

The Role of Artificial Intelligence in the Educational Process

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Abstract. Artificial intelligence (AI) is a modern technology that plays an unchanging and important role in the educational process. It helps to develop the learning process of the students in an effective and customized way. Artificial intelligence is bringing about a number of positive changes in the field of education, such as optimizing teaching and learning methods, offering personalized learning and enabling data-driven decision making.

Key words: Artificial Intelligence (AI), Learning Process, Personalized Learning, Student Assessment, Interactive Learning Tools, Automated Analysis, Teaching Assistants, Distance Learning, Learners level of knowledge, Educational methodology, Teacher support, Real-time learning, Adaptation of learning materials, Virtual teachers, Streamlining the learning process, Advanced learning opportunities, Artificial intelligence and innovation, Data-based decisions, Optimization of educational system, Integration of technologies in education.

INTRODUCTION

Artificial intelligence (AI) is a technology that is rapidly developing in the modern world and is widely used in various fields, including education. The implementation of artificial intelligence in the educational system is helping to make the learning process of students more effective, interactive and personalized. Today, with the help of AI, new opportunities and approaches are created in the field of education, providing students with more customized, time-saving and effective forms of education.

Artificial intelligence in the educational process not only helps to assess and develop the level of knowledge of students, but also provides effective tools for teachers, and at the same time, it serves to improve the quality of the entire education system. A number of processes such as the creation of innovations in education, the development of an individual approach, decision-making based on data analysis, and the expansion of distance learning opportunities, make the place of artificial intelligence in the education system even more important.

In this article, we will consider the role of artificial intelligence in the educational process and the new opportunities it creates for students and teachers.

Methodology

1. Personalization of education

Artificial intelligence technologies make it possible to determine the individual needs of students and create appropriate educational programs. For example, learning can be personalized by providing reading materials and exercises based on students' knowledge level and learning speed. This, in turn,

allows each student to learn in their own unique way and allows them to reach the level previously expected.

2. Automated evaluation and analysis

With the help of artificial intelligence systems, the processes of evaluating students' knowledge and analyzing the results are accelerated. Automatically checking and analyzing tests, quizzes, and other assessment tools allows the teacher to save time and make informed decisions. These systems help students quickly identify their strengths and weaknesses, making it easier to provide individualized support.

3. Interactive teaching tools

AI-based interactive learning tools, such as virtual teachers, chatbots, games, and simulations, help to increase students' interest in lessons and effectively absorb knowledge. Artificial intelligence enables students to ask questions in real time and learn in different classroom environments. This, in turn, makes the lessons interesting and practical, increasing the learning efficiency of the students.

4. Support for teachers

For teachers, artificial intelligence offers opportunities not only to assess students, but also to create more effective teaching methods. For example, there are programs that help teachers prepare analytical reports and determine an individual approach. This allows teachers to do their work more efficiently and save time.

5. Advanced and distance learning opportunities

Artificial intelligence plays an important role in distance education. By personalizing learning materials, creating interactive exercises, and assessing students in real time, distance learning systems can be effective. Artificial intelligence allows teachers to save time in distance education and constantly monitor students.

6. Distance education and online platforms

Along with the development of distance education, artificial intelligence will also play an important role in distance education. Online platforms and interactive programs use artificial intelligence to provide students with timely and personalized learning materials. Also, in distance education, artificial intelligence provides ample opportunities to support teachers, monitor students and evaluate their progress.

Results and Discussion

The field of artificial intelligence focuses on creating software and systems that can learn from data, reason, understand natural language, perceive images and sounds, and make decisions based on data collected through various tools. In supervised learning, machines learn from sample articles labeled by humans, while in unsupervised learning, they learn patterns in a dataset without specific instructions. Better learning, the latest improvement in machine learning, involves learning from large amounts of data with layered neural networks. Here, large amounts of data are fed into algorithms to learn or perform complex tasks. Today, AI software is more sophisticated and evolving, from voice assistants to stock market prediction algorithms, natural language processing, and image recognition software. Artificial intelligence deals with robotics and provides machines that automate routine activities.

In recent times, the digitization of data has improved significantly. However, like any other technology, student data is susceptible to hacking. Schools always run the risk of personal data being misused if it falls into the wrong hands. It is unlikely that artificial intelligence will develop. There's always the argument that the upsides outweigh the downsides. The time has come when our education system needs a makeover, and now AI can nudge us in the right direction. While intelligent machines will enhance the learning experience, they should not be seen as a substitute for personal interaction. Relying too much on these machines for classroom or teacher support can lead to harmful educational programs for students. Computers are demonstrating not only the ability to organize intelligent

diaries, but also the ability to teach other computers. However, there is a high probability that they will not be able to make intuitive decisions in new situations that often arise in the classroom.

CONCLUSION

The role of artificial intelligence in the educational process is increasing. It provides opportunities to further personalize student learning, create automated assessment systems, and provide effective support to teachers. Artificial intelligence is an important tool in supporting not only students, but also teachers, helping to improve the efficiency of the education system.

LIST OF REFERENCES:

1. **Brynjolfsson, E., & McAfee, A.** (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W. W. Norton & Company.
2. **Keller, J. M.** (2010). *Motivational design for learning and performance: The ARCS model approach*. Springer.
3. **Woolf, B. P.** (2010). *Building Intelligent Interactive Tutors: Student-Centered Strategies for Revolutionizing E-Learning*. Morgan Kaufmann Publishers.
4. **Anderson, C. A., & Dill, K. E.** (2000). *Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life*. *Journal of Personality and Social Psychology*, 78(4), 772-790.
5. **Chen, L. H., & Wang, M. Y.** (2016). *Application of artificial intelligence in the educational system*. *International Journal of Computational Intelligence*, 2(2), 45-53.
6. **Baker, R. S. J. D., & Inventado, P. S.** (2014). *Educational data mining and learning analytics*. *The Cambridge Handbook of the Learning Sciences*, 2nd Edition, 253-272.
7. **Siemens, G.** (2005). *Connectivism: A Learning Theory for the Digital Age*.
8. **Bennett, S., Maton, K., & Kervin, L.** (2008). *The 'digital natives' debate: A critical review of the evidence*. *British Journal of Educational Technology*, 39(5), 775-786.
9. **Laurillard, D.** (2012). *Teaching as a design science: Building pedagogical patterns for learning and technology*. Routledge.
10. **Popenici, S. & Kerr, D.** (2017). *The role of artificial intelligence in education: Current progress and future prospects*. *Journal of Educational Technology & Society*, 20(1), 63-74.
11. Mukhittinova, K. (2022). Increasing the Efficiency of Investment Activities of Automotive Enterprises. *International Finance and Accounting*, 2022(1), 20.
12. Alisherovna, M. K. (2022). Attracting investment to regions-An important factor of development. *Asian Journal Of Research In Banking And Finance*, 12(3), 10-13.
13. Бободжонова, З. (2021). Economic regulation of development methods for water injection at explored fields. *Общество и инновации*, 2(11/S), 37-41.
14. Mukhittinova, K. A., & Sayfutdinova, N. F. (2022). Status of development of innovative activities of industrial enterprises. *Asian Journal of Multidimensional Research*, 11(5), 363-368.
15. Alisherovna, M. K. (2022). Use of communication networks in the optimization of investment project work. *TRANS Asian Journal of Marketing & Management Research*, 11(5and6), 49-52.