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WORLD INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY AND EDUCATION: a collection scientific works of the International scientific conference (July, 2026) – Germany: 2026. Volume-01, Issue 07, 2026

Languages of publication: English, Russian, and Uzbek

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

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Quantumqill Research Press PVT LTD, 2026

APPLICATION OF ECOLOGICAL FABRICS IN THE TEXTILE INDUSTRY

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Annotation

This article analyzes the application of ecologically clean and biodegradable fabrics in the textile industry, their production technology, environmental impact, and economic aspects. In the modern world, the textile industry is considered one of the sectors consuming the largest amount of water resources and causing chemical pollution; therefore, the demand for ecological materials such as organic cotton, bamboo fiber, flax, hemp, tencel (lyocell), and recycled polyester is increasing every year. The article presents statistical data from global and Uzbek practice, environmental certification systems (such as GOTS, OEKO-TEX, and the Global Recycled Standard), as well as proposals for developing the “green” textile direction. The research results show that ecological fabrics are of great importance not only for environmental protection but also for increasing product competitiveness, expanding export potential, and strengthening consumer trust.

Keywords

ecological fabrics, organic cotton, bamboo fiber, tencel, lyocell, hemp, flax, recycled polyester, GOTS certificate, OEKO-TEX standard, sustainable textiles, green technologies, environmental protection, textile industry.

**TO‘QIMACHILIK SANOATIDA EKOLOGIK MATOLARNING
QO‘LLANILISHI**

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Annotatsiya

Ushbu maqolada to'qimachilik sanoatida ekologik toza va biologik parchalanuvchi matolarning qo'llanilishi, ularning ishlab chiqarish texnologiyasi, atrof-muhitga ta'siri va iqtisodiy jihatlari tahlil qilingan. Zamonaviy dunyoda tekstil sanoati suv resurslarini eng ko'p iste'mol qiluvchi va kimyoviy ifloslanishga sabab bo'luvchi sohalardan biri hisoblanadi, shu sababli organik paxta, bambuk tolasi, zig'ir, kanop, tensel (lyosell) va qayta ishlangan poliestер kabi ekologik materiallarga bo'lgan talab yildan-yilga ortib bormoqda. Maqolada jahon va O'zbekiston tajribasidagi statistik ma'lumotlar, ekologik sertifikatlash tizimlari (masalan, GOTS, OEKO-TEX, Global Recycled Standard) hamda "yashil" to'qimachilik yo'nalishini rivojlantirish bo'yicha takliflar keltirilgan. Tadqiqot natijalari ekologik matolarning nafaqat atrof-muhitni asrash, balki mahsulot raqobatbardoshligini oshirish, eksport salohiyatini kengaytirish va iste'molchilar ishonchini mustahkamlash uchun ham muhim ahamiyatga ega ekanligini ko'rsatadi.

Kalit so'zlar

Ekologik matolar, organik paxta, bambuk tolasi, tensel, lyosell, kanop, zig'ir, qayta ishlangan poliestер, GOTS sertifikati, OEKO-TEX standarti, barqaror to'qimachilik, "yashil" texnologiyalar, atrof-muhit muhofazasi, to'qimachilik sanoati.

ПРИМЕНЕНИЕ ЭКОЛОГИЧЕСКИХ ТКАНЕЙ В ТЕКСТИЛЬНОЙ ПРОМЫШЛЕННОСТИ

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Аннотация

В данной статье анализируется применение экологически чистых и биоразлагаемых тканей в текстильной промышленности, технология их производства, воздействие на окружающую среду и экономические аспекты. В современном мире текстильная промышленность считается одной из отраслей, наиболее потребляющих водные ресурсы и вызывающих химическое загрязнение, поэтому спрос на экологические материалы, такие как органический хлопок, бамбуковое волокно, лён, конопля, тенсель (лиоцелл) и переработанный полиэстер, с каждым годом возрастает. В статье приводятся статистические данные мировой и узбекистанской практики, системы экологической сертификации (например, GOTS, OEKO-TEX, Global Recycled Standard), а также предложения по развитию направления «зелёного» текстиля. Результаты исследования показывают, что экологические ткани имеют важное значение не только для охраны окружающей среды, но и для повышения конкурентоспособности продукции, расширения экспортного потенциала и укрепления доверия потребителей.

Ключевые слова

экологические ткани, органический хлопок, бамбуковое волокно, тенсель, лиоцелл, конопля, лён, переработанный полиэстер, сертификат GOTS, стандарт OEKO-TEX, устойчивый текстиль, «зелёные» технологии, охрана окружающей среды, текстильная промышленность.

Kirish

Jahon iqtisodiyotining eng dinamik rivojlanayotgan tarmoqlaridan biri bo'lgan to'qimachilik sanoati bugungi kunda ekologik muammolarning asosiy manbalaridan biriga aylanib bormoqda. Birlashgan Millatlar Tashkilotining Atrof-muhit dasturi

(UNEP) ma'lumotlariga ko'ra, to'qimachilik sanoati global suv iste'molining taxminan 20 foizini va sanoat suv ifloslanishining katta qismini o'z ichiga oladi, shuningdek, mikroplastik chiqindilarning muhim manbai hisoblanadi.

An'anaviy sintetik matolar — poliestер, nylon va akril — neft mahsulotlaridan tayyorlanadi, ularning parchalanish jarayoni yuzlab yillarni tashkil etadi va ishlab chiqarish davomida katta miqdorda uglerod chiqindilari hosil bo'ladi. Bunday sharoitda ekologik toza, tabiiy va biologik parchalanuvchi tolalardan tayyorlangan matolarga bo'lgan qiziqish sezilarli darajada oshdi. Organik paxta, bambuk, zig'ir, kanop kabi tabiiy tolalar, shuningdek, tensel (lyosell) va qayta ishlangan poliestер kabi innovatsion materiallar "yashil" to'qimachilikning asosini tashkil etmoqda.

O'zbekiston Respublikasi jahon paxta va to'qimachilik bozorining yirik ishtirokchilaridan biri sifatida so'nggi yillarda tabiiy tolali mahsulotlar eksportini kengaytirish, organik paxta yetishtirish maydonlarini oshirish va ekologik sertifikatlash tizimlarini joriy etish borasida izchil siyosat olib bormoqda. Xususan, Prezidentning tegishli qarorlari asosida "yashil" iqtisodiyot tamoyillari to'qimachilik klasterlarida keng joriy etilmoqda. Ushbu maqolaning maqsadi — ekologik matolarning turlari, ularning afzalliklari, ishlab chiqarish texnologiyasi va O'zbekiston to'qimachilik sanoatidagi istiqbollarini ilmiy asosda tahlil qilishdan iborat.

Ekologik matolarning asosiy turlari

Organik paxta — pestitsid va kimyoviy o'g'itlarsiz, tabiiy usulda yetishtirilgan paxta tolasidan tayyorlanadi. Textile Exchange tashkilotining hisobotlariga ko'ra, organik paxta yetishtirish an'anaviy paxtaga nisbatan suv iste'molini 91 foizgacha, energiya sarfini esa 62 foizgacha kamaytirishga imkon beradi.

Bambuk tolasi tez o'sadigan va minimal suv talab qiladigan o'simlikdan olinadi, tabiiy antibakterial xususiyatga ega bo'lib, teri uchun xavfsiz hisoblanadi. Zig'ir (kanop) tolalari esa kam suv va deyarli hech qanday pestitsidsiz yetishtiriladi, mustahkamligi va

namlikni yaxshi o‘tkazishi bilan ajralib turadi.

Tensel (Lyosell) — evkalipt yog‘ochi tsellyulozasidan “yopiq tsikl” texnologiyasi asosida ishlab chiqariladi, bunda ishlatilgan erituvchi moddalarning 99 foizdan ortig‘i qayta tiklanadi va qayta ishlatiladi, bu esa chiqindilarni deyarli nolga tushiradi. Qayta ishlangan poliestер (rPET) plastik shishalar va boshqa poliestер chiqindilaridan tayyorlanib, yangi neft resurslarini tejash va plastik ifloslanishini kamaytirish imkonini beradi.

Ekologik sertifikatlash tizimlari

Xalqaro amaliyotda ekologik matolarning sifati va xavfsizligini tasdiqlovchi bir qator sertifikatlash tizimlari mavjud. GOTS (Global Organic Textile Standard) organik tolalarning butun ishlab chiqarish zanjiri bo‘ylab ekologik va ijtimoiy mezonlarga muvofiqligini nazorat qiladi. OEKO-TEX Standard 100 esa matolarda inson salomatligiga zararli kimyoviy moddalar mavjud emasligini tasdiqlaydi. Global Recycled Standard (GRS) qayta ishlangan materiallar tarkibini va ishlab chiqarish jarayonining ekologik jihatdan to‘g‘riligini tekshiradi. Bunday sertifikatlar iste’molchilarga mahsulotning ekologik tozaligiga ishonch bilan qarash imkonini beradi va ishlab chiqaruvchilar uchun xalqaro bozorlarga chiqish garovi hisoblanadi.

O‘zbekistonda ekologik to‘qimachilikning rivojlanish istiqbollari

O‘zbekiston paxtachilik sohasida chuqur islohotlarni amalga oshirib, xom-ashyoni eksport qilishdan tayyor mahsulot ishlab chiqarishga o‘tish strategiyasini izchil davom ettirmoqda. So‘nggi yillarda mamlakatda organik paxta yetishtirish maydonlari kengaytirilib, bir qator to‘qimachilik klasterlarida GOTS va OEKO-TEX sertifikatlarini olish jarayoni boshlab yuborilgan. Bundan tashqari, “yashil” texnologiyalarni joriy etish, suvni tejovchi tomchilatib sug‘orish tizimlaridan foydalanish va organik o‘g‘itlarga o‘tish orqali qishloq xo‘jaligi va sanoat integratsiyasini mustahkamlash borasida amaliy chora-tadbirlar amalga oshirilmoqda.

Ekologik matolarning ichki va tashqi bozordagi raqobatbardoshligini oshirish uchun ilmiy-tadqiqot institutlari, oliy ta'lim muassasalari va tekstil korxonalari o'rtasidagi hamkorlikni kuchaytirish, mutaxassis kadrlar tayyorlash tizimini takomillashtirish hamda kichik va o'rta biznes subyektlarini "yashil" texnologiyalarni joriy etishga rag'batlantiruvchi moliyaviy mexanizmlarni kengaytirish zarur.

Xulosa

Xulosa qilib aytganda, to'qimachilik sanoatida ekologik matolarning qo'llanilishi nafaqat atrof-muhitni muhofaza qilish, balki iqtisodiy samaradorlikni oshirish, eksport salohiyatini kengaytirish va iste'molchilar ishonchini mustahkamlash uchun ham strategik ahamiyatga ega. Organik paxta, bambuk, zig'ir, kanop, tensel va qayta ishlangan poliestер kabi materiallar an'anaviy sintetik tolalarga qaraganda ancha kam ekologik izga ega bo'lib, kelajakda ularning ulushi yanada oshib borishi kutilmoqda. O'zbekiston uchun ushbu yo'nalish paxtachilik va to'qimachilik sohalarini modernizatsiya qilish, xalqaro sertifikatlash tizimlarini joriy etish hamda "yashil" iqtisodiyot tamoyillariga asoslangan barqaror rivojlanishga erishishning muhim omili hisoblanadi.

Foydalanilgan adabiyotlar:

1. Karimov Sh.I. Tekstil materialshunosligi asoslari. Toshkent: "Fan va texnologiya", 2021. 284 b.
2. Yusupova M.A. To'qimachilik sanoatida innovatsion texnologiyalar. Toshkent: TDTU nashriyoti, 2020. 196 b.
3. Rajabov N.Q., Ergashev B.T. Organik paxta yetishtirishning ekologik-iqtisodiy asoslari // O'zbekiston qishloq xo'jaligi jurnali. 2022. №4. B. 45–52.
4. Nazarova D.S. Yengil sanoatda "yashil" texnologiyalarni joriy etish muammolari // Iqtisodiyot va innovatsion texnologiyalar ilmiy elektron jurnali. 2021. №3. B. 112–119.

5. Toshpo‘latov J.M. To‘qimachilik ishlab chiqarishida resurstejamkor texnologiyalar. —Toshkent: “Iqtisod-Moliya”, 2019. 210 b.
6. Mirzayev A.A. Tabiiy tolali materiallarning ekologik xususiyatlari // Toshkent to‘qimachilik va yengil sanoat instituti ilmiy axboroti. 2022. №2. B. 78–85.
7. O‘zbekiston Respublikasi Prezidentining “Paxta-to‘qimachilik klasterlari faoliyatini yanada takomillashtirish chora-tadbirlari to‘g‘risida”gi qarori. Toshkent, 2020.
8. Textile Exchange. Preferred Fiber and Materials Market Report. 2023. 120 p.
9. Muthu S.S. Sustainable Fibres and Fabrics for Fashion Industry. Singapore: Springer, 2020. 315 p.
10. United Nations Environment Programme (UNEP). Sustainability and Circularity in the Textile Value Chain. Nairobi: UNEP, 2021. 98 p.
11. Global Organic Textile Standard (GOTS) Official Manual, Version 7.0. International Working Group on Global Organic Textile Standard, 2023.
12. OEKO-TEX Association. Standard 100 by OEKO-TEX: Test Criteria and Limit Values. Zurich, 2022.
13. Egamberdiyev F.T. Yengil sanoat korxonalarida ekologik menejment tizimini takomillashtirish. Toshkent: TDIU, 2021. 176 b.

Effectiveness of Educational Cooperation between Uzbekistan and Germany

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Abstract

This article examines the effectiveness of educational cooperation between Uzbekistan and Germany. The study analyses major forms of cooperation, including academic exchange programs, scholarships, university partnerships, and language education initiatives. It also discusses the positive impact of this cooperation on higher education development in Uzbekistan, as well as existing challenges such as language barriers, financial limitations, and the lack of information accessibility. The article concludes with several recommendations aimed at strengthening bilateral educational relations and improving opportunities for students.

Keyword

educational cooperation, higher education, academic exchange, scholarships, DAAD, international collaboration, Uzbekistan, Germany

Annotatsiya: *Ushbu maqolada O'zbekiston va Germaniya o'rtasidagi ta'lim sohasidagi hamkorlik samaradorligi tahlil qilinadi. Tadqiqotda akademik almashinuv dasturlari, stipendiyalar, universitetlararo hamkorlik va til ta'limi kabi asosiy yo'nalishlar ko'rib chiqiladi. Shuningdek, ushbu hamkorlikning O'zbekistonda oliy ta'lim rivojiga ta'siri hamda til to'siqlari, moliyaviy cheklovlar va axborot yetishmasligi kabi mavjud muammolar yoritilgan. Maqola yakunida ikki davlat o'rtasidagi ta'lim aloqalarini yanada rivojlantirish bo'yicha tavsiyalar berilgan.*

Kalit so'zlar: *ta'lim hamkorligi, oliy ta'lim, akademik almashinuv, stipendiyalar,*

DAAD, xalqaro hamkorlik, O'zbekiston, Germaniya

Аннотация: В данной статье рассматривается эффективность образовательного сотрудничества между Узбекистаном и Германией. Исследуются основные формы сотрудничества, включая программы академического обмена, стипендии, партнёрство университетов и языковую подготовку. Также анализируется влияние данного сотрудничества на развитие высшего образования в Узбекистане и существующие проблемы, такие как языковой барьер, финансовые ограничения и недостаточная информированность студентов. В заключении предлагаются рекомендации по укреплению двусторонних образовательных связей.

Ключевые слова: образовательное сотрудничество, высшее образование, академический обмен, стипендии, DAAD, международное сотрудничество, Узбекистан, Германия

Education is one of the key factors of sustainable development, as it directly influences economic growth, innovation, and social progress [4]. In this regard, international cooperation in higher education plays an important role in improving academic quality and global competitiveness. The relationship between Uzbekistan and Germany in the field of education is based on mutual interests. Germany seeks to expand its international academic network and attract talented students, while Uzbekistan aims to modernize its education system and provide its students with access to high-quality European education [2]. Over the years, this cooperation has been supported by government agreements, university partnerships and international organizations. One of the most influential actors in this process is the German Academic Exchange Service, which provides scholarships and exchange opportunities for students and researchers [1]. The importance of this topic lies in understanding how effective these programs are in practice and whether they truly contribute to educational development in Uzbekistan.

The several structured mechanisms, which support both academic mobility and institutional development, of this educational partnership can be listed as follows: academic mobility and scholarship programs, as well as joint programs. First, one of the most visible forms of cooperation is student and staff exchange project. Such projects allow Uzbek students to study in German universities for one semester or full degree exchanges [6]. Similarly, German professors and researchers participate in academic activities in Uzbekistan. These mobility programs help students gain international experience, improve their language skills, and develop a foreign academic perspective. They also contribute to cultural exchange and mutual understanding between the two countries. Next, scholarships play a crucial role in making education in Germany accessible as the DAAD scholarship. It is the most well-known program, which supports undergraduate, master's, and PhD students in various academic fields [1]. These scholarships often cover tuition fees, living expenses and research costs. However, competition is high, and only a limited number of students are selected each year. Despite this limitation, scholarship projects remain as effective tools for strengthening educational ties.

Another significant mechanism of cooperation is institutional partnerships between universities. Several higher education institutions in Uzbekistan have signed agreements with German universities to develop joint research programs, curriculum reforms, and double-degree programs. These partnerships help Uzbek universities improve their academic standards by adopting modern teaching methods, research approaches and quality assurance system used in Germany [2]. Additionally, language training is an essential part of cooperation, since most academic projects in Germany require proficiency in German or English. Language centers in Uzbekistan provide German language courses, while foundation courses support students to meet admission requirements. This stage is important because it directly influences students' ability to

successfully integrate into foreign academic environments.

Moving on now to consider positive outcomes and effectiveness, the cooperation between these two countries has produced several remarkable results. For example, the number of Uzbek students studying in Germany has gradually increased, indicating growing interest and accessibility. Also, students who return to Uzbekistan often bring new knowledge, research skills and modern academic approaches. Another important outcome is the improvement of teaching quality in Uzbek universities. Contact to German academic standards encourages institutions to update curricula and adopt more student-centered teaching methods [5]. Furthermore, joint research programs contribute to scientific improvement, especially in engineering, environmental studies, economics and social sciences. Overall, these results indicate that bilateral educational collaboration is relatively productive and continues to broaden its influence. The increasing participation of students from Uzbekistan in international mobility and funded study projects reflects rising academic motivation and wider access to global learning opportunities. Individuals who pursue education in Germany obtain not only academic knowledge, but also professional competencies, analytical abilities and familiarity with advanced teaching approaches and innovative learning environments. After completing their studies, many graduates return to their home country and contribute to higher education institutions, multinational organizations and private sector. They implement the expertise, academic standards and professional practices which they experienced during their studies abroad. Moreover, this partnership supports intellectual exchange and helps strengthen the quality of human capital development within the national education system.

On the other hand, in spite of these achievements, several challenges reduce the full effectiveness of this cooperation. One of the most significant obstacles is the linguistic requirement associated with international study. A considerable number of

applicant experience difficulties in reaching the necessary level of German or English proficiency demanded by foreign universities [6]. This issue is particularly noticeable among students from regions where access to high-quality language instruction is limited. As a result, academically capable individuals may fail to qualify for exchange initiatives or scholarship opportunities despite having strong professional potential. Another important concern is the lack of accessible and well-organized information about international educational opportunities [2]. Although numerous exchange and funding programs exist, detailed guidance regarding to eligibility criteria, required documentation and submission producers is not always widely available. Consequently, many students become aware of such chances too late or misunderstood main application requirements. This informational gap reduces participation rates and prevents talented candidates from fully benefiting from international partnership. Economic limitations also continue influence student participation in overseas education. While financial aid programs may provide partial support, additional expenditures, including transportation, accommodation, medical insurance and everyday living expenses, often create a substantial burden for applicants and their families. For students from low or middle-income backgrounds, such costs can become a decisive factor preventing them from seeking educational opportunities abroad. Therefore, financial inequality directly affects the accessibility of international academic mobility [5]. Additionally, the level of integration varies considerably among higher education institutions. Certain universities actively establish partnership, participate in research collaboration and promote student mobility programs, while others demonstrate relatively limited international engagement. Such imbalance creates unequal access to global resources and professional networks. Consequently, students studying at less worldwide connected institutions may encounter fewer opportunities for academic exchange and intercultural experience.

However, there are some future perspectives and recommendations as improving the long-term effectiveness of bilateral academic relations require not only general reforms, but also practical mechanisms capable of addressing the specific limitations discussed above. A more systematic approach could substantially increase participation rates and improve the overall quality of international educational interaction. To begin with, broader access to foreign language instruction may play a decisive role in preparing prospective applicants for foreign study atmosphere. In many secondary schools and regional educational centers, advanced German language training remains limited, which creates unequal preparation levels among learners. Establishing specialized language laboratories, preparatory certification courses, and intensive academic writing projects could strengthen communicative competence and increase students' competitiveness during admission processes [6]. Earlier exposure to professional and academic vocabulary would also help future participants adapt more effectively to seminars, research activities and university assessment system abroad. Next essential measure involves improving the distribution of information related to global academic initiatives. At present, guidance concerning exchange schemes, grant opportunities and admission requirements is often fragmented across different platforms. Creating centralized advisory centers within universities, as well as organizing regular orientation seminars and mentorship programs, could significantly simplify the application process. Direct communication with former scholarship recipients may additionally provide realistic insights into document preparation, interview expectations and cultural adaptation among qualified candidates. Also, greater institutional coordination between higher education establishments could develop the sustainability of academic interaction. Rather than limiting collaboration to short-term projects, universities may advance strategic partnerships focused on curriculum integration, joint scientific publications and collaborative research laboratories. Double-

degree initiatives and co-supervised graduate programs would contribute to not only to academic mobility, but also to the harmonization of educational standards and research methodologies [5]. As a result, cooperation could evolve from occasional exchange into a more stable and deeply interconnected academic network.

Financial accessibility remains another area requiring targeted improvement. Although existing scholarship systems provide meaningful assistance, supplementary expenditures frequently discourage capable students from participating. Introducing additional mobility grants, transportation subsidies and emergency support funds may reduce the economic pressure associated with studying abroad. Furthermore, partnerships with private enterprises and international organizations might create sponsorship opportunities for students specializing in strategically important fields such as engineering, environmental science, information technology and economics. Finally, the expansion of digital academic infrastructure is likely to open new possibilities for inclusive international collaboration. Virtual lecture series, online research workshops and hybrid exchange formats could enable participation for individuals who are unable to travel due to financial or personal circumstances. Digital cooperation may also facilitate continuous communication between partner institutions, allowing students and researchers to engage in joint academic activities without geographical limitations. Consequently, technology-based interaction could enhance traditional mobility programs and broaden access to international educational experience for a larger segment of the population [4].

Beyond the immediate educational benefits, the cooperation between Uzbekistan and Germany also carries broader social, economic and institutional significance. International academic integration could not be viewed as a mechanism for student exchange, rather it represents an important instrument for long-term human capital formation and modernization. In an increasingly competitive global environment,

countries that invest in worldwide connected education systems are more likely to strengthen innovation capacity, technology development and professional specialization. One remarkable aspect of this partnership is its influence on academic culture and educational standards. European methodologies encourage a transition from traditional memorization-based instruction toward more analytic and research-oriented learning approaches. Students who participate in global programs often become more independent in conducting research, presenting arguments and applying critical thinking skills. Such academic practices gradually contribute to changes within domestic institutions as returning graduates introduce new perspectives into classrooms, research projects and professional environments. The impact of this cooperation can also be observed in the development of professional competencies required in the modern labour market. Contemporary employers highly value intercultural communication, adaptability, foreign language proficiency and international experience [6]. Individuals educated through foreign exchange initiatives frequently possess stronger problem-solving abilities and greater familiarity with professional standards of overseas. Consequently, educational mobility provides not only with personal academic achievement, but also with workforce competitiveness and economic development within the country. In addition, scientific and technological collaboration between universities may generate long-term advantages extending beyond higher education itself [5]. Joint research activities create chances for knowledge transfer in strategically main fields such as renewable energy, environmental protection, engineering, digital technologies and public administration. Partnership in these sectors is especially valuable for developing states seeking modernization and sustainable growth. Through collaborative projects and academic networking, local researchers gain access to advanced methodologies, laboratory resources and international scientific communities that may otherwise remain difficult to reach.

At the same time, the sustainability of such cooperation depends on maintaining balanced and mutually beneficial relations among participating institutions. If academic interaction becomes concentrated only on a limited number of elite universities or highly privileged students, the broader educational system may not fully benefit from globalization. Therefore, expanding potential across different regions and social groups remains essential for ensuring equitable educational development [4]. Greater inclusion would allow the cooperation to function not merely as an opportunity for a small academic minority, but as a broader national investment in intellectual and professional advancement. Moreover, educational diplomacy itself plays a meaningful role in strengthening bilateral relations between nations. Students and researchers participating in exchange programs often develop long-lasting professional and cultural connections that contribute to mutual understanding and future collaboration. Such interpersonal networks may later influence integration in business, science, technology and public policy [3]. In this sense, educational partnership serves academic objectives as well as wider diplomatic and intercultural purposes. Considering these factors, the effectiveness of bilateral cooperation should be evaluated not only through numerical indicators such as scholarship recipients or exchange statistics, but also through its broader contribution to institutional transformation, social mobility and intellectual development. The long-term success of these initiatives will largely depend on the ability of both countries to create accessible, inclusive and strategically organized educational frameworks capable of responding to contemporary global challenges.

In conclusion, the analysis of educational cooperation between Uzbekistan and Germany demonstrates that this partnership has become an increasingly significant component of contemporary bilateral relations. The study has shown that academic mobility programs, scholarship initiatives, institutional collaboration and research partnerships have contributed to the gradual internationalization of higher education and

have created valuable opportunities for students, researchers and educational institutions [1]. Through these mechanisms, participants gain access to advanced academic environments, modern teaching methodologies, intercultural communication experience and broader professional perspectives. The discussion also indicates that the effectiveness of this partnership could not be evaluated solely through the number of exchange participants or formal agreements among universities. Its wider importance lies in its contribution to educational modernization, intellectual improvement, also the strengthening of human capital [5]. Students who participate in international academic programs return with improved analytical abilities, research competence and professional adaptability, while universities benefit from curriculum improvement, scientific networking and exposure to international academic standards. Consequently, association in education influences not only individual academic achievements, but also institutional and social development on a wider scale. At the same time, the research confirms that several persistent barriers continue to reduce the full potential of bilateral educational integration. Linguistic limitations, insufficient awareness of international opportunities, financial difficulties and uneven institutional participation remain major obstacles affecting accessibility and equal participation. Such factors demonstrate that the existence of cooperation itself does not automatically guarantee its effectiveness, rather, sustainable outcomes depend on the quality, inclusiveness and organizational stability of implemented programs and partnerships [2].

In addition, the article highlights that long-term progress in this area requires consistent support from educational institutions, governmental structures and international organizations. Strengthening preparatory language education, stimulating informational accessibility, expanding financial assistance mechanisms, and deepening institutional partnerships could increase the sustainability and practical impact of academic collaboration. Such measures may also contribute to creating more balances

opportunities for students from different social and regional backgrounds. Overall, the evidence examined throughout this article suggests that integration into education between the two countries can be regarded as a productive, strategically important and capable of further development. Although certain limitations remain, the existing achievements clearly illustrate the positive role of international academic partnership in promoting educational quality, scientific exchange and professional growth. Therefore, continued cooperation in higher education and research may serve as an important foundation for deeper intellectual integration, long-term institutional advancement and mutually beneficial relations between the two states.

Reference

- 1) DAAD. (2024). *Scholarship database and international academic exchange programs*. <https://www.daad.de/en>
- 2) Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan. (2024). *International cooperation in higher education*. <https://www.edu.uz>
- 3) Federal Foreign Office of Germany. (2024). *Germany's international cultural and educational policy*. <https://www.auswaertiges-amt.de/en>
- 4) UNESCO. (2023). *Global education monitoring report*. Paris: UNESCO publishing. <https://www.unesco.org/en/education>
- 5) World Bank. (2022). *Higher education and human capital development in central Asia*. Washington, DC: World Bank Publications. <https://www.worldbank.org/en/topic/education>
- 6) OECD. (2023). *Education at a glance 2023: OECD indicators*. Paris: OECD Publishing. <https://www.oecd.org/education/education-at-a-glance/>

**IMPROVING THE METHODOLOGY FOR DEVELOPING STUDENTS'
CREATIVE ABILITIES IN A DIGITAL STEAM ENVIRONMENT:
THEORETICAL FOUNDATIONS AND A CRITICAL REVIEW**

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Abstract

This article provides a theoretical analysis of how the methodology for developing secondary school students' creative abilities in a digital STEAM environment can be improved. The aim of the study is to assess the reliability of the existing empirical evidence and, on that basis, to develop a methodological model. Following the methodology of a systematic literature review, 68 sources published between 2018 and 2026 were analysed, each double-coded for reported effect magnitude and for methodological reliability. The analysis shows that the high effectiveness estimates reported in meta-analyses (in some cases $d > 3.0$) rest on methodologically weak primary studies characterised by small samples, absent control groups, short intervention periods and self-report measurement instruments. The author therefore refrains from an unconditional positive assessment of the effect of STEAM environments on creativity and proposes interpreting it as a design-dependent effect. The scientific novelty of the work lies in a four-stage methodological model incorporating a mandatory iteration cycle, in which the digital tool is treated not as an end in itself but as an instrument for producing a creative artefact.

Keywords

digital STEAM environment, creative ability, divergent thinking, integrated education, constructionism, TPACK, Torrance Tests of Creative Thinking, iterative design, teaching methodology.

**RAQAMLI STEAM MUHITIDA O'QUVCHILARNING IJODIY
QOBILIYATLARINI RIVOJLANTIRISH METODIKASINI
TAKOMILLASHTIRISH: NAZARIY ASOSLAR VA TANQIDIY TAHLIL**

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Annotatsiya. Maqolada raqamli STEAM muhitida umumiy o'rta ta'lim maktablari o'quvchilarining ijodiy qobiliyatlarini rivojlantirish metodikasini takomillashtirish masalasi nazariy jihatdan tahlil qilinadi. Tadqiqotning maqsadi - mavjud empirik dalillarning ishonchlilik darajasini baholash va shu asosda metodik model ishlab chiqishdan iborat. Tizimli adabiyot sharhi metodologiyasi asosida 2018–2026-yillarda chop etilgan 68 ta manba tahlil qilindi; ularning har biri xabar qilingan samara kattaligi va uslubiy ishonchlilik darajasi bo'yicha ikki tomonlama kodlandi. Tahlil natijalari shuni ko'rsatdiki, meta-tahlillar e'lon qilgan yuqori samaradorlik ko'rsatkichlari (ba'zi hollarda $d > 3,0$) uslubiy jihatdan zaif birlamchi tadqiqotlarga tayanadi: kichik tanlanma, nazorat guruhining yo'qligi, qisqa muddatli aralashuv va o'z-o'zini baholashga asoslangan o'lchov vositalari. Shu sababli muallif STEAM muhitining ijodkorlikka ta'sirini shartsiz ijobiy deb baholashdan tiyilib, uni "dizaynga bog'liq samara" sifatida talqin qilishni taklif etadi. Ishning ilmiy yangiligi ijodiy qobiliyatlarni rivojlantirishning to'rt bosqichli, majburiy iteratsiya siklini o'z ichiga olgan metodik modelida ifodalanadi. Model raqamli vositani mustaqil maqsad emas, balki ijodiy mahsulot yaratish quroli sifatida qaraydi.

Kalit so'zlar: raqamli STEAM muhiti, ijodiy qobiliyat, divergent tafakkur, integratsiyalashgan ta'lim, konstruksionizm, TPACK, Torrens testi, iterativ loyihalash, pedagogik metodika.

СОВЕРШЕНСТВОВАНИЕ МЕТОДИКИ РАЗВИТИЯ ТВОРЧЕСКИХ СПОСОБНОСТЕЙ УЧАЩИХСЯ В ЦИФРОВОЙ STEAM-СРЕДЕ: ТЕОРЕТИЧЕСКИЕ ОСНОВЫ И КРИТИЧЕСКИЙ АНАЛИЗ

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Аннотация. В статье представлен теоретический анализ проблемы совершенствования методики развития творческих способностей учащихся общеобразовательных школ в цифровой STEAM-среде. Цель исследования - оценить степень надёжности имеющихся эмпирических данных и на этой основе разработать методическую модель. На основе методологии систематического обзора литературы проанализировано 68 источников, опубликованных в 2018–2026 годах; каждый источник был закодирован по двум параметрам: величина заявленного эффекта и методологическая надёжность. Результаты анализа показали, что высокие показатели эффективности, заявленные в мета-анализах (в отдельных случаях $d > 3,0$), опираются на методологически слабые первичные исследования: малый объём выборки, отсутствие контрольной группы, кратковременность вмешательства и использование инструментов самооценки. В связи с этим автор воздерживается от безусловно положительной оценки влияния STEAM-среды на креативность и предлагает трактовать его как эффект, зависящий от дизайна. Научная новизна работы состоит в четырёхэтапной методической модели с обязательным циклом итерации, в которой цифровой инструмент рассматривается не как самостоятельная цель, а как средство создания творческого продукта.

Ключевые слова: цифровая STEAM-среда, творческие способности, дивергентное мышление, интегрированное обучение, конструкционизм, ТРАСК, тесты Торренса, итеративное проектирование, педагогическая методика.

KIRISH

O'zbekiston Respublikasida ta'lim tizimini raqamlashtirish va tabiiy-aniq fanlar yo'nalishini kuchaytirish so'nggi yillarda davlat siyosatining ustuvor yo'nalishlaridan biriga aylandi. O'zbekiston Respublikasi Prezidentining 2019-yil 20-fevraldagi PQ-4199-son "Prezident maktablarini tashkil etish chora-tadbirlari to'g'risida"gi qarori bilan o'quv jarayoni STEAM tamoyillariga asoslangan maktablar tarmog'i shakllantirildi. "Raqamli O'zbekiston - 2030" strategiyasi esa ta'lim muassasalarini raqamli infratuzilma bilan ta'minlash va o'qituvchilarning raqamli kompetensiyasini oshirish vazifalarini belgilab berdi. Ushbu hujjatlar STEAM ta'limini institutsional darajada mustahkamladi, biroq metodik jihatdan uni qanday amalga oshirish masalasi ochiq qolmoqda.

Muammoning dolzarbligi ikki qarama-qarshi holat o'rtasidagi ziddiyat bilan belgilanadi. Bir tomondan, xalqaro pedagogik adabiyotda STEAM yondashuvi ijodkorlikni rivojlantirishning eng samarali vositasi sifatida targ'ib qilinmoqda. Ikkinchi tomondan, ushbu targ'ibotning empirik asosi ko'pincha tekshirilmagan holda qabul qilinadi. Amaliyotda esa "STEAM darsi" tushunchasi ko'pincha faqat raqamli qurilmadan foydalanish bilan tenglashtirilib, o'quvchining ijodiy mahsulot yaratish faoliyati e'tibordan chetda qolmoqda.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

STEAM atamasi J.Yakman tomonidan 2006–2008-yillarda ishlab chiqilgan bo'lib, u "STEAM piramidasi" modelida fanlarni integratsiyalashning to'rt darajasini - fan doirasidagi, ko'p fanli, fanlararo va yaxlit (holistik) darajalarni ajratgan edi. Yakman "San'at" komponentini tasviriy, til, jismoniy, amaliy va liberal san'atlarga bo'lgan. Rod-

Aylend dizayn maktabi (RISD) 2010-yildan boshlab "STEM-dan STEAM-ga" harakatini xalqaro miqyosda targ'ib qila boshladi.

Ijodkorlikni nazariy tushunishda to'rtta yondashuv ustunlik qiladi. J. Gilford (1950) divergent tafakkur tushunchasini intellekt tuzilishi modeli doirasida kiritgan. E. Torrens uni Ijodiy tafakkur testlarida (TTCT) operatsionallashtirib, ravonlik, moslashuvchanlik, o'ziga xoslik va ishlab chiqilganlik ko'rsatkichlarini ajratgan. T. Amabilening komponentli nazariyasiga ko'ra ijodkorlik uchta ichki komponent - soha bilimi, ijodiy jarayon ko'nikmalari va ichki motivatsiya hamda tashqi ijtimoiy muhitning o'zaro ta'siridan kelib chiqadi. J. Kaufman va R. Begettoning "To'rt C" modeli esa ijodkorlikni mini-c, kichik-c, Pro-c va Katta-C darajalariga ajratib, uni tug'ma xususiyat emas, rivojlanuvchi sifat sifatida talqin qiladi - bu pedagogik nuqtayi nazardan muhim, chunki ijodkorlikni o'rgatish mumkinligini nazariy jihatdan asoslaydi.

Raqamli muhit tomonidan esa S. Papertning konstruksionizm nazariyasi asosiy nazariy tayanch bo'lib xizmat qiladi: bilim eng samarali tarzda o'zgaralar ko'ra oladigan real mahsulot yaratish jarayonida shakllanadi. Scratch, Tinkercad va shunga o'xshash vositalar ayni shu an'ananing davomi hisoblanadi.

Tadqiqot bo'shlig'i va maqsadi

Mavjud adabiyotlar tahlili ikkita bo'shliqni ochib beradi. Birinchidan, STEAM yondashuvining ijodkorlikka ta'siri to'g'risidagi tadqiqotlar odatda natijani xabar qiladi, lekin uni keltirib chiqargan didaktik mexanizmni ajratmaydi. Ikkinchidan, xabar qilingan samara kattaligining ishonchliligi tanqidiy baholanmaydi. Mazkur tadqiqot shu bo'shliqni to'ldirishga qaratilgan.

Tadqiqotning maqsadi - raqamli STEAM muhitida ijodiy qobiliyatlarni rivojlantirish metodikasini takomillashtirishning nazariy asoslarini aniqlash, mavjud empirik dalillarni tanqidiy baholash va amaliyotga tatbiq etish mumkin bo'lgan metodik modelni ishlab chiqish.

Tadqiqot savollari. TS1: Raqamli STEAM muhitining ijodiy qobiliyatlarga ta'siri to'g'risidagi mavjud dalillar qanchalik uslubiy jihatdan ishonchli? TS2: Ijodkorlikni rivojlantirishning qaysi didaktik mexanizmlari nisbatan barqaror empirik asosga ega? TS3: Ushbu mexanizmlarni metodik modelga qanday birlashtirish mumkin?

METODOLOGIYA

Tadqiqot dizayni

Tadqiqot nazariy-tahliliy xarakterga ega bo'lib, tizimli adabiyot sharhi (systematic literature review) metodologiyasining moslashtirilgan variantiga asoslanadi. Manbalarni tanlash va saralash bosqichlari PRISMA tavsiyalariga muvofiq hujjatlashtirildi.

Manbalarni qidirish strategiyasi

Qidiruv Web of Science, Scopus, ERIC va Google Scholar ma'lumotlar bazalarida o'tkazildi. Qidiruv so'rovi quyidagi mantiqiy kombinatsiyada tuzildi: ("STEAM education" OR "integrated STEM") AND ("creativity" OR "divergent thinking" OR "creative thinking") AND ("digital" OR "technology-enhanced"). Qidiruv chuqurligi - 2018–2026-yillar. Nazariy asos sifatida xizmat qiluvchi klassik manbalar (Guilford, Torrance, Amabile, Papert) uchun vaqt cheklovi qo'llanilmadi.

Kiritish va istisno mezonlari

Kiritish mezonlari: a) retsenziyalanadigan jurnalda chop etilganlik; b) STEAM yoki raqamli ta'lim muhiti bilan bevosita bog'liqlik; v) ijodkorlik yoki divergent tafakkurni o'lchash natijalarining mavjudligi; g) metodologiya bo'limining shaffofligi (tanlanma, vosita va tahlil usulining ko'rsatilganligi).

Istisno mezonlari: konferensiya tezislari, o'lchov vositasi ko'rsatilmagan ishlar, natijalari faqat sifat tavsifi bilan cheklangan maqolalar, hamda takroriy nashrlar. Dastlabki qidiruvda 214 ta manba aniqlandi; takrorlar va mezonlarga javob bermaydigan ishlar chiqarilgandan so'ng yakuniy tahlilga 68 ta manba kiritildi.

Ma'lumotlarni kodlash va tahlil qilish

Har bir manba ikki o'lchov bo'yicha mustaqil kodlandi. Birinchi o'lchov - xabar qilingan samara yo'nalishi va kattaligi. Ikkinchi o'lchov - uslubiy ishonchlilik darajasi, u to'rt mezon bo'yicha baholandi: nazorat guruhining mavjudligi, tanlanma hajmi ($n \geq 60$ yoki undan kam), aralashuv davomiyligi (bir semestrda ortiq yoki kam) va o'lchov vositasining turi (validlangan test yoki o'z-o'zini baholash). Har bir mezon uchun 1 ball berilib, umumiy ball 0–4 oralig'ida hisoblandi; 3 va undan yuqori ball olgan ishlar "nisbatan ishonchli" toifasiga kiritildi.

Ushbu ikki tomonlama kodlash tahlilning asosiy metodologik quroli hisoblanadi, chunki u "kuchli dalil" bilan "ko'p marta takrorlangan da'vo"ni ajratish imkonini beradi. Kodlash natijalari bo'yicha 68 ta manbaning atigi 19 tasi (27,9%) nisbatan ishonchli toifaga kirdi.

NATIJA VA MUHOKAMALAR

STEAM konseptining nazariy noaniqligi

Tahlil qilingan manbalarning 41 tasida (60,3%) STEAM tushunchasiga aniq ta'rif berilmagan yoki ta'rif boshqa manbaga havola bilan cheklangan. J. Ortiz-Revilla va hammualliflari integratsiya modellarining ko'payishi "o'qituvchilar va tadqiqotchilar uchun chalkashlik manbai"ga aylanganini qayd etadi. Amaliy jihatdan bu shuni anglatadiki, turli mualliflar "STEAM darsi" deganda bir-biriga o'xshamagan faoliyat turlarini nazarda tutadilar.

Bu holat metodologik jihatdan jiddiy oqibatga ega: agar aralashuvning mazmuni turlicha bo'lsa, ularning natijalarini bir meta-tahlilda birlashtirish statistik jihatdan asoslanmagan bo'ladi. Boshqacha aytganda, adabiyotdagi yuqori samara ko'rsatkichlari qisman turli hodisalarni bir nom ostida birlashtirish natijasidir.

Empirik dalillarning qarama-qarshiligi

Meta-tahlillar odatda ijobiy natija qayd etadi. STEM-loyihaviy ta'limning ijodkorlikka ta'siri bo'yicha meta-tahlilda ta'sir kattaligi 3,888 (95% ishonch oralig'i

3,609–4,166) deb ko'rsatilgan; dizaynga asoslangan ta'limning ilmiy ijodkorlikka ta'siri esa 1,181 (95% II 0,765–1,596) ni tashkil etgan. Ushbu qiymatlarni kontekstga qo'yish zarur: ta'lim sohasidagi aralashuvlarning tipik ta'sir kattaligi 0,2–0,4 oralig'ida bo'ladi. 3,888 qiymati esa aralashuv o'quvchilarning deyarli barchasini nazorat guruhining eng yuqori ko'rsatkichidan ustun qilgan degan ma'noni anglatadi - bu real pedagogik amaliyotda kuzatilmaydigan holat.

Salbiy va neytral natijalar ham mavjud. M. Conradty va F. Bogner Yunonistonda ikki hafta davom etgan STEAM aralashuvi bilim darajasi va ichki motivatsiyani oshirgan, biroq ijodkorlikning o'z-o'zini baholash ko'rsatkichlariga ta'sir ko'rsatmaganini aniqlashgan. IHTT ma'lumotlariga ko'ra esa, ta'lim sohasidagi AKTga katta sarmoya kiritgan mamlakatlarda o'quvchilar natijalari sezilarli darajada yaxshilanmagan.

1-jadval kodlash natijalarini umumlashtiradi va uslubiy sifat bilan xabar qilingan samara o'rtasidagi bog'liqlikni ko'rsatadi.

1-jadval

Uslubiy ishonchlilik darajasi bo'yicha xabar qilingan o'rtacha samara kattaligi (n = 68)

Ishonchlilik balli	Manbalar soni	Ulushi (%)	O'rtacha samara (d)
0–1 (past)	24	35,3	1,84
2 (o'rta)	25	36,8	0,97
3–4 (nisbatan yuqori)	19	27,9	0,41

Jadvaldagi teskari bog'liqlik tadqiqotning markaziy natijasi hisoblanadi: uslubiy sifat oshgani sari xabar qilingan samara kamayadi. Past sifatli ishlarda o'rtacha samara

1,84 ni tashkil etsa, nisbatan yuqori sifatli ishlarda u 0,41 ga tushadi. Bu qonuniyat nashr etish tanlovi (publication bias) va dizayn zaifligining birgalikdagi ta'siriga ishora qiladi.

Ijodkorlik o'lovlarining cheklovlari

Tahlil qilingan ishlarning 44 tasida (64,7%) E. Torrensning ijodiy tafakkur testlari (TTCT) qo'llangan. Biroq TTCTning konstrukt validligi munozarali: test ijodkorlikni emas, balki divergent tafakkurni o'lchaydi degan e'tiroz mavjud. B. Cramond va hammualliflarining 40 yillik longitudinal kuzatuv bolalikdagi TTCT ko'rsatkichlari kattalikdagi ijodiy yutuqlar bilan atigi 0,2–0,3 darajasida korrelyatsiyalanishini ko'rsatdi. 50 yillik kuzatuv esa test ballari shaxsiy yutuqlar bilan o'rtacha, ijtimoiy tan olingan yutuqlar bilan esa deyarli bog'lanmasligini aniqladi.

Alternativ yondashuv sifatida T. Amabile taklif etgan konsensual baholash usuli (Consensual Assessment Technique) e'tiborga loyiq: mahsulot mustaqil ekspertlar uni ijodiy deb baholagan darajada ijodiy hisoblanadi. Ushbu usul STEAM kontekstiga ko'proq mos keladi, chunki u real mahsulotni baholaydi; ammo ekspert vaqtining ko'p sarflanishi uni ommaviy qo'llashni cheklaydi. Tahlil qilingan 68 ta ishning atigi 7 tasida ushbu usul qo'llangan.

Empirik jihatdan asoslangan didaktik mexanizmlar

Nisbatan ishonchli toifaga kirgan 19 ta ishning tahlili natijasida ijodiy qobiliyatlarni rivojlantirishda barqaror dalillarga ega bo'lgan to'rtta mexanizm ajratildi.

Birinchi mexanizm - konstruksionistik mahsulot yaratish. S. Papert nazariyasiga ko'ra bilim o'zgalar ko'ra oladigan real mahsulot yaratish jarayonida shakllanadi. Mahsulot yaratish talabi qo'yilgan ishlarda samara barqaror ravishda yuqoriroq bo'lgan.

Ikkinchi mexanizm - muhandislik dizayni sikli. Uning ijodkorlikka ta'siri dizayn tafakkuriga qaraganda yuqoriroq (mos ravishda 1,546 va 0,896). Bu farq muhandislik siklida cheklovlar aniq belgilanganligi bilan izohlanadi: cheklov ijodiy izlanishni to'sib qo'ymaydi, aksincha uni yo'naltiradi.

Uchinchi mexanizm - ichki motivatsiyani qo'llab-quvvatlash. T. Amabilening komponentli nazariyasiga ko'ra, inson qiziqish, qoniqish va murakkablikni yengish istagi tufayli ishlaganda eng ijodiy bo'ladi; tashqi rag'batlantirish esa ijodkorlikni pasaytirishi mumkin. Bu baholash tizimini loyihalashda bevosita amaliy ahamiyatga ega.

To'rtinchi mexanizm - o'qituvchining TPACK kompetensiyasi. P. Mishra va M. Koehler modeliga ko'ra samarali texnologik integratsiya texnologik, pedagogik va mazmuniy bilimning kesishuvida yuzaga keladi. Tahlil o'qituvchi tayyorgarligi darajasi aralashuv samaradorligining eng kuchli bashoratchisi ekanligini ko'rsatdi: o'qituvchilar maxsus tayyorgarlikdan o'tgan ishlarda samara o'tmaganlarga qaraganda ikki baravardan ko'proq yuqori bo'lgan.

MUHOKAMA

Natijalarning talqini

Tadqiqotning asosiy xulosasi shundan iboratki, raqamli vosita ijodkorlikni o'z-o'zidan rivojlantirmaydi. Samaradorlikni belgilovchi omil - texnologiyaning mavjudligi emas, balki uning didaktik jihatdan qanday joylashtirilganidir. Uslubiy sifat va xabar qilingan samara o'rtasidagi teskari bog'liqlik (1-jadval) bu xulosani mustahkamlaydi: aralashuv qanchalik qat'iy nazorat ostida o'rganilsa, unga tegishli samara shunchalik kamtarona bo'lib chiqadi.

Bu natija STEAM yondashuvini rad etishni anglatmaydi. U ko'proq tadqiqot madaniyatiga tegishli xulosa: sohada nashr etilgan juda yuqori samara ko'rsatkichlari pedagogik kuchning emas, uslubiy zaiflikning belgisi sifatida o'qilishi lozim.

Takomillashtirilgan metodik model

Ajratilgan to'rt mexanizm asosida to'rt bosqichli metodik model taklif etiladi (2-jadval). Modelning boshqa yondashuvlardan farqi shundaki, unda raqamli vosita

mustaqil maqsad emas, balki ijodiy mahsulot yaratishning quroli sifatida qaraladi, hamda IV bosqich - iteratsiya - majburiy element hisoblanadi.

2-jadval

Raqamli STEAM muhitida ijodiy qobiliyatlarni rivojlantirishning metodik modeli

Bosqich	Didaktik vazifa	Raqamli vosita	Baholash usuli
I. Muammoni idrok etish	Real hayotiy kontekstda ochiq muammoni aniqlash va chegaralash	Simulyatsiya platformalari (PhET), raqamli manbalar	Muammo bayonining sifat tahlili
II. Divergent izlanish	Muqobil yechimlar sonini va xilma-xilligini oshirish	Raqamli aqliy hujum taxtalari, SCAMPER shablonlari	Ravonlik va moslashuvchanlik ko'rsatkichlari
III. Loyihalash va prototiplash	G'oyani moddiy yoki raqamli mahsulotga aylantirish	Tinkercad, Arduino, Scratch, 3D- modellash	Mahsulot rubrikasi (CAT usuli)
IV. Iteratsiya va refleksiya	Xatoni tahlil qilish va mahsulotni kamida ikki marta qayta ishlash	Raqamli portfolio, versiyalar tarixi	Refleksiv esse, ekspert baholash

IV bosqichning majburiyligi modelning asosiy g'oyasidir. Empirik ma'lumotlar bir martalik loyiha ijodkorlikka barqaror ta'sir ko'rsatmasligini ko'rsatadi; samara faqat mahsulotni qayta ishlash sikli mavjud bo'lgandagina qayd etiladi. Nazariy jihatdan buni

Amabile modeli orqali izohlash mumkin: iteratsiya ijodkorlikni bir martalik g'oya generatsiyasidan uzluksiz baholash va takomillashtirish jarayoniga aylantiradi.

Tadqiqotning cheklolari

Mazkur ish nazariy tahlil bo'lib, taklif etilgan model empirik sinovdan o'tkazilmagan. Ikkinchidan, tahlilga faqat ingliz va rus tillaridagi manbalar kiritilgani sababli mahalliy tajribaning bir qismi qamrab olinmagan bo'lishi mumkin. Uchinchidan, uslubiy ishonchlilikni baholashda qo'llangan to'rt mezonli shkala muallif tomonidan ishlab chiqilgan bo'lib, u xalqaro standartlashtirilmagan. To'rtinchidan, kodlash bir tadqiqotchi tomonidan amalga oshirilgani sababli kodlovchilararo ishonchlilik hisoblanmagan.

XULOSA

O'tkazilgan tahlil raqamli STEAM muhitining ijodiy qobiliyatlarga ta'siri to'g'risidagi keng tarqalgan optimistik qarashni to'liq tasdiqlamadi. Mavjud dalillar ushbu muhitning motivatsiya, hamkorlikda ishlash va o'quv faolligiga ijobiy ta'sirini ishonarli ko'rsatadi, biroq obyektiv vositalar bilan o'lchangan ijodkorlikka ta'siri o'zgaruvchan bo'lib, aralashuv dizayniga bevosita bog'liqdir. Uslubiy sifat oshgani sari xabar qilingan samara kamayishi (1,84 dan 0,41 gacha) buning eng aniq dalilidir.

Shunga ko'ra, metodikani takomillashtirishning asosiy yo'nalishi texnik jihozlanishni oshirishda emas, balki didaktik loyihalash sifatini yaxshilashda ko'rinadi. Amaliy tavsiyalar quyidagilardan iborat: a) har bir raqamli vosita aniq ijodiy mahsulot yaratish vazifasiga bog'lanishi; b) o'quv jarayoniga majburiy iteratsiya va refleksiya bosqichi kiritilishi; v) baholashda faqat test ballari emas, balki o'quvchi yaratgan mahsulotning ekspert bahosi ham qo'llanilishi; g) o'qituvchilarning TPACK kompetensiyasini rivojlantirish birinchi darajali vazifa sifatida belgilanishi lozim.

Taklif etilgan modelning samaradorligi nazorat guruhli, kamida bir o'quv yili davom etadigan tajriba-sinov ishida tekshirilishi zarur. Alohida e'tiborni past resursli maktablarda modelning qo'llanilishi masalasiga qaratish maqsadga muvofiq.

FOYDALANILGAN ADABIYOTLAR:

1. O'zbekiston Respublikasi Prezidentining 2019-yil 20-fevraldagi PQ-4199-son "Prezident maktablarini tashkil etish chora-tadbirlari to'g'risida"gi qarori. Toshkent, 2019.
2. O'zbekiston Respublikasining "Ta'lim to'g'risida"gi Qonuni, O'RQ-637-son. Toshkent, 2020.
3. "Raqamli O'zbekiston - 2030" strategiyasi. O'zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi PF-6079-son Farmoni. Toshkent, 2020.
4. Yakman G. STEAM Education: An Overview of Creating a Model of Integrative Education. - Pupils' Attitudes Towards Technology Conference Proceedings, 2008. P. 335–358.
5. Papert S. Mindstorms: Children, Computers, and Powerful Ideas. New York: Basic Books, 1980. 230 p.
6. Guilford J.P. Creativity // American Psychologist. 1950. Vol. 5, No. 9. P. 444–454.
7. Amabile T.M. Creativity in Context: Update to the Social Psychology of Creativity. Boulder: Westview Press, 1996. - 336 p.
8. Kaufman J.C., Beghetto R.A. Beyond Big and Little: The Four C Model of Creativity // Review of General Psychology. - 2009. - Vol. 13, No. 1. - P. 1–12. DOI: 10.1037/a0013688
9. Conradt C., Bogner F.X. From STEM to STEAM: Cracking the Code? How Creativity and Motivation Interacts with Inquiry-based Learning // Creativity Research Journal. 2019. - Vol. 31, No. 3. - P. 284–295. DOI: 10.1080/10400419.2019.1641678

10. Conradty C., Bogner F.X. STEAM Teaching Professional Development Works: Effects on Students' Creativity and Motivation // Smart Learning Environments. 2020. Vol. 7, art. 26. DOI: 10.1186/s40561-020-00132-9
11. Perignat E., Katz-Buonincontro J. STEAM in Practice and Research: An Integrative Literature Review // Thinking Skills and Creativity. - 2019. - Vol. 31. - P. 31–43. DOI: 10.1016/j.tsc.2018.10.002
12. Cramond B., Matthews-Morgan J., Bandalos D., Zuo L. A Report on the 40-Year Follow-Up of the Torrance Tests of Creative Thinking // Gifted Child Quarterly. - 2005. - Vol. 49, No. 4. - P. 283–291.
13. Mishra P., Koehler M.J. Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge // Teachers College Record. - 2006. - Vol. 108, No. 6. - P. 1017–1054. DOI: 10.1111/j.1467-9620.2006.00684.x
14. OECD. Students, Computers and Learning: Making the Connection. - Paris: OECD Publishing, 2015. - 204 p. DOI: 10.1787/9789264239555-en
15. Panergayo A.A.E., Prudente M.S. Effectiveness of Design-based Learning on Students' Scientific Creativity: A Meta-Analysis // International Journal of Education in Mathematics, Science and Technology. 2024. Vol. 12, No. 4. P. 1004–1025.
16. Ortiz-Revilla J., Adúriz-Bravo A., Greca I.M. A Framework for Epistemological Discussion on Integrated STEM Education // Science & Education. - 2020. - Vol. 29. - P. 857–880.
17. Torrance E.P. Torrance Tests of Creative Thinking: Norms-Technical Manual. Bensenville: Scholastic Testing Service, 1998.
18. Ng A., Kewalramani S., Kidman G. Integrating and Navigating STEAM in Early Childhood Education // Eurasia Journal of Mathematics, Science and Technology Education. 2022. Vol. 18, No. 7.

The importance of vocabulary work in reading lessons for text comprehension

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Abstract

This article examines the importance of vocabulary instruction in primary school reading lessons for improving students' comprehension of texts. It discusses effective methods of explaining unfamiliar words, expanding vocabulary, and encouraging the active use of new lexical items in oral and written communication. The study also highlights the role of vocabulary development in enhancing reading comprehension, coherent speech, independent thinking, and communicative competence.

Keywords

reading lesson, vocabulary instruction, text comprehension, vocabulary development, unfamiliar words, reading comprehension, primary education, speech development, semantic analysis, interactive methods, pedagogical technologies, communicative competence.

O‘qish darslarida lug‘at ustida ishlashning matnni anglashdagi ahamiyati.

Andijon davlat pedagogika inisituti talbasi

Yusupova Umida Zayniddin qizi

Annotatsiya: Mazkur maqolada boshlang‘ich sinf o‘qish darslarida lug‘at ustida ishlashning o‘quvchilarning matnni to‘liq va ongli anglashidagi ahamiyati yoritilgan. Notanish so‘zlar ustida ishlash, ularning ma’nosini izohlash, lug‘at boyligini kengaytirish hamda yangi so‘zlarni nutqda qo‘llashga oid metod va usullar tahlil qilingan. Shuningdek, lug‘at ishlari orqali o‘quvchilarning o‘qib tushunish, bog‘lanishli nutq, mustaqil fikrlash va kommunikativ kompetensiyalarini rivojlantirish imkoniyatlari ochib berilgan.

Аннотация: В статье рассматривается значение словарной работы на уроках чтения в начальной школе для формирования осознанного понимания текста.

Проанализированы методы объяснения значений незнакомых слов, расширения словарного запаса и активизации новой лексики в речи учащихся. Особое внимание уделено роли словарной работы в развитии читательской грамотности, связной речи, самостоятельного мышления и коммуникативной компетентности младших школьников.

Kalit so‘zlar: o‘qish darsi, lug‘at ustida ishlash, matnni anglash, lug‘at boyligi, notanish so‘zlar, o‘qib tushunish, boshlang‘ich ta‘lim, nutqni rivojlantirish, semantik tahlil, interfaol metodlar, pedagogik texnologiyalar, kommunikativ kompetensiya.

Ключевые слова: урок чтения, словарная работа, понимание текста, словарный запас, незнакомые слова, понимание прочитанного, начальное образование, развитие речи, семантический анализ, интерактивные методы, педагогические технологии, коммуникативная компетентность.

Kirish

Boshlang‘ich ta‘limda o‘qish darslarining asosiy maqsadi o‘quvchilarda ongli o‘qish, matnni tushunish va o‘z fikrini erkin bayon qilish ko‘nikmalarini shakllantirishdan iborat. Ushbu maqsadga erishishda lug‘at ustida ishlash alohida ahamiyatga ega. Chunki matn mazmunini to‘liq anglash ko‘p jihatdan o‘quvchining so‘z boyligiga bog‘liq. Agar o‘quvchi matnda uchragan yangi yoki notanish so‘zlarning ma‘nosini tushunmasa, u matnning asosiy g‘oyasini ham to‘liq anglay olmaydi.

Shu sababli o‘qish darslarida lug‘at ustida ishlash faqat yangi so‘zlarni yod oldirish bilan cheklanmay, ularni nutqda to‘g‘ri qo‘llash, ma‘nosini anglash va turli vaziyatlarda ishlata olish ko‘nikmalarini rivojlantirishni ham nazarda tutadi. Zamonaviy ta‘lim jarayonida lug‘at ishlari o‘quvchilarning o‘qish savodxonligi, mantiqiy fikrlashi va kommunikativ kompetensiyasini rivojlantirishning muhim vositalaridan biri hisoblanadi.

Lug‘at ustida ishlashning pedagogik ahamiyati

Lug‘at ustida ishlash o‘quvchilarning so‘z boyligini kengaytirish, til birliklarining

ma'nosini anglash va ularni amaliy nutqda qo'llashga xizmat qiladi. Har bir yangi o'zlashtirilgan so'z o'quvchining fikrlash doirasini kengaytiradi va matn mazmunini chuqurroq tushunishiga yordam beradi.

Boshlang'ich sinf o'quvchilari uchun lug'at ishlari quyidagi vazifalarni bajaradi:

- yangi so'zlarning ma'nosini o'zlashtirish;
- so'zlarni to'g'ri talaffuz qilish va yozish;
- faol lug'at boyligini kengaytirish;
- matndagi asosiy g'oyani anglash;
- bog'lanishli nutqni rivojlantirish;
- mustaqil fikr bildirish ko'nikmasini shakllantirish.

Lug'at boyligi qanchalik rivojlangan bo'lsa, o'quvchi matnni shunchalik tez va mazmunli tushunadi.

Matnni anglashda lug'at ishlari

Matn bilan ishlash jarayonida o'quvchilar ko'pincha notanish so'zlarga duch keladilar. Ana shunday so'zlarning ma'nosini tushuntirish matn mazmunini to'liq anglashga yordam beradi.

O'qituvchi yangi so'zlarni izohlashda bir nechta usullardan foydalanishi mumkin. Masalan, so'zni sodda tilda tushuntirish, sinonim yoki antonimini keltirish, rasm orqali ko'rsatish, gap ichida qo'llash yoki hayotiy misollar bilan izohlash yaxshi samara beradi.

Masalan, matnda "saxovat" so'zi uchrasa, uni "boshqalarga yaxshilik qilish, yordam berish" mazmunida tushuntirish va shu so'z ishtirokida gap tuzdirish o'quvchilarning mazkur tushunchani yaxshiroq o'zlashtirishiga yordam beradi.

Bunday mashqlar natijasida o'quvchilar yangi so'zlarni eslab qolish bilan birga, ularni faol nutqida ham qo'llay boshlaydilar.

Lug'at ustida ishlash metodlari

Boshlang'ich sinf o'qish darslarida lug'at ustida ishlashning turli metodlaridan

foydalanish mumkin.

Izohli suhbat metodida o'qituvchi yangi so'zlarning ma'nosini sodda va tushunarli tarzda izohlaydi hamda o'quvchilar bilan suhbat olib boradi.

Ko'rgazmalilik usuli rasmlar, predmetlar yoki videolardan foydalanish orqali so'z ma'nosini oson anglash imkonini beradi.

Lug'at daftari yuritish o'quvchilarga yangi so'zlarni muntazam yozib borish, ularning ma'nosini eslab qolish va takrorlashga yordam beradi.

Didaktik o'yinlar ham lug'at boyligini oshirishda samarali hisoblanadi. Masalan, "So'zni top", "Sinonimini ayt", "Antonimini top", "Gapni davom ettir", "Ortiqcha so'zni aniqla" kabi mashqlar o'quvchilarning darsga qiziqishini oshiradi.

Innovatsion texnologiyalar yordamida lug'at ishlarini tashkil etish

Zamonaviy axborot-kommunikatsiya texnologiyalari lug'at ustida ishlash imkoniyatlarini yanada kengaytirmoqda. Interaktiv doskalar, elektron lug'atlar, animatsiyalar, audio va video materiallar yordamida yangi so'zlarning ma'nosini tushuntirish o'quvchilar uchun qiziqarli va samarali bo'ladi.

Shuningdek, "Klaster", "Aqliy hujum", "INSERT", "Sinkveyn" kabi interfaol metodlar ham lug'at ishlari bilan uyg'unlashtirilganda o'quvchilarning faolligini oshiradi. Guruhlarda ishlash jarayonida o'quvchilar yangi so'zlarni birgalikda tahlil qiladi, ularni gaplarda qo'llaydi va o'zaro fikr almashadi.

Lug'at ishlarining o'quvchilar rivojlanishiga ta'siri

Lug'at ustida tizimli ishlash natijasida o'quvchilarning o'qib tushunish darajasi sezilarli ravishda yaxshilanadi. Ular matn mazmunini tezroq anglaydi, qahramonlarning xarakterini to'g'ri baholaydi va matndan mustaqil xulosa chiqaradi.

Bundan tashqari, o'quvchilarning og'zaki va yozma nutqi boyiydi, fikrini aniq va ravon ifodalash ko'nikmasi shakllanadi. Bu esa boshqa fanlarni o'zlashtirishda ham ijobiy natijalar beradi.

Xulosa. O‘qish darslarida lug‘at ustida ishlash matnni anglashning muhim shartlaridan biridir. Yangi so‘zlarning ma’nosini tushunish o‘quvchilarga matnning mazmunini chuqurroq anglash, asosiy g‘oyani ajratish va o‘z fikrini mustaqil ifodalash imkonini beradi.

Shu bois boshlang‘ich sinf o‘qituvchilari lug‘at ishlarini har bir o‘qish darsining ajralmas qismi sifatida tashkil etishlari lozim. Interfaol metodlar va zamonaviy pedagogik texnologiyalardan foydalanish lug‘at ustida ishlash samaradorligini oshiradi hamda o‘quvchilarning o‘qish savodxonligi, nutq madaniyati va kommunikativ kompetensiyalarini izchil rivojlantirishga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Mirziyoyev Sh.M. **Yangi O‘zbekiston strategiyasi.** – Toshkent: O‘zbekiston, 2021.
2. O‘zbekiston Respublikasining **"Ta'lim to'g'risida"gi Qonuni.** – Toshkent, 2020.
3. O‘zbekiston Respublikasi Maktabgacha va maktab ta’limi vazirligi. **Boshlang‘ich ta’limning milliy o‘quv dasturi.** – Toshkent, 2023.
4. G‘afforova T., Nurullayeva Sh. **Boshlang‘ich sinflarda ona tili va o‘qish savodxonligini o‘qitish metodikasi.** – Toshkent: Innovatsiya-Ziyo, 2023.
5. Fuzailov S., Abdullayeva B., Rahimova M. **Ona tili va o‘qish savodxonligi. 1–4-sinflar darsliklari.** – Toshkent: Respublika ta’lim markazi, 2023.
6. Tolipov O‘., Usmonboyeva M. **Pedagogik texnologiyalarning tatbiqiy asoslari.** – Toshkent: Fan, 2019.
7. Ishmuhamedov R., Yuldashev M. **Ta’limda innovatsion pedagogik texnologiyalar.** – Toshkent: Iste’dod, 2020.
8. Mavlonova R., Rahmonqulova N. **Boshlang‘ich ta’lim pedagogikasi, innovatsiyasi va integratsiyasi.** – Toshkent: O‘qituvchi, 2020.
9. Xoliqov A. **Pedagogik mahorat.** – Toshkent: Iqtisod-Moliya, 2021.
10. □ **PIRLS 2021 International Results in Reading.** IEA, 2023.

THE ROLE AND FUNCTION OF DIALECTAL LEXICON IN THE LANGUAGE OF CHOLPON'S PROSE WORKS

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Annotation

This article analyzes the role and functions of dialectal vocabulary in the prose works of Abdulhamid Cho'lpon, particularly in the novel "Night and Day" ("Kecha va Kunduz"). It examines the lexical, ethnographic, semantic, and phonetic-grammatical types of dialectisms, as well as their role in individualizing characters' speech, creating national-local color, enhancing artistic-emotional impact, and reflecting the spirit of the era. Concrete examples drawn from the text of the novel such as ena, kart, zab, and others demonstrate the balance and skill with which Cho'lpon employs dialectal lexicon.

Key words

Cho'lpon, "Night and Day," dialectism, dialectal vocabulary, artistic speech, stylistics, national color, character speech, Uzbek literary language.

CHO'LPON NASRIY ASARLARI TILIDA DIALEKTAL LEKSIKANING O'RNI VA VAZIFASI

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Annotatsiya. Ushbu maqolada Abdulhamid Cho'lpon nasriy asarlari, xususan "Kecha va Kunduz" romani tilida dialektal leksikaning qo'llanilish o'rni va bajargan vazifalari tahlil qilinadi. Dialektizmlarning leksik, etnografik, semantik va fonetik-grammatik turlari ko'rib chiqiladi hamda ularning qahramon nutqini

individuallashtirish, milliy-mahalliy koloritni yaratish, badiiy-emotsional ta'sirchanlikni kuchaytirish va davr ruhini aks ettirishdagi o'rni yoritiladi. Asar matnidan olingan aniq misollar: ena, kart, zab va boshqalar orqali Cho'lponning dialektal leksikadan mutanosib va mahorat bilan foydalanish uslubi ko'rsatib beriladi.

Kalit so'zlar: Cho'lpon, "Kecha va Kunduz", dialektizm, sheva leksikasi, badiiy nutq, uslubiyat, milliy kolorit, qahramon nutqi, o'zbek adabiy tili.

Аннотация. В данной статье анализируется роль и функции диалектной лексики в прозаических произведениях Абдулхамида Чолпона, в частности в романе "Кеча ва кундуз". Рассматриваются лексические, этнографические, семантические и фонетико-грамматические типы диалектизмов, а также их роль в индивидуализации речи персонажей, создании национально-локального колорита, усилении художественно-эмоционального воздействия и отражении духа эпохи. На конкретных примерах из текста произведения: эна, карт, заб и др. показывается мастерство и соразмерность, с которыми Чолпон использует диалектную лексику.

Ключевые слова: Чолпон, "Кеча ва кундуз", диалектизм, диалектная лексика, художественная речь, стилистика, национальный колорит, речь персонажа, узбекский литературный язык.

O'zbek adabiy tili tarixida Abdulhamid Sulaymon o'g'li Cho'lpon nomi alohida o'rin tutadi. Shoir, dramaturg, tarjimon va nosir sifatida u milliy adabiyotimizga ko'p qirrali meros qoldirdi. Uning nasriy merosi, ayniqsa "Kecha va Kunduz" romani, o'zbek badiiy nasrining yangi bosqichga ko'tarilishida muhim ahamiyat kasb etdi. Cho'lpon ijodini tahlil qilishda til masalasi, xususan, badiiy matnda dialektal leksikaning qo'llanilishi alohida diqqatga sazovor mavzudir. Zero, yozuvchi tili – bu shunchaki axborot uzatish vositasi emas, balki davr ruhini, muhitni, qahramonlar dunyoqarashini ochib beruvchi badiiy vositadir.

Dialektizmlar – adabiy tilga xos bo‘lmagan, ma’lum bir hudud yoki ijtimoiy qatlam nutqiga xos leksik birliklar badiiy asarda tasodifiy hodisa emas, balki yozuvchining ongli badiiy-uslubiy tanlovi natijasidir. Cho‘lpon nasrini o‘rganish shuni ko‘rsatadiki, dialektal so‘zlar uning asarlarida shunchaki mahalliy tus berish vazifasinigina emas, balki ancha chuqurroq, ko‘p qatlamli funksiyalarni bajaradi.

Tilshunoslikda dialektizm deganda umumxalq adabiy tili me'yorlaridan chetga chiquvchi, muayyan sheva yoki lahjaga xos so‘z, ibora, grammatik shakl yoki talaffuz xususiyatlari tushuniladi. An’anaviy ravishda dialektizmlar bir necha turga ajratiladi:

Leksik dialektizmlar – adabiy tilda mutlaqo boshqa nom bilan yuritiladigan predmet yoki tushunchani ifodalovchi sheva so‘zlari;

Etnografik dialektizmlar – faqat ma’lum hududga xos buyum, urf-odat, kasb-hunar bilan bog‘liq so‘zlar, ularning adabiy tilda muqobili bo‘lmasligi mumkin;

Semantik dialektizmlar – adabiy tilda mavjud so‘zning shevada boshqacha ma’no kasb etishi;

Fonetik va grammatik dialektizmlar – so‘zning talaffuz yoki shakl jihatidan sheva xususiyatini aks ettirishi.

Badiiy adabiyotda dialektizmlardan foydalanish uzoq an’anaga ega bo‘lib, u xalq turmush tarzini, mahalliy koloritni, qahramon nutqining individual xususiyatlarini ifodalash zaruratidan kelib chiqadi. Ammo bu vositadan foydalanish ehtiyotkorlikni talab qiladi, me’yoridan ortiq qo‘llash asar tilini og‘irlashtirishi, o‘quvchi uchun tushunarsiz qilib qo‘yishi mumkin. Aynan shu nuqtai nazardan Cho‘lpon mahorati alohida qimmat kasb etadi.

Cho‘lpon nasriy asarlarida, xususan “Kecha va Kunduz” romanida, dialektal so‘zlar avvalambor qahramonlar nutqini individuallashtirish, ularni bir-biridan farqlash vositasi sifatida xizmat qiladi. Yozuvchi turli ijtimoiy qatlam, turli hudud vakili bo‘lgan personajlarni tasvirlar ekan, ularning har biriga o‘ziga xos nutq uslubini beradi. Oddiy

xalq vakillari, dehqonlar, xizmatkorlar, bozor ahli nutqida sheva unsurlari ko‘proq uchraydi, bu esa ularning ijtimoiy kelib chiqishi, ma’lumot darajasi, yashash muhitini o‘quvchi ko‘z o‘ngida yanada aniqroq gavdalantiradi. Ziyoli qatlam vakillari nutqi esa adabiy me’yorga yaqinroq bo‘lib, bu farq orqali yozuvchi jamiyatdagi ijtimoiy tabaqalanishni til vositalari bilan ham ko‘rsatib beradi.

Cho‘lpon o‘z davri Turkiston jamiyatini, xususan Farg‘ona vodiysi va Toshkent muhitini tasvirlashda dialektal leksikadan mahalliy turmush tarzi, urf-odatlar, moddiy madaniyat unsurlarini ishonchli aks ettirish uchun foydalanadi. Kiyim-kechak, taom, uy-ro‘zg‘or buyumlari, kasb-hunarga oid atamalar ko‘pincha aynan sheva shaklida qo‘llanadi, chunki bu tushunchalarning adabiy tildagi “sun’iy” muqobili voqelikni his qildiradi olmaydi. Bunday etnografik dialektizmlar asarga tarixiy-maishiy hujjat qiymatini ham beradi, ular orqali o‘sha davr Turkiston xalqining kundalik hayoti, moddiy-ma’naviy dunyosi haqida qimmatli ma’lumotlar saqlanib qolgan.

Dialektal so‘zlar ko‘pincha adabiy tildagi neytral muqobillariga qaraganda kuchliroq emotsional-ekspressiv bo‘yoqqa ega bo‘ladi. Cho‘lpon bundan ustalik bilan foydalanib, matnga jonlilik, samimiylik, tabiiylik baxsh etadi. Xalq tiliga xos iboralar, maqol-matal shaklidagi birikmalar asar tilini quruq, kitobiy uslubdan xoli qiladi, uni jonli so‘zlashuv nutqiga yaqinlashtiradi. Bu esa o‘quvchida asarga nisbatan ishonch va yaqinlik hissini uyg‘otadi.

Cho‘lpon ijod qilgan davr XX asr boshlari Turkiston jamiyatining keskin ijtimoiy-siyosiy o‘zgarishlar davri edi. Yozuvchi bu davr voqeligini tasvirlashda tilning tarixiy-ijtimoiy haqqoniyligini saqlashga intiladi. Dialektal leksika, shuningdek davr uchun xos bo‘lgan eskirgan so‘zlar, arabcha-forscha o‘zlashmalar bilan uyg‘unlashib, o‘sha zamon nutqiy muhitini qayta tiklashga xizmat qiladi. Bu jihatdan dialektizmlar nafaqat badiiy, balki tarixiy-lingvistik manba sifatida ham qimmat kasb etadi.

“Kecha va kunduz” romanidan misollar:

“Ena” – dialektal qarindoshlik atamasi. Adabiy tilda ona soʻzi qoʻllansa-da, roman qahramonlari bir-birlariga murojaat qilganda koʻpincha ena, enam, enajon shaklidan foydalanadilar. Masalan, Zebi onasiga Enajon, turing, kelib qoldik deb murojaat qiladi. Ena, Fargʻona hududi shevalariga xos boʻlib, adabiy ona soʻziga nisbatan sof leksik dialektizm hisoblanadi. Choʻlpon bu soʻzni deyarli barcha ayol qahramonlar nutqida izchil qoʻllab, mahalliy-oilaviy muhitning haqqoniy manzarasini yaratadi.

“Kart” – etnografik dialektizm. Romanda uy hovlisidagi baland yogʻoch nomi sifatida adabiy tildagi supa yoki soʻri oʻrniga kart soʻzi ishlatiladi “Kart ustiga dasturxon yozilib..., Soʻfi kartga chiqib oʻtirgandan keyin...” . Bu — moddiy-maishiy buyumga oid, hududiy tusdagi nom boʻlib, adabiy tilda umumiy muqobili boʻlsa-da, yozuvchi aynan mahalliy nomlanishni tanlab, tasvirga hayotiy tabiiylik bagʻishlaydi.

“Zab” – kuchaytiruvchi maʼnodagi soʻzlashuv-sheva soʻzi. Asarda otni maqtash uchun “Jonivor-e, zab ot boʻlibdimi?” iborasi ishlatilgan. “Zab” soʻzi adabiy tildagi “juda yaxshi, ajoyib” maʼnosini ixcham va taʼsirchan tarzda ifodalovchi xalq-sheva unsuridir; u kitobiy uslubda deyarli uchramaydi, biroq soʻzlashuv nutqida keng tarqalgan.

Xalq ogʻzaki nutqiga xos undov va murojaat shakllari. Romanda “bay-bay-bay!”, “voy, tovvo-ey!”, “ey, tovba!” kabi hayrat-taajjub ifodalovchi undovlar, shuningdek “aylanay” kabi erkalash-murojaat soʻzi tez-tez qoʻllanadi (masalan, kampir qizlarga “Bas, qizi qurgʻurlar... bas, deyman” deb murojaat qiladi). Bu birliklar toza dialektizm boʻlmasa-da, umumxalq ogʻzaki nutqining tipik unsurlari sifatida personajlar nutqini jonlantirib, matnni yozma-kitobiy uslubdan uzoqlashtiradi.

Qoʻpol soʻzlashuv leksikasi xarakter yaratish vositasi sifatida. Razzoq soʻfi obrazi berilganda muallif uning nutqiga “Qanjiqlar!”, “itvachcha” kabi qoʻpol xalq soʻzlarini kiritadi. Bu soʻzlar adabiy meʼyordan chetga chiqqan, biroq aynan shu orqali soʻfining oʻjar, qattiqqoʻl va zoʻravon xarakteri boshqa hech qanday tavsifsiz, faqat nutq orqali

ochib beriladi – bu yuqorida ta’kidlangan “qahramon nutqini individuallashtirish” vazifasining aniq namunasi.

Bu misollar shuni ko’rsatadiki, Cho’lpon dialektal va xalq tiliga xos leksikani tasodifan emas, balki har bir qahramonning ijtimoiy-maishiy muhitini, xarakterini va nutqiy odatini ochib berish uchun aniq hisob-kitob bilan tanlab ishlatgan.

Cho’lpon nasrini boshqa davr yozuvchilari asarlaridan farqlab turadigan muhim jihat – dialektal unsurlarni qo’llashdagi mutanosiblik hissidir. Yozuvchi sheva so’zlarini asar tiliga me’yoridan ortiqcha yuklamaydi, balki ularni zarur o’rinlarda, aniq badiiy vazifa bajarish uchun ishlatadi. Ko’pincha bu so’zlar kontekst yordamida o’quvchiga tushunarli bo’ladi, ya’ni Cho’lpon o’quvchini to’xtatib, tushuntirishga urinmaydi, balki matn ichida ma’noni ochib beradigan yo’llarni topadi. Bu yuqori badiiy mahoratning ko’rsatkichidir, chunki dialektizm o’z vazifasini bajarishi bilan birga asar tilining umumiy uyg’unligini buzmasligi kerak.

Shuningdek, Cho’lpon dialektal leksikani ko’pincha personaj nutqiga, dialog va monologlarga joylashtiradi, muallif nutqini esa nisbatan adabiy me’yorga yaqinroq saqlaydi. Bu – dialektizmlardan foydalanishning uslubiy jihatdan to’g’ri yo’li hisoblanadi, chunki bunda sheva unsurlari badiiy vazifa, xarakter yaratish bilan chegaralanadi, umumiy adabiy til me’yoriga putur yetkazmaydi.

Keltirilgan misollar tahlili shuni ko’rsatadiki, Cho’lpon nasriy asarlari tilida dialektal leksika tasodifiy yoki bezak uchun qo’llanilgan unsur emas, balki yozuvchining ongli badiiy-uslubiy vositasidir. U bir vaqtning o’zida bir necha vazifani bajaradi: qahramon nutqini individuallashtiradi, ijtimoiy tabaqalanishni ochib beradi, milliy-mahalliy koloritni yaratadi, matnga emotsional ta’sirchanlik baxsh etadi va davr ruhini tarixiy haqqoniylik bilan qayta tiklaydi. Ayni paytda Cho’lpon bu vositadan mutanosib, o’lchovli tarzda foydalanib, asar tilining badiiy-estetik butunligini saqlab qoladi.

Bu jihatdan Cho‘lpon tajribasi o‘zbek adabiy tili tarixida dialektal leksikadan badiiy maqsadlarda foydalanishning yuksak namunasi sifatida qaraladi va hozirgi kunda ham til va uslub sohasidagi tadqiqotchilar uchun boy manba bo‘lib xizmat qilmoqda.

Foydalanilgan adabiyotlar:

1. Cho‘lpon A. Kecha va kunduz . Toshkent: Sharq, 2000.
2. Куронов Д. Чўлпон насри поэтикаси. – Тошкент: Шарқ, 2004.
3. Куронов Д. Чўлпон поэтикаси: насрий асарлари асосида: филол. фан. д-ри ... дисс. – Тошкент, 1998.
4. Йўлдошев М.М. Чўлпоннинг бадий тил маҳорати “Кеча ва кундуз” романи тили мисолида: филол. фан. номз.... дисс. – Тошкент, 2000. – 145 б.
5. Неъматова Д.С. Чўлпон публицистик асарларининг лингвистик таҳлили: филол. фан.номз. дисс. – Тошкент, 2004.
6. Ibragimova F.E. Cho‘lpon she’riyatida takrorning lingvopoetik xususiyatlari Tafakkur ziyosi. – 2023. – № 3. –B.
7. Ishayev A. O‘zbek dialektal leksikografiyasi. – Toshkent : Fan, 1990. – 140 b.
8. Karimov S. Adabiy tanqid va Cho‘lpon romanchiligi. – Toshkent , 1998.
9. Qosimov B. Cho‘lpon ijodida ijtimoiy realizm, Adabiyotshunoslik jurnali. – 2015.
10. O‘zbek tilining izohli lug‘ati ,Tahrir hay’ati: Begmatov E. va boshq. – Toshkent, 2022.
11. Reshetov V.V., Shoabdurahmonov Sh. O‘zbek dialektologiyasi: darslik. – Toshkent: O‘qituvchi, 1978. - 230 b.
12. Shoabdurahmonov Sh. va boshq. O‘zbek xalq shevalari lug‘ati. – Toshkent: Fan, 1971.

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