

## EFFECTIVENESS OF TEACHING INFORMATICS AND INFORMATION TECHNOLOGY THROUGH ELECTRONIC LEARNING RESOURCES

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### **Abstract**

Today, the formation of electronic educational resources, the creation of modern educational tools and portals, and the further informatization of education are considered urgent issues in the teaching of informatics and information technologies. The article highlights the main factors and effectiveness of the use of modern technologies and electronic educational resources in the teaching of informatics and information technologies.

### **Key words**

computer, multimedia electronic manuals, Internet, electronic database.

### **ENTRANCE**

The need for transition to the information society is determined by the formation and priority of a new technological order in the world economy, the transformation of information resources into real resources of socio-economic development, the satisfaction of society's demand for information products and services, the increasing importance of information communication infrastructure in the system of social development, the development of educational, scientific, technical and cultural knowledge based on international information exchange. The improvement of the sector is conditioned by the equal use of "global information advantages". In recent years, the advantages of e-learning over traditional education have become increasingly clear. Recently, students and teachers have come to the conclusion that online education has many advantages over some types of traditional education. The reason is that digital learning platforms aimed at improving the quality of education are proliferating in the education system, and the best aspects of traditional and online education are being combined to form a blended learning system. The low cost, flexibility, free nature of blended learning, and the advantage of using sophisticated technologies in the learning process are the reasons for this alternative. This interest in the trend affects students in the

educational process and increases the quality of education. Many studies have shown that online education can lead to the development of creative thinking in students, that is, it is the basis for students' independent learning, the formation of their ability to adapt to the educational process, taking into account their individual needs. We can see the development of e-learning in the ability of students to freely navigate the digital world, that is, to download the necessary information, analyze it, and freely use online content. Over time, we can include in this trend the desired type, method, and teaching method of traditional education based on the use of technology.

It is known that the emergence of personal computers and their widespread use in all fields has radically changed the capabilities of the education system, while the Internet creates even greater opportunities for the application of new pedagogical and information technologies in the education system. Therefore, improving the education system is primarily associated with the introduction of advanced pedagogical and information technologies into the education and upbringing system, which allows for the formation of computer-aided learning. In the education system, computers equipped with educational programs can be used to solve almost all didactic problems, including collecting, storing and transmitting information, managing the educational process, monitoring and analyzing student knowledge, performing exercises, collecting data on the development of the educational process, and other issues.

The use of modern pedagogical and information technologies allows us to identify the following main areas of the education system:

- ensuring an increase in the level of mastery in all subjects taught in the education system;
- The education system focuses on students' abilities, talents, and independent thinking. kcommunicative skillsStrengthening trust in the processes that allow for the formation of knowledge, development of knowledge in disciplines, and the formation of skills and abilities.
- Widespread use of pedagogical and information technologies in conducting automated tests, evaluation and management to monitor student knowledge, that is, to increase the efficiency of the pedagogical process.

The quality of the education system through the use of pedagogical and information technologies is determined by the following two main factors:<sup>105</sup>:

- the quality of information and communication technology tools being implemented in the education system;

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<sup>105</sup>Begimkulov U.S. Scientific and theoretical foundations of the introduction of modern information technologies in pedagogical education. –T.: “Fan” 2017.

- the quality of modern software tools of information technology.

## RESEARCH METHODOLOGY AND EMPIRICAL ANALYSIS

Modern telecommunications is a very broad system with a wide range of capabilities, including, in addition to the well-known concepts such as computers, multimedia tools, computer networks, and the Internet, a number of new concepts. Examples of these include information systems, information systems management, information transmission systems, data warehouses, data warehouse management systems, and knowledge warehouses. The introduction of e-learning into the field of education in the "21st century information age" requires the informatization of the following in each educational institution: the teaching and learning process; management of the educational institution; the environment of the educational institution's activities. The stages of organizing an e-learning environment in an educational institution begin with the creation of a psychological information environment. Based on technological and scientific results, created software products, the need to use modern tools and methods is formed. In this regard, it is necessary to organize a system of independent and computer training of teachers on the basis of individual and consultative training in each educational institution. Special attention is paid in our country to the organization and use of information resources in the field of education. The introduction of ICT into the education system depends, first of all, on the intellectual competence of society, including the informatization of the education sector and the development of information and educational resources. Such important tasks include developing and implementing mechanisms for integrating education with science and production, individualizing learning and independent learning, developing and optimizing educational system technologies and tools, and accelerating student learning using electronic learning based on new pedagogical and information technologies. The organization of the educational process on the basis of IT, including the improvement of the presentation of educational materials, requires certain changes. The use of IT in the educational process is implemented mainly in two ways. The first condition is the availability of technical equipment, the second condition is the provision of special software<sup>106</sup>.

The system of teaching computer science and information technology is currently one of the most widely used educational areas based on computer and information technologies. To achieve maximum efficiency, it is necessary to create automated training courses, electronic textbooks, applications, that is, a database of electronic information resources for all taught subjects.

## CONCLUSION AND DISCUSSION

<sup>106</sup>Abdukodirov A.A., Pardayev A.H. Theory and practice of teaching. – Tashkent: Science, 2019. – 145 p.

Electronic textbooks are designed for a specific subject, that is, a specific field or area of study, and how they are used in the teaching and learning process. The use of simulators, informational, game, and control programs in students' independent learning, revision of the studied subject, and testing of their acquired knowledge is of great importance in forming their practical knowledge and skills on the subject being studied, and plays an important role in shaping the practical abilities and skills of students.

The effectiveness of using pedagogical and information technology tools in the education system depends on the level of knowledge and skills of teachers in applying these technologies to the educational process, as well as their experience. In other words, the main focus for the optimal use of pedagogical and information technologies in the education system is, first of all, the creation of the necessary conditions for teaching and learning, as well as the effective use of modern electronic information and methodological resources in educational processes.

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