

**APPLICATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN THE  
EDUCATIONAL PROCESS IN THE CONDITIONS OF UZBEKISTAN**

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**Abstract:** This article examines ways to make the educational process more effective by creating personalized learning, automated assessment, virtual assistants, and student support systems using artificial intelligence. The main advantages and limitations of the introduction of artificial intelligence in higher education will also be discussed. The article highlights the possibilities of improving the quality of higher education by improving the education system with the help of artificial intelligence.

**Keywords:** artificial intelligence, higher education, personalized learning, automated assessment, virtual assistants, student support, educational technologies, adaptive learning systems.

**Introduction.** In the 21st century, the education system is closely connected with digital technologies and requires new pedagogical methods.

In this process, artificial intelligence (AI) technologies occupy one of the most important places. AI not only facilitates the work of teachers, but also allows improving the quality of education, creating a personalized approach to students, and accelerating and effective assimilation of knowledge.

In recent years, the process of digital transformation has led to fundamental changes in the education system of Uzbekistan.

In particular, the use of artificial intelligence (AI) technologies serves as an important factor in improving the quality of education, facilitating the work of teachers, and providing a personalized approach to students [1].

At the national level, such documents as the "Digital Uzbekistan - 2030" Strategy and the "Program for the Digitalization of the Education System" have been adopted in this area [1].

In studies by UNESCO and the OECD, it was noted that the use of AI in education accelerates the learning process of students and forms an innovative educational environment[2,3].

According to international experience, educational platforms based on AI are widely used in the education systems of the USA, China, and South Korea[3]. According to UNESCO, AI technologies will become a mandatory element in 47% of the global education system by 2030[2].

In Uzbekistan, significant steps are being taken in this direction. The "Digital Uzbekistan - 2030" strategy, the "Digitalization of the Education System" program, the online platforms of the State Testing Center (STC), and the Ziyonet network, developed at the initiative of President Shavkat Mirziyoyev, serve as examples of this. Therefore, this article highlights the theoretical foundations, practical aspects, and prospects of applying AI technologies in the educational process in the conditions of Uzbekistan.

**Literature Analysis and Methodology.** The following scientific methods were used in preparing the article:

1. Theoretical analysis - scientific articles on the use of AI technologies in the education system, reports of international organizations were studied [2,3].
2. Comparison - the experience of the education system of developed countries was compared with the processes in the conditions of Uzbekistan.
3. Statistical analysis - data from the State Statistics Committee and the Ministry of Higher Education, Science and Innovation on the level of use of digital technologies in the educational process in Uzbekistan were used[5].

4. Practical control - the capabilities of distance learning platforms (ZiyoNET, EduMarket) and DTM testing systems were analyzed [4,6].

**Results and Discussion.** Today, one of the most pressing issues related to the introduction of artificial intelligence tools into the education system is the unpreparedness of teachers for the effective application of these technologies in practice. Numerous studies in the field of education show that many educators have a fragmented understanding of the possibilities of artificial intelligence and do not have methodological methods for its practical application. The readiness of teachers for teaching technologies based on artificial intelligence was considered as the main factors determining the quality of education. [3,4].

According to the research results, artificial intelligence technologies are used in the education system of Uzbekistan in the following areas:

1. Automated assessment systems - through online testing platforms developed by the State Testing Center, applicants have the opportunity to take the test and receive the result immediately. This system ensures transparency and efficiency.
2. Electronic journal and rating systems - "E-UMIS" and other electronic management systems have been implemented in schools and higher educational institutions, which monitor student participation, ratings, and activity using AI algorithms.
3. Thousands of pupils and students are receiving education through distance learning platforms - systems based on ZiyoNET, EduMarket, Moodle. With the help of AI technologies, platforms offer content corresponding to the user's level of knowledge.
4. Artificial intelligence in language teaching - AI-based programs such as Duolingo, E-learn are also widely used in Uzbekistan. They encourage practice based on the user's difficulties.
5. With the help of AI assistants as a pedagogical assistant, teachers have the opportunity to plan lessons, prepare interactive tasks, and analyze students' knowledge [4,5].

The introduction of artificial intelligence technologies into the educational process in Uzbekistan creates the following opportunities:

- personalized education of students;
- increasing the effectiveness of education and facilitating the work of teachers;
- combining online and offline education;
- ensuring transparency and fairness in the evaluation process.

However, there are also the following problems:

- Lack of internet speed and technical means in rural areas;
- Low level of teachers' skills in using AI technologies;
- Ethical and legal issues: data privacy, intellectual property protection, risk of plagiarism;
- The high cost of AI technologies and financial constraints[6].

The use of artificial intelligence technologies in the educational process in the conditions of Uzbekistan is a requirement of the times and an important factor in the modernization of the education system. AI creates individual opportunities for students, increases the effectiveness of education, and accelerates digital transformation.

However, to achieve a successful result:

- provision of educational institutions with modern equipment,
- teaching teachers how to use AI technologies,
- ensuring data security,
- it is necessary to implement international experience.

Therefore, to develop education based on AI in Uzbekistan, it is necessary to strengthen state policy, retraining teachers, strengthening infrastructure, and introducing international experience.

**Conclusion.** Although Uzbekistan's education system is on the path of development, existing problems hinder its quality and effective functioning. The above-mentioned problems require

fundamental improvement of the system. In particular, it is necessary to improve the qualifications of teachers, develop technological infrastructure, update curricula, and liberalize the management system. Also, by increasing the interest of young people, connecting education with life, and ensuring social equality, the national education system will embark on a path of sustainable and high-quality development.

In short, the use of artificial intelligence technologies in the educational process in the conditions of Uzbekistan is an important step in updating and modernizing the education system.

These technologies create personal opportunities for students, serve as a methodological support for teachers, and improve the quality of education.

But for successful implementation, it is necessary to develop infrastructure, train teachers, and regulate ethical and legal issues.

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**RESUME.** This article analyzes the experience of using artificial intelligence in leading universities around the world and the methods of artificial intelligence used in Uzbekistan. Technologies for creating artificial intelligence resources and their application in improving the educational process are presented.

**Resume.** This article examines the experience of using artificial intelligence in the world's leading higher education institutions and the methods of artificial intelligence used in Uzbekistan. Technologies for creating artificial intelligence resources and their application for improving educational processes are presented.

**SUMMARY.** This article discusses the experience of using artificial intelligence in the world's leading higher education institutions and examines artificial intelligence methods currently used in Uzbekistan. It presents technologies for creating artificial intelligence resources and their application in improving educational processes.