

# The Impact of Artificial Intelligence on Education: Opportunities and Challenges in 2024-2025

ЖАРИЯЛАНДЫ  
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## Annotation

This article presents opportunities and challenges of Artificial Intelligence in the field of education. The article considers how education engages with the powerful tool of AI, a force capable of transforming learning itself.

## Keywords:

Artificial Intelligence (AI), Education, Privacy, Ethics, UNESCO, OpenAI, Personal Information, Personalized Learning.

## 1. Introduction and Key Concepts

Artificial intelligence (AI) is rapidly transforming the field of education, offering tools that make learning more personalized, efficient, and accessible. AI refers to computer systems designed to perform tasks that typically require human intelligence—such as problem-solving, learning, and decision-making. In schools and universities, this includes virtual tutors, adaptive learning platforms, and automated assessment tools. According to UNESCO (2021), AI supports inclusive and flexible learning worldwide. Although its roots in education go back to the early 2000s, AI is now playing a much larger role. This article explores how AI is shaping the future of education.

## 2. Examples of AI in Education

Artificial intelligence is increasingly integrated into education through platforms like Duolingo, where AI tracks user performance and adjusts learning content in real time.

According to a UNESCO report (2021), AI is also used for grading essays, personalizing learning, and supporting students via virtual assistants. Tools like Google's Socratic and OpenAI's ChatGPT provide 24/7 help, answering questions and explaining complex topics.

These technologies enhance access to education, especially for students in underserved areas. As noted by EdSurge (2023), AI improves efficiency and tailors learning experiences, helping both students and educators navigate digital education more effectively.

### **3. Advantages of AI in Education**

Artificial intelligence offers significant benefits to the educational process. One major advantage is increased learning efficiency—AI systems can deliver content tailored to each student's pace and knowledge level. This personalized learning helps improve comprehension and retention. According to the OECD (2021), AI plays a key role in shaping future learning environments through personalization and automation.

Additionally, AI reduces the workload of educators by handling routine tasks like grading and providing instant feedback, which UNESCO (2021) highlights as a major step toward supporting teachers. Virtual assistants, as noted by OpenAI, also offer 24/7 support to learners, improving accessibility and engagement. Furthermore, AI enables remote and inclusive education, reaching students in rural or underserved areas who may lack access to qualified teachers.

### **4. Challenges of AI in Education**

AI systems in education often require the collection and analysis of large amounts of students' personal data to adapt the learning process. This raises serious concerns about privacy and the ethics of using such data. Clear policies and regulations are needed to ensure the protection of students' personal information.

Furthermore, students from less privileged backgrounds may lack access to modern technologies, leading to a digital divide and limiting their educational opportunities. For example, in developing countries, AI services may be blocked or unavailable in certain languages. Even when access is available, a lack of digital literacy makes it difficult to use AI effectively.

There are also risks associated with the use of AI for academic dishonesty, including automated assignment completion and plagiarism. This undermines the principles of academic integrity and calls for the development of new strategies and tools to detect and prevent such violations.

### **5. The Future of AI in Education**

Leading AI companies have recognized the specific needs and concerns of the education sector regarding the responsible use of artificial intelligence and have started to modify their products to address these issues.

For example, in May 2024, OpenAI introduced ChatGPT Edu, designed for higher education institutions. It enhances security and privacy, does not use conversations and data to train

Open AI models. Moreover, along with state entities such as the California Department of Education, UNESCO advocates for equity-focused AI in education policies aimed at narrowing technological gaps within communities and worldwide

## 6. Conclusion

The implementation of artificial intelligence in education requires not only technological progress but also the establishment of clear ethical and legal frameworks for its use. AI should not be seen as a replacement for humans, but rather as a powerful tool that enhances the quality of education and supports educators in their work

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