

**DIGITAL EDUCATIONAL ENVIRONMENT AND ITS ROLE, FUNCTIONS AND OPPORTUNITIES IN THE MANAGEMENT OF EDUCATIONAL PROCESSES**

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**Digital learning environment has an important place in modern education and allows effective management of learning processes.** This environment facilitates communication, data sharing and integration of learning materials between students and teachers. Digital learning environments have various functions, including increasing interactivity, providing individualized learning, and monitoring the learning process. Also, in this environment, opportunities to improve the quality of education and meet the demand for it are expanding.

**Keywords:** digital education, educational environment, learning process, management, interactivity, individualization, monitoring

**The digital educational environment plays an important role in the modern education system, ensuring effective management of educational processes.** This environment includes a range of flight training and teaching, exchange of information and integration of educational materials. The digital educational environment has various functions, including increasing interactivity, ensuring an individual approach to training and monitoring the educational process. In addition to that, the mother publishes the possibilities for the improvement of the quality of the education and the training of the educational needs.

**Key words:** digital education, educational environment, educational process, management, interactivity, individualization, monitoring

**The digital learning environment plays a crucial role in modern education by enabling effective management of the learning process.** This environment facilitates communication between students and teachers, information exchange, and integration of educational materials. The digital learning environment possesses various functions, including enhancing interactivity, providing personalized learning, and monitoring the educational process. Additionally, it expands opportunities to improve the quality of education and meet diverse learning needs.

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### **Introduction**

**Today, digitalization processes are developing rapidly in the global education system. The digital learning environment is an innovative system created to take the educational process to a new level, making it more efficient and convenient.** It not only provides convenience for students and teachers, but also plays an important role in managing the educational process. This article analyzes the role of the digital educational environment in educational processes, its functions and possibilities [1].

### **Concept of digital learning environment**

**Digital learning environment is an environment created using information and communication technologies (ICT) in the educational process.** It organizes the educational process through various electronic resources, platforms and software. It uses many tools such as video lessons, interactive exercises, tests, online communication.

A digital learning environment can be used in any educational institution, such as a school, university, or vocational school. It allows for the automation of the learning process and the quick and easy management of data.

### **The role of the digital educational environment in the management of educational processes**

The digital learning environment provides many opportunities for effective management of learning processes. First of all, it helps to automate the learning process. For example, a teacher can save lesson plans, assessment systems, educational materials in electronic form and quickly update them. Second, it is possible to provide education tailored to the individual needs and abilities of students in a digital environment. This increases the effectiveness of education. Thirdly, there is an opportunity to monitor and evaluate the educational process. This allows the teacher to monitor the progress of each student and provide additional support when needed. Also, in a digital environment, communication between students and teachers becomes easier, which accelerates the circulation of knowledge and creates opportunities for collective learning.

### **Basic functions of the digital learning environment**

#### **Smart learning process**

The digital environment helps to create individual learning plans, to assess the level of student learning. For this, there is an opportunity to collect information, analyze it and make decisions based on it.

Intelligent educational process is an approach aimed at automation, individualization and improvement of efficiency of the educational process using artificial intelligence (AI) and information and communication technologies (ICT) in the educational system [2].

Concept and main goals. The intelligent learning process mainly serves to provide education according to the individual needs, abilities and learning methods of the student. In this process, with the help of artificial intelligence, the level of knowledge of students is analyzed, and appropriate lesson materials and assignments are given to them.

The main components of the intelligent learning process.

Data collection and analysis: data on student learning activities (test results, class participation, activity) are collected and analyzed.

Creation of personalized educational plans: based on the results of the analysis, a suitable educational direction and study plan is formed for each student. Automated assessment: Students' knowledge is assessed using automated tests or artificial intelligence. Feedback: Students are provided with accurate and timely feedback on their learning. Planning and monitoring: the learning process is constantly monitored and adjustments are made when necessary.

Advantages. Individual approach: educational process suitable for each student's learning pace and level. Effective use of resources: lesson materials are provided based on the specific needs of the student. Automating the learning process: allows the teacher to automatically assess and monitor assignments. Instant feedback: students receive instant feedback about their strengths and weaknesses during the learning process. Increase motivation: rewards and incentive systems based on individual student results are used.

Fields of application. On online learning platforms. In interactive educational programs. In Distance Education Systems. In vocational education and special education systems.

Problems and directions of development. The following problems may be encountered in the implementation of intelligent educational process: Low competence of students and teachers in the use of ICT and artificial intelligence. The need for technical equipment and a stable internet connection. Issues of data protection and privacy. In the future, it is expected that the intelligent learning process will become more efficient and intuitive with the development of artificial intelligence technologies.

### **Interactivity**

Active participation of students in the educational process is ensured through interactive tools (online tests, quizzes, communication platforms). This serves to strengthen knowledge and increase motivation.

Interactivity is the level of active and interactive communication, communication and cooperation between the teacher and student, as well as students in the learning process. In a digital learning environment, interactivity is an important factor in making learning interesting, engaging and effective [3].

The importance of interactivity. In the interactive learning process, the student becomes not just a receiver of information, but an active participant, asking questions, reflecting, and influencing new ideas. This serves to deepen knowledge acquisition and develop thinking and creative abilities.

Types of interactivity. Communication between teacher and student: questions and answers, dialogues, electronic textbooks and tests. Collaboration between students: group work, online discussions, team projects. Interactivity between student and educational resource: interactive video lessons, simulations, animations, quizzes.

Tools of interactivity in the digital learning environment. Online tests and quizzes: to automatically assess student knowledge and increase mastery. Forums and chats: for communication and exchange of experiences between students and teachers. Interactive presentations and e-books: presentation of information in visual and animated form. Virtual laboratories and simulations: to build practical skills. Elements of offline and online gamification: increasing motivation and making the learning process interesting.

Advantages of interactivity. Increases student activity. It helps to acquire knowledge effectively and more deeply. Encourages communication and cooperation. Develops creative and critical thinking. Makes the learning process interesting and dynamic.

Recommendations for increasing interactivity. Use of various interactive methods in the lesson: questions and answers, group discussions. Effective use of technological tools: electronic platforms, mobile applications, etc. Teach students to think independently and pay attention to new things. Introduce game elements to increase motivation and interest.

### **Multimedia capabilities**

In the digital environment, it is possible to use information in various forms, such as text, image, video, audio. It makes learning more interesting and effective.

Multimedia capabilities are the ability to use multimedia elements such as text, images, video, audio, animation and graphics in a digital learning environment. These opportunities serve to make education more interesting, understandable and effective [4].

Multimedia elements and their importance. Text: the primary tool for clearly and concisely conveying lesson material. Pictures and graphs: Representing information in visual form helps to understand complex concepts more easily. Video and audio materials: provide information to the audience in the form of real-life examples, educational videos, lectures and interviews. Animations and interactive graphics: Dynamically illustrate concepts, engage students and increase retention.

The Role of Multimedia in Digital Education. Facilitates understanding: visual and audio materials help make complex theories and concepts simple and clear. Multifaceted Learning: A student can learn according to their learning style by taking in material from a variety of methods. Increases motivation: interesting and interactive multimedia tools increase students' interest in learning.

Supports Distance Learning: Video lectures and audio tutorials are essential in making the distance learning process effective.

Methods of effective use of multimedia. Enriching lesson materials with various types of multimedia tools (images, diagrams, videos). Use of interactive multimedia elements (quizzes, simulations, gamification elements). Dividing materials into segments and using different multimedia tools for each part. Encourage learning through tutorials, video lessons, and audio lectures.

Advantages. Makes the educational process more colorful and interesting. Adapts to students' different learning styles. Helps to retain knowledge for a long time. It is effective in forming practical skills.

Examples of multimedia technologies. Video platforms (YouTube, Vimeo). Audio platforms (podcasts). Interactive e-books. Virtual and animated simulations. Educational mobile applications and games.

### **Distance learning**

There is an opportunity to organize distance learning through the digital environment. This is especially important during the pandemic and for local or international students.

Distance learning is the process of organizing the educational process through the Internet and digital technologies, instead of attending a traditional school or educational institution. This method allows students to learn without the constraints of space and time [5].

Main features of distance learning: Location independence: students and teachers communicate with each other remotely, via the Internet or other means of communication.

Time Management: Lessons and materials can be learned at a time convenient for the student.

Extensive use of digital tools: education is organized through tools such as webinars, online tests, video lectures, e-books. Individual or group study: Students can study independently or together in virtual groups.

Advantages of distance learning. Convenience and freedom: the student can choose his own time and place, which makes education convenient for everyone. Access to a wide audience: through distance education, students from different regions and even abroad can receive education. Use of digital technologies: online platforms, mobile applications and websites enable better organization of education. Economy: Travel and accommodation costs are reduced. Education in different formats: providing knowledge through text, video, audio and interactive materials.

Distance learning formats. Synchronous (real-time) learning: teachers and students communicate simultaneously through online meetings, webinars. Asynchronous learning: students learn electronic materials in their own time, questions and answers are held in an online environment in a delayed manner or through a forum. Hybrid learning: combines traditional and distance learning methods.

Challenges of distance education. Technical problems: Internet speed and stability, lack of devices. Motivation and Discipline: Students may experience difficulties in independent study.

Communication difficulties between sites: decreased interactivity of discussions and dialogues.

Low ICT skills of teachers and students.

Distance learning. Methods for effective organization of education, using various platforms and tools to make the learning process interactive. Good devices and stable internet connection.

Develop appropriate methods to motivate students and help them. Improving teachers' ICT skills and providing them with ongoing support.

Distance learning is one of the most important and modern trends in global education, which has become especially important in the context of a global pandemic. The correct and effective use of this method will help improve the quality of education.

**Opportunities and benefits of digital learning environments.**

Extensive use of available resources: The digital environment provides online access to a variety of educational resources. Discussion and Collaboration: Collaboration between students and teachers is enhanced through online forums and group work.

Economic efficiency: costs associated with a paperless learning process are reduced. Efficiency and quality improvement: the use of innovative methods in the learning process improves the quality of education. Personal development: students have the opportunity to manage their own time.

#### **Problems and solutions**

Although the digital learning environment has many opportunities, there are also some challenges: Technical challenges: not all students and teachers have modern devices and stable internet. Need for professional development: Inadequate ICT knowledge of teachers and educational staff. Information security: issues of personal data protection. Motivation and adaptation: psychological barriers to the transition from traditional learning methods to digital learning. Appropriate educational programs, technical infrastructure, and political support are important to address these challenges.

#### **Conclusion**

**The digital learning environment is one of the most important and rapidly developing areas in education today, opening up new opportunities for managing learning processes.** It provides personalized, interactive, and effective learning, and also facilitates distance learning. However, in this process, technical, personnel, and psychological problems need to be addressed. In the future, research and innovations related to the digital learning environment will further improve the education system and increase the quality of education.

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