SMART LEARNING ENVIRONMENTS AND COMMUNICATION TECHNOLOGIES

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Abstract: Intelligent educational environments and communication technologies are an important factor in radically changing the modern educational process. The rapid technological progress in the field of Education serves to improve students 'learning patterns and improve teachers' performance. This article will analyze in detail the nature of intelligent educational environments and communication technologies, their role in the educational process, their advantages, as well as their future prospects.

Keywords: education, technology, innovative methods, knowledge, lessons, platforms, online resources, feedback.

Modern educational systems are becoming richer with new opportunities and tools as a result of technological progress. Various innovative technologies are being introduced to improve the efficiency of the educational process, improve communication between students and teachers, and make the educational environment more accessible and interactive. Real-time in-class communication systems are important in improving the effectiveness of the educational process. These systems provide quick and effective communication between teachers and students. For example, a teacher can take students ' questions immediately during class and answer them quickly. Students will also have the opportunity to express their thoughts, thoughts immediately. This makes the learning process more interactive and fun. With Real-time communication systems, classes are conducted more vividly, students better assimilate knowledge. In addition, with the help of such systems, the activities of each student in the class are constantly monitored and an individual approach is carried out. The fifth and sixth generation wireless networks, namely 5G and 6G technologies, serve to radically

improve the quality of distance learning. These technologies provide high speed, low latency, and comprehensive networking capabilities. As a result, students and teachers can connect from anywhere in the world to high-quality video lessons, interactive platforms and online resources. Such opportunities make distance learning more efficient and accessible, losing geographical limitations in education. In addition, large amounts of data are rapidly transmitted using 5G and 6G networks, expanding the use of new technologies in the learning process.[1]

The Internet of Things, IoT, plays an important role in creating intelligent classes. IoT devices connect different equipment in the class, allowing them to be controlled through a centralized control system. For example, parameters such as room temperature, lighting, sound level are automatically adjusted, which creates a comfortable and healthy educational environment for students. Also, with the help of IoT, information about the activities of students and teachers is collected and analyzed. This serves to further improve the educational process. In smart classes, interactive whiteboards, touch devices and other modern technologies are widely used for students, which makes the learning process more efficient and interesting. High-speed networks across campus are important in strengthening the digital infrastructure of educational institutions. Such networks integrate all buildings, classes, libraries and other educational facilities into a single system. As a result, students and teachers will be able to quickly connect to the internet from anywhere. With high-speed networks, it is possible to quickly and easily download large volumes of educational materials, connect to online classes and actively participate in interactive platforms. In addition, campus networks also provide a high level of security and data protection, which guarantees continuity of the educational process.[2]

An intelligent learning environment is a system that is tailored to the individual needs and abilities of students, enriched with interactive, digital tools, and aims to effectively organize the learning process. In such an environment, student activity increases, the process of mastering knowledge becomes more interesting and effective. Intelligent learning environments help students develop self-management, independent thinking, and problem-

solving skills. And communication technologies make it possible to improve communication between students and teachers in the educational process, quickly and efficiently transfer knowledge. The internet, mobile devices, video conferencing systems, digital platforms and many other technologies ensure that education is implemented anywhere and at any time. This gives a great impetus to the development of distance education and online courses in particular. One of the main features of intelligent educational environments is interactivity. Interactive educational tools allow students to actively participate, not just passive acceptance of knowledge. For example, educational programs, simulations, virtual laboratories and educational materials in the form of games make the learning process more interesting and effective. This in turn helps students to gain deeper knowledge.[3]

In intelligent educational environments, an individual approach also plays an important role. Because each student's abilities, level of knowledge, and learning styles vary, the educational system must also be flexible. Artificial intelligence and data analysis technologies are of great help in this matter. They constantly monitor the learning process of students, analyze the results and adapt learning materials to personal needs. As a result, educational efficiency increases significantly. Communication technologies destroy the geographical boundaries of the educational process. Students can get knowledge by contacting qualified professionals from anywhere in the world. This serves to provide equal opportunities in education. Such opportunities are especially important for students living in rural areas or remote areas. With the help of distance learning systems, their opportunities for education expand, the quality of education improves.[4]

Another important aspect of intelligent educational environments and Communication Technologies is the support of collaboration and teamwork. Digital platforms provide effective communication and collaboration between students and teachers. Group projects, discussions, exchange of ideas and opportunities to work together will further enrich the educational process. This helps to develop students ' social skills. There are also systems for continuous monitoring and evaluation of the learning process in intelligent educational environments. These systems make it possible to accurately assess the level of knowledge of

students, identify shortcomings and take the necessary measures to eliminate them. The assessment process is transparent and fair, and also develops students ' self-assessment skills.[5]

As technology advances, new opportunities are also emerging in education. Advanced technologies such as Virtual reality, augmented reality, artificial intelligence, big data analysis are serving to further enhance intelligent educational environments. For example, with the help of virtual reality, it will be possible to visually study complex scientific processes, which will make it easier for students to understand. However, there are also some problems with the introduction of intelligent educational environments and communication technologies. The most basic of these are the lack of technological infrastructure, the difficulties of teachers in mastering new technologies, as well as the low skills of students in the effective use of technology. Therefore, in the process of digitizing the educational system, it is important to train qualified personnel and create a modern infrastructure.[6]

Conclusion: In conclusion, intelligent educational environments and communication technologies make it possible to radically change the educational process, making it more effective, interactive and based on an individual approach. With these technologies, the quality of education increases, the interest and activity of students in learning increases, and equality and opportunities in education expand. In the future, more innovative solutions will appear in this area, which will serve to further perfect the educational process. Therefore, educational institutions, government and society should jointly pay great attention to the widespread introduction and development of these technologies.

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