

**METHODOLOGY OF USING MODERN INFORMATION AND COMMUNICATION
TECHNOLOGIES IN THE EDUCATIONAL PROCESS**

Tokhtamysheva Dilrabo Shermonovna

student of the Higher School of Business and Entrepreneurship under the Cabinet of
Ministers of the Republic of Uzbekistan

tuktamishevadilrabo@gmail.com

<https://orcid.org/0009-0003-9982-9272>

Abstract

In this work, the method of using modern information and communication technologies in the educational process and its importance in increasing the effectiveness of teaching are highlighted. The study analyzed the role of ICT in the educational system, the possibilities of using electronic educational resources and digital platforms. Also, the issues of using interactive teaching methods based on information technologies, increasing the knowledge efficiency of students and developing the digital competencies of pedagogues were considered. The results of the study show that the effective use of ICT in the educational process serves to improve the quality of teaching.

Key words

information and communication technologies, educational process, digital educational environment, electronic educational resources, educational platforms, interactive teaching, digital competence, educational efficiency.

Enter. Currently, the rapid development of information and communication technologies has a great impact on all areas of society, including the education system. The use of information and communication technologies (ICT) in the modern educational process increases the effectiveness of teaching, activates the process of students' learning, and improves the quality of education. With the help of ICT, it is possible to present educational materials in an interactive, visual and understandable form. Today, electronic textbooks, multimedia tools, online educational platforms, virtual laboratories and distance learning technologies are widely used in the educational system. This is of great importance in the development of students' independent learning skills, and the formation of their creative and critical thinking skills. Therefore, studying and improving the methodology of using modern information and communication technologies in the educational process is one of the important scientific and pedagogical issues.

The main goal of this research is to study the methodology of using modern information and communication technologies in the educational process and to analyze their importance in increasing the effectiveness of teaching.

To achieve this goal, the following tasks were set:

- study the role of information and communication technologies in the educational process;
- analysis of the pedagogical possibilities of using ICT in the educational process;
- study the methodology of using electronic educational resources and digital platforms;

- Identifying ways to improve students' knowledge efficiency through the use of ICT;
- development of scientific and practical recommendations on the use of ICT in the educational process.

The scientific novelty of the research is as follows:

- the theoretical basis of the use of modern information and communication technologies in the educational process was analyzed;
- Specific aspects of ICT-based teaching methodology were highlighted;
- the role of digital technologies in increasing the knowledge efficiency of students was scientifically substantiated;
- scientific and practical recommendations on the effective use of ICT in the educational process were developed.

Literature analysis. The issue of using modern information and communication technologies in the educational process has been studied by many scientists. Oh. Tolipov and M. Usmonboyeva in their research emphasize that modern pedagogical technologies activate the learning process of students. In their opinion, information technologies help to organize the educational process interactively. N.A. Muslimov shows that the introduction of innovative pedagogical technologies into the educational process is an important factor in increasing the effectiveness of teaching. He said that with the help of ICT, educational materials can be presented in a visual and interactive form.

T. Bates, one of the foreign researchers, notes that digital technologies provide flexible organization of the educational process and expand the opportunities for independent education of students. The reports of UNESCO and OECD also emphasized that the use of ICT is important in improving the quality of education and creating wide access to educational resources. Thus, the analysis of scientific literature shows that the use of information and communication technologies in the educational process is an important factor in increasing the effectiveness of teaching.

Research methods. The following scientific methods were used in the research process: study and analysis of scientific and pedagogical literature, methods of comparison and generalization, pedagogical observation, experimental work, statistical analysis methods.

The concept of information and communication technologies and their role in the educational system

Information and communication technologies (ICT) means a complex of technical tools, software and telecommunication systems designed for the collection, processing, storage and transmission of information. The use of ICT in the educational system means the integration of digital tools into the teaching and learning process.

ICT serves to enrich the educational process, to provide students with access to comprehensive information sources, and to ensure effective communication between the teacher and the student. According to UNESCO, information technologies improve the educational process, allow individualization of students' educational activities and development of interactive learning.

Today, ICT is an important component of the educational system, which enables the creation of educational resources in digital form, the development of distance education, and the automation of educational process management systems.

Pedagogical possibilities of modern information and communication technologies in the educational process

Modern ICT creates many pedagogical opportunities in the educational process. First of all, digital technologies make it possible to present educational materials in various formats - text, video, audio, graphics and animations. This will help students to better understand the topic.

Scientific studies show that digital technologies increase the interactivity of the learning process and increase students' interest in learning activities.

Also, the following pedagogical opportunities are created with the help of ICT:

- to expand the possibility of independent education of students;
- individualization of the educational process;
- use of interactive teaching methods;
- development of students' critical thinking.

According to research, the use of digital technologies increases the activity of students in the learning process and has a positive effect on their academic results.

The importance of information technologies in the modernization of the educational process

Information technologies play an important role in the modernization of the educational system. With the help of digital technologies, the educational process will become more flexible, effective and modern.

According to the UNESCO report, technologies affect the educational system in five main directions: as a teaching tool, a source of knowledge, a means of organizing the educational process, a management system, and a social context of the educational process.

With ICT:

- distance education system will develop;
- electronic educational resources will be created;
- education management will be digitized;
- an opportunity to monitor the level of students' knowledge will be created.

In addition, according to OECD research, digital technologies provide effective results when used in harmony with pedagogical approaches in the process of transforming the education system.

Use of ICT in the educational process in the international experience

Today, digitization of the educational process is one of the important directions of state policy in many developed countries. For example, ICT is widely used in education in countries such as the USA, Finland, South Korea and Singapore. According to the OECD, many countries are paying special attention to the development of digital infrastructure in the education system, the creation of electronic educational resources, and the improvement of the digital competences of pedagogues. Also, international experience shows that ICT increases the efficiency of the educational process and expands equal access to education.

For example:

- In Finland, a model of individual education has been developed through digital education platforms;
- Electronic textbooks are widely introduced in South Korea;
- The system of distance education through online education platforms has developed in the USA.

As a result, the use of ICT in the educational process is considered an important factor in increasing the efficiency of students' learning, improving the quality of education, and training specialists with modern knowledge and skills.

Organization of digital educational environment in educational institutions

A digital learning environment is a system that integrates teaching, learning, management, and assessment into a single digital ecosystem. Such an environment includes internet connection, devices, learning management system (LMS), digital learning resources, student information systems and communication tools. According to the OECD, the majority of schools in OECD countries use LMSs, but many of them are not fully integrated with other education systems.

Three factors are decisive in the effective organization of a digital learning environment: technical infrastructure, pedagogical design and management. As UNESCO states, technology is useful not only because it exists, but only when it serves a specific educational purpose; otherwise, it may not affect the quality as expected. Therefore, it is advisable to create a digital environment in an educational institution step by step: first, the analysis of needs, then the selection of a platform, then the training of pedagogues, the adaptation of educational resources, and finally, the establishment of a monitoring system. Such approach allows for the introduction of digital tools on a methodical basis rather than haphazardly.

Methodology of using electronic educational resources and educational platforms

E-learning resources include e-textbooks, video lectures, simulations, tests, virtual laboratories and interactive assignments. The OECD notes that digital learning resources enhance teaching and learning opportunities, but their quality, relevance and reusability are important. Several principles are important in the methodology of their application: the resource should be suitable for the educational purpose, selected according to the age and level of training, and should allow independent work and feedback. The electronic platform should involve the student as an active participant rather than turning the lesson into a "digital copy". UNESCO also demonstrates that technology is most effective when used appropriately, equitably and pedagogically.

Use of ICT-based interactive teaching methods

One of the greatest benefits of ICT is the enhancement of interactive learning. In interactive education, the student does not receive ready information, but becomes a subject of

search, analysis and discussion. This is facilitated by online forums, real-time tests, virtual laboratories, digital presentations, simulations and collaborative platforms.

Problem-based learning, project method, "inverted classroom", gamification and collaborative learning are effective in the ICT-based interactive teaching methodology. Digital tools facilitate the organization of these methods: for example, rapid diagnostics through test systems, group work through cloud documents, and practical training through simulations.

Problems encountered in the use of ICT in the educational process and ways to overcome them

The most common problems in using ICT are the lack of infrastructure, poor internet quality, limited digital competence of teachers and lack of quality content. In the materials of UNESCO GEM Report and UNICEF, it is precisely connectivity, lack of equipment and technical support problems in schools in remote areas that are indicated as one of the main obstacles. Another important problem is teacher training. World Bank and OECD sources emphasize that the digital and digital-pedagogical skills of the teacher are the central factor of ICT success. The teacher should know not only how to use the platform, but also how to integrate it in accordance with the educational goal.

To overcome these problems, several directions are important: first, providing stable internet and devices; second, to establish continuous professional development programs for pedagogues; third, creating digital resources of good quality and relevant to the local curriculum; fourth, regular monitoring of the effectiveness of using digital tools. Scientific sources show that it is not the technology itself, but its introduction on a systematic and pedagogical basis that gives results.

Introducing an innovative teaching model based on ICT

The use of information and communication technologies in the educational process serves to form an innovative teaching model. In this model, e-learning resources, multimedia tools, online learning platforms and distance learning technologies are widely used. The educational process organized on the basis of ICT develops students' independent learning skills and increases the interactivity of the educational process.

One of the main aspects of the innovative model is the use of the blended learning approach. This approach combines traditional educational methods with digital technologies and helps students acquire knowledge effectively.

The use of digital tools in the assessment of students' knowledge

With the help of ICT, the process of assessing students' knowledge will be more effective and transparent. Digital assessment tools include online testing systems, e-portfolios, interactive assignments, and automated grading systems.

With the help of such tools, it is possible to quickly determine the level of knowledge of students, monitor their educational activities, and organize the educational process based on an individual approach. Digital grading systems also ensure the accuracy and objectivity of the grading process.

Development of pedagogues' competencies related to information and communication technologies

ICT competencies of pedagogues are important in the modern educational process. Educators need to have the skills to effectively use information technologies, create electronic educational resources, and work on digital educational platforms. It is important to organize

professional development courses, seminars and trainings for the development of digital competencies of teachers. This allows teachers to effectively use modern technologies in the educational process.

Conclusions and suggestions

The results of the research show that the use of information and communication technologies in the educational process is an important factor in increasing the effectiveness of teaching. ICT makes it possible to present educational materials in an interactive form, develop students' independent learning skills, and modernize the educational process.

The main scientific conclusions:

- information and communication technologies increase the effectiveness of the educational process;
- digital educational resources and platforms help organize the educational process interactively;
- the digital competence of pedagogues is an important factor in improving the quality of education.

Practical recommendations

- extensive use of modern information technologies in the educational process;
- improving the ICT skills of pedagogues;
- creation of electronic educational resources and expansion of their use;
- use of digital tools in assessing students' knowledge.

List of used literature

1. Tolipov O', Usmanboyeva M. Theory and practice of pedagogy.
2. Muslimov N.A. Innovative pedagogical technologies.
3. Ishmuhamedov R. Modern pedagogical technologies in education.
4. Bates T. Teaching in a Digital Age.
5. UNESCO. Technology in Education Report.
6. OECD. Digital Education Outlook.
7. Abdukadirov A.A. Information technologies in education.
8. Saidakhmedov N. Pedagogical skills and innovative technologies.
9. Selwyn Neil. Education and Technology: Key Issues and Debates.
10. Mishra Punya and Matthew Koehler. Technological Pedagogical Content Knowledge