

PROSPECTS OF ARTIFICIAL INTELLIGENCE IN EDUCATION.

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Abstract. Technology has become an integral part of our lives today, and Artificial Intelligence (AI) is considered the most effective tool and application of modern technology. AI in education is not just a technological breakthrough, but a revolutionary approach to the teaching and learning process, which has completely redefined the educational environment. With the help of AI, teachers can personalize the learning process and increase new opportunities in the field of education. The purpose of this article is to study the applications and prospects of AI in education. This study was conducted on a theoretical basis, using a qualitative research method. The results of the study were discussed along with the concept, applications, current status and future prospects of AI in education.

Keywords: *Personal Learning Assistant, adaptive education, digital pedagogy, artificial intelligence, future educators.*

Introduction

Artificial intelligence (AI), also known as AI, can be defined as “human-made thinking ability.” Here, “artificial” means “made by humans,” and “intelligence” means “ability to think.” AI is a branch of computer science that enables the creation of intelligent computers that can mimic human behavior, thinking processes, and decision-making.

AI helps students in education in many ways. It plays an important role in helping students gather information, make real-life decisions, solve real-world problems, and develop skills in various subjects. AI fills the gaps in the classroom and can support teachers and students in the teaching-learning process.

AI increases students' interest in and skills in education. AI is used by teachers, students, librarians, and faculty. As a result, students will be able to study 24/7 (24 hours a day, 7 days a week). The future of AI can provide a truly personalized experience for each student and provide students with opportunities to create richer content and create an engaging environment in the field of education. The use of AI is currently increasing and will continue to grow in the future of education. In the future, the impact of personalized education will increase significantly. One of the most important tasks of AI in education is the ability to develop personalized learning. Artificial intelligence has the potential to completely change the process of teaching and learning in the field of education in the future. AI is able to create more effective and efficient learning experiences through its active participation in areas such as data analysis, virtual classrooms, adaptive assessment, and personalized learning.

Review of relevant literature

The role of artificial intelligence in education is very important. Currently, the level of use of artificial intelligence in education is very high. Artificial intelligence makes the learning process more interesting and engaging. It can dynamically change educational materials, provide immediate feedback, and ensure active participation of students. Personalized learning is one of the main advantages of artificial intelligence in education, and is becoming increasingly popular in motivating and engaging students. Artificial intelligence is

fundamentally changing the field of education. It is a very important tool for personalized learning. AI improves student performance by providing real-time feedback and automates administrative tasks. Artificial intelligence helps in the field of education in various ways. Examples include: smart content, chatbots, adaptive learning, personalized learning, learning management systems, administrative tasks, real-time feedback, and engaging learning.

Smart Content — refers to digital content that is dynamic, personalized, and tailored based on a user's preferences, behavior, or demographics. It often uses advanced technologies such as artificial intelligence.

Chatbot — is software designed to simulate conversations with human users, usually powered by artificial intelligence. Chatbots play a very important role in the education sector.

One of the greatest benefits of artificial intelligence in education is its ability to develop personalized learning. Personalized learning using artificial intelligence involves adapting the learning process to each student's individual needs, preferences, and progress. This approach aims to optimize learning outcomes by adapting the pace, difficulty, and format of learning materials to each student.

Learning Management System — LMS — is software used to plan, implement, and evaluate the learning process. It uses artificial intelligence to automate administrative tasks and increase overall efficiency in the educational environment.

Artificial intelligence plays a key role in Adaptive Learning. It aims to create a personalized learning experience for each student, dynamically changing the content, difficulty level, and learning direction based on individual needs.

Artificial intelligence helps educational institutions optimize resources: it ensures more efficient use of resources by predicting trends, managing budgets, and identifying areas for improvement. It also supports the professional development of teachers through personalized training and keeps them constantly informed about the latest teaching methods and technologies.

Research methodology

Artificial intelligence is widely demonstrating its importance in education not only in Uzbekistan, but also around the world. AI enhances global communication and collaboration between students and teachers, overcomes geographical barriers, and creates opportunities for diverse perspectives and cultural exchange. Educational platforms powered by artificial intelligence allow access to educational resources anytime, anywhere.

In addition, interactive virtual assistants and textbooks can be created using artificial intelligence. Virtual assistants are able to understand and respond to user commands and questions using natural language processing and advanced algorithms. They constantly improve their performance over time through machine learning.

Current status and applications of artificial intelligence in education:

1. Artificial intelligence is currently being used to teach knowledge and skills by assessing students' existing knowledge and skills and providing them with customized instruction.
2. AI is being used to control classroom audio-visual devices.
3. AI is being actively used to teach students foreign languages. Currently, hundreds of languages can be learned with the help of AI.
4. AI is important in preparing lesson plans. Lesson plans tell students what they will learn and how they will be assessed.
5. AI is being used to use chatbots to provide support for students.

6. AI is being used to teach students programming.
7. AI is being used to organize and manage educational games.
8. AI is being used to power interactive games that teach children basic needs.

Analysis and results

The current situation further reinforces the need to define the future possibilities of education. The rapid pace of technological development, in particular artificial intelligence (AI) and its widespread use in education, has a significant impact on the future of education. Most people believe that artificial intelligence is capable of radically changing education.

The future prospects of artificial intelligence in education are very promising. In the future, artificial intelligence will become an important part of our daily lives and its impact on education will be even stronger.

One of the future changes is the introduction of intelligent tutoring systems. These systems use artificial intelligence to provide students with personalized lessons and feedback, identify gaps in knowledge, and provide targeted support in achieving learning goals. For example, Carnegie Learning's MATHia platform uses artificial intelligence to analyze student performance and provide personalized advice, feedback, and explanations.

In the future, artificial intelligence algorithms will tailor learning content to each student's needs, optimizing learning paths based on their strengths and weaknesses.

Robotics and artificial intelligence in education Robotics also have great potential for future education. Robots will play an important role in the following areas:

- Supporting teachers and providing individualized support to each student;
- Creating an interactive and engaging environment for teaching coding and STEM (science, technology, engineering, and mathematics) subjects;
- Performing physical tasks in the classroom (distributing materials, organizing the classroom);
- Supporting students with special needs;
- Making distance learning interactive;
- Collaborative learning and hands-on learning.

Artificial intelligence can also help students develop content creation skills. Teachers can use AI to create more engaging and effective learning materials for students.

Conclusions

Artificial intelligence (AI) holds great promise and the potential to bring about fundamental changes in the field of education. AI is having an impact in the following areas: personalized learning, flexible learning platforms, tutoring and homework assistance, automated assessment, early intervention, virtual classrooms and distance learning, language learning, educational content creation, etc.

The future prospects of AI in education are very broad and promising. AI will allow each student to receive a personalized learning experience and significantly improve educational outcomes. In the future, close cooperation between programmers, teachers and policymakers will be necessary to implement AI in the education system in a balanced and beneficial way.

AI is fundamentally changing the way we teach and learn and is creating an exciting future for education. Future teachers should embrace artificial intelligence as an additional, supportive tool in the classroom, rather than a foundational one.

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