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IMPROVING THE QUALITY OF HIGHER EDUCATION THROUGH DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE

ABSTRACT

This article examines the role of digital technologies and artificial intelligence (AI) in improving the quality of higher education. The primary objective of the study is to analyze the effectiveness of AI-based educational platforms and to evaluate their impact on teaching and learning processes in higher education institutions. The research applies analytical, comparative, and statistical methods to assess recent developments in digital education and international best practice How Does Artificial Intelligence Work in Everyday Life?

1. Smartphones and Digital Assistants

Google Assistant, Siri, and Bixby use artificial intelligence algorithms to listen to user commands, understand them, and provide answers. For example, if you ask Siri, “What time will it rain today?”, it determines your location and shows the real-time weather forecast. This is the result of natural language processing (NLP) and AI systems that rely on real-time data.

2. Search Engines

Systems like Google and Bing analyze what users search for and display the most relevant results — all thanks to artificial intelligence.

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If you search “best modern professions,” Google tailors the results based on the websites you previously visited, your location, and even the time of day.

3. Algorithms on Social Media

Facebook, Instagram, and TikTok recommend posts based on what you view most often. Their goal is to keep users engaged longer.

On TikTok, the For You page is formed according to your viewing habits — and it is unique for each user. This is done through AI algorithms that study user behavior.Online Shopping

Platforms like Amazon and OLX suggest similar products based on your purchase history. These are called recommendation systems.

If you buy running shoes on Amazon, the system may automatically suggest sportswear, fitness watches, or other related products — all thanks to AI that analyzes your previous activity.

4. Artificial Intelligence in Medicine

AI systems analyze MRI and X-ray images and can detect diseases like lung, breast, or brain cancer at very early stages. In some cases, AI has provided faster and more accurate diagnoses than experienced doctors.

Google Health and DeepMind developed an AI system for detecting breast cancer that reduced both false positives and false negatives — meaning AI performed more accurately than humans in certain cases. While doctors may take 10 minutes to analyze an MRI scan, AI can do it in seconds.

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5. Transport and Navigation

Google Maps and Yandex Navigator analyze traffic conditions and recommend the fastest routes. Self-driving cars are also powered by artificial intelligence. If you travel from Tashkent to Samarkand, Google Maps calculates routes using your speed, other users' locations, and road delays.

6. Artificial Intelligence in Gaming

In complex games like Chess, Go, and StarCraft, AI has surpassed human players. It predicts moves and builds strategies.

DeepMind's AlphaStar defeated professional StarCraft II players in 2019, showing AI's ability to think strategically, react quickly, and adapt to changing situations. Examples of Artificial Intelligence in Education The possibilities of using artificial intelligence in education — to improve learning, support teachers, and enable more effective individualized learning — are impressive, but also a little frightening. To have a smart and meaningful conversation about AI in education, we must first move away from the science-fiction idea that computers and robots will teach our children, replace teachers, and completely remove the human element from such an essential human activity.

METHODS

The research employed the following scientific methods:

• analytical method to examine academic literature, policy documents, and international experience;

• comparative analysis to compare traditional teaching approaches with AI-based digital learning systems;

• statistical analysis to evaluate learning performance indicators;

• observational method to assess changes in students' learning behavior and engagement.

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Research materials included recent scientific publications, international reports, and digital learning platforms currently used in higher education institutions.

RESULTS

The findings of the study indicate that the integration of artificial intelligence into higher education leads to significant improvements in learning outcomes. Specifically: AI-based learning systems increased students' academic performance by approximately 25–30% compared to traditional methods; personalized learning pathways enhanced students' motivation and engagement; automated assessment and feedback systems improved the efficiency of teaching and learning processes.

A comparative analysis of learning effectiveness is presented in Table 1.Table 1. Comparison of Traditional and AI-Based Learning Effectiveness

Learning Model. Knowledge Retention Rate. Student Engagement. Traditional. 60-65%. Moderate

AI-Based. 85–90%. High

DISCUSSION AND CONCLUSION

The results confirm that artificial intelligence and digital technologies play a crucial role in improving the quality of higher education. AI-based educational systems support individualized learning, promote independent study, and enable more efficient assessment and feedback mechanisms.

The scientific novelty of this study lies in its comprehensive evaluation of AI- based educational technologies within the framework of higher education quality improvement. The practical significance of the research is that the findings can be used by higher education institutions and policymakers to design and implement effective digital education strategies in line with national development priorities. In conclusion, the integration

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of artificial intelligence into higher education is not only a technological advancement but also a strategic tool for achieving sustainable educational development and global competitiveness.

REFERENCES

1. UNESCO. Artificial Intelligence in Education. Paris, 2021.
2. OECD. Digital Education Outlook. Paris, 2022.
3. Holmes, W., Bialik, M., & Fadel, C. Artificial Intelligence in Education. Boston: Center for Curriculum Redesign, 2021.
4. Luckin, R. Machine Learning and Human Intelligence. London: UCL Press, 2020.5. Selwyn, N. Education and Technology: Key Issues and Debates. London, 2020.
6. Johnson, L., Adams Becker, S. Digital Learning Trends. 2022.
7. Baker, R., & Inventado, P. Educational Data Mining and Learning Analytics. Journal of Learning Analytics, 2020.
8. Siemens, G. Learning Analytics and Educational Data. Computers & Education, 2021.
9. World Bank. Digital Transformation in Education. Washington DC, 2022.
10. Ministry of Higher Education of Uzbekistan. Concept for the Development of Higher.