

PEDAGOGICAL NEED AND PROSPECTS FOR USING MULTIMEDIA EDUCATIONAL TECHNOLOGIES IN THE PROCESS OF PROFESSIONAL EDUCATION

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Abstract. This article analyzes the pedagogical necessity and prospects of using multimedia educational technologies in the process of professional education. Multimedia technologies provide clarity, interactivity and an individual approach in the educational process, serve to increase the effectiveness of student learning. The article examines the advantages, areas of application and positive impact of multimedia technologies on the educational process. Recommendations for a wider implementation of multimedia technologies were also developed, including specific areas of infrastructure development, teacher retraining, and the integration of innovative technologies into the educational process.

Key words: Professional education, multimedia educational technologies, interactive education, pedagogical necessity, educational efficiency, innovative technologies.

Login. Rapid economic and technological changes in modern society require a rethinking of the process of vocational education. Today's requirements require the introduction of educational models aimed at developing not only theoretical knowledge, but also practical skills and competencies. In particular, the use of innovative methods such as multimedia educational technologies (MET) in the educational process takes the process of acquiring knowledge of students to a new level. With the help of these technologies, educational materials are presented in an interactive, visual and individualized manner, which significantly increases the effectiveness of the educational process.

Multimedia educational technologies involve the use of various tools in the learning process, including video, animation, simulation, interactive tests and infographics. They create a favorable environment for increasing student interest, better assimilation of knowledge and the formation of practical skills. Especially in the fields of technology, engineering and medicine, multimedia technologies serve as an important tool for bringing theoretical knowledge closer to real-life conditions. Given that today's students are more inclined to visual and interactive learning, teaching with the help of MMT makes this process more interesting and effective [4]

Today, many countries around the world have successful experiences in introducing multimedia technologies into the educational process. For example, in countries such as South Korea and Singapore, programs have been introduced to master technical knowledge through virtual laboratories and simulations. In Finland, multimedia platforms aimed at individualizing the educational process are widely used. These experiences show that multimedia technologies have a positive impact not only on the quality of education, but also on students' independence, creative thinking, and problem-solving skills [3].

of multimedia is also changing the role of teachers in the educational process. Now teachers act not as a source of knowledge, but as leaders and consultants of the educational process. Multimedia technologies provide teachers with wide opportunities for developing individual approaches, visualizing educational materials, and making the lesson process interactive. However, in this process, teachers themselves also need to improve their skills in mastering new technologies [5].

The level of understanding of the problem.

In Uzbekistan, the introduction of multimedia educational technologies is one of the priority areas in the process of modernization of vocational education. Special attention is paid to expanding the use of innovative technologies in the education system through presidential decrees and government programs. However, for the effective introduction of multimedia technologies, it is necessary to solve a number of issues related to improving the material and technical base of educational institutions, developing multimedia content, and training teachers [1, 2].

The impact of multimedia technologies on the educational process is not limited to improving the quality of students' education, but also affects their social and psychological development. Learning in an interactive environment develops students' creativity, teamwork, and independent problem-solving skills. At the same time, the visual and audio elements of multimedia materials improve students' ability to perceive information, which makes the educational process more effective [9].

The use of multimedia educational technologies helps to make the learning process interactive. Students become active participants in the learning process, they have the opportunity to test their knowledge in practice through interactive tests, simulations and games. This makes the learning process not only interesting, but also effective. Multimedia technologies are important in developing students' visual perception, since visual content improves the retention of information and its long-term storage. At the same time, information presented through visual and audio elements increases the level of students' mastery [7].

Multimedia technologies are being effectively used in vocational education in a number of areas. For example, in the medical field, students gain experience in performing surgical procedures using virtual simulations, which is important in preparing them for future professional activities. In the engineering field, virtual laboratories and animations create an opportunity to understand and implement the processes of creating structures, distributing energy or controlling technical devices. In the agricultural field, simulations and infographics are used to study the processes of tillage, planting crops and crop management [4].

Multimedia technologies provide great opportunities not only for students, but also for teachers. Teachers have the opportunity to make lessons more interesting and understandable by using visual and interactive materials in organizing the educational process. This creates the opportunity to organize the educational process in a more effective and activating way. MMT also includes special programs and testing tools that allow for quick assessment of student results. This makes it easier to identify shortcomings in the educational process and take prompt measures to eliminate them.

At the same time, there are a number of problems in the process of introducing multimedia technologies. Among them, one can note such issues as the lack of technical resources, insufficient qualifications of teachers, and the lack of special multimedia content. The problem of technical resources is often encountered in developing countries, since educational institutions are not sufficiently equipped with modern computers, projectors, and the Internet. In addition, the lack of sufficient experience and knowledge of educators to effectively use multimedia technologies is an obstacle to the widespread introduction of these technologies [5].

There are a number of promising directions for the wider use of MMTs in vocational education in the future. One of these is the introduction of innovative technologies. For example, modern technologies such as artificial intelligence or virtual reality make the learning process more efficient and greatly help students understand complex processes. It is also necessary to work on the development of multimedia content that meets the national mentality and educational standards. This content will not only develop the learning process, but also help preserve national values.

The use of ICT in vocational education is an important factor in improving the professional skills of students, developing their creative thinking, and preparing them for production processes. However, the effective use of these technologies requires additional efforts to improve

the infrastructure in educational institutions, retrain teachers, and introduce innovative methods. Such an approach will not only develop the educational process, but also raise the readiness of young specialists for the labor market to a high level [10].

Multimedia educational technologies, as an important part of the vocational education process, have a positive impact not only on the quality of education, but also on the development of students' professional competencies. These technologies make the learning process more interesting and effective through visualization, interactivity, and individual approach. They serve as an important tool for updating traditional methods in the educational process and creating an educational environment adapted to modern needs. At the same time, the effectiveness of MMTs is associated with their proper implementation, improving infrastructure, and increasing the competencies of teachers [11].

The benefits of multimedia technologies for the educational process are also manifested in their role in the development of creative thinking, independence and social skills in students. However, to make this process more effective, it is necessary to implement some additional measures. These measures will help to improve the quality of the educational process and maximize the benefits from the use of multimedia technologies.

Recommendations:

Improving technical infrastructure

Investments should be made in providing modern multimedia equipment and high-speed Internet access in educational institutions. It is important to use the opportunities for cooperation with local authorities and the private sector. It is also necessary to consider the appointment of specialized technical staff in information technology in educational institutions.

Multimedia content creation and localization

It is important to create multimedia educational materials that are consistent with the national mentality and educational standards, as well as adapted for various areas of vocational education. These contents, including visuality and interactivity, arouse the interest of students and ensure their deep assimilation of knowledge.

Professional development of educators

multimedia technologies, it is necessary to organize regular courses for retraining teachers. In this regard, it is important to conduct trainings that provide them with specific skills in the use of innovative technologies. It is also recommended to organize conferences and seminars that encourage the exchange of experience among teachers.

Implementation of innovative technologies

It is necessary to accelerate the process of introducing modern technologies such as artificial intelligence (AI), virtual and augmented reality (VR/AR) into the educational process. These will not only help to make the educational process more visual and understandable, but also increase the opportunities for practical experience. For example, incorporating virtual simulations into the educational process will be very effective in preparing students for complex technical processes.

Improving the system for assessing the effectiveness of the educational process

It is necessary to introduce a system of regular evaluation of changes in the educational process as a result of the use of multimedia technologies. This can be done using interactive tests, user feedback, and real-time monitoring methods. This process will help to assess the effectiveness of multimedia technologies and, if necessary, improve them.

Expanding multimedia opportunities for inclusive education

When using multimedia technologies, it is also necessary to create special content and tools for students with special needs. For example, it is important to develop special interfaces and audio-visual aids for students who are blind or have hearing impairments.

Strengthening integration with production in the vocational education process

The use of multimedia technologies should be linked to production needs. This can be achieved by strengthening cooperation between educational institutions and industrial enterprises, and by organizing simulations close to production practice using multimedia materials.

Multimedia educational technologies offer great opportunities for revolutionary changes in the modern educational process. By implementing these recommendations, it is possible to make the educational process more effective and raise the professional training of students to a higher level. This will have a positive impact not only on the quality of education, but also on the economic development of the country.

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