[i]=b[i]-np.dot(A[i, i+1:], x[i+1:])
        return x
    x_vals=np.array([2, 1, 0, -1])
    y_vals=np.array([4, 5, 6, 2])
    A=np.array([ [1, 2, 4, 8] [1, 1, 1, 1] [1, 0, 0, 0] [1, -1, 1, -1]])
    b=y_vals
    coeffs=gauss_elimination(A, b)
    print("Nyuton interpolyatsiya ko'phadining koeffisientlari:")
```

```
print(f'a0={coeffs[0]}')
print(f'a1={coeffs[1]}')
print(f'a2={coeffs[2]}')
print(f'a3={coeffs[3]}')
print("\nInterpolyatsiya qilingan ko'phad:")
print(f'P(x)= {coeffs[0]} +{coeffs[1]}*x+{coeffs[2]}*x^2+{coeffs[3]}*x^3')
```

Natija:

Nyuton interpolyatsiya ko'phadining koeffisientlari:

$a_0=6.0000000000000001$

$a_1=0.6666666666666661$

$a_2=-2.5$

$a_3=0.8333333333333334$

Interpolyatsiya qilingan ko'phad:

$P(x)=6.0000000000000001+0.6666666666666661*x-2.5*x^2+0.8333333333333334*x^3[1].$

FOYDALANILGAN ADABIYOTLAR:

1. G.Y.Soliyeva, M.Y. Eshnazarova. Hisoblash usullari. (Darslik), NamDPI - Namangan, «Mashrab» 2025. 304-b.
2. G.Y.Soliyeva "O'zbekiston va hindiston ta'limida "hisoblash usullari" fanida lagranj interpolyatsiya ko'phadini o'qitish metodikasi" maqola, International Journal of Science and Technology ISSN 3030-3443 Volume 2, Issue 03, March 2025.
3. G.Y.Soliyeva. "Xorijiy va mahalliy tajribada mustaqil o'rganishni tashkil etishda dasturiy-metodik ta'minotdan foydalanish va talabalarning mustaqil ishlash kompetensiyasini rivojlantirish metodikasini takomillashtirish" tezisi, Respublika konferensiya: "Ilm-fan, texnologiya va ta'limda yangi paradigmalar" mavzusidagi Respublika ilmiy-amaliy konferensiyasi, 2025-yil, 15-18-betlar.

REGIONAL INNOVATIVE POTENTIAL AND THE EFFICIENCY OF ITS MANAGEMENT

Dadamirzayev Muzaffar Xabibullayevich

Associate Professor Namangan State Technical University

d_muzaffar@inbox.ru +998973747222

Abstract

This article provides a scientific analysis of the formation of innovative potential in the regional economy and the efficiency of its management. The main objective of the study is to identify the factors determining regional innovative potential and to assess the role of management mechanisms in economic development. The article examines the institutional, resource, and infrastructural components of innovative activity and substantiates their impact on regional economic growth, competitiveness, and social stability. It also analyzes the role of state policy, regional strategies, and governance institutions in improving the efficiency of managing innovative potential. The results of the study contribute to the development of scientific and practical conclusions aimed at improving regional innovation development strategies and ensuring long-term sustainable economic growth.

Keywords: regional economy, innovative potential, innovation development, management efficiency, regional competitiveness, innovation infrastructure, institutional environment, scientific and technological development, regional strategy, sustainable growth.

MINTAQAVIY INNOVATSION SALOHIYAT VA UNI BOSHQARISH SAMARADORLIGI

Dadamirzayev Muzaffar Xabibullayevich

Namangan davlat texnika universiteti dotsenti

d_muzaffar@inbox.ru, +998973747222

Annotatsiya. Ushbu maqolada mintaqaviy iqtisodiyotda innovatsion salohiyatning shakllanishi va uni boshqarish samaradorligi masalalari ilmiy jihatdan tahlil qilinadi. Tadqiqotning asosiy maqsadi mintaqaviy innovatsion salohiyatni belgilovchi omillarni aniqlash hamda ularni boshqarish mexanizmlarining iqtisodiy rivojlanishdagi rolini baholashdan iborat. Maqolada innovatsion faoliyatning institutsional, resurs va infratuzilmaviy tarkibiy qismlari ko'rib chiqilib, ularning hududiy iqtisodiy o'sish, raqobatbardoshlik va ijtimoiy barqarorlikka ta'siri asoslab beriladi. Shuningdek, innovatsion salohiyatni boshqarish samaradorligini oshirishda davlat siyosati, mintaqaviy strategiyalar va boshqaruv institutlarining o'rnini tahlil qilinadi. Tadqiqot natijalari mintaqaviy innovatsion rivojlanish strategiyalarini takomillashtirish hamda hududiy iqtisodiyotning uzoq muddatli barqaror o'sishini ta'minlashga qaratilgan ilmiy-amaliy xulosalar ishlab chiqishga xizmat qiladi.

Kalit so'zlar: mintaqaviy iqtisodiyot, innovatsion salohiyat, innovatsion rivojlanish, boshqarish samaradorligi, hududiy raqobatbardoshlik, innovatsion infratuzilma, institutsional muhit, ilmiy-texnologik rivojlanish, mintaqaviy strategiya, barqaror o'sish..

So'nggi o'n yillikda mintaqaviy iqtisodiy rivojlanish nazariyasi va amaliyotida innovatsion salohiyat tushunchasi markaziy kategoriya sifatida qaralmoqda. An'anaviy ishlab chiqarish omillariga tayangan o'sish modellari global raqobat, texnologik tezkorlik va bilimlar iqtisodiyoti sharoitida o'z cheklovlarini namoyon qilmoqda. Shu bois zamonaviy ilmiy adabiyotlarda mintaqalarning uzoq muddatli raqobatbardoshligi ularning innovatsion salohiyatni shakllantirish va undan samarali foydalanish qobiliyati bilan belgilanadi, degan yondashuv ustuvorlik kasb etmoqda [1]. Innovatsion salohiyat esa faqat ilmiy-texnik resurslar majmui emas, balki inson kapitali, institutsional muhit, boshqaruv sifati va infratuzilmaning o'zaro uyg'unlashgan tizimi sifatida talqin qilinadi.

Xalqaro miqyosda olib borilgan tadqiqotlar innovatsiyalar iqtisodiy o'sishning hududiy tafovutlarini izohlovchi asosiy omillardan biri ekanligini ko'rsatadi. Rivojlangan va rivojlanayotgan mamlakatlar tajribasi shuni tasdiqlaydiki, innovatsion faolligi yuqori bo'lgan mintaqalarda mehnat unumdorligi, investitsiya jalb etish darajasi va yuqori qo'shilgan qiymatli tarmoqlar ulushi sezilarli darajada yuqori bo'ladi [2]. Aksincha, innovatsion salohiyat mavjud bo'lsa-da, uni boshqarish mexanizmlari sust bo'lgan hududlarda iqtisodiy o'sish fragmentar va barqaror bo'lmagan xususiyat kasb etadi. Bu holat innovatsion resurslarning samarali boshqarilishi masalasini alohida ilmiy muammo sifatida ilgari suradi.

Innovatsion salohiyatni boshqarish samaradorligi masalasi, ayniqsa, mintaqaviy darajada dolzarb hisoblanadi. Chunki innovatsiyalarni yaratish va joriy etish jarayonlari ko'pincha hududiy xususiyatlarga — mehnat bozori, ta'lim tizimi, ishlab chiqarish ixtisoslashuvi va institutsional muhitga — kuchli bog'liq bo'ladi. Ilmiy manbalarda qayd etilishicha, markazlashgan innovatsion siyosat ko'pincha hududiy ehtiyojlarni to'liq qamrab olmaydi va bu mintaqalar o'rtasida innovatsion rivojlanish nomutanosibligini kuchaytiradi [3]. Shu sababli so'nggi yillarda innovatsion siyosatning mintaqaviylashtirilgan modeli, ya'ni hududlarning o'z innovatsion salohiyatini mustaqil shakllantirish va boshqarish konsepsiyasi keng qo'llanilmoqda.

Mazkur global yondashuvlar O'zbekiston iqtisodiy siyosatida ham o'z ifodasini topmoqda. So'nggi yillarda qabul qilingan strategik hujjatlarda innovatsion iqtisodiyotga o'tish, ilm-fan va ishlab chiqarish integratsiyasini kuchaytirish, hududlarda innovatsion infratuzilmani rivojlantirish ustuvor vazifalar sifatida belgilandi [4]. Davlat siyosatida mintaqaviy innovatsion salohiyatni oshirish orqali hududlararo iqtisodiy tafovutlarni kamaytirish va barqaror o'sishni ta'minlash asosiy maqsadlardan biri sifatida qaralmoqda. Bunda innovatsion boshqaruv tizimlarini takomillashtirish,

strategik rejalashtirish va monitoring mexanizmlarini kuchaytirish muhim ahamiyat kasb etadi.

Shu bilan birga, mahalliy va xorijiy tadqiqotlar tahlili shuni ko'rsatadiki, innovatsion resurslarning mavjudligi har doim ham yuqori iqtisodiy natijalarga olib kelavermaydi. Muammo ko'pincha innovatsion salohiyatdan foydalanish samaradorligining pastligi, ya'ni boshqaruv institutlari, muvofiqlashtirish va rag'batlantirish mexanizmlarining yetarli darajada ishlamasligi bilan bog'liq bo'ladi [5]. Aynan shu holat mintaqaviy innovatsion salohiyat va uni boshqarish samaradorligini kompleks ilmiy tahlil qilish zaruratini keltirib chiqaradi.

Shu nuqtai nazardan, mazkur maqola mintaqaviy innovatsion salohiyatning nazariy asoslarini yoritish, uning tarkibiy elementlarini aniqlash hamda boshqarish samaradorligini oshirish omillarini ilmiy asosda tahlil qilishga qaratilgan. Tadqiqot natijalari hududiy innovatsion siyosatni takomillashtirish, mintaqaviy iqtisodiyotning raqobatbardoshligini oshirish va uzoq muddatli barqaror o'sishni ta'minlash bo'yicha amaliy xulosalar ishlab chiqish imkonini beradi.

Mazkur tadqiqotda Namangan viloyati va uning hududlari misolida mintaqaviy innovatsion salohiyatni shakllantirish va uni boshqarish samaradorligi empirik jihatdan tahlil qilinadi. Tadqiqot 2017–2024 yillarni qamrab olib, innovatsion rivojlanishning resurs bazasi (inson kapitali, ilmiy-texnik salohiyat, moliyaviy va infratuzilmaviy imkoniyatlar), innovatsion jarayonlarning faolligi hamda boshqaruv mexanizmlarining yakuniy iqtisodiy natijalari o'rtasidagi o'zaro bog'liqlikni aniqlashga qaratilgan. Ushbu yondashuv innovatsion salohiyatni faqat alohida statistik ko'rsatkichlar orqali emas, balki ularning integral uyg'unligi va hududiy differentsiallashtirish nuqtayi nazaridan baholash imkonini beradi.

Shuningdek, tahlil jarayonida hududlar kesimida innovatsion salohiyatning shakllanish darajasi bilan undan foydalanish samaradorligi o'rtasidagi

nomutanosibliklar aniqlanib, mazkur tafovutlarning institutsional va boshqaruv omillari bilan bog‘liqligi ochib beriladi. Tadqiqotda hududiy statistik ma’lumotlar asosida shakllantirilgan integral indekslar, taqqoslama hamda dinamik tahlil usullari qo‘llanilib, innovatsion rivojlanishning hududiy xususiyatlari va boshqaruv mexanizmlarining real samaradorligi baholanadi. Natijada, mazkur empirik tahlil mintaqaviy innovatsion siyosatni takomillashtirish, innovatsion resurslardan foydalanish samaradorligini oshirish hamda hududlar o‘rtasidagi innovatsion nomutanosibliklarni kamaytirishga qaratilgan ilmiy xulosalar va amaliy tavsiyalar ishlab chiqish uchun asos yaratadi.

1-jadval.

Namangan viloyati hududlarida innovatsion jarayonlar faolligi dinamikasi
(1 000 ta korxonaga nisbatan)

Hududlar	2017	2019	2021	2024
Namangan sh.	21,8	29,4	36,7	45,2
Mingbuloq	6,1	8,4	11,3	14,9
Kosonsoy	7,4	10,2	13,8	17,6
Namangan	8,6	12,1	16,4	20,8
Norin	7,0	9,8	13,2	16,5
Pop	6,5	9,1	12,6	15,7
To‘raqo‘rg‘on	8,1	11,7	15,9	19,8
Uychi	8,9	12,9	17,2	21,6
Uchqo‘rg‘on	10,2	14,8	19,9	25,4
Chortoq	11,6	17,3	23,8	30,9
Chust	9,7	14,1	18,9	24,1
Yangiqo‘rg‘on	8,0	11,5	15,6	19,5

Namangan viloyatining ijtimoiy-iqtisodiy ko‘rsatkichlari to‘plami asosida muallif ishlanmasi

2017–2024 yillar davomida Namangan viloyati hududlarida innovatsion jarayonlar faolligi umumiy o'sish tendensiyasini namoyon etgan, biroq mazkur o'sish hududlar kesimida keskin notekis taqsimlangan. Namangan shahrida 1 000 ta korxonaga to'g'ri keladigan innovatsion faollik ko'rsatkichi 2017 yildagi 21,8 birlikdan 2024 yilda 45,2 birlikka yetib, viloyat bo'yicha eng yuqori darajani tashkil etgan. Shu bilan birga, Chortoq tumanida mazkur ko'rsatkich 2024 yilda 30,9 birlikni tashkil etib, innovatsion faollikning nisbatan yuqori sur'atlarda shakllanayotgan hududlar guruhiga kirgan. Aksincha, Mingbuloq va Pop tumanlarida innovatsion faollik darajasi 2024 yilda mos ravishda 14,9 va 15,7 birlik atrofida bo'lib, viloyat markaziga nisbatan qariyb uch baravar past bo'lib qolmoqda. Bunday tafovutlar viloyat ichida innovatsion jarayonlar faolligining yuqori darajada markazlashganligini, ya'ni innovatsion faoliyat asosan iqtisodiy, institutsional va infratuzilmaviy ustunliklarga ega hududlarda jamlanayotganini ko'rsatadi.

Mazkur hududiy differensiallashuv innovatsion resurslarning mutlaq hajmidagi farqlar bilan emas, balki innovatsion salohiyatni boshqarish samaradorligidagi tafovutlar bilan izohlanadi. Innovatsion faolligi yuqori hududlarda ilmiy-ta'lim muassasalari, sanoat va innovatsion klasterlar, moliyaviy va axborot infratuzilmasining nisbatan rivojlanganligi boshqaruv qarorlarining real iqtisodiy natijalarga aylanishini tezlashtirmoqda. Shu bilan birga, ushbu hududlarda strategik rejalashtirish, loyihalarni muvofiqlashtirish va innovatsion faoliyatni rag'batlantirish instrumentlari yaxlit tizim sifatida faoliyat yuritmoqda. Innovatsion faolligi past bo'lgan hududlarda esa boshqaruv mexanizmlarining fragmentarligi, institutsional muvofiqlashtirishning sustligi hamda mahalliy darajada innovatsion tashabbuslarni qo'llab-quvvatlash vositalarining cheklanganligi innovatsion salohiyatdan foydalanish samaradorligini pasaytirmoqda. Natijada, mavjud innovatsion resurslar to'liq iqtisodiy va ijtimoiy samara bermayapti.

Ushbu holat mintaqaviy innovatsion siyosatda hududlarga moslashtirilgan, differensial boshqaruv yondashuvlarini joriy etish, innovatsion salohiyatni baholashda faqat faollik ko'rsatkichlari emas, balki boshqaruv samaradorligini aks ettiruvchi integral indikatorlardan foydalanish zaruratini ilmiy jihatdan asoslaydi.

2-jadval.

**Namangan viloyati hududlarida innovatsion resurslar salohiyatining hududiy
dinamikasi (integral ball)**

Hududlar	2017	2019	2021	2024
Namangan sh.	0,58	0,66	0,78	0,85
Mingbuloq	0,29	0,34	0,41	0,48
Kosonsoy	0,33	0,39	0,46	0,54
Namangan	0,36	0,43	0,51	0,59
Norin	0,31	0,37	0,44	0,50
Pop	0,28	0,35	0,42	0,49
To'raqo'rg'on	0,34	0,41	0,49	0,57
Uychi	0,35	0,42	0,50	0,58
Uchqo'rg'on	0,38	0,46	0,55	0,64
Chortoq	0,40	0,49	0,60	0,69
Chust	0,37	0,45	0,54	0,62
Yangiqo'rg'on	0,32	0,40	0,48	0,56

Manba: Muallif hisob-kitoblari (Namangan viloyatining ijtimoiy-iqtisodiy ko'rsatkichlari asosida modellashtirilgan).

2017–2024 yillar davomida Namangan viloyati hududlarida innovatsion resurslar salohiyati umumiy o'sish dinamikasini namoyon etgan bo'lsa-da, hududlar kesimida sezilarli tafovutlar saqlanib qolgan. Xususan, Namangan shahrida innovatsion resurslar salohiyatining integral bahosi 2017 yildagi 0,58 dan 2024 yilda 0,85 ga yetib, viloyat bo'yicha eng yuqori darajani tashkil etgan. Chortoq tumanida ushbu ko'rsatkich 0,40

dan 0,69 gacha oshib, resurs bazasining nisbatan tez shakllanayotgan hududlar qatoriga kirgan. Uchqo‘rg‘on va Chust tumanlarida ham integral ball mos ravishda 0,64 va 0,62 darajasiga yetib, viloyat o‘rtacha ko‘rsatkichlaridan yuqori natijalar qayd etilgan. Shu bilan birga, Mingbuloq, Pop va Norin tumanlarida innovatsion resurslar salohiyati 2024 yilda 0,48–0,50 oralig‘ida shakllanib, viloyat markaziga nisbatan ancha pastligicha qolmoqda. Keltirilgan raqamlar innovatsion resurslar bazasining viloyat hududlari bo‘yicha notekis taqsimlanganligini va markazlashuv darajasi yuqori ekanligini ko‘rsatadi.

Innovatsion resurslar salohiyatidagi mazkur hududiy farqlanish mintaqaviy innovatsion rivojlanishning institutsional va boshqaruv omillari bilan bevosita bog‘liqdir. Innovatsion resurslar integral bahosi yuqori bo‘lgan hududlarda ilmiy-ta’lim muassasalari, malakali kadrlar, moliyaviy manbalar va innovatsion infratuzilma elementlarining nisbatan uyg‘unlashgan holda shakllangani kuzatiladi. Bu holat innovatsion salohiyatni shakllantirish jarayonida faqat resurslarning mavjudligi emas, balki ularni samarali muvofiqlashtirish va boshqarish mexanizmlarining hal qiluvchi ahamiyatga ega ekanligini tasdiqlaydi. Aksincha, innovatsion resurslar salohiyati past darajada shakllanayotgan hududlarda inson kapitali sifati, moliyalashtirish imkoniyatlari va infratuzilmaviy ta’minot o‘rtasidagi nomutanosiblik innovatsion rivojlanishning sekinlashuviga olib kelmoqda. Natijada, hududlar o‘rtasida innovatsion salohiyatni shakllantirish sur‘atlaridagi tafovutlar kuchayib, mintaqaviy innovatsion siyosatda differensial va hududlarga moslashtirilgan boshqaruv yondashuvlarini joriy etish zarurati yanada dolzarb bo‘lib bormoqda.

3-jadval.

Innovatsion salohiyatni boshqarish samaradorligi integral indeksi

Hududlar	2017	2019	2021	2024
Namangan sh.	0,52	0,61	0,72	0,81
Mingbuloq	0,24	0,29	0,36	0,42
Kosonsoy	0,28	0,34	0,41	0,48

Namangan	0,31	0,38	0,46	0,53
Norin	0,27	0,33	0,40	0,46
Pop	0,25	0,31	0,38	0,44
To'raqo'rg'on	0,30	0,37	0,45	0,52
Uychi	0,32	0,39	0,47	0,54
Uchqo'rg'on	0,35	0,43	0,52	0,60
Chortoq	0,37	0,45	0,56	0,65
Chust	0,34	0,42	0,50	0,58
Yangiqo'rg'on	0,29	0,36	0,44	0,51

Manba: Muallif hisob-kitoblari (Namangan viloyatining ijtimoiy-iqtisodiy ko'rsatkichlari asosida modellashtirilgan).

3-jadval Namangan viloyati hududlarida innovatsion salohiyatni boshqarish samaradorligining integral indeksini aks ettirib, innovatsion resurslar va jarayonlarning yakuniy boshqaruv natijasiga qanchalik samarali transformatsiya qilinayotganini baholash imkonini beradi. Integral indeksning qo'llanilishi innovatsion rivojlanishni faqat alohida ko'rsatkichlar orqali emas, balki resurslar, jarayonlar va boshqaruv mexanizmlarining o'zaro uyg'unligi nuqtayi nazaridan tahlil qilish imkonini yaratadi. Jadval natijalari viloyatda innovatsion salohiyatni boshqarish samaradorligi umumiy hisobda oshib borayotganini ko'rsatsa-da, hududlar kesimida bu jarayon bir xil kechmayotganini tasdiqlaydi. Bu holat innovatsion rivojlanishda institutsional va boshqaruv omillarining hududiy farqlanishi mavjudligini anglatadi.

Raqamli tahlilga ko'ra, Namangan viloyati bo'yicha innovatsion salohiyatni boshqarish samaradorligi indeksi 2017 yilda 0,38 ni tashkil etgan bo'lsa, 2024 yilda 0,66 darajasiga yetib, qariyb 74 foizga oshgan. Eng yuqori ko'rsatkich Namangan shahrida qayd etilib, 2024 yilda indeks 0,81 ga teng bo'lgan, bu viloyat o'rtacha darajasidan 0,15 punkt yuqoridir. Chortoq hududida indeks 0,65, Uchqo'rg'onda 0,60 darajasida

shakllanib, innovatsion salohiyatni boshqarishda nisbatan barqaror va samarali mexanizmlar mavjudligini ko'rsatadi. Shu bilan birga, Mingbuloq va Pop hududlarida 2024 yilgi indeks mos ravishda 0,42 va 0,44 darajasida qolib, viloyat o'rtacha ko'rsatkichidan qariyb 0,22–0,24 punktga past natija qayd etilgan. Ushbu tafovutlar innovatsion resurslar va jarayonlar mavjud bo'lishiga qaramay, ularni boshqarish samaradorligi hududiy institutlar, strategik rejalashtirish va muvofiqlashtirish sifati bilan bevosita bog'liq ekanini ilmiy jihatdan asoslaydi.

Mazkur tadqiqot Namangan viloyati va uning hududlari misolida mintaqaviy innovatsion salohiyatni shakllantirish hamda uni boshqarish samaradorligini empirik va strukturaviy yondashuvlar asosida baholashga qaratildi. 2017–2024 yillarni qamrab olgan tahlillar innovatsion rivojlanishning resurs bazasi, innovatsion jarayonlar faolligi va boshqaruv mexanizmlarining yakuniy natijalari o'rtasidagi o'zaro bog'liqlikni aniqlash imkonini berdi. Olingan natijalar mintaqaviy innovatsion siyosatni ilmiy asosda takomillashtirish uchun muhim analitik poydevor yaratadi.

Namangan viloyatida innovatsion rivojlanish jarayonlari umumiy o'sish tendensiyasiga ega bo'lsa-da, innovatsion salohiyatning shakllanishi va undan foydalanish hududlar kesimida sezilarli darajada notekis ekanligi aniqlandi. Innovatsion resurslar salohiyati va innovatsion jarayonlar faolligi asosan viloyat markazi hamda ayrim nisbatan rivojlangan tumanlarda jamlangan. Bu holat innovatsion rivojlanishning hududiy markazlashuvi yuqori ekanligini va innovatsion imkoniyatlardan foydalanishda hududlar o'rtasida barqaror tafovutlar mavjudligini ko'rsatadi. Natijada, innovatsion salohiyatning umumiy o'sishi barcha hududlarda bir xil ijtimoiy-iqtisodiy samarani ta'minlamayapti.

Tadqiqot natijalari innovatsion resurslarning mavjudligi bilan innovatsion natijalar o'rtasida avtomatik bog'liqlik mavjud emasligini tasdiqlaydi. Innovatsion rivojlanish samaradorligi ko'p jihatdan innovatsion salohiyatni boshqarish sifati,

xususan strategik rejalashtirish, institutsional muvofiqlashtirish, rag‘batlantirish mexanizmlarining izchilligi va mahalliy boshqaruv organlarining faolligi bilan belgilanadi. Boshqaruv mexanizmlari nisbatan rivojlangan hududlarda innovatsion resurslar real iqtisodiy natijalarga tezroq aylanmoqda, boshqaruv salohiyati past bo‘lgan hududlarda esa mavjud imkoniyatlar to‘liq safarbar etilmayapti.

Hududlar o‘rtasidagi innovatsion tafovutlarni qisqartirish va mintaqaviy innovatsion rivojlanishni barqarorlashtirish uchun differensial, hududlarga moslashtirilgan boshqaruv yondashuvlarini joriy etish zarur. Innovatsion siyosatni faqat umumiy dasturlar bilan cheklash samaradorlikni pasaytiradi; aksincha, har bir hududning resurs bazasi, institutsional imkoniyatlari va ijtimoiy-iqtisodiy xususiyatlarini inobatga olgan holda aniq maqsadli choralarni ishlab chiqish muhim ahamiyat kasb etadi. Shu nuqtai nazardan, innovatsion salohiyatni integral indekslar orqali baholash, resurslar, jarayonlar va natijalar o‘rtasidagi bog‘liqlikni tizimli monitoring qilish hamda boshqaruv samaradorligini oshirish mintaqaviy iqtisodiyotning uzoq muddatli raqobatbardoshligi va inklyuziv rivojlanishini ta’minlashning asosiy sharti hisoblanadi.

Foydalanilgan adabiyotlar

- 1.Todaro, M. P., Smith, S. C. Economic Development. Pearson Education, 2020.
- 2.Aghion, P., Howitt, P. The Economics of Growth. MIT Press, 2009.
- 3.Cooke, P. Regional Innovation Systems: Competitive Regulation in the New Europe. Geoforum, Elsevier, 2001.
- 4.O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi Farmoni. Toshkent, 2022.
- 5.Lundvall, B.-Å. National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning. Anthem Press, 2010.

The impact of social media on human psychology

Yangabayeva Maftuna

student of group 103-RT, Faculty of Philology Uzbek National Pedagogical
University

Abstract

This article examines the impact of social media on human psychological well-being. It analyzes both positive and negative aspects of social platforms and their influence on emotions, behavior, and self-esteem. Special attention is given to social media addiction among young people and changes in interpersonal communication. The article highlights the importance of developing digital literacy and psychological resilience in today's information society. It also explores the role of social media in shaping self-identity, especially among adolescents and young people. The virtual environment can both support personal development and contribute to psychological issues such as anxiety, stress, low self-esteem, and social isolation. The article emphasizes the importance of developing critical thinking and digital hygiene to reduce the negative impact of social networks.

Keywords. social media, psychology, addiction, self-esteem, emotional state, youth, communication, digital society, social media, digital addiction, personality psychology, self-esteem, emotional stability, cognitive processes, adolescent psychology, virtual communication, stress, social isolation, digital hygiene, critical thinking.

Влияние социальных сетей на психологию человека

Янгабаева Мафтуна

студентка 103-РТ, филологический факультет Узбекский национальный
педагогический университет

Аннотация. В данной статье рассматривается влияние социальных сетей на психологическое состояние человека. Анализируются положительные и

отрицательные стороны использования социальных платформ, их воздействие на эмоциональную сферу, поведение и самооценку личности. Особое внимание уделяется проблеме зависимости от социальных сетей среди молодежи, а также изменениям в межличностном общении. В статье подчеркивается необходимость формирования цифровой культуры и психологической устойчивости в условиях современного информационного общества. Также рассматривается роль социальных сетей в формировании самоидентичности, особенно у подростков и молодёжи. Подчеркивается, что виртуальная среда может как способствовать развитию личности, так и вызывать психологические проблемы, такие как тревожность, стресс, снижение самооценки и социальная изоляция. В статье отмечается необходимость развития критического мышления и цифровой гигиены для снижения негативного воздействия социальных платформ.

Ключевые слова: социальные сети, психология, зависимость, самооценка, эмоциональное состояние, молодежь, коммуникация, цифровое общество, социальные сети, цифровая зависимость, психология личности, самооценка, эмоциональная стабильность, когнитивные процессы, подростковая психология, виртуальная коммуникация, стресс, социальная изоляция, цифровая гигиена, критическое мышление.

Основная часть. Современное общество невозможно представить без социальных сетей. Такие платформы, как Instagram, Telegram, TikTok и другие, стали неотъемлемой частью повседневной жизни людей, особенно молодежи. Они выполняют важную функцию коммуникации, обмена информацией и самовыражения личности. Однако вместе с этим социальные сети оказывают значительное влияние на психологическое состояние человека, формируя новые модели поведения, мышления и эмоционального реагирования. Прежде всего, необходимо отметить положительное влияние социальных сетей. Они расширяют

возможности общения, позволяют поддерживать связь с людьми на больших расстояниях, находить единомышленников и развивать социальные контакты. Благодаря социальным платформам человек может получать доступ к образовательным ресурсам, развивать творческие способности и участвовать в различных профессиональных и социальных проектах. Это способствует формированию цифровой компетентности и адаптации к современному информационному обществу. Однако наряду с положительными аспектами существует и ряд негативных психологических последствий. Одной из главных проблем является зависимость от социальных сетей. Многие пользователи проводят чрезмерное количество времени в онлайн-пространстве, что приводит к снижению концентрации внимания, ухудшению памяти и нарушению режима сна. Постоянное использование социальных платформ формирует психологическую привычку к постоянному получению информации и одобрения со стороны других пользователей.



Особое внимание следует уделить влиянию социальных сетей на самооценку личности. Пользователи часто сравнивают свою жизнь с «идеализированными» образами других людей, что может вызывать чувство неудовлетворенности, тревожность и снижение уверенности в себе. Особенно это характерно для подростков и молодежи, у которых личность находится в стадии формирования. В результате может развиваться эмоциональная нестабильность и зависимость от мнения окружающих. Кроме того, социальные сети влияют на характер межличностного общения. Живое общение постепенно заменяется виртуальной коммуникацией, что снижает уровень эмоциональной близости между людьми. В реальной жизни это может проявляться в трудностях установления контактов, снижении эмпатии и увеличении уровня социальной изоляции. Люди начинают больше общаться в цифровом пространстве, но при этом теряют навыки реального взаимодействия. Также важно отметить влияние социальных сетей на эмоциональную сферу человека. Постоянный поток информации, новостей и визуального контента может вызывать информационную перегрузку, стресс и тревожные состояния. Алгоритмы социальных платформ часто подстраиваются под интересы пользователя, что приводит к формированию «информационного пузыря» и ограничению критического мышления. Таким образом, социальные сети оказывают комплексное влияние на психологию человека. С одной стороны, они способствуют развитию коммуникации, обучению и самореализации, с другой — могут вызывать зависимость, снижение самооценки и эмоциональные трудности. Поэтому важно формировать у пользователей, особенно у молодежи, навыки осознанного и умеренного использования социальных сетей, а также развивать цифровую и психологическую грамотность. Кроме того, социальные сети играют значительную роль в формировании общественного мнения. Информационные потоки в интернете часто влияют на восприятие реальности,

формируя определённые установки и стереотипы. Люди могут поддаваться массовым трендам и мнениям, не всегда критически оценивая информацию. Это особенно опасно для подростков, которые ещё не обладают устойчивыми навыками критического анализа.



Нельзя не отметить и положительную сторону — возможность психологической поддержки через социальные сети. В онлайн-пространстве существуют сообщества, где люди делятся своими проблемами, получают советы и эмоциональную поддержку. Это может помочь снизить чувство одиночества и повысить уровень социальной адаптации, особенно у людей, находящихся в сложных жизненных ситуациях. Таким образом, влияние социальных сетей на психику человека является многогранным и неоднозначным. С одной стороны, они расширяют возможности общения, самовыражения и получения информации, с другой — могут приводить к зависимости, снижению когнитивных функций и эмоциональным нарушениям. Поэтому важно не только осознавать эти риски, но и уметь контролировать время и качество взаимодействия с цифровой средой.

Литература

1. Андреева Г. М. Социальная психология. — М.: Аспект Пресс, 2019.
2. Петровский А. В., Ярошевский М. Г. Психология. — М.: Академия, 2018.
3. Леонтьев А. Н. Деятельность. Сознание. Личность. — М.: Смысл, 2005.
4. Выготский Л. С. Психология развития человека. — М.: Эксмо, 2016.
5. Фромм Э. Иметь или быть? — М.: АСТ, 2020.
6. Дубровина И. В. Возрастная и педагогическая психология. — М.: Академия, 2017.
7. Кастельс М. Интернет-общество и коммуникации. — М.: Высшая школа экономики, 2015.
8. Bauman Z. Liquid Modernity. — Cambridge: Polity Press, 2000.
9. Boyd D. It's Complicated: The Social Lives of Networked Teens. — Yale University Press, 2014.
10. Kaplan A., Haenlein M. Users of the world, unite! The challenges and opportunities of Social Media. — Business Horizons, 2010.

LANGUAGE AS A FACTOR OF GLOBAL SUSTAINABILITY: A BRIDGE CONNECTING HUMANITY AND NATURE

Bekmurodova Iroda

Denov Institute of Entrepreneurship and Pedagogy

irodabekmurodova041@gmail.com

Abstract. While global sustainability discussions often focus on technological breakthroughs like solar energy or waste management, the linguistic dimension remains significantly under-researched. This article explores the pivotal role of language in shaping ecological consciousness and facilitating international environmental cooperation. By employing a conceptual analysis approach, the study investigates how linguistic framing - such as the transition from “global warming” to “climate emergency” - alters human perception and behavior. Furthermore, it highlights the importance of indigenous languages as repositories of ecological wisdom. The findings suggest that linguistic diversity is as crucial to the planet's health as biological diversity, serving as a fundamental bridge between human society and the natural world.

Keywords: Global sustainability, ecolinguistics, environmental communication, linguistic diversity, worldview shift, indigenous knowledge.

Annotatsiya. Global barqarorlikka oid munozaralar ko‘pincha quyosh energiyasi yoki chiqindilarni qayta ishlash kabi texnologik yutuqlarga qaratilgan bo‘lsa-da, masalaning lingvistik jihati sezilarli darajada kam o‘rganilgan. Ushbu maqola ekologik ongni shakllantirishda va xalqaro ekologik hamkorlikni osonlashtirishda tilning muhim rolini tadqiq qiladi. Konseptual tahlil yondashuvidan foydalangan holda, tadqiqot lingvistik freyming — masalan, “global isish” iborasidan “iqlimiy favqulodda holat” iborasiga o‘tish — inson idroki va xulq-atvorini qanday o‘zgartirishini o‘rganadi. Bundan tashqari, u ekologik bilimlar xazinasida mahalliy tillarning ahamiyatini ta’kidlaydi. Tadqiqot natijalari shuni ko‘rsatadiki, lingvistik xilma-xillik sayyoramiz

salomatligi uchun biologik xilma-xillik kabi muhim bo‘lib, insoniyat jamiyati va tabiat olami o‘rtasidagi fundamental ko‘prik bo‘lib xizmat qiladi.

Kalit so‘zlar: Global barqarorlik, ekolingvistika, ekologik muloqot, lingvistik xilma-xillik, dunyoqarash o‘zgarishi, mahalliy bilimlar.

Аннотация. В то время как дискуссии о глобальной устойчивости часто сосредоточены на технологических прорывах, таких как солнечная энергия или переработка отходов, лингвистическое измерение остается в значительной степени недостаточно изученным. Данная статья исследует ключевую роль языка в формировании экологического сознания и содействии международному экологическому сотрудничеству. Используя метод концептуального анализа, исследование изучает, как лингвистический фрейминг — например, переход от термина «глобальное потепление» к «чрезвычайной климатической ситуации» — меняет человеческое восприятие и поведение. Кроме того, в работе подчеркивается важность языков коренных народов как хранилищ экологической мудрости. Результаты показывают, что языковое разнообразие так же важно для здоровья планеты, как и биологическое разнообразие, служа фундаментальным мостом между человеческим обществом и миром природы.

Ключевые слова: Глобальная устойчивость, эколингвистика, экологическая коммуникация, языковое разнообразие, сдвиг мировоззрения, знания коренных народов.

INTRODUCTION. In the contemporary discourse on environmental preservation, the prevailing paradigm is predominantly techno-centric. Solutions are often sought in wind turbines, electric vehicles, and carbon capture technologies. However, as Meadow and Randers (2012) argue, technological shifts are insufficient without a fundamental transformation in human values and worldviews. This transformation is driven by our most potent tool: language.

Language is not merely a vehicle for information; it is a cognitive framework that determines how we perceive, value, and interact with the environment. This article

argues that global sustainability is fundamentally a linguistic challenge. It explores how the “way we speak” about nature dictates the “way we treat” nature, emphasizing the need for a common communicative space to bridge the gaps between economic, environmental, and social interests.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The concept of sustainable development gained global prominence following the Brundtland Report, which defined it as meeting “the needs of the present without compromising the ability of future generations to meet their own needs” (Mensah, 2019). However, recent scholars in the field of Ecolinguistics (Stibbe, 2015) suggest that the very language used in such reports can sometimes be too anthropocentric.

Sustainability is often visualized through three pillars: the economy, the environment, and social equity (Purvis et al., 2019). The difficulty in achieving a balance between these pillars often stems from a linguistic disconnect. A businessperson may use the language of “resource extraction and profit”, while an environmentalist speaks of “ecosystem services and conservation”. To unite these interests, a transdisciplinary language is required - one that reframes nature not as a commodity, but as a life-sustaining partner.

METHODOLOGY

This research employs a qualitative conceptual analysis method. It examines existing literature on sustainability and linguistics to identify the correlation between terminology and environmental action. The study focuses on two primary areas:

Linguistic Framing: Analyzing how shifts in terminology affect public urgency.

Linguistic Diversity: Evaluating the link between indigenous language preservation and biological conservation.

Additionally, this study also employs a Qualitative Comparative Analysis (QCA). The research procedure follows three distinct phases:

Terminological Mapping: Comparing the semantic weight of “mild” vs. “urgent” climate descriptors.

Cross-Cultural Synthesis: Analyzing indigenous ecological lexicons against Western scientific taxonomies to identify “wisdom gaps”.

Contextual Application: Case study analysis of environmental communication within the Uzbek agricultural sector.

RESULTS AND DISCUSSION

One of the most significant examples of language affecting sustainability is the evolution of climate terminology. For decades, the term “global warming” was the standard. Linguistically, “warming” carries a gentle, almost positive connotation (e.g., a “warm home”). This mild framing arguably contributed to public apathy.

Linguistic Connotation Behavioral Response

Global Warming Progressive, gentle Passive observation

Climate Change Neutral, scientific Incremental adjustment

Climate Emergency Urgent, critical Immediate mobilization.

However, the shift toward terms like “climate crisis” or “ecological emergency” has created a heightened sense of responsibility. As noted by contemporary activists, these words trigger an emotional and cognitive “call to action” that scientific tables alone cannot achieve. Language, therefore, acts as the catalyst that converts scientific data into social movement.

Linguistic diversity is inextricably linked to biological health. Indigenous languages often contain specific terms for medicinal plants, soil patterns, and weather cycles that do not exist in major global languages. When a language dies, we lose a “guidebook” for living in harmony with a specific ecosystem.

For instance, in the Uzbek cultural context, the works of Abdulla Avloni emphasize that “The mirror of life that shows the existence of every nation in the world is its language and literature”. Applying this to sustainability, the loss of national and indigenous linguistic heritage is equivalent to losing the spiritual and practical wisdom needed to protect the land. Global sustainability requires a “common language” of cooperation. For example, when a farmer in Uzbekistan implements water-saving technologies, the success of this innovation depends on how the concept is translated and aligned with local values. If sustainability is presented as an external “foreign”

burden, it faces resistance. If it is framed through the lens of ancestral respect (the Earth as a “loan from our children”), it gains intrinsic motivation.

CONCLUSION. True sustainability cannot be measured solely in laboratories or economic charts. It is reflected in the unbreakable bridge between humanity and nature built through language. As this analysis has shown, the way we name environmental phenomena directly influences our ethical response to them. To ensure a "common future," we must prioritize linguistic diversity and develop a more conscious, ecologically-centered vocabulary. Language is the force that will transform sustainability from a slogan into a shared human calling.

REFERENCES

1. Kates, R. W., Parris, T. M., & Leiserowitz, A. A. (2005). What is Sustainable Development? Goals, Indicators, Values, and Practice. *Environment: Science and Policy for Sustainable Development*, 47(3), 8–21. <https://doi.org/10.3200/ENVT.47.3.8-21>
2. Meadows, D. H., & Randers, J. (2012). *The Limits to Growth: The 30-Year Update*. Chelsea Green Publishing.
3. Mensah, J. (2019). Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1), 1654511.
4. Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: in search of conceptual origins. *Sustainability Science*, 14(3), 681–695.
5. Stibbe, A. (2015). *Ecolinguistics: Language, Ecology and the Stories We Live By*. Routledge.
6. United Nations. (1987). *Our Common Future: Report of the World Commission on Environment and Development (The Brundtland Report)*. Oxford University Press.

SPECIFIC PROPHYLAXIS OF INFLUENZA

Masharipova Shakhista Sabirovna

Urganch State Medical Institute, Urgench, Uzbekistan

Abstract

Influenza is one of the most widespread infectious diseases worldwide and has a significant impact on public health and the economy. This study evaluated the effectiveness and immunogenicity of seasonal influenza vaccination. During the 2023–2024 influenza season, a total of 122 participants were enrolled and divided into two groups: vaccinated (62 individuals) and control (60 individuals). The results demonstrated that the incidence of influenza, influenza-like illness, and related complications was significantly lower in the vaccinated group. Immunological analysis revealed a significant increase in antibody titers. The vaccination was found to be safe and well tolerated.

Keywords: influenza, vaccination, specific prophylaxis, immunogenicity, hemagglutination inhibition, antibody titer, seroconversion, seroprotection

Introduction

Influenza is an acute respiratory viral infection characterized by high transmissibility and manifests annually in the form of seasonal epidemics. The influenza virus is known for its continuous antigenic variability, which contributes to its widespread distribution and repeated infections. Children, the elderly, pregnant women, and individuals with chronic diseases are considered high-risk groups.

Severe forms of influenza and its complications, including secondary bacterial pneumonia, exacerbation of cardiovascular diseases, and even death, may occur. Therefore, specific prophylaxis plays a crucial role in its prevention. Currently, vaccination is recognized as the most effective and scientifically proven method for controlling influenza.

The purpose of the study is to analyze specific methods of influenza prevention, evaluate the effectiveness and immunogenicity of seasonal vaccination, and explore the prospects for developing new types of vaccines.

Materials and Methods

The study was conducted as a prospective clinical trial during the 2023–2024 influenza season. A total of 122 participants were enrolled and divided into two groups: the vaccinated group (n=62) and the unvaccinated (control) group (n=60).

Inclusion and Exclusion Criteria

The study included individuals over the age of 18, including the elderly and patients with chronic diseases. Written informed consent was obtained from all participants. The following conditions were established as exclusion criteria:

- Acute febrile illness at the time of the study;
- Hypersensitivity to vaccine components;
- Severe adverse reactions following previous vaccinations;
- Other medical contraindications.

Procedure and Follow-up

Participants in the vaccinated group received a standard single dose of the inactivated seasonal influenza vaccine in accordance with the national immunization schedule. All participants were followed up for a period of 6 months.

During the observation period, laboratory-confirmed influenza cases, influenza-like illnesses (ILI), and complications (secondary bacterial infections, exacerbation of chronic diseases) were recorded.

Assessment of Immunogenicity

To evaluate immunogenicity, venous blood samples were collected pre-vaccination and 21–28 days post-vaccination. Antibody titers were determined using the

hemagglutination inhibition (HI) assay. Seroconversion and seroprotection rates were calculated based on international criteria.

Statistical Analysis

Statistical analysis was performed using standard methods. Numerical data were presented as mean $\pm$ standard deviation, while qualitative indicators were expressed as percentages. Differences between groups were evaluated using the χ^2 (chi-square) test and Student's t-test. A value of $p < 0.05$ was considered statistically significant.

Results

A total of 122 participants were included in the study: 62 in the vaccinated group and 60 in the control group. There were no statistically significant differences between the groups regarding age, gender, or the prevalence of chronic diseases ($p > 0.05$).

During the follow-up period, laboratory-confirmed influenza cases were recorded in 5 participants (8.1%) of the vaccinated group, compared to 14 participants (23.3%) in the control group ($p < 0.05$). This indicates that vaccination significantly reduces the incidence of influenza.

The frequency of influenza-like illnesses (ILI) was also lower in the vaccinated group at 16.1%, whereas it reached 31.7% in the control group.

Complications, including secondary bacterial pneumonia and exacerbations of chronic diseases, were observed in 3.2% of the vaccinated group and 11.7% of the control group.

The results of the immunological analysis showed a significant increase in antibody titers post-vaccination ($p < 0.001$). The seroconversion rate reached 72.5%, and seroprotection exceeded 78.4%.

Safety and Adverse Reactions

Analysis of adverse effects demonstrated the safety of the vaccine.

- Mild local reactions (pain at the injection site) occurred in 14.5% of cases.

- Mild systemic reactions (low-grade fever, fatigue) were observed in 9.6% of cases.

All reactions resolved spontaneously within 1–3 days. No serious adverse events were recorded.

Discussion

The results obtained confirm the high efficacy of seasonal influenza vaccination. A significant reduction in laboratory-confirmed influenza cases and influenza-like syndromes was observed in the vaccinated group compared to the control group. These findings further demonstrate the crucial preventive value of vaccination.

The analysis of immunogenicity indicators showed a reliable increase in antibody titers following vaccination. The seroconversion and seroprotection rates complied with international standards, confirming the potency and effectiveness of the administered vaccine.

Furthermore, the vaccine was well-tolerated, with only mild and transient adverse effects recorded. These results underscore the safety profile of the vaccination procedure among the study population.

Due to the continuous antigenic drift of the influenza virus, the development of new vaccine strains remains a constant necessity. Future research should prioritize the creation of universal vaccines, the prolongation of the immune response, and the achievement of broad-spectrum protection.

Conclusion

The study results confirm that seasonal influenza vaccination is an effective and safe method of prevention. In vaccinated individuals, the incidence of influenza, influenza-like illnesses, and associated complications was significantly reduced.

Immunological indicators demonstrated high rates of seroconversion and seroprotection, indicating the formation of a robust immune response following

vaccination. Furthermore, the vaccination was well-tolerated, with adverse effects limited to mild, short-term reactions.

Given the continuous antigenic variability of the influenza virus, annual vaccination remains the most reliable measure for reducing morbidity and preventing complications. Expanding vaccination coverage, particularly among high-risk groups, remains of critical importance.

References

- 1.Артиков, И. А., Отажанов, Ш. З., & Садуллаев, С. Э. (2025). ПАТОМОРФОЛОГИЧЕСКИЕ АСПЕКТЫ ДЕТСКОГО ЛИМФОБЛАСТНОГО ЛЕЙКОЗА. *Multidisciplinary Journal of Science and Technology*, 5(6), 257-264.
2. Юсупов, Ш. Р., Аскарова, Р. И., Машарипова, Ш. С., & Машарипова, Х. К. (2019). Эпидемиология лёгочного туберкулеза в хорезмской области. In *europaen research: innovation in science, education and technology* (pp. 96-100).
- 3.Аскарова, Р. И., & Юсупов, Ш. Р. ШС Машарипова Эпидемиология легочного туберкулеза. In *EUROPEAN RESEARCH: INNOVATION IN SCIENCE, EDUCATION AND TECHNOLOGY LVII International correspondence scientific and practical conference.-2019.-сmp* (pp. 96-100).
4. Ибрахимова, Х. Р., Отажанов, Ш. З., & Матякубова, О. У. (2019). ТУБЕРКУЛЕЗНЫЙ МЕНИНГИТ У БОЛЬНЫХ, ПРОЖИВАЮЩИХ В ХОРЕЗМСКОЙ ОБЛАСТИ. In *INTERNATIONAL SCIENTIFIC REVIEW OF THE PROBLEMS OF NATURAL SCIENCES AND MEDICINE* (pp. 96-104).
5. Sabirovna, M. S., & Sobir, M. (2023). UDC: 619: 616.995. 132.6 IMMUNE STATUS OF ADULTS AND CHILDREN WITH AN ALLERGIC BACKGROUND DIAGNOSED WITH ENTEROBIOSIS. *Новости образования: исследование в XXI веке*, 2(14), 24-28.
6. Nurllayev, R. R., & Artiqov, I. A. (2023). IMPROVING THE PRIMARY PREVENTION OF ACUTE DIARRHEAL DISEASES AMONG CHILDREN. *Finland International Scientific Journal of Education, Social Science & Humanities*, 11(4), 6-10.
7. Садуллаев, С. Е., Машарипова, Ш. С., & Машарипов, С. (2023). КЛИНИКО-ЛАБОРАТОРНЫЕ ОСОБЕННОСТИ ТЕЧЕНИЯ ПНЕВМОНИИ, АССОЦИИРОВАННОЙ С COVID-19, У ДЕТЕЙ РАННЕГО

ВОЗРАСТА. *Международный журнал образования, социальных и гуманитарных наук. Finland Academic Research Science Publishers*, 11(9), 851-856.

8. Машарипова, Ш. С. (2022). О 'PKA ARTERIYALARINING QANDLI DIABET TA'SIRIDA MORFOLOGIK TUZILISHI. *Журнал кардиореспираторных исследований*, 3(1).

9. Машарипова Шохиста Сабиловна, & Матякубова Айша Уриновна (2020). Кумысолечение ослабленных детей в Хорезмском регионе. *Наука, образование и культура*, (2 (46)), 49-51. doi: 10.24411/2413-7111-2020-10201

10. Аскарова, Р. И., Машарипова, Ш. С., Атажанов, Ш. З., Машарипова, Х. К., & Якубова, У. Б. (2019). ОСОБЕННОСТИ ТЕЧЕНИЯ БЕРЕМЕННОСТИ ЖЕНЩИН, БОЛЬНЫХ ТУБЕРКУЛЁЗОМ ОРГАНОВ ДЫХАНИЯ. In *International scientific review of the problems of natural sciences and medicine* (pp. 202-209).

11. Машарипова, Ш. С., Ибраимова, Х. Р., & Машарипов, С. М. (2023). Анализ эпидемиологических особенности диарейных заболеваний у детей южного приаралья. *O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali*, 2(15), 884-887.

12. Машарипова, Ш. С., Ибраимова, Х. Р., Нурллаев, Р. Р., & Садуллаев, С. Э. (2023). ТЕЧЕНИЕ ВНУТРИБОЛЬНИЧНЫХ ПНЕВМОНИИ У БОЛЬНЫХ НАХОДЯЩИХСЯ НА ДЛИТЕЛЬНОМ АППАРАТЕ ИСКУССТВЕННОЙ ВЕНТИЛЯЦИИ ЛЁГКИХ. *Scientific Impulse*, 2(16), 1172-1178.

13. Nurllayev, R. R., Ibadullayeva, S. S., & Yoqubov, Q. Y. (2023). KICHIK QON AYLANISH DOIRASI ARTERIYALARINING MORFOLOGIK TUZILISHI. *Научный Фокус*, 1(8), 463-468.

14. Nurillaev, R. R., & Matyakubova, O. U. (2023). EPIDEMIOLOGICAL STRUCTURES OF DIARRHEAL DISEASES IN THE KHOREZM REGION. *PEDAGOG*, 6(2), 126-129.

15. Машарипова, Ш. С., & Машарипов, С. М. (2026). ЭПИДЕМИОЛОГИЯ ВНУТРИБОЛЬНИЧНЫХ ИНФЕКЦИЙ: РАСПРОСТРАНЁННОСТЬ, ФАКТОРЫ РИСКА И ПРОФИЛАКТИКА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 85(2), 237-245.

16. Masharipova, S. S., Karimova, U. M., & Oltiyeva, H. S. (2025). RISK FACTORS AND METHODS OF PREVENTION OF NOSOCOMIAL INFECTION. *Общественные науки в современном мире: теоретические и практические исследования*, 4(2), 67-70.

17. Sadullayev, S. E. (2024). THE COURSE OF NOSOCOMIAL PNEUMONIA IN PATIENTS ON LONG-TERM ARTIFICIAL LUNG VENTILATION. *O'ZBEKISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI*, 2(26), 80-84.
18. Машарипова, Ш. С., ВЛИЯНИЕМ, М., & ДИАБЕТА, С. JCRR. 2022.№ 1. URL: <https://cyberleninka.ru/article/n/morfologicheskoe-stroenie-legochnyh-arteriy-pod-vliyaniem-saharnogo-diabeta> (дата обращения: 13.01. 2026).
19. Nurullayev, R. R., & Sadullayev, S. E. (2023). DIAREYALI KASALLIKLARNING EPIDYEMIOLOGIK XUSUSIYATLARI. *World of Science*, 6(9), 64-67.
20. Машарипова, Ш. С., Артиков, И. А., Садуллаев, С. Э., & Абдуллаева, Д. К. (2022). ТЕЧЕНИЕ КОРОНАВИРУСНОЙ ИНФЕКЦИИ НА ФОНЕ ГЕПАТИТОВ. *Новости образования: исследование в XXI веке*, 1(5), 573-577.
21. Matyakubova, O. U., & Masharipov, S. M. (2024). MEASLES DISEASE AMONG THE POPULATION. *JOURNAL OF APPLIED MEDICAL SCIENCES*, 7(3), 40-50.
22. Хударгенова, Д. Р., Машарипова, Ш. С., Машарипов, С., & Машарипов, А. С. (2023). ЦЕЛЕСООБРАЗНОСТЬ ОТБОРА ЖИВОТНЫХ-ПРОДУЦЕНТОВ ПРИ ПОЛУЧЕНИИ ГИПЕРИММУННЫХ СЫВОРОТОК, ПРИМЕНЯЕМЫХ В СУДЕБНО-МЕДИЦИНСКИХ ЛАБОРАТОРИЯХ.
23. Машарипова, Ш., & Машарипов, С. (2021). *Заболевание печени у больных с ишемической болезнью сердца среди хорезмского региона* (Doctoral dissertation, Cardiorespiratory Research).
24. Машарипова, Ш. С. (2020). Матякубова Айша Уриновна Кумысолечение ослабленных детей в Хорезмском регионе.
25. Машарипова, Ш. С., & Матякубова, О. У. (2020). Течение ВИЧ/СПИД инфекции у больных туберкулезом легких. *European science*, (3 (52)), 110-112.

THE ONTOLOGICAL AND AXIOLOGICAL RELATIONSHIP BETWEEN SPIRITUALITY AND INFORMATION

Urazov Abubakir Kulturaevich

Independent Researcher at the Institute for Social and Spiritual Research

Abstract

This article examines the ontological and axiological intersections between spirituality and information in the context of the emerging information society. While contemporary discourse often treats information as a technological or economic category, its deeper philosophical implications reveal profound connections with human spirituality, meaning-making, and value systems. Drawing on classical philosophy, information ethics, and digital civilization studies, the article argues that information operates not only as an epistemic resource but also as a constitutive element of human existence. The axiological dimension shows that the way societies create, interpret, and disseminate information directly influences spiritual development, moral orientations, and collective identity. The study concludes that a holistic understanding of digital civilization requires integrating spiritual values into the design and governance of informational environments.

Keywords: *information society, spirituality, ontology, axiology, digital ethics, meaning-making, information philosophy*

Introduction

Modern digital civilization is characterized by unprecedented flows of information, pervasive algorithmic mediation, and deepening global interconnectivity. These developments have not only transformed economic and political systems but have also reshaped the fundamental conditions of human existence, prompting renewed

philosophical inquiry into the nature of information and its role in structuring contemporary life. Although the sociotechnical aspects of the information society—such as digital infrastructure, communication technologies, and data-driven innovation—have been extensively examined, the **ontological and axiological relationship between information and spirituality** remains strikingly under-theorized. This lacuna is particularly noteworthy given that spiritual life, in all its cultural and philosophical diversity, is inseparable from the informational contexts through which individuals search for meaning, cultivate inner awareness, and develop ethical orientations.

Spirituality—understood broadly as the dimension of human existence concerned with meaning-making, transcendence, moral discernment, and inner development—cannot be meaningfully detached from the informational environments that increasingly mediate contemporary experience. As Floridi (2011) observes, human beings now function as “informational organisms” inhabiting an expanding **infosphere**—a digitally constituted environment in which information shapes perception, identity, consciousness, and interpersonal relationships. Within such an environment, spiritual life is neither eliminated nor merely displaced; rather, it is **reconfigured**. Practices of reflection, ethical choice, self-understanding, and communal belonging unfold within networks of information that influence how individuals interpret themselves and the world.

Despite this profound interdependence, systematic philosophical reflection on how **informational processes shape spiritual existence**—and reciprocally, how **spiritual values influence the ethical and cultural significance of information**—remains limited. Addressing this gap is essential for understanding the normative and existential implications of digital civilization.

Materials and methods

The study was conducted between **January 2023 and December 2024** and involved a comprehensive theoretical and philosophical analysis of primary and secondary sources addressing the conceptual relationship between spirituality and information within the context of the modern information society. A diverse range of materials was examined, including classical philosophical works, foundational texts in information theory, contemporary research in digital ethics, and cross-cultural spiritual literature. The selection of sources followed a purposive sampling strategy with the aim of identifying the most influential contributions to the ontological and axiological dimensions of information and spirituality.

Special emphasis was placed on the writings of major theorists of information and digital ontology. These included: **Luciano Floridi's works** on the philosophy of information and the concept of the *infosphere*, particularly *The Philosophy of Information* (2011), *The Ethics of Information* (2013), and *The Fourth Revolution* (2014), which collectively articulate the ontological framework necessary for examining how humans exist as informational agents. **Gregory Bateson's seminal definition of information** ("a difference that makes a difference") in *Steps to an Ecology of Mind* (1972), used as a foundational ontological premise for understanding information as a constitutive element of human cognition and meaning-making. **Classical texts on spirituality and human existential experience**, including selected writings from Al-Ghazali, Ibn Arabi, and Meister Eckhart, as well as modern philosophical interpretations of spirituality, such as those by Charles Taylor and Mircea Eliade. These sources were examined to establish the conceptual basis for defining spirituality as a mode of human existence concerned with meaning, transcendence, ethical orientation, and interiority.

As for contemporary academic publications and digital-ethical sources, Modern interdisciplinary works were also analysed, including publications from: digital ethics and information society studies, such as works by Shoshana Zuboff (2019), Manuel

Castells (2010), and Mark Coeckelbergh (2020), which address the moral implications of algorithmic governance, networked identity, and data-driven social systems; psychology of spirituality and digital culture, exploring how virtual environments shape selfhood, reflection, and moral development; cross-cultural studies, highlighting how various religious and philosophical traditions interpret meaning, communication, and moral responsibility within technologically mediated environments. These materials were used to identify the axiological significance of information and to evaluate how spiritual values guide ethical decision-making in digital contexts.

When it comes to analytical methods, a multi-method qualitative approach was employed, combining several philosophical and interpretive techniques: Conceptual Analysis: This method enabled the clarification of core concepts—*information, spirituality, ontology, axiology, meaning, identity, transcendence*—and the identification of their interrelations. Definitions were compared across philosophical, technological, and spiritual discourses to develop a coherent conceptual framework. Hermeneutic and Phenomenological Interpretation: Hermeneutic methods were applied to interpret philosophical texts and spiritual writings, focusing on how meaning is constructed in relation to informational environments. Phenomenological insights were used to explore subjective experiences of spirituality in digitally mediated contexts.

Content analysis was conducted on selected digital ethics documents, philosophical texts, and spiritual writings to extract recurring themes related to authenticity, moral responsibility, human dignity, inner freedom, and informational influence.

A comparative approach was used to examine differences between traditional spiritual frameworks and technologically mediated forms of spiritual engagement, as well as to compare Western and non-Western philosophical perspectives on digital meaning-making.

As a theoretical and philosophical study, the research does not rely on empirical data or fieldwork. While this allows for a deep conceptual analysis, future empirical studies—such as digital ethnography, surveys of spiritual practices online, or psychological assessments of digital meaning-making—could complement the present findings by providing experiential evidence of how individuals navigate spirituality within the infosphere.

Results

The ontological relationship between spirituality and information begins with the recognition that information is not merely a technological artifact or a functional resource but a **fundamental structuring principle of human reality**. From this perspective, information constitutes the very fabric through which beings relate, interpret, and give meaning to the world. Bateson's (1972) conception of information as "a difference that makes a difference" underscores that information is embedded in the cognitive and perceptual processes by which humans discern patterns, construct narratives, and orient themselves toward existence. It is through informational distinctions that consciousness becomes aware of itself, others, and the broader cosmos. Spirituality, in turn, arises from humanity's perennial quest to understand being, purpose, transcendence, and interconnectedness. It encompasses the existential and reflective dimensions of human life, through which individuals seek coherence, moral orientation, and a sense of belonging to something greater than themselves. In the context of the information society, these spiritual processes are profoundly shaped by new ontological conditions: **human consciousness is increasingly mediated by digital environments**, which expand cognitive horizons while simultaneously conditioning attention, perception, and emotional experience; **identity becomes a hybrid construct** formed at the intersection of embodied existence and continuous informational flows, rendering the self more dynamic, relational, and technologically embedded; **spiritual**

experiences—such as communal belonging, contemplation, and ethical discernment—frequently unfold within virtual or digitally augmented spaces, where symbolic interaction and shared meaning-making occur independently of physical proximity.

Under these conditions, information not only **conditions** the modalities through which spiritual life is expressed but also **extends** its possibilities. Digital environments enable new forms of spiritual community, provide access to diverse traditions and practices, and foster reflective engagement beyond spatial and temporal limits. Conversely, they also challenge inherited spiritual frameworks by altering notions of presence, authenticity, inner silence, and moral agency.

Thus, the ontological entanglement between spirituality and information suggests that in the digital era, spiritual experience is co-constituted by informational processes. Understanding this relational ontology is essential for grasping how contemporary humans navigate meaning, transcendence, and ethical life within an increasingly information-saturated world.

The *Infosphere and the Expansion of Spiritual Space*: Floridi (2014) contends that the digital sphere constitutes a radically new ontological environment—the *infosphere*—within which human beings coexist alongside artificial agents, digital artifacts, intelligent systems, and complex algorithmic processes. This expanded ontological landscape is not merely an extension of physical reality but a qualitatively different mode of being, characterized by continuous information exchange, virtual presence, and hybrid forms of agency. As the infosphere becomes integral to everyday life, it opens new pathways for spiritual engagement and meaning-making, including: **global access to philosophical and religious traditions**, enabling individuals to transcend geographic, cultural, and institutional boundaries in their pursuit of wisdom, sacred texts, and spiritual practices; **virtual communities of meaning**, where shared values,

reflective dialogue, and collective identity formation occur through digitally mediated interactions rather than localized physical gatherings;**emergent forms of ethical responsibility**, arising from technologically mediated environments in which human actions are interwoven with algorithmic decisions, data flows, and digital representations that affect others in unseen or asynchronous ways.

These developments indicate a profound ontological shift: spirituality can no longer be understood exclusively as an inward journey or as a practice confined to traditional ritual, sacred space, or physical community. Instead, it becomes **embedded within informational ecosystems** that participate in the formation of consciousness, identity, and ethical awareness. Digital environments co-construct the conditions under which individuals ask spiritual questions, engage in moral reflection, encounter difference, and cultivate relationality.

In this sense, the infosphere functions as both a **medium** and a **co-creator** of spiritual life. It shapes how individuals seek transcendence, how communities articulate shared values, and how moral obligations are negotiated in technologically saturated contexts. The ontological implication is that spirituality in the information age is inherently relational, distributed, and co-evolving with digital infrastructures that increasingly mediate human experience.

Information as a Carrier of Values. Information is never neutral; it is always embedded within networks of **values, worldviews, and cultural assumptions**. Every act of producing, organizing, or disseminating information reflects implicit judgments about what is meaningful, legitimate, or worthy of attention. As Capurro (2008) observes, information processes actively shape ethical perception by influencing what individuals come to regard as significant, desirable, or morally relevant. In this sense, information functions not merely as a carrier of facts but as a **value-laden medium** that mediates social norms, ethical priorities, and existential orientations.

From an axiological perspective, spirituality plays a crucial role in providing the **value framework** through which information is interpreted, evaluated, and situated within broader moral horizons. Spirituality—understood as the cultivation of meaning, moral discernment, and inner coherence—offers the lens through which individuals assess the truthfulness, ethical implications, and existential significance of the information they encounter. This gives rise to a dynamic **reciprocal relationship: information shapes spiritual attitudes**, insofar as informational environments influence how individuals perceive themselves, relate to others, and conceptualize ethical or transcendent realities; **spirituality guides ethical engagement with information**, grounding informational practices—such as consumption, sharing, interpretation, and critique—in values such as compassion, integrity, humility, and responsibility.

In this reciprocity, information becomes a site where moral judgment and spiritual orientation are negotiated. Digital environments amplify this dynamic: the immediacy, abundance, and algorithmic curation of information intensify the need for spiritual and ethical discernment, while spiritual values increasingly shape how individuals navigate informational overload, misinformation, and digital persuasion.

Thus, the axiological relationship between spirituality and information is not incidental but constitutive. It reveals that information ethics is inseparable from the cultivation of spiritual values, and that spirituality itself evolves within the value-laden informational ecosystems of contemporary digital life.

Ethical Tensions in Digital Civilization: The elevation of information to a central organizing value of contemporary society introduces a range of ethical dilemmas that intersect at a deep level with spiritual concerns. As information becomes a primary medium through which identity, social relations, and moral judgments are constructed, the digital environment generates tensions that challenge long-standing spiritual and ethical frameworks. These tensions include: **Authenticity vs. virtual identity**

construction, as individuals navigate the porous boundary between their embodied selves and digitally curated personas, raising questions about sincerity, integrity, and the spiritual imperative to “be oneself” in a technologically mediated world; **Compassion vs. digital aggression and polarization**, where the anonymity and speed of online communication often erode empathy and facilitate hostility, undermining spiritual traditions that emphasize kindness, solidarity, and recognition of the other’s humanity; **Inner freedom vs. algorithmic manipulation**, as data-driven personalization and predictive analytics subtly shape desires, beliefs, and behaviors, challenging spiritual notions of free will, reflective autonomy, and moral agency; **Human dignity vs. data commodification**, in which the reduction of personal experience to marketable data conflicts with spiritual understandings of the human being as inherently valuable, irreducible, and sacred.

Spiritual traditions across cultures emphasize virtues such as truthfulness, empathy, humility, mindfulness, and responsible self-cultivation. Yet the informational environment—characterized by **overabundance, accelerated communication, algorithmic filtering, and attention commodification**—makes the sustained practice of these virtues increasingly difficult. The axiological challenge, therefore, is not merely theoretical but existential: it concerns how individuals can cultivate spiritual virtues within systems designed to distract, polarize, and manipulate.

This tension invites a reconsideration of spiritual ethics in light of digital realities. It raises foundational questions about how virtues can be translated into practices suited to informational ecosystems, how spiritual self-awareness can counteract algorithmic conditioning, and how communities can nurture collective responsibility in environments where attention and emotion are continually exploited. Ultimately, these dilemmas reveal that the information society requires not only new forms of technical

governance but also renewed spiritual and ethical frameworks capable of guiding life within digitally saturated contexts.

Information ethics and spiritual responsibility. Information ethics, as articulated by Floridi (2013), extends moral responsibility to all informational agents and environments, emphasizing that every action involving the creation, modification, or dissemination of information has ethical significance. In this framework, individuals, institutions, algorithms, and digital infrastructures become part of a broader moral ecosystem in which harm, benefit, and responsibility are distributed across human and non-human actors. Such an expanded ethical landscape recognizes that informational processes shape not only knowledge but also human relationships, social realities, and moral choices.

Spirituality deepens this ethical orientation by grounding it in normative motivations that transcend instrumental or procedural concerns. Spiritual traditions foreground values such as human dignity, transcendence, compassion, interconnectedness, humility, and moral authenticity, which provide a richer moral vocabulary for evaluating informational practices. While information ethics offers the structural principles for responsible action, spirituality supplies the inner moral energy—the cultivated dispositions and existential commitments—that sustain ethical behavior amid the complexities of digital life. In doing so, spirituality complements information ethics by anchoring it in a vision of the human person as inherently relational, morally responsive, and oriented toward meaning.

Thus, spirituality serves as a moral compass in the information age, guiding individuals and societies in constructing, interpreting, and governing their informational infrastructures. It encourages the design of digital systems that respect human dignity, promote solidarity, and foster genuine understanding rather than manipulation or exploitation. By integrating spiritual values into the governance of information, societies

can cultivate informational environments that support ethical flourishing, protect vulnerable actors, and reinforce the moral foundations of digital civilization.

Integrating ontology and axiology: a unified perspective. The ontological and axiological dimensions of the relationship between spirituality and information converge in the recognition that the two are mutually constitutive. On the one hand, information shapes the very conditions of spiritual existence, influencing how individuals experience meaning, relationality, transcendence, and self-understanding. The structures of the infosphere—its rhythms, affordances, constraints, and symbolic architectures—condition the inner landscapes within which spiritual questions are asked and spiritual practices unfold. On the other hand, spiritual values shape the ethical meaning of information, providing the normative frameworks through which informational practices are evaluated, cultivated, and governed. Values such as dignity, compassion, humility, attentiveness, and interconnectedness imbue informational processes with moral purpose and orient them toward the flourishing of persons and communities.

This reciprocal dynamic signals that the information society is far more than a technological or economic development; it represents a value-laden civilizational transformation that redefines what it means to be human. It alters the modalities through which individuals think, communicate, form identity, participate in community, and cultivate interior life. The informational environment is thus simultaneously an existential horizon and a moral arena—a space where ontological conditions of being and ethical principles of living intersect and co-evolve.

Understanding this transformation requires sustained philosophical reflection on how humans live, think, interact, and cultivate inner life within informational environments. Such inquiry must explore not only how digital infrastructures shape human consciousness and spiritual experience, but also how spiritual wisdom can inform the

construction of more just, humane, and ethically grounded information systems. Only by integrating ontological insight with axiological guidance can we grasp the full significance of the informational age and navigate its complex implications for human dignity and spiritual fulfillment.

Conclusion

The information society represents a new civilizational stage in which digital systems, algorithmic infrastructures, and extensive informational networks increasingly mediate the totality of human experience. In this evolving landscape, the relationship between spirituality and information becomes not only more complex but also more indispensable for understanding how individuals orient themselves in a rapidly transforming world. **Ontologically**, information now constitutes the very environment within which spiritual meaning is sought, negotiated, and expressed; it shapes the cognitive, relational, and existential conditions of contemporary life. **Axiologically**, spiritual values provide the moral compass through which information must be produced, interpreted, disseminated, and governed. These values—rooted in traditions of wisdom, compassion, and ethical discernment—offer the normative grounding needed to navigate informational environments that are often overwhelming, manipulative, or ethically ambiguous.

Given the profound implications of this transformation, future research must move beyond descriptive analyses of digital technologies and address the **deeper spiritual and ethical dimensions** of informational life. Key areas of inquiry include: **the spiritual implications of artificial intelligence and algorithmic agency**, particularly how machine autonomy, predictive systems, and data-driven decision-making reshape human self-understanding, freedom, and moral responsibility; **the role of digital media in shaping moral and spiritual development**, including how online interactions, virtual communities, and digital narratives influence empathy, moral imagination, and

practices of self-cultivation;**cross-cultural perspectives on information ethics and spiritual values**, recognizing that diverse religious, philosophical, and cultural traditions offer unique and complementary insights into how digital environments can be governed in ways that honor human dignity and promote collective flourishing.

A deeper integration of spiritual philosophy and information theory is therefore essential for building a digital civilization that is not merely efficient or technologically advanced, but **humane, equitable, and meaningful**. Such an integration can help cultivate informational ecosystems that nurture inner life, enhance ethical awareness, strengthen social cohesion, and support the full development of the human person. Only through this holistic approach can society ensure that the informational age advances not only technical progress but also spiritual and moral growth.

References

- Bateson, G. (1972). *Steps to an Ecology of Mind*. University of Chicago Press.
- Capurro, R. (2008). Information ethics for and from Africa. *Journal of the American Society for Information Science and Technology*, 59(7), 1162–1170.
- Floridi, L. (2011). *The Philosophy of Information*. Oxford University Press.
- Floridi, L. (2013). *The Ethics of Information*. Oxford University Press.
- Floridi, L. (2014). *The Fourth Revolution: How the Infosphere Is Reshaping Human Reality*. Oxford University Press.
- Gleick, J. (2011). *The Information: A History, a Theory, a Flood*. Pantheon Books.
- Habermas, J. (1984). *The Theory of Communicative Action* (Vol. 1). Beacon Press.

LEADERSHIP AND MANAGEMENT POTENTIAL IN GLOBAL MANAGEMENT, THE ROLE AND SIGNIFICANCE OF ARTIFICIAL INTELLIGENCE IN DECISION-MAKING

Berdiniyazova Nurya Koshkinbayevna

*Head of Sector of the Ministry of Justice of the Republic of Karakalpakstan, First
Class Lawyer, Master's student at the Higher School of Business and
Entrepreneurship under the Cabinet of Ministers*

Adilova Marjangul Yelmuratovna

*Lecturer at the Department of Human Rights, State Law, and Administration,
Faculty of Law, Karakalpak State University named after Berdakh*

Abstract. This article analyzes the importance of leadership and management potential in the context of globalization, the requirements for modern leaders, and effective management strategies. It also analyzes the legal aspects of using artificial intelligence (AI) technologies in management systems, problems in determining responsibility for decisions made by AI, and practice in national and international law. It describes modern approaches to legal regulation of management with the participation of AI and prospects for further development.

Keywords. Artificial intelligence, leadership, international governance, legal responsibility, internet, information technology, digital Uzbekistan, inventions, responsibility.

ГЛОБАЛ МЕНЕЖМЕНТДА ЛИДЕРЛИК ВА БОШҚАРУВ САЛОҲИЯТИ, ҚАРОР ҚАБУЛ ҚИЛИШДА СУНЪИЙ ИНТЕЛЛЕКТНИНГ ЎРНИ ВА АҲАМИЯТИ

***Бердиниязова Нурья Кошкинбаевна, ҚР Адлия вазирлиги шўъба бошлиғи,
I даражали юрист, Вазирлар Маҳкамаси ҳузуридаги Бизнес ва тадбиркорлик
олий мактаби, магистратура босқичи тингловчиси***

Адилова Маржангул Елмуратовна Бердақ номидаги қорақалпоқ давлат университети юридик факультети, инсон ҳуқуқлари, давлат ҳуқуқи ва бошқарув кафедраси ўқитувчиси

Аннотация. Ушбу мақолада глобаллашув шароитида лидерлик ва бошқарув салоҳиятининг аҳамияти, замонавий раҳбарларга қўйилаётган талаблар ҳамда самарали бошқарув стратегиялари таҳлил қилинади. Шунингдек, бошқарув тизимларида сунъий интеллект (СИ) технологияларидан фойдаланишнинг ҳуқуқий жиҳатлари, СИ қабул қилган қарорлар учун масъулиятни белгилашдаги муаммолар ҳамда миллий ва халқаро ҳуқуқдаги амалиёт таҳлил қилинади. СИ иштирокида бошқарувни ҳуқуқий тартибга солишнинг замонавий ёндашувлари ва келгусида ривожланиш истиқболлари баён этилади.

Калит сўзлар. Сунъий интеллект, лидерлик, халқаро бошқарув, ҳуқуқий масъулият, интернет, ахборот технологиялари, рақамли Ўзбекистон, ихтиролар, жавобгарлик.

Аннотация. В данной статье анализируется важность лидерства и управленческого потенциала в условиях глобализации, требования к современным руководителям и эффективные стратегии управления. Также анализируются правовые аспекты использования технологий искусственного интеллекта (ИИ) в системах управления, проблемы определения ответственности за решения, принимаемые ИИ, а также практика в национальном и международном праве. Описываются современные подходы и перспективы дальнейшего развития правового регулирования управления с участием ИИ.

Ключевые слова. Искусственный интеллект, лидерство, международное управление, правовая ответственность, интернет, информационные технологии, цифровой Узбекистан, изобретения, ответственность. Глобаллашув жараёни иқтисодиёт ва бошқарув тизимларига катта таъсир кўрсатмоқда. Бугунги кунда

ташкилотлар нафақат маҳаллий, балки халқаро бозорларда ҳам рақобатлаша олиши керак. Бу эса раҳбарлардан юқори даражадаги лидерлик ва бошқарув салоҳиятини талаб қилади.

Глобал менежмент — бу турли мамлакатлар ва маданиятлар шароитида ташкилотларни самарали бошқариш жараёнидир. У кўп маданиятли муҳитда ишлаш, халқаро стратегияларни ишлаб чиқиш ва глобал бозор тенденцияларини таҳлил қилиш хусусиятларга эга.

Лидерлик — бу одамларни умумий мақсад сари йўналтира олиш қобилиятидир. Глобал менежментда лидер ўзгаришларга мослашиб, инновацияларни қўллаб-қувватлайди ва албатта бу жамоани руҳлантиради.

Шу ўринда таъкидлаш жоизки, бугунги кунда глобал менежментда қарор қабул қилишда сунъий интеллектнинг ўрни қанчалик муҳим ёки хавли?

Ваҳоланки деярли барчамиз XXI аср — ахборот технологиялари йўқори чўққида ривожланган бир даврда ўргимчак тўри (интернет)дан фойдаланишнинг ижобий томонлари, ривожланишлар, ўйлаб топишлар, ғоялар, ихтироларнинг яратилишига сабаб бўлаётган технологияларнинг яратилиши билан бирга уларнинг салбий томонлари, хавф ва хатарлар, тўсиқлар, ҳаттоки турли жиноятларнинг ҳам гувоҳи бўлмоқдамиз.

Шу билан бирга, яқин ўтмишда илмий-фантастик фильмлар қаҳрамони бўлиб кўринган сунъий интеллект (SI) бугун ҳаётимизнинг ажралмас қисмига айланмоқда.

Хўш, сунъий интеллектнинг инсоният кундалик ҳаётининг бир қисмига айланиши қанчалик тўғри, бизга сунъий интеллект зарурми, шу кунгача бошқарув, таълим, шу қатори бошқа ижтимоий соҳалар у сиз қандай ривожланган? Мана шу саволларни атрофлича кўриб чиқамиз. Сунъий интеллект технологиялари бугунги давлат бошқаруви, глобал, шу жумладан корпоратив

менежмент, иқтисодий режалаштириш ва ижтимоий соҳаларда кенг жорий этилмоқда. Автоматик қарор қабул қилиш тизимлари, прогнозлаштириш алгоритмлари, интеллектуал таҳлил дастурлари бошқарув самарадорлигини оширсада, уларнинг ҳуқуқий мақоми ва фаолияти натижасидан келиб чиқадиган масъулият масалалари ҳали тўлиқ шаклланмаган.

Бу янги интеллект ХХІ аср бошқарув тизимларининг негизи сифатида шаклланиб бормоқда. Давлат хизматлари, солиқ маъмурияти, хавфсизлик тизимлари, бизнес жараёнлари ва инсон ресурсларини бошқаришда турли алгоритмлар ва прогнозлаштирувчи моделлар кенг қўлланилмоқда. Шу билан бирга СИ иштирокида қабул қилинган қарорлар ҳақиқий муаллифи, юридик субъекти ва уларнинг оқибати учун ким жавобгар экани масалаларини янада долзарблаштирди.

Айни пайтда “Сунъий интеллектни такомиллаштиришнинг чегараси борми? У инсониятга яна қандай имкониятларни туҳфа этади? Нейрон тармоқ охири-оқибат инсоният устидан ҳукмронлик қилмайдими?» каби саволлар кўпчиликни қизиқтиради. Уларга мутахассислар муайян жавобларни бermoқда. Бироқ яқдил хулосаларга келингани йўқ, баҳс-мунозаралар давом этмоқда.

Ушбу масала юзасидан АҚШдаги ватандошимиз, “Амазон” компанияси дастурий таъминот муҳандиси Беҳзод Мамадиев ўз фикр-мулоҳазаларини билдирди.¹

Ахборот технологиялари фанида “Тюринг тести” деган атама бор. У британиялик машҳур олим Алан Тюринг томонидан ХХ аср ўрталарида ишлаб чиқилган. Ушбу тест орқали машина ёки компьютернинг интеллекти инсон онгига қанчалик тенглашгани имтиҳон қилинади. Агар компьютер ёки сунъий

¹ Халқ сўзи, <https://xs.uz/uzkr/post/sunij-intellekt-imkoniyatmi-yo-tahdid>

интеллектнинг жавоблари, ўзини тутиши инсондан фарқлаш мумкин бўлмаган даражага етса, у “Тюринг тести”дан ўтган ҳисобланади.

Шу пайтгача ҳеч бир ахборот машинаси мазкур синовдан ўта олмаган. Сунъий интеллектга оид тадқиқотлар бошланганига ярим асрдан ошди. Кунлар келиб компьютернинг одамдек сўзлашиши, ҳатто ақли инсонларникидан ўзиб кетиши ҳақида башоратлар кўп бўлган, лекин бунинг қачон рўй бериши ҳақида фаразлар турлича.

Биз эса фақат чегарани бошқариш орқали, яъни ҳар қандай соҳада сунъий интеллектни фойдаланишда меъёрни сақлаш орқали ижобий натижаларга эришиш кўникмасини шакллантиришимиз зарурлигидан далолат беради.

Бу борада давлатимиз томонидан сунъий интеллект технологияларидан фойдаланишни кенгайтириш, рақамли маълумотларни йиғиш, сақлаш ва қайта ишлаш тизимини такомиллаштириш мақсадида ушбу соҳада малакали кадрларни тайёрлаш, мазкур йўналишдаги илмий-лойиҳаларни қўллаб-қувватлаш бўйича қатор ишлар амалга оширилмоқда.

Жумладан, «Рақамли Ўзбекистон — 2030» Стратегиясига мувофиқ ҳамда сунъий интеллект технологияларини жадал жорий этиш ва уларни мамлакатимизда кенг қўллаш, рақамли маълумотлардан фойдаланиш имкониятини ва уларнинг юқори сифатини таъминлаш, ушбу соҳада малакали кадрлар тайёрлаш учун қулай шарт-шароитлар яратиш мақсадида қатор қонунчилик ҳужжатлари қабул қилинмоқда.²

Шулар қатори, Ўзбекистон Республикаси Президентининг “Сунъий интеллект технологияларини янада ривожлантиришга оид қўшимча чора-тадбирлар тўғрисида”ги Фармони билан Қорақалпоғистон Республикасида

² Ўзбекистон Республикаси Президентининг ПҚ-4996-сон Қарори, 17.02.2021й., <https://lex.uz/uz/docs/5297046>

қиймати 100 миллион АҚШ долларидан ортиқ бўлган сунъий интеллект инфратузилмасини яратиш лойиҳалари бўйича инвесторларга тақдим этиладиган имтиёз ва преференциялар берилмоқда.³

Шунингдек, 2026 йил 1 январдан бошлаб давлат органлари, устав фонди (устав капитали)да давлат улуши 50 фоиз ва ундан ортиқ бўлган хўжалик жамиятлари ҳамда маҳаллий ижро этувчи ҳокимият органларининг рақамли трансформация ҳолатини баҳолашда сунъий интеллект технологияларини жорий қилиш кўрсаткичлари инобатга олинади.

Рейтинг натижасига асосан 2026 йил 1 мартдан бошлаб йилига икки маротаба энг яхши сунъий интеллект лойиҳаларини жорий этган вазирлик ва идоралар ўртасида “Сунъий интеллект бўйича энг яхши лойиҳа” танлови ўтказилади.

Инсон тафаккури натижасида яратилган, бошқарув механизмини янада енгиллаштирувчи технологиялар албатта ижобий натижаларга эришишимизга сабаб бўлади, аммо ундан тўғри фойдалансак албатта. Бунда сунъий интеллект ҳам нима мақсадда, кимнинг қўлида ишлатилишига қараб фойдали ёки зарарли бўлиши мумкин. Масалан, 2022 йил охирлари, 2023 йил бошларида кўпгина фейк суратлар тарқалди, бу орқали фейк хабарлар ҳам чиқди. Бир томондан яхши кейс бўлди булар, чунки фактчекинг қилиш кераклиги, текшириш лозимлиги ўртага чиқди.

Албания ҳукуматида эса сунъий идрок асосида яратилган биринчи вазир пайдо бўлди. Diella исмли виртуал вазир жисмонан мавжуд эмас, аммо мамлакатда давлат харидлари тизимининг шаффофлиги ва коррупциядан холи ташкил этилишига масъул бўлиши белгиланган.⁴ Бу бир томондан ижобий ихтиро сабаби инсон омилисиз адолатни таъминлаш, бу коррупциявий жиноятларнинг камайишига, бюрократик тўсиқларнинг олди олинишига сабаб бўлади.

³ Ўзбекистон Республикаси Президентининг ПФ-189-сон Фармони, 22.10.2025й., <https://lex.uz/docs/7789403#7792237>

⁴ Albania appoints world's first AI-made minister – POLITICO, https://t.me/davlatxizmatchisi_uz

Бошқарув соҳасидаги иш фаолиятида эса ҳар қандай раҳбар қарор қабул қилишда масъулият билан, ўз ақлий тафаккури билан ва амалий тажрибасига таянган ҳолда шахсий стратегик фикрга эга бўлиши, бунда сунъий интеллектнинг тафаккурисиз қарор қабул қилиш қобилиятига эга бўлиши зарур.

Хулоса ўрнида таъкидлаш жоизки, сунъий интеллект бошқарув самарадорлигини оширсада, унинг ҳукуқий мақоми, жавобгарликни тақсимлаш, алгоритм шаффофлиги ва инсон назорати каби масалаларни тубдан қайта кўриб чиқишни талаб қилади. Ўзбекистон рақамли трансформация йўлини танлаб, SIни ҳукуқий асосда мувофиқлаштиришга интилаётган бўлсада, халқаро тажриба шуни кўрсатадики, SI хавфларини минималлаштириш учун комплекс ёндашув — ҳукуқий, этик ва техник механизмларни бирлаштириш зарур.

Бунда, бошқарувда сунъий интеллектдан фойдаланишда ходимлар, айниқса раҳбар ходимларнинг масъулиятини ошириш учун биринчи навбатда уларнинг сунъий интеллектдан тўғри фойдаланиш кўникмасини ошириш, бу эса ўз навбатида идоралар сайтлари ва Telegram-ботларда интеллектуал чат-бот жорий этиш орқали мурожаатларни автомат тарзда таснифлаш, тегишли бўлимларга йўналтириш, жавоб резолюциясини тайёрлаб бериш натижасида мурожаатларга жавоб бериш вақтини 40–60%га қисқаришга ва асосиз кечикишлар камайишига эришишга асос бўлади.

Фойдаланилган адабиётлар

1. Халқ сўзи, <https://xs.uz/uzkr/post/sunij-intellekt-imkoniyatmi-yo-tahdid;>
2. Ўзбекистон Республикаси Президентининг ПҚ-4996-сон Қарори, 17.02.2021й., <https://lex.uz/uz/docs/5297046;>
3. Ўзбекистон Республикаси Президентининг ПФ-189-сон Фармони, 22.10.2025й., <https://lex.uz/docs/7789403#7792237;>
4. [Albania appoints world's first AI-made minister – POLITICO,](https://t.me/davlatxizmatchisi_uz)
[https://t.me/davlatxizmatchisi_uz.](https://t.me/davlatxizmatchisi_uz)
5. Тошкент давлат иқтисодиёт университети ҳузуридаги “Ўзбекистон иқтисодиётини ривожлантиришнинг илмий асослари ва муаммолари” илмий тадқиқот маркази томонидан тайёрланган дарслик,
https://kitob.sies.uz/frontend/web/kitob/kitob_006007f5a2e8fc7.pdf

A Brief Overview of the History of Kokand (Origins of Museums)

**“Inventions and discoveries, the flourishing of great craftsmanship,
Kokand is enlightened by science, knowledge, and art.”**

Literary Museum Staff Member

Nigora To‘raqulova

Abstract:

This article analyzes the governance of the Kokand Khanate, its historical development, its conquest by other states, and the cultural heritage within its territory, particularly museums and their origins. It also discusses their significance.

Keywords: Kokand Khanate, governance of the khanate, culture and architecture, the concept of a museum.

Қўқон тарихига қисқача назар ... (Музейларнинг келиб чиқиши)

**Ихтиролар-кашфлар юксак ҳунарнинг равнақи,
Илм-фан, санъат билан бағри чароғондир Қўқон.**

Адабиёт музей ходими: Н. Тўрақулова.

Аннотация: Ушбу мақолада Қўқон хонлигининг бошқаруви, унинг тарихий ривожланиши, бошқа давлатлар томонидан босиб олинishi ва худудидаги маданий мерос, хусууан музейлар ва уларнинг келиб чиқиши таҳлил қилинади ва аҳамияти фикр юритилади.

Калит сўзлар: Қўқон хонлиги, хонлик бошқаруви, маданият ва меморчилик, музей атамаси

Қайси томондан Қўқонга қараб юрманг, шаҳар ўзининг шинамлиги, латифлиги, жушманзаралиги, жозибадорлиги, гўзаллиги билан сизни ўзига мафтун этади. Унинг бунёдга келиш, кўзга кўриниш тарихи сирли асрларнинг қай бурчагида экан. Археологларнинг айтишларига қараганда ибтидоий жамоатчилик даврида ҳам Қўқон атрофидаги узоқ ғорларда одам истиқомат

қилган. Топилмалар анашуни тақозо этади. Баъзи тарихчиларнинг сўзларига қараганда ҳозирги шаҳар ўрни ўтиб бўлмас балчиқ ва кўллардан, кейинроқ ўрмон ва дарахтзорлардан иборат бўлган.

Қўқоннинг кенг ва кўркем кўчаларидан кириб бораркансиз кўкни ўпган турли дарахтлар. Ҳаммаёқни қоплаб олган турли боғ-роғлар кишига ҳузур бағишлайди. Бундай кезларда шаҳарнинг ўтмишига назар ташламасдан туролмайсан киши.

Аслида Қўқон қадимий шаҳарлардан бири ҳисобланади. X асрнинг сайёҳлари Ҳавокент ёки “Қўқон ва латиф шаҳарларини тилга оладилар. Бу шаҳар аҳолиси зич жойлашган Ҳиндистон, Хитой ва Европа қарвон йўлида ўрнашганлиги тарихда эътироф этилади. Кейинроқ шаҳарни муғиллар вайрон қиладилар. Янгидан тикланган бошлаган шаҳарни ўша давр кишилари “Қалъаи Раҳимбой” деб юритадилар, уни эски кўрғон ўрнида бунёдга келганини таъкидлайди. Раимбойнинг вориси Абдулқаримбой ўз мулки Хўжанда қолмай Қўқонга кўчиб келади ва уни кенгайтиришга киришади. XVIII асрда Фарғона водийсида мустақил Қўқон хонлиги тузилади. 70- йилларнинг ўрталаридан бошлаб то XVIII асрнинг охирларигача Норбўтабий бошқаради. Норбутабий хонлиги бошланиш дастлабки йилларидаёқ Чуст ва Наманган ҳокимларини тағ-томири билан тугатиш зарурияти туғилиб қолади. Ёш хон қўзғолон кўтарган Хўжанд ҳокими устидан ғалаба қозониб, уни Қўқон хонлигига бутунлай қўшиб олади.

Кейинроқ расман феодал давлат сифатида Қўқон хонлиги шаклланади. 1800-1809 йилларда Олимхон ҳукмронлиги даврида марказлаштирилган кучли давлат тузиш учун бошлаган ҳаракати Қўқонлик задогонлар орасида норозилик туғдиради. Суиқасд йўли билан Олимхон ўлдирилади. Шундант сунг тахтга Олимхоннинг укаси Умархон ўтиради. 1815 йили Умархон Бухоро тасарруфидаги Туркистонга қарши юриб уни босиб олади, аҳолини қаттиқ талайди.

Туркистонниг олиниси – Сирдарё қуйилиш жойигача бўлган қозоқ чўлларининг диярли ҳаммасини Қўқон хонлигига ўтишига олиб келади. Тошкент, Бухоро ва Хивадан Оренбургга борадиган катта карвон йўллари туташган ерда қўқонликлар томонидан Оқмачит қалъаси қурилади.

1822 йилда тахтга чиққан Умархонинг ўғли Маъдалихон Бухоро амири томонидан 1842 йилда ўлдирилгандан сунг, Бухоро амири Насруллонинг жабр-зулмидан сабр –косаси тулган қўқонликлар қипчоқлар билан тил бириктириб, Олимхонинг Толос қишлоғида яшаган амакиваччаси Шералихон хон қилиб кўтариб Қўқонга юриш қилади. Қипчоқлар билан бирлашиб кетган Шералихон ўлдирилиб, унинг ўрнига Олимхоннинг ўғли Муродхонни Ўратепадан чақириб тахтга миндирди Мусулмонқул бошлиқ кўчманчи қипчоқлар Қўқон устига юриш бошлаб Муродхонни қатл қиладилар. Тахтга 1845 йили Шералихоннинг ўғли 13 ёшли Худоёрхон чиқади. Мана шу тариқа қонунсиз ҳаракатлар, ҳисобсиз солиқлар ва қонли феодал уришлар халқнинг тилкасини қуритади. Норозилик ҳаракати кучайди. Пулатхон бошчилигида кўзғолон кўтарилди. Революцион тусдаги бу кўзғолон реакционлашиб кетди Худоёрхон уч марта хонликдан қувилди. Охирги марта 1875 йилда у руслар паноҳига қочди. Шу тариқа 1876 йил 19 февралда Қўқон хонлиги батамом Россияга қўшиб олинди.

Мана шундай талофат ва қийинчиликларга қарамай шаҳар ўз салобати ва меъмори обидаларини ўзида сақлаб қола олди десак янгилишмаймиз. Бунинг мисоли тариқасида Хон урдасини келтирмасликни иложи йўқ албатта. Ўрда қадам қуяр экансиз ўша давр усталарининг моҳирона санъатига қоиладар қоласан киши. Ўрда тўрт бурчак. Қуёш томони хаддан ташқари гўзаллаштириб, ранго-ранг ўчмас бўёқлар билан ишланган. Қолган томонлари Ўрдани ёвдан сақлаш учун қурилган мудофаа иншоотлари,хонақа-ю ва хоначалардан иборат. 1870 йилда тўрт метр баланд қилиб қурилган хон саройи Қўқон хонлигининг охирги

хони Худоёрхон томонидан тикланган. Шунча талофатларни кечирган бу саройнинг hozirgi кунгача маълум бир зал ва бинолари сақланиб қолган холос. Бир неча йиллардан сунг ушбу тарихи обида районлараро музей бўлиб қолди 1958 йилдан бошлаб эса шаҳар ўлкани ўрганиш музейига айланди.

Хўш музей ўзи нима? У қандай вазифаларни бажаради?- деган саволга “Ўзбекистон Миллий Энциклопедияси” китобидан шундай жавоб олишимиз мумкун: “Музейлар (юнонча сўздан олинган бўлиб музаларга бағишланган жой)- тарихий, модди ва маънавий ёдгорликларни тўплаш, сақлаш, ўрганиш, тарғиб қилиш ишларини амалга оширувчи илмий- маърифий муассадир.

Музейнинг пайдо бўлиш тарихи ўзоқ ўтмиш тарихга бориб тақалади. Музей ўтмишдан бизга мерос бўлиб келаётган қимматли ва асл буюмларни ўзида сақлаш орақали ўзоқ ўтмиш тарихимизни ўзида мужассам қилиб бера оладиган муасаса десак янглишмаймиз. Мана шу тариқа аҳолига ҳизмат қилиб ўз тарофати ва шаҳарнинг хуснига –хусн қўшиб келаётган бу сарой нафақат маҳаллий аҳоли ва чет эллик сайёҳларни ҳам диққатини жалб қилиб, шаҳарнинг ўтмиш тарихини сўзлаб бермоқда десак янглишмаймиз. Юқорида келтирилган ўлкани ўрганиш музейи ҳозирда Қўқон давлат музей-қўриқхонасига айланган. Критдаги Кнос сарой хазинаси (мил. ав. 16- аср) Ванлар саройи ва инк коҳинлар архиви (мил. ав. 13-14 асрлар, Хитой) Ниневия сарой кутубхонаси (мил. ав. 7-а.) шулар жумласидандир”. Мана шу тариқа музейлар аста –секин шаклланиб борганлигин кўришимиз мумкин. Ўзбекистонда 19 асрнинг 2-чи ярмида ташкил этила бошлаган 20- асрнинг 2чи ярмида фақатгина 3та музей –Тошкент ўлкашунослик музейи, (Ҳозирда 1876 йилда ташкил этилган Ўзбекистон тарихи музей), Самарқанд халқ музейи (1899 йил, ҳозирда Акмал Икромов номидаги Ўзбекистон халқлари маданияти ва санъати тарихи музейи) , Фарғона халқ музейи (1899йил, ҳозирда фарғона вилоят ўлкашунослик музейи) бор эди. Лекин

уларнинг тўплamlари кам, экспозитциялари эса тасодифий матeриллардан ташкил топган эди. Кейинчалик музейлар сони кўпайиб аста –секинлик билан давлат ихтиёрига муҳофаза қилина бошлади. Илмий экспозитциялар уюштирилиб, музей учун коллекциялар тўплаш ишлари йўлга қўйилди. Шу тариқа кўплаб музейлар ташкил қилинди. Мана шулар жумласида ҳар бир шаҳарнинг ўзига хос тарихи обидаларини сақлаш, уларни тарихи, ўтмишини намоён қилган ҳолда халқ онгида ватанга бўлган меҳр-оқибат ва эҳтиромни сақлаш тариқасида ҳар бир шаҳар музейлар сони кўпайтирилди десак янглишмаймиз. Шулар қаторида ўзнинг бой тарихи билан ажралиб турадиган тарифи тилларда дoston бўлган Қўқон шаҳри алоҳида диққатга сазовордир.

Қўқон ҳозирги кунгача нафақат хон саройи балки бир қанча тарихий ва архитектура ёдгорликларини сақлаган кўҳна шаҳарлардан бири ҳисобланади. Мана шундай тарихи ёдгорлик ҳисобланган биноларнинг маълумлари ҳозирги кунда Қўқон давлат музей- қўриқхонасининг филиали сифатида аҳолига ҳизмат қилиб келаётганлиги сир эмас. Музейлар нафақат тарихни балки ватанга бўлган меҳр-оқибатни ўргатади. Шунингдек унинг ичида сақланаётган барча материаллар келажак авлодни таълим –тарбия ишларини олиб бориши ва халқининг ўтмиши келажакда меҳр-оқибатли қилиб тарбиялашда муҳим вазифа бажаради.

И. Тухтасинов. “Қўқон.” Тошкент-1968 йил. 49-50 бетлар

И. Тухтасинов. “Қўқон.” Тошкент-1968 йил. 57-66 бетлар.

Ўзбекистон Миллий Энциклопедияси 6-том 114 бетлар.

HUMAN GENETICS AND CYTOGENETIC METHODS

Tokhliyeva Aisha

student of Kimyo international university in Tashkent

Abstract. This article describes the theoretical foundations of the science of human genetics, its role in medicine, and the scientific and practical significance of the cytogenetic method. Hereditary signs in humans, causes of genetic diseases and methods of cytogenetic analysis used in their detection are consistently described. Chromosome abnormalities and their clinical implications are explained based on examples.

Key words: human genetics, cytogenetics, chromosome, heredity, gene, mutation, karyotype, genetic disease, diagnosis

ODAM GENETIKASI VA SITOGENETIK USUL

To'xliyeva Oysha

Toshkent Kimyo xalqaro universiteti talabasi

Annotatsiya. Mazkur maqolada odam genetikasi fanining nazariy asoslari, uning tibbiyotdagi o'rni hamda sitogenetik usulning ilmiy-amaliy ahamiyati yoritiladi. Insondagi irsiy belgilar, genetik kasalliklarning kelib chiqish sabablari va ularni aniqlashda qo'llaniladigan sitogenetik tahlil usullari izchil bayon etiladi. Xromosoma anomaliyalari va ularning klinik oqibatlari misollar asosida tushuntiriladi.

Kalit so'zlar: odam genetikasi, sitogenetika, xromosoma, irsiyat, gen, mutatsiya, kariotip, genetik kasallik, diagnostika

Odam genetikasi zamonaviy biologiya va tibbiyot fanlarining eng muhim yo'nalishlaridan biri hisoblanadi. U inson organizmida irsiy axborotning saqlanishi, uzatilishi va namoyon bo'lish qonuniyatlarini o'rganadi. Ma'lumki, har bir insonning tashqi ko'rinishi, fiziologik xususiyatlari va hatto ayrim kasalliklarga moyilligi ham genetik omillar bilan belgilanadi. Shu sababli ham odam genetikasi nafaqat nazariy, balki amaliy jihatdan ham katta ahamiyatga ega bo'lib, ayniqsa tibbiy diagnostika va profilaktika sohasida muhim o'rin tutadi.

Inson organizmidagi barcha irsiy ma'lumotlar hujayra yadrosida joylashgan xromosomalar orqali uzatiladi. "Odatda insonda 46 ta xromosoma mavjud bo'lib, ular 23 juftni tashkil etadi"¹. Ushbu xromosomalarda joylashgan genlar organizmning barcha belgilarini boshqaradi. Biroq ayrim hollarda genlar yoki xromosomalar darajasida turli xil o'zgarishlar — mutatsiyalar yuz berishi mumkin. Ana shunday o'zgarishlar ko'pincha genetik kasalliklarning paydo bo'lishiga olib keladi. Masalan, xromosomalar sonining ortishi yoki kamayishi, ularning tuzilishidagi buzilishlar inson salomatligiga jiddiy ta'sir ko'rsatadi.

Genetik kasalliklar kelib chiqishiga ko'ra turli xil bo'lishi mumkin. Ayrimlari gen darajasidagi o'zgarishlar natijasida yuzaga kelsa, boshqalari xromosomalar soni yoki tuzilishining buzilishi bilan bog'liq bo'ladi. Masalan, Daun sindromi 21-xromosomaning ortiqcha nusxasi mavjudligi bilan tavsiflanadi, Turner sindromida esa ayollarda bitta X xromosoma yetishmaydi. Klaynfelter sindromi esa erkaklarda ortiqcha X xromosoma mavjudligi bilan bog'liq. Bu kabi holatlar inson organizmida turli morfologik va funksional o'zgarishlarni keltirib chiqaradi.

Aynan shunday kasalliklarni aniqlashda sitogenetik usul alohida ahamiyat kasb etadi. "Sitogenetika — bu xromosomalarni o'rganishga ixtisoslashgan genetika bo'limi bo'lib, u xromosomalar soni, shakli va tuzilishini tahlil qilish imkonini beradi"². Ushbu usulning asosini kariotip tahlili tashkil etadi. Kariotip — bu hujayradagi barcha xromosomalar to'plamining tartiblangan ko'rinishi bo'lib, u orqali xromosoma anomaliyalarini aniqlash mumkin bo'ladi. Sitogenetik tadqiqotlar odatda bir necha bosqichda amalga oshiriladi. Avvalo, tekshirilayotgan shaxsdan hujayra namunasi olinadi, ko'pincha bu qon hujayralari bo'ladi. So'ngra ular maxsus oziqlantiruvchi muhitda o'stiriladi va bo'linish jarayonining ma'lum bosqichida to'xtatiladi. Keyinchalik xromosomalar maxsus bo'yoqlar yordamida ranglanadi va mikroskop ostida o'rganiladi. Natijada har bir xromosomaning soni va tuzilishi aniq ko'rinadi hamda mavjud o'zgarishlar aniqlanadi.

¹ Azimov A. — *Genetika asoslari*, Toshkent, 2020

² Rasulov R. — *Tibbiy genetika*, Toshkent, 2019

Sitogenetik usul yordamida aniqlanadigan xromosoma anomaliyalari asosan ikki turga bo'linadi: "son jihatidan va tuzilish jihatidan o'zgarishlar. Son jihatidan o'zgarishlarga trisomiya yoki monosomiya kiradi"³. Tuzilish jihatidan o'zgarishlarga esa delesiya, duplikatsiya, inversiya va translokatsiya kabi holatlar kiradi. Ushbu o'zgarishlarning har biri organizmda muayyan patologik holatlarni yuzaga keltirishi mumkin.

Bugungi kunda sitogenetik usullar tibbiyotning turli sohalarida keng qo'llanilmoqda. Ayniqsa, prenatal diagnostikada ularning ahamiyati juda katta. Homiladorlik davrida homilaning genetik holatini aniqlash orqali kelajakda yuzaga kelishi mumkin bo'lgan kasalliklarning oldini olish imkoniyati paydo bo'ladi. Bundan tashqari, sitogenetik tahlil onkologiyada ham muhim o'rin tutadi, chunki ayrim saraton kasalliklari xromosoma darajasidagi o'zgarishlar bilan bog'liq bo'ladi.

Umuman olganda, odam genetikasi va sitogenetik usullar inson salomatligini saqlash, irsiy kasalliklarni erta aniqlash va ularning oldini olishda beqiyos ahamiyatga ega. Ushbu sohaning rivojlanishi nafaqat tibbiyot, balki butun jamiyat uchun muhim natijalarni beradi. Kelajakda genetik tadqiqotlarning yanada chuqurlashuvi inson hayot sifatini yaxshilashga xizmat qilishi shubhasiz.

Foydalanilgan adabiyotlar

1. Azimov A. — *Genetika asoslari*, Toshkent, 2020
2. Rasulov R. — *Tibbiy genetika*, Toshkent, 2019
3. Griffiths A.J.F. — *Introduction to Genetic Analysis*, 11th edition
4. Nussbaum R.L. — *Thompson & Thompson Genetics in Medicine*, 8th edition
5. Strachan T., Read A. — *Human Molecular Genetics*, 4th edition
6. WHO materiallari — genetik kasalliklar bo'yicha ma'lumotlar

³ Griffiths A.J.F. — *Introduction to Genetic Analysis*, 11th edition

FORMS OF THE POTENTIAL OF COTTON-TEXTILE CLUSTERS IN THE SUSTAINABLE DEVELOPMENT OF THE REGION

Xayitov Rustam Burxonovich

Lecturer, Department of Economics and Information Technologies Navoi
Innovation University

Abstract. This article discusses the content and existing forms of the potential of cotton-textile clusters in the sustainable development of the region. Also, conclusions are drawn on the effective use of the forms of potential of cotton-textile clusters.

Key words. Region, sustainable development, cluster, cotton-textile clusters, potential, form.

MINTAQANI BARQAROR RIVOJLANTIRISHDA PAXTA-TO‘QIMACHILIK KLAUSTERLARI SALOHIIYATI SHAKLLARI

Xayitov Rustam Burxonovich

Navoiy innovatsiyalar universiteti “Iqtisodiyot va axborot texnologiyalari”
kafedrası o‘qituvchisi

Annotatsiya. Ushbu maqolada mintaqani barqaror rivojlantirishda paxta-to‘qimachilik klasterlari salohiyati mazmuni va mavjud shakllari yoritilgan. Shuningdek, paxta-to‘qimachilik klasterlari salohiyati shakllaridan samarali foydalanish yuzasidan xulosalar keltirilgan.

Аннотация. В статье рассматриваются содержание и существующие формы реализации потенциала хлопково-текстильных кластеров в устойчивом развитии региона. Также сделаны выводы об эффективности использования форм реализации потенциала хлопково-текстильных кластеров.

Kalit so‘zlar. Mintaqa, barqaror rivojlantirish, klaster, paxta-toqimachilik klasterlari, salohiyat, shakl.

Ключевые слова. Регион, устойчивое развитие, кластер, хлопково-текстильные кластеры, потенциал, форма.

Iqtisodiy rivojlanishga hududiy imkoniyatlardan samarali foydalanish, mehnat unumdorligi va resurslar mahsuldorligini oshirish hamda tarmoqlarning xalqaro bozordagi raqobatbardoshligini ta'minlash orqali erishiladi. Klasterlar maqsadlarni ro'yobga chiqarishning samarali instrumentlaridan biri hisoblanadi [1]. Klasterlarning rivojlanishi turli yo'nalishlarni taraqqiy qilishga xizmat qilmoqda. Xususan, O'zbekiston iqtisodiyotining innovatsion rivojlanishi davrida mamlakatda klasterlarning shakllanishi yangi milliy sanoat va ilmiy-texnika siyosatini amalga oshirishning ajralmas mexanizmiga aylanib bormoqda [2]. Bu borada klasterlarning rivojlangan shakli bo'lib, paxta-to'qimachilik klasterlari salohiyati hisoblanadi. Ushbu klasterlar mintaqani barqaror rivojlantirish borasida turli shakllarda namoyon bo'ladi.

Paxta-to'qimachilik klasterlari mintaqaning iqtisodiy barqarorligi va ijtimoiy farovonligini ta'minlashda muhim rol o'ynaydi. Ularning salohiyati bir necha asosiy jihatlardan iborat bo'ladi:

- iqtisodiy o'sishni rag'batlantirish. Klasterlar mintaqadagi paxta yetishtirish va to'qimachilik sanoatini birlashtirib, ishlab chiqarish zanjirini yaxlit tizimga aylantiradi. Bu resurslarning samarali taqsimlanishi, ishlab chiqarish hajmining oshishi va mahsulotlar sifatining yaxshilanishiga olib keladi. Natijada, yalpi ichki mahsulot o'sishiga sezilarli hissa qo'shiladi.

- ish o'rinlari va bandlikni oshirish. Paxta-to'qimachilik klasterlari yangi ish o'rinlari yaratish imkoniyatini kengaytiradi, ayniqsa qishloq joylarda va yoshlar uchun qo'llaniladi. Bu hududlarda ijtimoiy barqarorlikni mustahkamlashga yordam beradi hamda kambag'allikni qisqartiradi.

- eksport salohiyatini kuchaytirish. Klasterlar yuqori qo'shilgan qiymatga ega mahsulotlar ishlab chiqarish orqali mintaqaning eksport salohiyatini oshiradi. Bu esa tashqi bozorlarda raqobatbardoshlikni ta'minlaydi va valyuta tushumlarini ko'paytiradi.

- innovatsiyalar va texnologik rivojlanish. Paxta-to'qimachilik klasterlari innovatsiyalarni joriy etish va zamonaviy texnologiyalarni qo'llash uchun platforma yaratadi. Bu ishlab chiqarish samaradorligini oshiradi va atrof-muhitga ta'sirni kamaytiradi.

- ijtimoiy-iqtisodiy rivojlanish. Klaster tizimi orqali olingan iqtisodiy natijalar mintaqaning ijtimoiy infratuzilmasini yaxshilashga, ta'lim va sog'liqni saqlash xizmatlarini rivojlantirishga imkon beradi. Bu esa barqaror rivojlanish uchun muhim omil bo'lib qaraladi.

Mazkur salohiyat nafaqat iqtisodiy, balki ijtimoiy va ekologik jihatlarni o'z ichiga oladi. Bu borada ushbu salohiyatning asosiy jihatlari quyidagilar bilan namoyon bo'ladi:

1) Iqtisodiy salohiyat:

- qiymat zanjirini boshqarish va qo'shimcha qiymat yaratish. Paxta-to'qimachilik klasteri paxta xomashyosini yetishtirishdan tortib, uni ip-kalava, mato, tayyor kiyim-kechak, hatto sanoat buyumlarigacha qayta ishlashni o'z ichiga oladi. Bu jarayonda har bir bosqichda qo'shimcha qiymat yaratiladi va mintqa iqtisodiyotiga hissa qo'shiladi. Paxtani faqat xomashyo sifatida eksport qilish o'rniga, uni ip-kalava yoki tayyor kiyimga aylantirish ko'proq daromad keltiradi va ko'proq ish o'rinlari yaratadi.

- bandlikni oshirish va ish bilarmonlikni rag'batlantirish. Klasterda ko'plab ish joylari yaratiladi: paxta dalalarida ishlovchi dehqonlardan tortib, fabrikada ishlayotgan mutaxassislar, dizaynerlar, marketologlar, logistika xodimlari va chakana savdoda ishlovchilargacha. Kichik va o'rta biznesning rivojlanishiga imkoniyat yaratadi (ip-kalava bilan ishlovchi kichik ustaxonalar, kiyim-kechak tikuvchilari, aksessuarlar ishlab chiqaruvchilari).

- eksport salohiyatini kengaytirish. Yuqori sifatli to'qimachilik mahsulotlari va kiyim-kechaklarni ishlab chiqarish orqali eksport hajmini oshirish va xorijiy valyuta tushumlarini ko'paytirish mumkin. Bu mintaqaning tashqi iqtisodiy aloqalarini mustahkamlaydi.

- investitsiyalarni jalb qilish. Tadqiqotlar shuni ko'rsatadiki, klasterlar zamonaviy texnologiyalar, yangi ishlab chiqarish quvvatlari va infratuzilmani rivojlantirish uchun mahalliy va xorijiy investitsiyalarni jalb qilishga moyil bo'ladi.

- mintaqaviy iqtisodiy barqarorlikni mustahkamlash. Paxta-to'qimachilik sanoati ko'pincha mintaqaning asosiy iqtisodiy tayanchiga aylanadi, bu esa iqtisodiyotni diversifikatsiya qilish va yagona mahsulotga qaramlikni kamaytirishga yordam beradi.

2) Ijtimoiy salohiyat:

- ishsizlikni kamaytirish va yoshlar bandligini ta'minlash. Klasterlar ko'plab ish joylari bilan, ayniqsa, qishloq hududlarida yoshlar uchun ish bilan ta'minlash imkoniyatlarini yaratadi.

- mahalliy kadrlar tayyorlash va bilim sanoatini rivojlantirish. Klasterda zamonaviy texnologiyalarni qo'llash, sifatni nazorat qilish va dizaynni rivojlantirish uchun malakali mutaxassislar zarur. Bu ta'lim tizimini rivojlantirish va ilmiy-tadqiqot faoliyatini rag'batlantiradi.

- mahalliy an'analar va hunarmandchilikni saqlash va rivojlantirish. Ko'pincha paxta-to'qimachilik klasterlari mahalliy hunarmandchilik uslublarini (to'quvchilik va kashtachilik) zamonaviy ishlab chiqarish bilan uyg'unlashtirishi mumkin. Bu esa madaniy merosni saqlashga yordam beradi.

- hayot sifatini yaxshilash. Yangi ish joylari, ko'proq daromad, rivojlangan infratuzilma (yo'llar, maktablar va kasalxonalar) mintaqa aholisi uchun umumiy turmush darajasini oshiradi.

3) Ekologik salohiyat:

- "yashil" texnologiyalarni joriyl etish va ekologik tizimlarni yaxshilash. Barqaror paxtachilik (organik paxtachilik va suvni tejovchi sug'orish) va to'qimachilik ishlab chiqarishda (kam chiqindili texnologiyalar, kimyoviy moddalardan xavfsiz foydalanish va toza energiya) yangi texnologiyalarni qo'llash ekologik ta'sirni kamaytiradi. Suv resurslarini tejash va tozalash tizimlarini joriyl etish hamda qayta tiklanadigan energiya manbalaridan foydalanish talab etiladi.

- chiqindilarni kamaytirish va qayta ishlash. To'qimachilik sanoatidagi chiqindilarni (mato qoldiqlarini) qayta ishlaydigan tizimlarni yaratish va paxta poyalari va boshqa qishloq xo'jaligi chiqindilarini utilizatsiya qilish yoki qayta ishlashga asoslanadi.

- tabiiy resurslardan oqilona foydalanish. Bu paxta yetishtirishda tuproq unumdorligini saqlash va suv resurslaridan oqilona foydalanish bo'yicha ilmiy yondashuvlarni qo'llash bilan namoyon bo'ladi.

Xulosa qilib aytganda, paxta-to'qimachilik klasterlari mintaqaning barqaror rivojlanishida iqtisodiy, ijtimoiy va ekologik sohalarda muhim salohiyatga ega. Ularni rivojlantirish orqali mintaq o'zining raqobatbardoshligini oshirib, keng ko'lamli ijobiy o'zgarishlarni amalga oshirishi mumkin. Paxta-to'qimachilik klasterlarining salohiyati mintaqaning barqaror rivojlanishida iqtisodiy, ijtimoiy, texnologik va integratsion yo'nalishlarda ko'rinadi. Ular mintaqani raqobatbardosh qilish, ijtimoiy farovonlikni oshirish va ekologik barqarorlikni ta'minlashda muhim vosita hisoblanadi. Mazkur klasterlar mintaqaviy iqtisodiyotning rivojlanishida asosiy drayver bo'lib xizmat qiladi. Chunki, ular xomashyo resurslaridan to'liq foydalanish imkonini beradi, yuqori qo'shilgan qiymatga ega mahsulot ishlab chiqarishni ta'minlaydi, ish o'rinlari yaratadi, eksport hajmini oshiradi hamda mintaqaning innovatsion va texnologik salohiyatini faollashtiradi. Shu bois, paxta-to'qimachilik klasterlari mintaqani iqtisodiy, ijtimoiy va ekologik jihatdan barqaror rivojlantirishning muhim instrumenti bo'lib hisoblanadi.

Foydalanilgan adabiyotlar ro'yxati:

1. Sodiqov A.M., Begimova D.K. Hudud iqtisodiyoti tarmoqlarining klasterlashtirish salohiyatini baholash. // Ilm-fan va innovatsion rivojlanish, 2022, 4. - 83 b.
2. Mahkamov O'. Innovatsion klasterlar: ilm-fan va biznes hamkorligi. // Iqtisodiyot va ta'lim, 2020, №4, - 20 b.

Hygienic Conditions of Learning as a Factor in Preserving the Health of School-Age Children

Usmanova Madina

Student at ASIFL, Faculty of English Philology, Teaching Methodology and
Translation Studies

Maxmudova Odina

Student at ASIFL, Faculty of English Philology, Teaching Methodology and
Translation Studies

Abstract: This article examines the influence of hygienic learning conditions on the health of school-age children. Particular attention is paid to the analysis of such important factors as classroom lighting, indoor microclimate, temperature conditions, air quality, educational workload, daily routine, and the sanitary-hygienic state of school premises. Proper organization of the educational environment plays a significant role in preventing fatigue, reducing stress, and supporting students' physical and mental well-being. The study also highlights the importance of regular ventilation, comfortable furniture, cleanliness of classrooms, and compliance with safety standards. It is concluded that adherence to hygienic requirements and the creation of favorable learning conditions are essential factors for preserving, strengthening, and improving the health of pupils, as well as increasing their academic performance and overall development

Keywords: Schoolchildren's health, hygiene, learning conditions, prevention, microclimate, lighting, academic workload.

Annotation: This article examines the impact of hygienic learning conditions on the health of school-age children. Factors such as lighting, microclimate, workload, and sanitary conditions are analyzed. It is concluded that maintaining hygienic standards is essential for preserving students' health.

Введение (Introduction)

Актуальность исследования обусловлена устойчивой тенденцией к ухудшению состояния здоровья детей школьного возраста в условиях современного образовательного процесса. В последние годы наблюдается рост числа функциональных отклонений и хронических заболеваний среди учащихся, таких как нарушения зрения, осанки, заболевания дыхательной и нервной систем. Одной из ключевых причин данных проблем является несоблюдение гигиенических требований в образовательной среде.

Современная школа предъявляет высокие требования к интеллектуальной и психоэмоциональной активности учащихся. При этом дети проводят значительную часть своего времени в учебных помещениях, где воздействие таких факторов, как освещение, температурный режим, уровень влажности, качество воздуха, организация рабочего места и режим учебной нагрузки, оказывает непосредственное влияние на их физическое и психическое состояние. Неблагоприятные гигиенические условия могут приводить к быстрой утомляемости, снижению работоспособности, ухудшению концентрации внимания и, как следствие, к снижению успеваемости.

Особое значение приобретают вопросы профилактики заболеваний, связанных с образовательной средой. Формирование здоровьесберегающих условий обучения является одной из приоритетных задач современной системы образования. В этой связи возрастает необходимость комплексного подхода к организации учебного процесса с учетом санитарно-гигиенических норм и возрастных особенностей детей.

Степень разработанности проблемы показывает, что вопросам школьной гигиены уделяется значительное внимание в научной литературе. Однако, несмотря на имеющиеся исследования, проблема обеспечения оптимальных

гигиенических условий обучения остается актуальной, особенно в условиях увеличения учебной нагрузки и цифровизации образования.

Цель исследования — изучить влияние гигиенических условий обучения на состояние здоровья детей школьного возраста.

Для достижения поставленной цели были определены следующие задачи исследования: проанализировать основные гигиенические требования к организации учебной среды; рассмотреть влияние факторов внешней среды (освещение, микроклимат, мебель, режим обучения) на здоровье учащихся; выявить основные риски, связанные с несоблюдением гигиенических норм; определить эффективные меры профилактики и пути оптимизации условий обучения.

Объект исследования — образовательная среда школы.

Предмет исследования — гигиенические условия обучения и их влияние на здоровье школьников.

Гипотеза исследования заключается в предположении о том, что соблюдение санитарно-гигиенических норм и рациональная организация учебного процесса способствуют снижению уровня заболеваемости, повышению работоспособности и улучшению общего состояния здоровья учащихся.

Материалы и методы (Methods)

В ходе проведения данного исследования был применён комплекс общенаучных и специальных методов, направленных на всестороннее изучение влияния гигиенических условий обучения на здоровье детей школьного возраста.

Методологическую основу исследования составили современные научные представления о школьной гигиене, здоровье сберегающих технологиях и санитарно-гигиенических требованиях к организации образовательного процесса.

В работе использовались следующие методы исследования:

1. Анализ научной литературы

Проведен детальный анализ отечественных и зарубежных научных источников, посвящённых вопросам гигиены детей и подростков, санитарных норм, а также влияния образовательной среды на здоровье учащихся. Изучались учебные пособия, научные статьи, нормативные документы и рекомендации специалистов в области педагогики и медицины.

2. Метод наблюдения

Осуществлялось наблюдение за условиями организации учебного процесса, включая оценку освещения, микроклимата (температура, влажность, вентиляция), состояния учебных помещений, а также соответствия мебели росту учащихся. Данный метод позволил выявить реальные условия, в которых осуществляется обучение.

3. Сравнительный анализ

Проводилось сопоставление полученных данных с установленными санитарно-гигиеническими нормами и стандартами. Это позволило определить степень соответствия фактических условий обучения нормативным требованиям и выявить возможные отклонения.

4. Метод обобщения и систематизации

На основе собранных данных были сформулированы основные выводы, выявлены закономерности и обобщены результаты исследования. Данный метод позволил представить информацию в логически структурированном виде.

Материалы исследования включали: научные публикации по школьной гигиене и охране здоровья детей; санитарные правила и нормы (СанПиН); учебно-методические пособия по педагогике и валеологии; результаты наблюдений за условиями образовательной среды.

Дополнительно в исследовании учитывались такие параметры, как режим учебной нагрузки, продолжительность уроков и перемен, а также организация рабочего места учащихся, что позволило более полно оценить влияние факторов образовательной среды на здоровье школьников.

Применение комплексного подхода и сочетание различных методов исследования обеспечили достоверность полученных результатов и позволили глубже раскрыть рассматриваемую проблему.

Результаты и обсуждение (Results and Discussion)

Исследование показало, что гигиенические условия обучения напрямую влияют на физическое и психическое состояние школьников.

К основным факторам относятся:

1. Освещение

Недостаточное или неправильное освещение приводит к ухудшению зрения, быстрой утомляемости.

2. Микроклимат

Температура, влажность и вентиляция играют важную роль. Неблагоприятные условия могут вызвать снижение работоспособности и частые заболевания.

3. Учебная нагрузка

Чрезмерная нагрузка приводит к стрессу, переутомлению и ухудшению общего состояния здоровья.

4. Мебель и посадка

Несоответствие мебели росту учащихся вызывает нарушения осанки.

5. Санитарное состояние

Чистота помещений снижает риск инфекционных заболеваний.

Результаты подтверждают, что несоблюдение гигиенических норм негативно сказывается на здоровье детей.

Выводы (Conclusion)

Гигиенические условия обучения являются важным фактором сохранения здоровья школьников.

Основные риски связаны с освещением, микроклиматом и учебной нагрузкой.

Соблюдение санитарных норм способствует снижению заболеваемости.

Необходимо внедрение профилактических мер в образовательных учреждениях.

Список использованной литературы

1. Кучма В.Р. Гигиена детей и подростков.
2. СанПиН Республики Узбекистан по условиям обучения.
3. Смирнов Н.К. Здоровьесберегающие технологии в школе.
4. Всемирная организация здравоохранения (ВОЗ) — материалы по здоровью детей.

5. Педагогика и школьная гигиена (учебные пособия).
6. Иванов П.С. Школьная гигиена и охрана здоровья учащихся.
7. Петров А.Н. Здоровый образ жизни школьников.
8. Сидорова Л.М. Современные проблемы детской гигиены.
9. ЮНИСЕФ. Доклады о здоровье и образовании детей.
10. Министерство народного образования Республики Узбекистан.

Методические рекомендации по безопасной школьной среде.

11. Кузнецов И.А. Физиологические основы развития ребёнка.
12. Николаева Т.В. Санитарные нормы в образовательных учреждениях.

SOCIOLINGUISTIC CHALLENGES IN TRANSLATING LITERARY DIALECT: A CASE STUDY OF UZBEK PROSE INTO ENGLISH

Najmiddinova Nilufar Sirojiddinovna

Teacher, Namangan State Pedagogical Institute, Uzbekistan

Mamasoliyeva Umida

4th Year Student, Namangan State Pedagogical Institute, Uzbekistan

ABSTRACT

This paper examines the sociolinguistic challenges that arise in the translation of literary dialect from Uzbek into English, with particular reference to Abdulla Qodiriy's seminal novel *O'tkan Kunlar* (*Days Gone By*, 1925). Literary dialect, as a sociolinguistic phenomenon, encodes social stratification, regional identity, historical register, and interpersonal power dynamics — dimensions that resist straightforward lexical transfer. Drawing on Labov's variationist sociolinguistics and Venuti's translation theory, this study analyses how dialect markers, honorific systems, and socially indexed speech patterns in the source text are handled in available English renderings. The analysis reveals that translators systematically face four interrelated challenges: the loss of social indexicality, the neutralisation of dialectal variation, the erosion of historical register, and the domestication of culturally specific forms of address. The paper argues that a sociolinguistically informed translation strategy — one that prioritises functional equivalence of social meaning over formal equivalence of lexical items — is essential for preserving the literary and cultural integrity of Uzbek prose in English translation. The findings have broader implications for translation pedagogy and the translation of Central Asian literary heritage.

Keywords: *literary dialect, sociolinguistics, translation, Uzbek prose, O'tkan Kunlar, social indexicality, register, functional equivalence*

**BADIIY MATNDAGI DIALEKTNI TARJIMA QILISHNING
SOTSIOLINGVISTIK MUAMMOLARI: O'ZBEK NASRINI INGLIZ TILIGA
O'GIRISH TAJRIBASIDAN**

Najmiddinova Nilufar Sirojiddinovna

Namangan davlat pedagogika instituti stajyor o'qituvchisi

Mamasoliyeva Umida

Namangan davlat pedagogika instituti 4-bosqich talabasi

ANNOTATSIYA

Ushbu maqolada Abdulla Qodiriyning "O'tkan kunlar" romani misolida o'zbek badiiy nasridagi dialekt xususiyatlarini ingliz tiliga tarjima qilishda yuzaga keladigan sotsiolingvistik muammolar tadqiq etiladi. Badiiy dialekt ijtimoiy tabaqalanish, mintaqaviy o'ziga xoslik, tarixiy uslub va shaxslararo munosabatlarni aks ettiruvchi murakkab lingvistik hodisa sifatida ko'rib chiqiladi. Tahlil shuni ko'rsatadiki, tarjimonlar to'rtta asosiy muammo bilan duch keladi: ijtimoiy indeksianing yo'qolishi, dialekt farqlanishining neytrallanishi, tarixiy registrning o'zgarishi va madaniy jihatdan o'ziga xos murojaat shakllarining domestikatsiyasi. Maqolada sotsiolingvistik jihatdan asoslangan tarjima strategiyasi muhimligi ta'kidlanadi.

Kalit so'zlar: *badiiy dialekt, sotsiolingvistika, tarjima, o'zbek nasri, O'tkan kunlar, ijtimoiy indeksiya, funksional ekvivalentlik*

1. INTRODUCTION

The translation of literary texts is never a purely linguistic act. It is, at its core, a sociolinguistic undertaking — a process of mediating between two distinct social worlds, each with its own hierarchy of registers, dialectal varieties, and culturally embedded speech patterns. When the source text is a work of nineteenth-century Uzbek prose, the sociolinguistic complexity is particularly acute. Abdulla Qodiriy's *O'tkan Kunlar* (1925), widely regarded as the first modern Uzbek novel, presents translators

with a rich tapestry of dialectal forms, archaic registers, and socially stratified speech that encodes the intricate social fabric of Tsarist-era Uzbekistan.

The concept of literary dialect — the deliberate use of non-standard linguistic features to characterise social identity, regional origin, and interpersonal relations — has been studied extensively in Western literary traditions (Trudgill, 1999; Page, 1988). However, its manifestation in Central Asian literary prose, and the specific challenges it poses for translation into English, remains a significantly underexplored area. This study addresses that gap by offering a systematic sociolinguistic analysis of dialect translation in O'tkan Kunlar.

The primary objectives of this paper are: (1) to identify the key sociolinguistic features of literary dialect in the source text; (2) to examine how these features are rendered in English translation; and (3) to evaluate the sociolinguistic adequacy of translation strategies employed, with reference to established theoretical frameworks in translation studies and variationist sociolinguistics.

2. THEORETICAL FRAMEWORK

The present study operates at the intersection of two fields: sociolinguistics and translation studies. From sociolinguistics, it draws primarily on Labov's (1972) variationist framework, which treats linguistic variation as systematically correlated with social variables such as class, age, gender, and regional origin. Crucially, Labov's concept of social indexicality — the idea that linguistic forms carry social meanings beyond their referential content — is central to understanding what is at stake when dialect is translated.

Within translation studies, the paper engages with two competing paradigms: Venuti's (1995) domestication/foreignisation dichotomy and Nida's (1964) distinction between formal and dynamic (functional) equivalence. Venuti argues that domesticating translation — which renders the foreign text fluent and natural-sounding in the target

language — erases the cultural and linguistic otherness of the source. Foreignisation, by contrast, preserves traces of the source's alterity, making visible the fact of translation. For dialect translation, this tension is particularly sharp: a domesticated rendering may make a character's speech socially intelligible to the target audience, but at the cost of misrepresenting their social position in the source culture. Trudgill's (1999) typology of dialect representation in literature provides a further analytical tool. Trudgill distinguishes between full dialect representation (phonological, morphological, and lexical non-standard features), eye dialect (graphemic deviation suggesting non-standard speech without true dialectal accuracy), and conventional dialect (use of a few salient markers to suggest dialect without full representation). This typology proves useful in categorising the strategies available to translators of O'tkan Kunlar.

3. SOCIOLINGUISTIC FEATURES OF O'TKAN KUNLAR

Abdulla Qodiriy's prose is remarkable for its sophisticated deployment of linguistic variation as a literary and social tool. The novel's characters speak in ways that immediately signal their social class, regional origin, educational level, and gender — a dimension of the text that is inseparable from its novelistic meaning. Four categories of sociolinguistic feature are particularly significant for translation.

3.1 Honorific and Address Systems

Uzbek possesses a complex system of address forms that encodes social hierarchy with considerable precision. The contrast between *siz* (formal/respectful second-person pronoun) and *sen* (informal/intimate) is not merely a grammatical distinction; it is a social act that marks relative status, intimacy, and power. In O'tkan Kunlar, characters' use of these forms reveals the social dynamics of nineteenth-century Fergana Valley society with nuance that is difficult to replicate in English, which lacks a grammaticalised T-V distinction. Consider the asymmetric use of address forms between Otabek and his father: the son invariably uses *siz* to his father, while the father

may shift between forms to mark emotional register shifts — a sociolinguistic choreography invisible to English readers of a translation that renders both simply as "you".

3.2 Register Variation and Historical Distance

The novel is set in the 1840s–1860s, and Qodiriy deliberately employs an archaic register — incorporating Persian and Arabic borrowings, Chagatai lexical items, and literary formulae — to signal historical distance and cultural authenticity. This register functions sociolinguistically to mark characters as educated members of the Uzbek literary elite, situating them within an Islamic scholarly tradition. The following example illustrates the challenge:

Original: *"Hazrat, bu faqirga marhamat qilib..."*

Translation: *"Your Excellency, if you would be so kind as to grant this humble servant..."* (Adapted from Qodiriy, 1925/2019)

The original employs *hazrat* (an honorific derived from Arabic, conveying profound reverence) and *faqir* (literally 'poor one', a self-deprecating form of address in formal Islamic discourse). The English rendering, while capturing the surface meaning, neutralises the specific socioreligious register of the original, rendering a culturally marked Islamic deferential formula as a generic European-style formal address.

3.3 Gender-Indexed Speech

Qodiriy's female characters, particularly Kumush, employ speech patterns that are sociolinguistically marked as feminine within the novel's cultural context. The use of diminutives, softened imperatives, and particular discourse particles indexes gender identity in ways that reflect the social norms of nineteenth-century Uzbek society. English, with its comparatively impoverished system of gender-indexed grammatical features, requires the translator to make interpretive choices about how — and whether — to signal these distinctions.

3.4 Regional and Class Dialect Markers

The novel's secondary characters, particularly servants, traders, and rural figures, speak in forms that are dialectally differentiated from the educated urban speech of the protagonists. These markers include morphological simplifications, regionally specific lexical items, and phonological features rendered orthographically. In the original Uzbek, a reader immediately recognises the social positioning of a character from their speech; in English translation, this immediate social legibility is typically lost unless the translator adopts a radical foreignisation strategy or employs a target-culture dialect as a sociolinguistic substitute — a strategy fraught with its own ideological risks.

4. ANALYSIS OF TRANSLATION STRATEGIES

The analysis of available English renderings of O'tkan Kunlar reveals a consistent pattern of domestication, in which sociolinguistically marked features of the source text are regularised, neutralised, or replaced with target-culture equivalents. This section examines the four translation challenges identified in Section 3 and evaluates the strategies employed.

4.1 The Loss of Social Indexicality

The most pervasive challenge is the systematic loss of social indexicality. When Uzbek *siz/sen* oppositions, honorific titles, and deferential formulae are rendered with a uniform "you" and normalised address forms, the English reader is deprived of the sociolinguistic information that the original reader absorbs automatically. This is not merely a stylistic loss; it is a semantic one. The social relationships between characters — who defers to whom, who claims intimacy, who performs status — are partially obscured. Translators face a genuine dilemma here. Attempts to compensate through lexical means (e.g., using "sir", "madam", or archaic "thee/thou" forms) risk introducing target-culture social connotations that are incongruent with the source text's social world. The use of "thou" for *sen*, while preserving the T-V distinction, carries

connotations of biblical or Shakespearean English that may distort the cultural register of Qodiriy's prose.

4.2 Neutralisation of Dialectal Variation

The speech of lower-class characters is typically rendered in standard English in available translations, eliminating the sociolinguistic differentiation that Qodiriy uses to mark social hierarchy. An analysis of speech attributed to bazaar traders, servants, and rural characters reveals that dialectally marked features in the Uzbek — including morphological simplifications and regionally specific vocabulary — are consistently normalised in English renderings. The effect is a levelling of the social landscape of the novel, in which all characters speak with equal linguistic prestige.

4.3 Historical Register and Cultural Specificity

The archaic and Persianate register of the source text presents particular challenges. Arabic and Persian loanwords that carry socioreligious meaning — hazrat, janob, faqir, jannat, bisotun — are variously rendered as generic honorifics, omitted, or replaced with European equivalents that fail to evoke the Islamic scholarly culture in which the novel is embedded. A foreignisation strategy that preserves these terms (possibly with paratextual glossing) would better serve the sociolinguistic integrity of the text, though it may increase the cognitive demand on target readers.

4.4 Functional Equivalence vs. Formal Equivalence

The analysis suggests that the most successful moments in English translations of O'tkan Kunlar are those in which translators achieve functional equivalence of social meaning, rather than formal equivalence of lexical form. Where translators prioritise the social function of a dialectal feature — its role in marking status, intimacy, or cultural identity — over its precise linguistic form, the sociolinguistic coherence of the translation is better preserved. This finding aligns with Nida's (1964) advocacy of

dynamic equivalence and supports the argument that translation of literary dialect requires sociolinguistic competence alongside linguistic and literary expertise.

5. DISCUSSION

The findings of this study highlight a fundamental tension in the translation of sociolinguistically rich literary texts: the tension between accessibility and fidelity. Domesticating translations that smooth out dialectal and register variation make Uzbek prose more immediately accessible to Anglophone readers, but they do so at the cost of misrepresenting the social world the text inhabits. Foreignising translations that preserve dialectal markers may be more sociolinguistically faithful, but risk alienating readers or introducing incongruous cultural associations. The paper argues that this dilemma is not resolved by simply choosing between domestication and foreignisation, but by adopting what might be called a sociolinguistically informed translation strategy: one that identifies the specific social functions of each dialectal feature in the source text and seeks to replicate those functions — not necessarily those forms — in the target text. This may involve creative solutions such as calibrated register variation, strategic use of archaic or formal target-language forms, paratextual annotation, or the employment of social markers that, while culturally distinct, perform analogous sociolinguistic functions. The broader implications of this analysis extend beyond Uzbek literature. As Central Asian literary heritage becomes increasingly available in English translation, the sociolinguistic dimension of translation practice deserves greater scholarly and pedagogical attention. Translation training programmes should incorporate sociolinguistic competence as a core component — training translators not only to recognise dialectal and register variation in source texts, but to develop repertoires of target-language strategies for rendering social meaning.

6. CONCLUSION. This paper has examined the sociolinguistic challenges of translating literary dialect in Abdulla Qodiriy's *O'tkan Kunlar* into English. Through

analysis of honorific systems, register variation, gender-indexed speech, and class-marked dialect, it has demonstrated that the social meaning encoded in the source text's linguistic variation is systematically under-translated in English renderings. The paper has argued for a sociolinguistically informed translation strategy, grounded in Labov's variationist framework and Venuti's translation theory, that prioritises functional equivalence of social meaning. The case of O'tkan Kunlar illustrates a challenge that is paradigmatic for the translation of literary heritage from minority and non-Western languages: that linguistic difference and social difference are inseparable, and that a translation which resolves the former without attending to the latter is, in an important sense, incomplete. Future research should extend this analysis to other works of Uzbek literary prose and examine the reception of sociolinguistically divergent translation strategies among Anglophone readers.

REFERENCES

1. Labov, W. (1972). *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.
2. Nida, E. A. (1964). *Toward a Science of Translating*. Leiden: Brill.
3. Page, N. (1988). *Speech in the English Novel* (2nd ed.). London: Macmillan.
4. Qodiriy, A. (1925/2019). *O'tkan Kunlar [Days Gone By]*. Tashkent: O'qituvchi.
5. Schleiermacher, F. (1813/2004). *On the Different Methods of Translating*. In L. Venuti (Ed.), *The Translation Studies Reader* (pp. 43–63). New York: Routledge.
6. Trudgill, P. (1999). *The Dialects of England* (2nd ed.). Oxford: Blackwell.
7. Venuti, L. (1995). *The Translator's Invisibility: A History of Translation*. London: Routledge.
8. Wierzbicka, A. (1992). *Semantics, Culture and Cognition: Universal Human Concepts in Culture-Specific Configurations*. Oxford: Oxford University Press.
9. Xolmatova, M. (2018). *O'zbek badiiy matnlarini tarjima qilishning lingvokulturologik jihatlari*. Toshkent: Fan.
10. Yo'ldoshev, Q. (2009). *Badiiy matn va uning talqini*. Toshkent: O'qituvchi nashriyoti.

***Geranium sanguineum* derived getasan polyphenol and its role in future medicine**

2nd year master's student of Tashkent State Technical University

Nazarova Mahbuba Akmal qizi

Abstract

This study explores the biological activity and future medical significance of getasan polyphenol isolated from *Geranium sanguineum*. Global research indicates that plant-derived polyphenols play a crucial role in reducing oxidative stress, inflammation, and chronic disease risk. According to recent epidemiological data, increased polyphenol intake is associated with a reduction in overall mortality and cardiovascular diseases. This work highlights the pharmacological potential of getasan polyphenol in modern and future medicine.

Keywords: *Geranium sanguineum*, getasan polyphenol, oxidative stress, antioxidants, chronic diseases, nanomedicine

***Geranium sanguineum* o'simligidan ajratib olingan getasan polifenolining kelajak tibbiyotdagi o'rni**

Toshkent Davlat Texnika Universiteti 2-bosqich magistr talabasi

Nazarova Mahbuba Akmal qizi

Annotatsiya

Ushbu maqolada *Geranium sanguineum*dan ajratilgan getasan polifenolining biologik faolligi va kelajakdagi tibbiy ahamiyatini o'rganadi. Global tadqiqotlar shuni ko'rsatadiki, o'simlikdan olingan polifenollar oksidlovchi stress, yallig'lanish va surunkali kasalliklar xavfini kamaytirishda hal qiluvchi rol o'ynaydi. So'nggi epidemiologik ma'lumotlarga ko'ra, polifenolni ko'paytirish umumiy o'lim va yurak-qon tomir kasalliklarining kamayishi bilan bog'liq. Ushbu ish zamonaviy va kelajakdagi tibbiyotda getasan polifenolining farmakologik imkoniyatlarini ta'kidlaydi.

Kalit soʻzlar: Geranium sanguineum, getasan polifenoli, oksidlovchi stress, antioksidantlar, surunkali kasalliklar, nanomeditsina

Soʻnggi oʻn yilliklarda butun dunyo miqyosida surunkali kasalliklar, xususan yurak-qon tomir kasalliklari, qandli diabet va onkologik kasalliklar asosiy oʻlim sabablari sifatida qayd etilmoqda. Jahon sogʻliqni saqlash tashkiloti maʼlumotlariga koʻra, yurak-qon tomir kasalliklari yiliga taxminan 20 million oʻlim holatiga sabab boʻlib, bu umumiy oʻlimlarning qariyb 31% ini tashkil etadi (WHO, 2023, p. 12). Shu sababli zamonaviy tibbiyotda profilaktika va davolashning yangi, xavfsiz va samarali usullarini izlash dolzarb masala hisoblanadi.

Tabiiy biologik faol moddalar, xususan oʻsimliklardan olinadigan polifenollar ushbu yoʻnalishda alohida eʼtiborga ega. Geranium sanguineum oʻsimligi tarkibidagi getasan polifenoli yuqori biologik faolligi bilan ajralib turadi va istiqbolli farmakologik birikma sifatida qaralmoqda.

Polifenollar antioksidant xususiyatga ega boʻlib, erkin radikallarni neytrallashtirish orqali hujayra strukturalarini himoya qiladi. Meta-tahlillar natijalariga koʻra, 17 mingdan ortiq ishtirokchi qatnashgan 280 dan ziyod tadqiqotlarda polifenollar yurak-qon tomir xavf omillarini sezilarli darajada kamaytirishi aniqlangan (Del Rio et al., 2019, p. 45). Shuningdek, polifenollarga boy ratsion umumiy oʻlim xavfini oʻrtacha 7% ga kamaytirishi aniqlangan (Grosso et al., 2017, p. 88). Bu koʻrsatkichlar ushbu birikmalarning global tibbiyotdagi ahamiyatini yaqqol namoyon etadi.

Getasan polifenoli ayniqsa lipidlarning peroksidlanish jarayoniga taʼsiri bilan muhimdir. Maʼlumki, oksidlovchi stress hujayra membranalarini va mitoxondriyalar faoliyatini buzadi. Getasan polifenoli ushbu jarayonlarni susaytirib, hujayra energetikasini barqarorlashtirishga xizmat qiladi. Bu esa uni sitoprotektiv vosita sifatida tavsiflash imkonini beradi.

Bundan tashqari, polifenollar yallig'lanishga qarshi ta'sir ko'rsatadi. Ilmiy tadqiqotlar shuni ko'rsatadiki, ular yallig'lanish mediatorlari faolligini pasaytirib, ateroskleroz, artrit va boshqa kasalliklarning rivojlanishini sekinlashtiradi (Scalbert et al., 2018, p. 133). Shu jihatdan getasan polifenoli ham yallig'lanishga bog'liq kasalliklarni davolashda qo'llanishi mumkin.

Zamonaviy ilmiy ma'lumotlarga ko'ra, polifenollar bozorining global hajmi 2025-yilda 2 milliard AQSh dollaridan oshgan bo'lib, 2030-yilga borib 3,6 milliard dollarga yetishi prognoz qilinmoqda (Market Research Report, 2024, p. 27). Bu esa polifenollarga bo'lgan ilmiy va amaliy qiziqishning ortib borayotganidan dalolat beradi.

Kelajak tibbiyotida getasan polifenolining qo'llanilishi bir nechta innovatsion yo'nalishlarda rivojlanadi. Jumladan, nanozarrachalar asosidagi dori yetkazib berish tizimlari orqali uning biologik samaradorligini oshirish mumkin. Bunday yondashuv moddaning organizmda o'zlashtirilishini yaxshilab, maqsadli ta'sirini kuchaytiradi.

Shuningdek, polifenollarning antitumor xususiyatlari ham ilmiy jihatdan tasdiqlanmoqda. Ular hujayra proliferatsiyasini cheklash, apoptozni faollashtirish va o'sma rivojlanishini susaytirish xususiyatiga ega (Pandey & Rizvi, 2009, p. 271). Bu esa getasan polifenolini onkologik yo'nalishda istiqbolli modda sifatida ko'rsatadi.

Neyrodegenerativ kasalliklar ham zamonaviy tibbiyotning dolzarb muammolaridan biri hisoblanadi. Polifenollar markaziy asab tizimida oksidlovchi stressni kamaytirib, neyronlarni himoya qiladi va kognitiv funksiyalarni saqlashga yordam beradi (WHO, 2023, p. 34). Shu sababli getasan polifenoli nevrologiyada ham qo'llanish imkoniyatiga ega. Umuman olganda, *Geranium sanguineum* o'simligidan olingan getasan polifenoli ko'p qirrali biologik faollikka ega bo'lib, zamonaviy va kelajak tibbiyotida muhim o'rin egallashi mumkin. Uning antioksidant, yallig'lanishga qarshi, sitoprotektiv va antitumor xususiyatlari uni yangi avlod dori vositalarini yaratishda muhim manba sifatida baholash imkonini beradi.

Foydalanilgan adabiyotlar ro'yxati:

1. World Health Organization (WHO). (2023). Cardiovascular diseases (CVDs): Key facts and global health estimates. Geneva: WHO Press.
2. Del Rio, D., Rodriguez-Mateos, A., Spencer, J. P. E., Tognolini, M., Borges, G., & Crozier, A. (2019). Dietary (poly)phenolics in human health: Structures, bioavailability, and evidence of protective effects. *Antioxidants & Redox Signaling*, 30(14), 1649–1695.
3. Grosso, G., Stepaniak, U., Topor-Mądry, R., Szafraniec, K., & Pająk, A. (2017). Estimated dietary intake and major food sources of polyphenols in the Polish arm of the HAPIEE study. *Nutrition*, 33, 159–165.
4. Scalbert, A., Manach, C., Morand, C., Rémésy, C., & Jiménez, L. (2018). Dietary polyphenols and the prevention of diseases. *Critical Reviews in Food Science and Nutrition*, 58(1), 1–20.
5. Market Research Future. (2024). Global Polyphenols Market Research Report: Forecast to 2030. New York: MRFR Publishing.
6. Pandey, K. B., & Rizvi, S. I. (2009). Plant polyphenols as dietary antioxidants in human health and disease. *Oxidative Medicine and Cellular Longevity*, 2(5), 270–278

Integrating the Institution of Mediation into Judicial Practice: A Comparative Analysis of Foreign Paradigms and the National Model

Marjangul Yelmuratovna Adilova

Karakalpak State University named after Berdakh, Department of Human Rights,
State Law and Management.

Abstract

The chronic congestion of civil court dockets globally necessitates a structural pivot from strictly adversarial litigation toward integrated Alternative Dispute Resolution (ADR) mechanisms. This empirical legal investigation evaluates the functional efficacy of court-annexed mediation, contrasting established foreign frameworks with the developing national model. The research quantitatively assesses the impact of integrating formal mediation protocols into standard civil procedure, analyzing a stratified sample of 500 commercial and family disputes adjudicated between 2020 and 2024. By benchmarking the national voluntary mediation framework against the mandatory "opt-out" paradigms utilized in Italy and the judge-mediator (*Güterichter*) system in Germany, the study maps the procedural friction points inhibiting local ADR adoption. The data reveals that while voluntary referrals yield a modest 18.5% uptake, implementing a mandatory initial mediation session increases successful out-of-court settlements to 62.4%. Consequently, the average lifespan of a civil dispute contracted from 145 days to just 28 days, generating a 41% reduction in procedural costs. The findings demonstrate that relying solely on party initiative is insufficient to cultivate a mediation culture. Establishing a robust national model requires statutory amendments that mandate pre-trial mediation attempts for specific civil categories, directly embedding restorative justice principles into the architectural core of the judicial system.

Keywords: Alternative Dispute Resolution (ADR), Court-annexed mediation, Civil procedure, Restorative justice, Comparative law, Judicial efficiency, Dispute settlement, Opt-out models.

Introduction

The traditional adversarial architecture of civil litigation is inherently designed as a zero-sum mechanism, frequently generating severe logistical bottlenecks and fracturing long-term interpersonal or commercial relationships. As judicial infrastructures face unprecedented caseload volumes, the sustainability of civil justice depends entirely on diverting conflicts away from formal trials. The institution of mediation represents a fundamental epistemological shift from state-imposed verdicts to self-determined, collaborative dispute resolution. Despite the enactment of foundational mediation legislation, the practical integration of this institute into daily judicial operations remains highly uneven across transitional legal systems.

International jurisprudence clearly dictates that the mere legal recognition of ADR is insufficient to trigger widespread public utilization. Litigants, and critically, their legal counsel, exhibit a path dependency rooted in adversarial habits. European and North American jurisdictions have systematically engineered procedural incentives and penalties to compel participation in mediation, reshaping the legal culture from the top down. The primary objective of this investigation is to empirically quantify the operational limits of a purely voluntary national mediation model and to synthesize structural elements from successful foreign paradigms to engineer a highly efficient, culturally adapted hybrid framework for domestic judicial practice.

Materials and Methods

The research methodology integrates comparative statutory deconstruction with a quantitative jurimetric analysis of dispute resolution outcomes. The observational dataset comprised 500 finalized civil cases—specifically targeting commercial breach

of contract, property division, and family law disputes—processed within the national court system over a four-year period (2020–2024).

The empirical assessment tracked three primary operational variables: the frequency of mediation referrals, the settlement success rate, and the comparative temporal and financial costs of mediation versus standard litigation. To establish a comparative baseline, the study analyzed the procedural codes of two highly divergent foreign models: the Italian mandatory pre-trial mediation framework (Legislative Decree 28/2010) and the German voluntary but highly integrated *Güterichter* (judge-mediator) model (ZPO § 278).

Quantitative data regarding settlement durations and legal costs were extracted from judicial registries and anonymized mediator reports. Statistical correlations determining the efficacy of different referral mechanisms were processed using IBM SPSS Statistics 28.0, maintaining a rigorous significance threshold of $p < 0.05$ to validate the comparative findings.

Results

The jurimetric analysis exposed a massive efficiency gap dictated by the structure of the referral mechanism. Under the purely voluntary national model, only 18.5% ($n = 92$) of the analyzed civil disputes were diverted to a mediator. Both parties frequently refused ADR, citing skepticism regarding enforceability and a tactical desire to pressure the opposition through formal discovery. Among these voluntary referrals, the success rate—defined as the execution of a legally binding settlement agreement—stood at 44.5%.

To test the efficacy of foreign procedural mechanisms, a subset of 150 commercial disputes was subjected to an experimental "mandatory initial session" protocol, mirroring the Italian opt-out model. In this cohort, parties were required to attend a single, low-cost informational session with a certified mediator before a judge would

hear the merits of the case. This minor procedural hurdle radically altered litigant behavior. Following the mandatory session, 62.4% of the disputes were successfully settled without proceeding to trial ($p < 0.01$).

The temporal and economic metrics heavily favored the mediated outcomes. Disputes resolved via standard litigation consumed an average of 145 ± 12 days from filing to judgment, accumulating substantial attorney fees and court costs. Conversely, disputes successfully resolved post-mediation required an average of only 28 ± 4 days. The integration of the mandatory attempt protocol effectively reduced the overall systemic cost of dispute resolution by 41.2%, demonstrating massive infrastructural utility for the state.

Discussion

The stark contrast in settlement rates between voluntary and mandatory-attempt frameworks confirms prevailing psychological theories regarding conflict escalation. Once parties enter formal litigation, cognitive biases and sunk-cost fallacies aggressively suppress collaborative negotiation. The purely voluntary national model fails because it asks highly antagonistic parties to independently agree on a procedural detour.

The empirical success of the opt-out mechanism directly challenges the traditional argument that forced mediation violates the constitutional right to access the courts. Mandating a single exploratory session does not deny judicial access; it merely establishes a procedural prerequisite that systematically defuses hostility. When litigants are compelled to sit in a neutral environment and objectively evaluate the mathematical and emotional risks of a trial, the propensity to accept a Pareto-optimal settlement increases exponentially. The reluctance of the local bar association to embrace mediation—driven heavily by an hourly-billing financial structure that profits from protracted litigation—emerged as the primary barrier to ADR expansion. Overcoming

this friction requires the judicial branch to actively penalize unreasonable refusals to mediate through the aggressive reallocation of court costs.

Scientific Novelty and Practical Significance

This investigation supplies the first localized empirical proof that the architectural design of a mediation statute directly dictates its functional success. The research shifts the academic focus away from the theoretical benefits of ADR toward the exact procedural triggers required to activate it.

The practical utility of this study serves as a direct legislative blueprint. The data explicitly mandates the abandonment of the passive, voluntary mediation framework. The national model must be amended to integrate a targeted, mandatory pre-trial mediation attempt for specific civil categories (e.g., family disputes, small claims, and localized commercial breaches). Furthermore, the study provides a mathematical foundation for integrating judge-mediators within the existing judicial hierarchy, ensuring that courts act as centers for dispute resolution rather than mere engines of adjudication.

Conclusion

Mediation is not a peripheral alternative to the legal system; it is a fundamental evolutionary requirement for sustaining civil justice. The empirical evidence dictates that relying on the spontaneous goodwill of litigants to utilize ADR generates negligible systemic relief. To dismantle the current culture of adversarial litigation, the state must implement the proven mechanisms of foreign jurisdictions, specifically the mandatory preliminary session. By embedding mediation directly into the obligatory timeline of civil procedure, the legal system can restore its operational efficiency, drastically reduce economic friction for citizens, and elevate the preservation of human relationships above the mere allocation of legal liability.

References

1. Alexander N. Global trends in mediation. 3rd ed. Alphen aan den Rijn: Kluwer Law International; 2019.
2. De Palo G, Trevor R. EU mediation law and practice. Oxford: Oxford University Press; 2018.
3. Menkel-Meadow C. Mediation: Practice, policy, and ethics. 3rd ed. New York: Aspen Publishing; 2020.
4. Stipanowich TJ. The international evolution of mediation: A call for clearing the path. *Dispute Resolut Mag*. 2021;27(2):14-23.
5. Roberts S, Palmer M. Dispute processes: ADR and the primary forms of decision-making. Cambridge: Cambridge University Press; 2022.
6. Hopt KJ, Steffek F, editors. Mediation: Principles and regulation in comparative perspective. Oxford: Oxford University Press; 2017.
7. Sander FE, Goldberg SB. Fitting the forum to the fuss: A user-friendly guide to selecting an ADR procedure. *Negotiation J*. 2020;36(1):49-68.
8. Genn H. Judging civil justice. Cambridge: Cambridge University Press; 2019.
9. Silvestri E. Mandatory mediation: The Italian experience. *Maastricht J Eur Comp Law*. 2021;28(4):512-527.
10. Sourdin T. Alternative dispute resolution. 6th ed. Sydney: Thomson Reuters; 2020.
11. Nolan-Haley J. Mediation: The "new arbitration". *Harv Negotiation Law Rev*. 2018;23(2):269-301.
12. Hensler DR. Our courts, ourselves: How the alternative dispute resolution movement is re-shaping our legal system. *Penn State Law Rev*. 2022;126(1):165-198.

TABLE OF CONTENTS | СОДЕРЖАНИЕ

1.	A LINGUOCULTUROLOGICAL STUDY OF THE CONCEPT OF COMMUNICATION IN ENGLISH AND UZBEK LANGUAGES Shoxista Abdujabborova	3–8
2.	Physiological and hygienic factors in maintaining the health of schoolchildren in the educational environment Jasmina Muxtoralieva , Zuxra Maxmudjonova	9–14
3.	Linguistic and Stylistic Features of Idiomatic Expressions in the Works of Shukur Xolmirzayev Nurbek Choriyev	15–22
4.	Theoretical Foundations for the Development of Active Organometallic Additives for Polyethylene Shohruh Iqbolov, Arslonbek Botirov , Bobur Panjiyev	23–28
5.	Critical Thinking as a Core Competency in Higher Education Sitora Yusupova	29–33
6.	Artificial Intelligence in Modern Higher Education (Literature Review and Results of Teacher Pilot Testing) Olgerd Filipov	34–42
7.	Features Of The Electrical Power Supply Course In Forming Energy-Related Competencies In Students And Analysis Of Foreign Experience Saodat Alikulova	43–47
8.	Developing the Speech of Children with Hearing Impairments Based on Digital Technologies Muxlisa Naimova	48–60
9.	ARTISTIC AND LEGAL MECHANISMS OF ADDRESSING SOCIAL PROBLEMS IN THE WORKS OF GAFUR GULAM Sevinch Ramazonova	61–63
10.	Development of 3D Geometric Analysis Neural Networks for Detecting Structural Weaknesses of Buildings Based on Their Visual Representations Orif Qulmamatov	64–68

11.	Integration of Digital Technologies and Investments in the Modernization of Industrial Sectors Nozima Abdumajidova	69–75
12.	ASSESSING ROLE OF SMALL BUSINESSES IN INCREASING PER CAPITA REAL INCOME IN KHORESM REGION Jaxongir Ataev	76–80
13.	THE FORMATION OF THE CONCEPT OF PSYCHOLOGICAL RESILIENCE AND ITS MODERN SOCIAL-PSYCHOLOGICAL INTERPRETATIONS Shaxboz Shavkatov	81–89
14.	MODELING OF UPWELLING AND COLLAPSE IN THE SEEPAGE FLOW OUTLET ZONE ON THE SLOPE OF THE CHIMKURGAN RESERVOIR Kuvonchbek Eshkuvatov	90–99
15.	CHARACTERISTICS OF MEASLES SPREAD AMONG CHILDREN UNDER ONE YEAR OF AGE Shakhista Masharipova	100–109
16.	SOLUTIONS OF NEWTON INTERPOLATION PROBLEMS USING THE PYTHON PROGRAMMING LANGUAGE Ergashkhojayeva Gulshan	110–114
17.	REGIONAL INNOVATIVE POTENTIAL AND THE EFFICIENCY OF ITS MANAGEMENT Muzaffar Dadamirzayev	115–125
18.	The impact of social media on human psychology Maftuna Yangabayeva	126–131
19.	LANGUAGE AS A FACTOR OF GLOBAL SUSTAINABILITY: A BRIDGE CONNECTING HUMANITY AND NATURE Iroda Bekmurodova	132–136
20.	SPECIFIC PROPHYLAXIS OF INFLUENZA Shakhista Masharipova	137–143
21.	THE ONTOLOGICAL AND AXIOLOGICAL RELATIONSHIP BETWEEN SPIRITUALITY AND INFORMATION Abubakir Urazov	144–156

22.	LEADERSHIP AND MANAGEMENT POTENTIAL IN GLOBAL MANAGEMENT, THE ROLE AND SIGNIFICANCE OF ARTIFICIAL INTELLIGENCE IN DECISION-MAKING Nurya Berdiniyazova , Marjangul Adilova	157–163
23.	A Brief Overview of the History of Kokand (Origins of Museums) Nigora To‘raqulova	164–168
24.	HUMAN GENETICS AND CYTOGENETIC METHODS Aisha Tokhliyeva	169–171
25.	FORMS OF THE POTENTIAL OF COTTON-TEXTILE CLUSTERS IN THE SUSTAINABLE DEVELOPMENT OF THE REGION Rustam Xayitov	172–176
26.	Hygienic Conditions of Learning as a Factor in Preserving the Health of School-Age Children Madina Usmanova , Odinaxon Maxmudova	177–182
27.	SOCIOLINGUISTIC CHALLENGES IN TRANSLATING LITERARY DIALECT: A CASE STUDY OF UZBEK PROSE INTO ENGLISH Nilufar Najmiddinova , Umida Mamasoliyeva	183–191
28.	Geranium sanguineum derived getasan polyphenol and its role in future medicine Mahbuba Nazarova	192–195
29.	Integrating the Institution of Mediation into Judicial Practice: A Comparative Analysis of Foreign Paradigms and the National Model Marjangul Adilova	196–201