# PROSPECTS OF USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN TEACHING MEDICAL TECHNOLOGY MANAGEMENT

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**Abstract**: This article analyzes the importance, possibilities, and practical application of the use of digital technologies and artificial intelligence (AI) in teaching the subject of Medical Technology Management. The article discusses how to help create interactive and personalized forms of education through digital technologies and AI, improve teachers' pedagogical approaches, and increase student motivation. It was also noted that for the effective use of technological tools, it is necessary to improve the qualifications of teachers and strengthen the educational infrastructure. The article highlights the importance of modern technologies and artificial intelligence in teaching medical technology management and emphasizes the importance of their integration into the education system.

**Keywords:** internet, artificial intelligence, method, virtual laboratory, visualization, modeling, interactive, assessment, automation, integration.

Introduction. In our country today, as in all spheres, the role of computer technologies in medicine is developing day by day. Taking this into account, the development of Internet technologies in the industry remains a key issue. The Internet is uniting different people with a single goal. Everyone tries to get some kind of information from the Internet. The internet network is developing day by day. The main reason for this is the increase in the number of information resources covering all spheres of our society. If we talk about artificial intelligence technologies, cloud technologies, and smart technologies, which are developing and at the center of attention today, these technologies can help us in many areas at every step. [1]

Currently, such technologies are widely used in the field of education. The role of such technologies in the independent learning of students is especially invaluable. Today's youth have almost no need to wait for any information, study any field, whether it's language learning or studying modern fields, covering certain distances, browsing books for hours, or having some teacher's free time. Many of our young people, who have studied and used such technologies to the fullest extent, are achieving good results. [2]

Today, every subject teacher is entrusted with the task of knowing modern computer technologies in addition to their specialized subject. Every teacher who aims to provide quality education and upbringing to students in line with the times approaches the fulfillment of such tasks with responsibility. Let's now consider the advantages of combining artificial intelligence with traditional teaching methods to provide quality education and upbringing to students and make classroom lessons more attractive, attracting students' attention to the lesson. [3]

The rapid development of artificial intelligence (AI) technologies opens up new opportunities for improving the education system, including the teaching of medical and technical sciences.

Mastering the discipline "Medicine Technology Management" requires students to comprehensively understand the fundamental concepts and concepts of effective management of all medical devices in the healthcare system, the formation and development of knowledge and skills. The use of artificial intelligence technologies in medical technology management lessons can significantly increase the effectiveness of teaching this subject, bringing the educational process to an interactive, individually oriented, and improved form based on advanced scientific achievements. [4] Valuable data on the use of artificial intelligence in teaching this subject has been collected in several foreign countries. The role of artificial intelligence in education consists in improving the student's experience based on a personalized approach and providing personalized recommendations. Systems based on artificial intelligence can assess the individual strengths and weaknesses of a student, adapt lessons to meet their specific needs, and provide feedback and recommendations in real time. Such a personality-oriented approach helps students master complex concepts more effectively and at a peculiar pace. AI systems are systems designed to analyze and interpret data, identify patterns, and make predictions or recommendations based on collected data. [5]

In healthcare, AI can play a crucial role in facilitating the understanding of abstract and complex principles. In recent years, the following main trends in the use of artificial intelligence in teaching the subject of medical technology management have been observed in foreign research:

-virtual laboratories: using artificial intelligence simulations to create interactive virtual laboratories where students can conduct experiments. Such virtual laboratory work allows for the safe study of complex or dangerous processes.

- visualization and modeling: the application of artificial intelligence generators in medicine for the dynamic visualization and creation of 3D models of concepts such as the motion of physical objects, electromagnetic fields, and quantum phenomena. This direction helps students better understand biophysical principles.

- interactive learning systems: development of flexible artificial intelligence systems that monitor the dynamics of students' mastery of specialized subjects, identify problems in it, and offer personal explanations and practical tasks. Such systems are useful for students in consolidating knowledge and developing problem-solving skills.

- automation of assessment: the use of artificial intelligence technologies for automatic verification and assessment of scientific calculations, laboratory reports, and written works. This

allows teachers to spend less time regularly assessing student performance and focus more on individual support.

- Integration with other educational technologies: Combination of artificial intelligence systems with other educational technologies such as augmented reality, virtual simulators, and cloud computing. This method will help create comprehensive digital ecosystems that positively affect the effectiveness of subject teaching. [6]

The above-mentioned trends in artificial intelligence, indicating that it is becoming a modern, integral part of teaching the discipline of medical technology management in universities, contribute to ensuring greater interactivity of learning processes, individualization, and adaptation to other technologies.

In recent years, research on the use of artificial intelligence in teaching the subject of medical technology management in educational institutions has been actively conducted in such countries as the USA, China, Italy, Japan, and Germany. Advanced foreign experience shows that the integration of artificial intelligence technologies into medical engineering education has broad opportunities for reforming traditional teaching methods. A comprehensive study of scientific literature allows us to identify the advantages, problems, and promising directions of using artificial intelligence in education. [7].

Artificial intelligence-based tools, such as intelligent tutoring systems and personalized learning platforms, allow for individualized learning tailored to students' individual needs and learning styles. Additionally, AI's real-time feedback and evaluation capabilities increase the effectiveness of student assessment. Automated assessment systems analyze student performance, track progress, identify existing problem areas, facilitate timely intervention, and expand opportunities for targeted support from teachers. Also, intellectual agents, chatbots, and virtual tutors promote an interesting and interactive learning environment, encouraging discussions and debates among the student's peers. [8]

However, the successful implementation of AI in teaching this subject also has its own complexities. When implementing artificial intelligence technologies in educational institutions, the availability of technical infrastructure, ensuring confidentiality and data security are of great importance. When developing AI applications or selecting them for use in the educational process, it is necessary to carefully consider such issues as data protection, security, and algorithmic bias, paying special attention to the priority of the student's interests. It is necessary to train and improve the qualifications of teachers who have knowledge and skills in the methods of using AI in the educational process. In these processes, along with bringing the necessary modern knowledge to the attention of future teachers and educators, it is important to ensure cooperation between researchers, educational management bodies, educators, and other interested parties working in these areas. If necessary, it will be necessary to make the necessary additions and amendments to the regulatory framework. [9]

Conclusion. In conclusion, it can be said that the study of the influence of individual learning approaches based on artificial intelligence on students' academic performance, long-term memory, and memorization skills can provide valuable information about the stability and effectiveness of AI tools. In addition, taking into account the growing scale of the use of artificial intelligence in education, it is important to conduct research on information security and ethical consequences. Studying confidentiality, transparency, and fairness in artificial intelligence algorithms, conducting scientific research to mitigate the influence of bias and

potential discrimination in artificial intelligence-based learning systems is necessary to ensure equal access to AI for all. The study of the influence of different cultures, age groups, the learning environment, and educational conditions on the effectiveness of adaptive learning and individual approaches based on artificial intelligence is also an important scientific and methodological problem. In this regard, it can be said that many studies on the use of artificial intelligence in education, including the teaching of medical technology management, await us in the future.

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