Opportunities Of Artificial Intelligence In Education

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ABSTRACT

This article examines AI's potential programs in education, clarifying its current state and future prospects. Through a comprehensive analysis of the literature, we study the various methods and technologies that artificial intelligence brings to the field of Education, discuss the results achieved so far and give insight into the impact of artificial intelligence for the future of Education. The article concludes with proposals to integrate artificial intelligence into education to improve educational outcomes.

Keywords: artificial intelligence, education, machine learning, personalized education, adaptive education, Educational Technology, student engagement, data analysis

Enter.

Today, artificial intelligence has become one of the most important technologies in the world. At the beginning of the 20th century, most of the pictures that people can see only in movies and various science fiction novels are not becoming a reality when artificial intelligence has entered our lives.

Today, countries such as Canada, Singapore, the United Arab Emirates, Finland, Japan, China, Italy, Tunisia, the United Kingdom, the United States, Sweden, Mexico, the European Union, Kenya, Denmark, France, Australia, the Republic of Korea, India and Germany are used in world practice. announced strategies for the development of artificial intelligence.

On 17.02.2021, the decision of the President of the Republic of Uzbekistan PQ-4996 "On measures to create conditions for the rapid introduction of artificial intelligence technologies" was adopted. Based on the implementation of this decision, artificial intelligence is widely used in all social and economic spheres.

Organization of scientific research aimed at the comprehensive implementation of the "Digital Uzbekistan - 2030" Strategy and introduction of artificial intelligence technologies in economic sectors, social sphere and state management system, fundamental and applied scientific research in the field of artificial intelligence is being carried out. The formation of a scientific ecosystem for the development of digital technologies, the development of innovative products and their models, algorithms and software for the automation of management and production processes based on artificial intelligence technologies, the leading foreign innovative and Cooperation with scientific institutions and implementation of joint projects are underway.

In addition to building industrial and social foundations, the plan calls for "educational reform as the foundation of the future and restructuring of the research and development system. Regarding education reform, in addition to primary and secondary education, education related to artificial intelligence in education, in other words,

"Mathematics, Big Data and Artificial "Intellect" education is shown.

Rapid and widespread use of artificial intelligence technologies in world practice, as well as ensuring the high quality of use of such digital information in the life of our country, creating favorable conditions for the training of qualified personnel in this field, is the demand of today.

Literature analysis.

Artificial intelligence (AI) is revolutionizing various areas of our society, and education is no exception. In this article, we explore the potential of artificial intelligence in changing the way we teach and learn. Artificial intelligence has the ability to adapt to individual student needs, offer personalized learning experiences, and simplify administrative tasks, resulting in improved learning outcomes. We review the literature on AI in education, discuss various methods and technologies, present potential outcomes, engage in a discussion of challenges and opportunities, and conclude with suggestions for the future of AI in education.

To date, the definitions of the concepts of artificial intelligence and intelligence differ sharply from each other. The main reason for this is that the features of the human brain have not yet been fully studied. The human brain contains countless secrets. However, we do not have complete knowledge of the working methods and principles of the brain. The functioning of the human brain is limited by neurons and their activities. To study the brain to its fullest, it is necessary to first understand and explain how the brain works. By analyzing the brain's algorithm, it is possible to make a significant contribution to the development of computers or intelligent machines.

Currently, the issues of development of artificial intelligence systems are reflected in the researches carried out by Uzbek scientists S.Gulomov, B.Begalov, M.Kamilov, T.Bekmuratov, Sh.Madrakhimov, N.Ignatev. Russian scientists M. Akhmetov, A. Bazaeva, L. Bocharova, A. Lobanov conducted scientific research on the development of artificial

intelligence systems and their application in the field of education.

There is no single, clear definition of the concept of artificial intelligence. One of the main reasons for this is the different interpretations of scientists working in different fields of science.

Methods.

The world economy, in the context of a global pandemic, has shown the change of networks, the digitalization and mobilization of this process, and the rapid penetration of artificial intelligence into all areas. One such area is the education system, many people understand the application of artificial intelligence in education as "robot teachers", which is somewhat different from the truth. Artificial intelligence can be found in personalized education systems, information search, chat-bots, educational systems for children, inclusive education systems, educational process control systems, student knowledge assessment systems. Using such systems, it is possible not only to increase the knowledge of students, but also to reduce the burden on teachers.

One of the important requirements for the organization of modern education with the help of artificial intelligence is to achieve high results in a short time without spending excessive mental and physical effort. It is one of the main tasks to deliver specific theoretical knowledge to students within a certain period of time, to develop skills and competencies in certain activities. Evaluating the level of knowledge, skills and qualifications acquired by them requires a high pedagogical skill from the teacher. Implementation of this important task requires combining traditional methods of teaching with advanced pedagogical and information technologies in educational institutions.

Many studies and reports highlight the significant impact of Artificial Intelligence on education. Artificial intelligence-based technologies have the potential to enhance the learning experience for students, teachers, and administrators. Some key findings from the literature include:

• Personalized learning: Artificial intelligence can analyze students' learning patterns, preferences and performance to create customized learning paths. This personalization helps improve student engagement and understanding.

• Adaptive learning: Artificial intelligence-powered systems adapt the content and pace based on the progress of a student, ensuring that they receive the appropriate level of support and claims.

• Educational Technology: AI tools such as chatbots, virtual tutors, and educational games can help students in Real Time, making learning more interactive and enjoyable.

• Student engagement: AI can identify and address disconnect factors such as lack of interest or understanding and provide solutions to motivate students.

• Data Analytics: AI can process and analyze vast amounts of learning data to assess trends, evaluate teaching methods, and identify areas for improvement.

Results.

The integration of artificial intelligence into education includes several methods and technologies, including:

• Machine learning algorithms: These algorithms are used to predict student performance, recommend personalized content, and automate administrative tasks.

Figure 1. Possible applications for artificial intelligence

• Natural Language Processing (NLP): NLP powers chatbots and virtual tutors that can answer students' questions and provide real-time feedback.

• Learning Analytics: AI-powered analytics tools evaluate data from a variety of sources, including online learning platforms, to track student progress and engagement.

• Gamification: Artificial intelligence can create personalized gaming experiences to make learning more fun and interactive.

• Computer vision: Artificial intelligence can analyze students' facial expressions and body language to gauge their emotional state, allowing for timely intervention.

Artificial intelligence (AI) has the potential to revolutionize education in many ways. This shows the main possibilities and advantages of AI in education. These include:

• Personalized learning: Artificial intelligence can tailor learning content and experiences to each student's unique needs and abilities. By analyzing their performance and preferences, AI systems can create customized learning paths, allowing students to learn at their own pace and style.

• Intelligent tutoring: Artificial intelligence powered virtual teachers can report and support students instantly, helping them with assignments, assignments, and test preparation.

These tutors adapt to the student's progress, providing additional resources or explanations as needed.

• Grading and feedback: AI can automate the grading of assignments, quizzes and exams, reducing the administrative burden on teachers. It can also give students instant feedback, help them understand their mistakes and improve their performance.

• Virtual classrooms and online learning: Artificial intelligence can enhance the quality of online learning platforms by offering features such as real-time language translation, facial recognition for engagement, and content recommendations based on a student's learning history.

• Early intervention: AI can identify struggling students and provide timely interventions, such as recommending additional resources or offering tutoring, helping prevent students from falling behind.

• Content creation: Artificial intelligence can help educators and content creators by automating the production of learning materials, including interactive quizzes, video lectures, and digital textbooks.

• Data Analytics: Artificial intelligence can help teachers improve educational methods, curriculum and school policies, make data-driven decisions, and process large amounts of data about student performance and behavior.

• Accessibility: AI can help make education more accessible by providing tools such as text-to-speech, speech-to-text, and language translation for individuals with disabilities, ensuring that a wide range of learners can benefit from educational resources.

• Time management: AI-powered tools help students and teachers manage their time more effectively, offering reminders, schedules and suggestions to optimize productivity.

• Administrative efficiency: AI can streamline administrative tasks such as release, registration, scheduling, and resource allocation so teachers can focus on teaching.

• Language Learning: AI-powered language learning software can offer personalized language instruction, adapt to learner level, and provide real-time pronunciation feedback.

• Development of cognitive skills: Artificial intelligence can be used to develop and foster critical thinking, problem solving and creativity in students through interactive activities and simulations.

• Predictive analytics: Artificial intelligence helps predict trends and patterns in education, helping institutions better plan enrollment, resources and long-term education strategies.

Challenges and considerations: While the potential of AI in education is promising, some challenges and considerations need to be addressed:

• Data Privacy: Protecting student data and ensuring their privacy is an important concern when applying AI to education.

• Equity: It is critical to ensure that AI-powered tools are accessible and affordable for all students and that they do not exacerbate existing educational inequities.

• Teacher Roles: AI should complement and enhance the role of teachers rather than replace them. It is important to provide teachers with the necessary training to use artificial intelligence effectively.

• Ethical concerns: It is critical to ensure that AI algorithms are fair, unbiased, and do not reinforce stereotypes.

Artificial intelligence has the potential to significantly improve learning experiences by personalizing them, supporting teachers and learners, and increasing the overall quality and accessibility of education. However, in order to realize the full potential of artificial intelligence in this field, it is important to address ethical and practical issues.

Discussion.

Although AI in education holds great promise, there are challenges and considerations to address. These include ethical questions about data privacy, the need for teacher training, the digital divide, and the role of AI in education. Collaborative efforts between educators, policymakers, and technology companies are needed to maximize AI's potential and ensure its responsible and ethical use.

It should be noted that the introduction of the "Smart School" program, developed on the basis of artificial intelligence systems, into the educational system provides several advantages.

Automatic assessment of knowledge quality, anytime access to resources and knowledge analysis. Artificial intelligence can offer several methods in this regard. Although it cannot completely replace human assessment, it can be close to it in terms of quality.

"Intelligent School" software based on artificial intelligence systems also saves teachers' time in schools; to identify gaps in education in terms of students, subjects, subjects, classes in a short period of time; analyzing the mental and physical development of students and creating a number of other opportunities, it facilitates the management of the educational institution. Human memory is not perfect, teachers remind parents of information related to the education of students and even give special warnings about cases of students not actively participating in classes and learning.

Monitoring the behavior of students. Various analyzes are carried out on the basis of artificial intelligence systems, which allow to monitor the spiritual, spiritual, moral processes of students and the acquisition of knowledge at the same time. As a result, the program contributes to the development of students not only mentally and physically, but also spiritually.

In addition, the implementation of artificial intelligence in the educational process will force teachers to change. In particular, as a result of cooperation of teachers with the "Smart School" program, they help to teach students quickly, efficiently and better in schools. This leads teachers to work on themselves and improve the quality of education.

The implementation of artificial intelligence systems in schools optimizes and automates many tasks of teachers. This allows teachers to spend more time working with their students and improving the quality of education.

Many scientists are debating the future of artificial intelligence. The fact is that while some machines express concern that they can invade people's privacy and even become armed, other scientists are positive about this. They claim that self-driving machines in an artificial intelligence system can calculate the option with the lowest risk and the least loss, the most profit and the least damage. Another controversial situation related to artificial intelligence is related to human employment. Many industrial enterprises, which seek to automate certain jobs with the help of intelligent technologies, intensify their efforts to reduce the labor force of people. This also gives people a bad impression of artificial intelligence.

Conclusions and suggestions

In short, AI is changing the educational landscape by offering personalized learning experiences, flexible content delivery and administrative support. Stakeholders to take full advantage of AI in education:
• Invest in teacher training and development so that teachers can effectively integrate AI tools.
• Prioritize data privacy and security to protect student data.
• Continually evaluate and adapt AI systems to improve learning outcomes and student engagement.

The potential of AI in education is enormous, and with the right strategies and responsible implementation, AI has the potential to revolutionize education, making it more accessible and inclusive for students of all backgrounds. makes it effective.

List Of Used Literature

1. Decision PQ-4996 dated 02.17.2021 of the President of the Republic of Uzbekistan "On measures to create conditions for the rapid introduction of artificial intelligence technologies".
2. Decree No. PF-6079 dated 05.10.2020 of the President of the Republic of Uzbekistan "On approval of the Digital Uzbekistan - 2030" strategy and measures for its effective implementation.

3. Rakhimov, M., Yuldashev, A., & Solidjonov, D. (2021). The role of artificial intelligence in the management of e-learning platforms and monitoring knowledge of students. Oriental renaissance: Innovative, educational, natural and social sciences, 1(9), 308-314.

4. Yuldashev, A. (2022). Development of economic activities of enterprises on the basis of digitization. young researcher journal, 1(3), 251-257.

5. Akhrorjon, Y., Alijon, M., & Iqlima, A. (2022). Impact of active technologies on adolescent psychology. Devotees of Education, 13(6), 263-266.

6. Rakhimov N.O. Knowledge representation models in intelligent learning systems // TATU messages. - Tashkent. #4. 2010. pp. 64-68.

7. Kadyrov M.M. Textbook of "Information technologies". Part 1. - T.: "Sano-standard" publishing house, - 2018. p. 192-237.

8. Brusilovsky P.L. Intellectual training system. // Informatics. Scientific and technical collection. Kiev, 1990. No. 2.

9. Bessmertny I.A. "Artistic Intellect" Uchebnoe posobie. St. Petersburg 2010. 27-32 p.

10. Abdullayeva Iroda Makhmudjanovna THE MAIN ASPECTS OF USING ARTIFICIAL INTELLIGENCE IN MARKETING. Scientific Journal of Digital Transformation and Artificial Intelligence dtai.tsue.uz

11. Abdullaeva Iroda Makhmudjanovna ARTIFICIAL INTELLIGENCE IN ELECTRONIC GOVERNMENT SYSTEMS. Scientific Journal of Digital Transformation and Artificial Intelligence VOLUME 1, ISSUE 3, OCTOBER 2023