

## USE OF INFORMATION-COMMUNICATION TECHNOLOGIES IN EDUCATION

**Kutlymuratova Dilfuza Aldambergenovna**

National Teacher Training Center for New Methods of the Republic of Karakalpakstan

<https://doi.org/10.5281/zenodo.7394408>

**Abstract.** *The article contains information on the use of information and communication technologies in education, the wide introduction of modern information and communication technologies in education, the informatization of science fields and the intellectualization of educational activities.*

**Keywords:** *technology, education, software, computer, internet.*

## ИСПОЛЬЗОВАНИЕ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ В ОБРАЗОВАНИИ

**Аннотация.** *В статье содержится информация об использовании информационно-коммуникационных технологий в образовании, широком внедрении современных информационно-коммуникационных технологий в образование, информатизации областей науки и интеллектуализации образовательной деятельности.*

**Ключевые слова:** *технология, образование, программное обеспечение, компьютер, интернет.*

With the development of technology, the presence of a single computer is enough for teaching using technical tools. The computer successfully took over the functions previously performed by television, VCR, film projector, slide projector, etc. In addition, the quality of information transmission, storage, and imaging has increased significantly.

Among the tools of modern information technologies: computer, scanner, video camera, video camera, LCD projector, interactive electronic board, fax modem, telephone, e-mail, multimedia tools, Internet and Intranet networks, mobile communication systems, database management systems, artificial intelligence systems. Possible.

Information technology tools are mastered in the conscious and planned implementation of certain actions. This process includes:

- computer, as well as printer, modem, microphone and sound broadcasting device, scanner, digital video camera, multimedia projector, drawing tablet, musical keyboard, etc. and their software;
- hardware software;
- virtual text constructors, multiplications, music, physical models, geographic maps, screen processors, etc.;
- a set of information - reference books, encyclopedias, virtual museums, etc.;
- trainers of technical skills (entering information from a set of keys without looking at the keys, initial mastering of software tools, etc.).

At the center of information technology tools is the computer. Currently, computers are used in the educational system mainly in four directions:

- as an object of study;
- as technical means of teaching; - in education management;
- used in scientific and pedagogical research.

In the educational process, computers are mainly used in four ways:

- passive use - the computer is like a simple counter;

- reactive communication - as a computer examiner;
- active communication - guiding the computer student and taking the exam;
- interactive communication - the computer is used as artificial intelligence, that is, in communication with the student.

Wide introduction of modern information and communication technologies in education:

- informatization of science fields;
- intellectualization of educational activity;
- deepening of integration processes;
- leads to the improvement of the educational system infrastructure and its management mechanisms.

Effective organization of pedagogical education processes on the basis of modern information technologies:

- integration of pedagogues, computer programmers, relevant specialists into a team creating distance learning courses and electronic literature;
- distribution of tasks among pedagogues;
- requires improvement of the organization of the educational process and monitoring of the effectiveness of pedagogical activity.

Implementation of modern information technologies in educational processes:

- the student acquires professional knowledge;
- deep learning of the field of science by modeling the studied phenomena and processes;
- the expansion of the field of independent activity of the student due to the diverse organization of educational activities;
- individualization and differentiation of the teaching process based on the introduction of interactive communication opportunities;
- by using the capabilities of the artificial intelligence system, the student acquires the strategy of mastering educational materials;
- formation of information culture in him as a member of the information society;
- presentation of the studied processes and phenomena by means of computer technologies is of great importance as it increases students' interest and activity in the basics of science.

A portal is a telecommunication network node that combines various information resources to deliver information to the user through simple navigation and a large-scale convenient interface, which:

- serves a large number of users;
- breadth of information;
- use of basic network formats;
- introduction of an easy and effective search system;
- integration of information resources;
- classification of information;
- characterized by knowledge management-analysis.

In the concept of pedagogical software tools, electronic pedagogy is a scientific direction that deals with studying, predicting and interpreting educational processes in an information educational environment saturated (harmonized) with information communication technologies.

Electronic pedagogy is a new direction of pedagogy that deals with revealing methods and forms of education and upbringing, studying, describing and predicting educational processes in a high-tech information educational environment.

Pedagogical software tools are didactic tools designed for partial or complete automation of the educational process with the help of computer technologies. They are considered one of the promising forms of increasing the efficiency of the educational process and are used as a teaching tool of modern technologies.

Pedagogical software tools can be divided into the following:

– educational programs - based on the level of knowledge and interests of students, they guide the acquisition of new knowledge;

– test programs - used for the purpose of checking or evaluating acquired knowledge, skills and abilities;

– exercises - serve to repeat and strengthen previously learned educational material;

The requirements for the creation of pedagogical software tools have a number of positive factors that confirm their superiority over traditional tools in order to implement the technology of creating pedagogical software tools. These factors were divided into didactic, psychological, economic and physiological groups.

Didactic requirements for pedagogical software tools include: scientific, intelligible, strict and systematic description (ensuring the possibility of building the content of educational activities, taking into account the basic principles of pedagogy, psychology, informatics, the fundamental foundations of modern science), continuity and integrity (logical consequence and complement of previously learned knowledge), consistency, problematic, demonstrability, activation (independence of teaching and the presence of the feature of activity), stability of mastering the results of teaching, interactivity of communication, unity of teaching, education, development and practice. Methodological requirements include: taking into account the specific characteristics of a particular academic subject, taking into account the uniqueness of a certain subject, the interdependence, interrelationship, diversity, implementation of modern methods of information.

Perception (verbal-logical, sensory-perceptual), thinking (conceptual-theoretical, visual-practical), attention (persistence, transference), motivation (active forms of work, high level of visualization, timely feedback) continuous stimulation of level motivation), taking into account memory, imagination, age and individual psychological characteristics (taking into account acquired knowledge, skills and qualifications, the content of academic subjects and the level of complexity of educational issues should match the age capabilities and individual characteristics of students, protection from exposure to over-excited, nervous, mental loads during the acquisition of educational material). Technical requirements include modern universal personal computers, peripherals, test resources. Network requirements include "client-server" architecture, Internet browsers, network operating systems, telecommunications, management tools (individual and collective work of the educational process, external feedback).

Aesthetic requirements include: orderliness and expressiveness (elements, location, size, color), functional function of decoration and compatibility with ergonomic requirements. Special requirements include: interactivity, goal orientation, independence and flexibility, audioization, visualization, access control, intellectual development, differentiation (classification), creativity,

openness, feedback, functionality, reliability. Ergonomic requirements include: friendliness, adaptability to the user, organization of screen forms. Methodological requirements take into account the specific features of the subject, its laws, research methods, and the possibilities of introducing modern methods of information processing.

Pedagogical software tools created from subjects must meet the following methodological requirements:

1. Pedagogical software tools - built based on the interdependence of conceptual, figurative and moving components of presentation of educational material.

2. Pedagogical software tools provide educational material in the form of a high-order structure. Consideration of interdisciplinarity.

3. Creation of opportunities to determine whether the learner has gradually mastered the educational material in pedagogical software tools based on the implementation of various controls.

In conclusion, by now, computer literacy has become an important sign of culture, and in the future it will become a necessity for every person, no matter where he works. Therefore, computer work, teaching to use a computer will undoubtedly become a common job in the near future.

## REFERENCES

1. Information and communication technologies in science and education: republic collection of scientific-practical conference lectures. – T.: TATTOO.
2. R. Ishmukhamedov, A. Abdukodirov, A. Pardaev. "Innovative in education technologies: practical for pedagogues-teachers of educational institutions recommendations".
3. Begimkulov U.Sh. Informatization of pedagogical educational processes pedagogy on the theory and practice of organization and management dissertation written for obtaining the scientific degree of Doctor of Sciences. – Tashkent. 2007