



A STUDY ON ARTIFICIAL INTELLIGENCE IN EDUCATION

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Abstract. The integration of artificial intelligence technology into the education system is of great importance in improving educational processes and developing an individual approach. This article analyzes the contribution of artificial intelligence to education, its possibilities for automating the educational process, creating programs adapted to students, and increasing inclusiveness in education. It also highlights the effective use of artificial intelligence tools and the problems arising from them. It is noted that this technology is a necessary factor for improving the quality of education and its further development in the future.

Keywords: artificial intelligence, educational technologies, individual approach, distance learning, automation, inclusive education, digital literacy, virtual reality, educational process, educational innovations.

In the modern world, education plays a key role in sustainable development. The widespread use of information technologies is a force that develops the education sector. The use of smartboards, tablets, dynamic visualization and virtual laboratories in the implementation of education is showing that it is changing education to a sufficient extent. In this era, when the speed of information acquisition and use has increased significantly, the use of digital technologies in the education system is of great importance in improving the quality of education and educating socially active youth. Previously, we conducted educational programs in the traditional way, that is, lectures through large-sized books and manuals. This, in turn, did not ensure such a high quality of education. Now, the process of digitization of education has begun to improve the quality of education. The development of digital education depends on the government's support for this area. The President of the Republic of Uzbekistan, Sh.M.Mirziyoyev, noted the following: "To achieve progress, it is necessary and necessary to master digital knowledge and modern information technologies. The Ministry of Innovative Development is implementing a number of tasks set by our Government to create conditions for the rapid introduction of artificial intelligence technologies. In particular, within the framework of state programs for scientific activity, a total of 24 practical, innovative, fundamental and international projects on the development of artificial intelligence with a total cost of 38.9 billion soums are being implemented for the period 2021-2024 [1].

This gives us the opportunity to take the shortest path to progress." Artificial intelligence is currently strengthening its position as one of the most relevant areas in the field of science and technology. The introduction of this technology into the field of education is of great importance in improving teaching processes, strengthening the individual approach and improving the quality of education. The integration of artificial intelligence into the education system opens up new opportunities and brings unique innovations to

traditional teaching methods. The greatest contribution of artificial intelligence to education is the ability to develop an individual approach. Educational programs tailored to the specific abilities, interests and needs of each student can be developed using artificial intelligence. For example, through flexible learning platforms, students will have the opportunity to master educational materials depending on the level of difficulty. These systems, analyzing the dynamics of the student's development, determine the next steps and provide an individual approach.

Electronic assistants and consultants are another important aspect of artificial intelligence in education. With the help of these tools, students can get answers to their questions or re-understand complex topics at any time. For example, chatbots and virtual teachers working with artificial intelligence act as mentors. This makes the education system more efficient and flexible. Artificial intelligence also plays an important role in facilitating the work of teachers. The use of artificial intelligence systems is widespread to reduce errors in the assessment process and speed up the process [2]. Electronic tests and automatic assessment systems for written work allow teachers to focus more on creative and mentoring activities. In addition, the role of artificial intelligence in improving the quality of communication between teachers and students is invaluable. The development of digital educational platforms is also closely related to artificial intelligence. With the help of these platforms, lesson processes can be organized in a visual and interactive way. Through artificial intelligence, the level of student learning is analyzed and new pedagogical approaches are developed based on the results. In addition, virtual and augmented reality technologies, combined with artificial intelligence, allow for a visual explanation of complex topics. Another important aspect of the use of artificial intelligence in education is the expansion of inclusive education opportunities. For students with special needs, artificial intelligence-based programs help create a learning environment adapted to them. For example, speech recognition systems, automatic translation tools, and special teaching aids provide the opportunity to participate in the educational process.

Artificial intelligence-based educational systems also play an important role in creating a global educational network. Artificial intelligence-based tools provide effective solutions for organizing the distance learning process. For example, online learning platforms allow students and teachers from different parts of the world to work together. This makes education more public and accessible. However, there are some challenges and risks associated with the introduction of artificial intelligence into education. Overreliance on technology can weaken human communication. In addition, technical failures or malfunctions of AI-based systems can negatively affect the quality of education. Also, the lack of financial and technical resources for the development and use of AI tools is one of the important problems. While artificial intelligence opens up new opportunities for further improving the education system, it also brings with it complex responsibilities [3]. Collaboration between educators, technologists and policymakers is essential for the effective use of this technology. The role of artificial intelligence in education is not only to optimize the learning process, but also to ensure increased digital literacy for the new generation.

The AI Strategy 2030 also mentions the reconstruction of the research and development system in Uzbekistan as “laying the foundation for the future,” but here we explain the outline of the education reform in “universities, technical schools, and colleges.” In addition, due to the lack of detailed explanations in the material, misinterpretations or miscalculations are possible. Organization of scientific research aimed at the comprehensive implementation of the Strategy "Digital Uzbekistan - 2030" and the introduction of artificial intelligence technologies in the economic sectors, social sphere and public administration system;

- Conducting fundamental and applied scientific research in the field of artificial intelligence, forming a scientific ecosystem for the development of digital technologies;
- Developing innovative products for the automation of management and production processes based on artificial intelligence technologies, as well as their models, algorithms and software;
- Establishing cooperation with leading foreign innovative and scientific institutions in the development of artificial intelligence technologies and implementing joint projects [3].

In the future, artificial intelligence technology is expected to further transform the education system. This technology will create the basis for the full automation of educational processes, the wider introduction of virtual and augmented reality environments, as well as the integration of global educational resources. At the same time, it is important to preserve the human factor to ensure the effective functioning of systems based on artificial intelligence. The combination of artificial intelligence and education is important for the development of modern society. By introducing this technology into the education system, we will have the opportunity not only to increase efficiency, but also to bring the educational process to a qualitatively new level. During this process, important steps will also be taken towards the moral and intellectual advancement of humanity. Digital education is any type of education that uses technology. This can occur in all areas of the curriculum. In it, a large set of data in digital form and the process of processing them serve as the main factor of production and management. Digital technologies are electronic tools, systems, devices and resources that generate, store or process information. Some examples include social networks, online games, multimedia and mobile phones. When education is provided through digital technologies, the methods of learning are becoming easier for learners [4]. In this case, multimedia, overhead projectors, computers, laptops, televisions connected to the Internet, telephone lines, smart boards, projectors play the role of the educational system. Providing teachers with such tools for conducting lessons improves the quality of education. We all know that the use of digital technologies in online lessons is effective. For example, online lessons given via television can be considered a type of digital learning.

The development of the digital education system requires the use of modern technologies in the field, the implementation of interactive learning in educational institutions, and the correct and effective use of modern technical means by students. This, in turn, will help educators work harder and improve the quality of education due to competition. In addition, the use of artificial intelligence, which is part of digital technologies, can be used effectively not only in education, but also in all aspects of life. The introduction of artificial intelligence technology provides transparency, fraud prevention, data analysis, transparent use in the judicial sphere, automation of repetitive processes (for example, auto-response, data-based conclusions, etc.), and the advantages of working with large volumes of data. In the field of education, it creates great conveniences in creating a virtual learning environment and distance learning [5].

In conclusion, today artificial intelligence technologies have become an integral part of life. For example, the development of artificial intelligence cannot but affect human professional activities. The ability to use artificial intelligence technologies now offers great opportunities. If for the past few years, not being able to use a computer was considered illiteracy, now the time has come to use this in relation to artificial intelligence technologies.

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