

ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION

Dr. P. Mangayarkarasi

Assistant Professor in Commerce (SF

The American College, Madurai

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Abstract

As a teacher or professors they spend a considerable amount of time observing students, tracking progress, and planning developmentally appropriate activities that help scaffold learning for the students. This article explores how could AI is used to help them to save time on administrative work and thus focus on more meaningful activities, such as taking care of the professors and fostering deeper connections with their young students.

Through this article the goal is not to replace the human touch that is so essential to teaching, but rather to support and enhance it.

Keywords: Artificial Intelligence, Education.

The term "artificial intelligence" was actually coined in 1956. In that year, John McCarthy, a Dartmouth College professor, organized a pivotal workshop that coined the term "artificial intelligence" and aimed to create machines capable of reasoning and using human language.

Computer-assisted instruction (CAI) began in the 1960s, presenting instructional material with expensive mainframe computers. As computer technology became smaller and more affordable, more schools and colleges were able to adopt CAI.

Intelligent tutoring systems emerged with the advent of desktop computers, offering tutorial programs that provided immediate feedback and tailored learning paths based on student responses. These systems demonstrated the potential benefits of personalized learning, making technology adoption in education increasingly attractive.

After a fast start, research interest in AI cooled for a few decades before developments in computer technology drove a resurgence in the 1990s with advances in machine learning and neural networks. The public release of Chat GPT in 2022 marked a significant milestone, showcasing unprecedented capabilities in natural language understanding and generation, and fueling further advancements in AI.

Purposes of Artificial Intelligence in Education

Today, AI significantly impacts various sectors, from healthcare to finance, manufacturing, and transportation. Many think it is also poised to revolutionize education.

Automating high-volume work: AI helps in performing frequent and high-volume computerized tasks without fatigue. Though still for such works, we need a human inquiry.

A perfect tool to add Intelligence: AI helps in adding intelligence to existing products. This means that AI can add value to the already existing application.

Natural language processing: The advent of AI with the help of deep neural networks is quite helpful. This technology is used to recognize and produce natural human language. For example, interactions with Alexa Google Search, and Google Photos are possible due to AI.

Enhance security: AI is an excellent tool for improving cybersecurity, and its benefits have been established. Artificial intelligence can analyze network traffic trends to detect odd behavior and possible breaches of security.

Role of AI in Education for Teachers

The role of Artificial Intelligence in education is continuously becoming a game-changer for teachers along with transforming the traditional [form of teaching methods](#).

1. Personalized Learning

It can provide a personalized learning experience to every student along with analyzing the student's learning pattern, strengths, and weaknesses.

Similarly, one of the uses of artificial intelligence in education can help teachers tailor the learning experience to meet the individual needs of each student.

2. Engagement

Moreover, AI-powered tools make the learning process more interactive for students, which can help keep students engaged. Different activities like games or simulations can be included to make the learning process more fun for your students.

3. Customized Feedback

Teachers can make use of AI in education to provide immediate and personalized feedback to students, helping them understand their mistakes and improve quickly.

AI can help teachers save their precious time by helping them with tasks that require manual efforts such as providing feedback, preparing lesson plans, classroom interactions, etc.

4. Automated Grading System

Teachers can make their task of grading their students an easy and smooth process. AI can grade assignments and exams quickly and consistently, allowing teachers more time to concentrate on [lesson planning](#) and individual student needs. This is one of the best uses of artificial intelligence in education.

5. Task Automation

Routine administrative tasks can be automated with AI, allowing teachers to dedicate more time to teaching and less to paperwork.

AI in education can streamline administrative tasks such as attendance, scheduling, and communication with parents, reducing the administrative burden on teachers.

6. Learning Gap Analysis

With the help of AI tools, teachers can easily identify learning gaps among students. Teachers can get access to detailed reports and insights into each student's learning journey. By using these insights, educators can tailor their teaching strategies to meet the individual needs of their students, ensuring that no one is left behind.

AI's ability to process vast amounts of data quickly and accurately means that these gap analyses are more comprehensive and detailed than what would be feasible manually.

7. AI in Examinations

The role of AI in examinations is multifaceted, offering benefits such as automated grading, plagiarism detection, and the generation of personalized feedback. Teachers can reduce their administrative workload, allowing them to dedicate more time to student engagement and instructional improvement.

8. Smart Content

The involvement of AI is transforming education by making teaching materials more interactive and personalized. Digital textbooks and online modules can adjust to each student's learning pace, enhancing the importance of AI in education.

Moreover, these materials are always up-to-date, keeping content relevant and aligned with new standards. This capability is crucial for the future of AI in education, as it helps teachers deliver a dynamic learning experience that meets the expectations of today's digital-native students.

9. Universal Access

Teachers can utilize the importance of AI in education to reach a wider audience and create an inclusive learning environment where every student has the opportunity to succeed. Furthermore, it can facilitate remote learning, which has become increasingly important, ensuring that education continues uninterrupted under any circumstances.

10. Enhanced Teaching

Teachers can analyze the effectiveness of teaching methods and offer suggestions for improvement, helping them to continually develop their skills.

By integrating these AI capabilities, teachers can enhance their teaching methods, provide better support to students, and manage their time more effectively.

Role of AI for Students

1. 24/7 Access to Learning

With AI helpers based online, students always have access to learning. They are free to plan their day without being linked to a specific place. They can study on the go, at any place and time they want. They can build their schedule based on their most productive hours.

2. Better Engagement

Individualized schedules, custom tasks, interaction with digital technologies, and personal recommendations are part of the personal approach each student gets using AI. Besides, a personal approach helps students feel special, increasing their engagement and raising interest in studies in such a way.

3. Less Pressure

Lessons tailored to the needs of different learning groups allow students to stop comparing them to each other. Earlier, a student should have asked a teacher for help in front of the class. Now, it's enough to type a query using a personal virtual assistant and get an instant explanation.

These opportunities offered by AI tools make personal progress come to the fore, reducing the pressure in the classroom. Less pressure means less stress and more enthusiasm to study.

Conclusion

The importance of AI in education cannot be understated. AI will be a transformative force that will reshape how we teach and learn. It will make education more accessible, efficient, and engaging for teachers as well as students. The journey of artificial intelligence in education is just beginning, and its potential to revolutionize the field is limitless.

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