



TECHNOLOGY FOR DEVELOPING TECHNICAL CREATIVITY OF STUDENTS THROUGH DIGITAL TECHNOLOGIES

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<https://doi.org/10.5281/zenodo.10398330>

Abstract: This article discusses the theoretical foundations and pedagogical conditions for the use of digital technologies in the development of technical creativity of students.

Key words: Educational system, digital technology, technical creativity, navigation, modular system.

Introduction:

Currently, the role of information and social technologies in education is increasing, which provides universal computerization that allows students and teachers to solve at least three main tasks:

- to provide access to the Internet for every participant of the educational process and at any time and from different places of residence;
- development of a single information space of educational fields and the presence of all participants of the educational and creative process in it at different times and independently of each other;
- creation, development and effective use of managed information educational resources, including personal user databases and data banks and knowledge banks of students and teachers, wide availability for working with them.

Based on the current pace of computerization of the field of continuing education, as well as taking into account the unevenness of providing the population with a technological computer and network at home, it can be expected that these tasks will not be fully and comprehensively solved in the near future.

At the same time, there is a growing awareness that the traditional education scheme in the first half of life is morally obsolete and should be replaced by lifelong continuous education and training. New forms of education are characterized by interactivity and cooperation in the learning process. New educational theories such as constructivism, student-centered learning, and learning without time and space boundaries should be developed. Intensive use of new educational technologies is also envisaged to improve the quality of education¹.

Various approaches to the definition of educational technology can be summarized as a set of methods of implementation of educational plans and educational programs, a system of educational forms, methods and tools that ensure the achievement of educational goals. Experts usually dismiss the difference in educational technology from the difference in the teaching tools used. Information - educational technologies appear using information and

¹ А.С. Сигов, В.А. Мордвинов. Мобильные информационные технологии в учебном процессе школы и вуза. Магистр, № 5-6, 2001.

computer technologies. The educational environment in which educational information technologies are implemented determines the components that work with it:

- technical (type of computer equipment and communication tools used);
- software-technical (software tools to support the implemented teaching technology);
- organizational and methodological (instructions to students and teachers, organization of the educational process).

Educational technology in the higher school means a system of scientific and engineering knowledge, as well as methods and tools used to create, collect, transmit, store and process information in the field of higher school science. A direct relationship is formed between the effectiveness of the implementation of educational programs and the level of integration of relevant information and communication technologies.

The ultimate task of understanding and implementing the problem of informatization of higher education is that it is necessary to achieve the global rationalization of intellectual activity in society through the use of new methods in order to increase the efficiency and quality of training specialists to the level of information culture achieved in developed countries. Personnel training should be provided with a new type of thinking that meets the requirements of the post-industrial society.

This aspect of educational practice is explained as follows. The use of the information system in the educational process not only allows students to be informed about the object of management, but also allows them to understand the variety and complexity of relationships inherent in real enterprises, the changes in these relationships when external and internal factors change. helps to monitor the dynamics and also eliminate interdisciplinary barriers formed among students due to the time sequence of the presentation of academic subjects. Such a set of tools makes it possible to create modern educational technologies, which ensures the formation of unusual thinking and a creative approach to management among students. After all, their work does not become a set of standard techniques, but is based on understanding the causal relationships of events and processes, which significantly increases its motivation and effectiveness.

However, many higher education managers and theorists now believe that the term "educational technology" is not entirely adequate today. Most often, as a rule, they talk about information technologies, computer technologies, less often - communication technologies, and rarely - in rare cases - audiovisual technologies, which are already the subject of special discussions. We consider information, communication and audiovisual technologies as subservient to a more important task - the creation of a new educational environment in which information, communication and audiovisual technologies are organically integrated into the educational process to implement new educational models.

One of the definitions of the information educational environment forms its concept as an information system that combines network technologies, software and technical tools, organizational, methodological and mathematical support, which is designed to increase the effectiveness and availability of the educational process of training specialists. .

One of the unique features of today's educational environment is the ability of students and teachers to refer to structured educational materials that teach multimedia complexes of the entire university at any time and at any time.

In addition to the availability of educational material, it is necessary to provide the student with the opportunity to contact the teacher, get advice online or offline, as well as

receive individual "**navigation**" in mastering a certain topic. "Students seek a flexible study regime, modular programs with multiple intakes and deductions that allow for the accumulation of credits, the freedom to transfer from one university to another, taking into account previous experience, knowledge and skills. For students, personal development and professional the opportunity for growth will still be significant; degree programs and short courses may be in equal demand; the need for vocational education programs and postgraduate programs will increase dramatically"².

The developers of distance education define the individualization of educational behavior as follows, because the characteristics of the person-oriented teaching method are most clearly manifested in preschool educational institutions:

Flexibility - the student can independently plan the time, place and duration of classes.

Modularity - learning materials are presented as modules, allowing the student to create a learning trajectory according to their own requirements and potential.

Availability - independence from the geographical and temporal location of the student and educational institution allows not to limit the educational needs of the country's population.

Effective implementation of mobility-feedback between the teacher and the student is one of the main requirements and foundations for the success of the previous process.

Coverage - simultaneous access to many sources of educational information (electronic libraries, data banks, knowledge bases, etc.) to many students.

Productivity - the use of the latest advances in information and telecommunication technologies in the educational process.

Social equality - equal opportunities for education, regardless of the student's place of residence, health, elitism and financial support.

Information technology creates the opportunity and necessity to change the model of the educational process: from reproductive education - passing knowledge from one head to another, from the teacher to students - to a creative model (with the help of new technological and technical support in the educational audience, a life situation or when the process is modeled, students should apply their knowledge under the guidance of the teacher). knowledge, demonstrate creative abilities to analyze a simulated situation and develop solutions for tasks). According to experts, the development of traditional and new technologies should be in accordance with the principle of complementarity and interdependence, which in turn will create a fundamentally new dimension of the educational environment - global, allows us to talk about a scale that exists in real time and connects the entire set of educational technologies.

Due to the Internet, various aspects of globalization (scientific, technological, economic, cultural and educational) have a great impact on both traditional full-time educational institutions and the development of various educational innovations such as distance learning and virtual universities. showed In all of these institutions, globalization requires deep and radical changes in structure, teaching and research methods, management and teacher training.

Structure of information and educational environment.

² Mason, Robin. Globalizing Education: Trends and Applications. New York: Routledge, 1998. P. 40-41.

An analysis of the advantages and disadvantages of the existing information learning environment (iOS) and the current state of information technology and telecommunications allows us to formulate the following principles on which the currently developed information and learning environments should be built:

A multi-component information-educational environment is a multi-component environment that includes educational materials, high-tech software, educational systems, knowledge management systems, technical tools, databases and information systems, any kind of data warehouses, including graphics, videos, etc. are interrelated.

The integrity of the IOS is that the information component includes all the necessary knowledge in the field of science and technology with access to world resources determined by the profiles of specialists, interdisciplinary connections, information and training of additional educational materials that deepen knowledge. should consider the database.

The flexibility-information-learning environment should not be rejected by the existing education system, should not violate its structure and construction principles, and should allow the information core of iOS to be flexibly changed, adequately reflecting the needs of society³.

According to V. Hasson and E. Waterman, "any discussion of distance education quality problems will inevitably affect the selection, retraining and support of teachers participating in the technological curriculum. In a traditional academic environment, teachers are carefully selected according to very strict criteria, which are mainly academic in nature, while taking into account factors such as the availability of scientific works and publications, etc. The criteria for selecting teachers for distance learning programs are the first should be academic in the first place. Problems of educational effectiveness in the new educational environment. Problems of distance education. Distance education compared to traditional education in the organization and implementation of distance education in the educational systems of different countries. There is a performance evaluation problem More than a decade of research shows that the problem of performance evaluation is complex and multifaceted, and does not have a definitive solution.

The development and expansion of the use of educational IY is directly related to the problem of changing the effectiveness of education. Determining the effectiveness of any method of teaching technology involves measuring the achieved result, the cost of material resources and the time to achieve it. Teaching effectiveness is measured by scores on test results or percentage of tasks solved by test results. However, they usually compare groups of students who used and did not use computer support tools.

Evaluation of the effectiveness of teaching methods using information technology is usually given in comparison with traditional methods and is limited to measuring learning results, sometimes taking into account the time spent by students. Can traditional quality criteria be applied to key aspects of distance learning in technological learning environments? Applying this approach to the assessment of information technology in education means that the latter does not add anything new to the goals and objectives of education. In fact, the introduction of information technology affects the quality and content of education.

³ Образование и 21 век. Информационные и коммуникационные технологии. М. 1999. С.21



References:

- 1.Mason, Robin. Globalizing Education: Trends and Applications. New York: Routledge, 1998. P. 40-41.
- 2.Sharifzoda, S. (2023). System of preparing future teachers for professional activity on the socialization of students on the base of gender approach. International Bulletin of Applied Science and Technology, 3(11), 378-387.
- 3.Sharifzoda, S. (2023). Bo'lajak o'qituvchilarni gender yondashuv asosida ijtimoiylashtirishga yo'naltirilgan kasbiy-pedagogik faoliyatga tayyorlashga oid nazariy yondashuvlar. Молодые ученые, 1(18), 10-15.
- 4.Sharifzoda Sardorbek O'Razboy Tabib Ugli. (2023). Theoretical principles of preparing future teachers for the professional-pedagogical activity directed to the socialization of students on the base of a gender approach International Multidisciplinary Journal for Research & Development, 10(11), 162-166.
- 5.Sharifzoda, S. (2023). Pedagogical and psychological directions of preparing professional activities for the socialization of future teachers on the basis of a gender approach. Development and innovations in science, 2(11), 22-28.
- 6.Sharifzoda, M. (2023). Gender xususiyatlarini hisobga olgan holda chet tillarini o'rgatishdagi asosiy omillar. Центральноеазиатский журнал образования и инноваций, 2(11), 84-87.
- 7.Khudoyberganov, D., & Safaeva, D. (2023). Gender yondashuv asosida o'quvchilarni ijtimoiylashtirishga yo'naltirish mexanizmlari. Евразийский журнал социальных наук, философии и культуры, 3(5 Part 2), 42-46.
- 8.Sharifzoda, S. (2023). Oliy pedagogik ta'limda gender yondashuvini amalga oshirishning ijtimoiy zarurati. Science and innovation, 2(Special Issue 9), 263-268.
- 9.Ўғли Шарифзода, С. Ў. Т. Ўқувчиларда таянч компетенцияларни шакллантириш асосида ижтимоий компетентлиликни таркиб топтириш мазмуни.
- 10.qizi Safayeva, D. H. Umumiy o'rta ta'lim o'quvchilarida tayanch kompetensiyalarni shakllantirishda integrativ yondashuvdan foydalanishning pedagogik shart-sharoitlari.
- 11.Karimov, H. Q. Gender yondashuv asosida o'quvchi-qizlarda ijtimoiy-madaniy kompetentlikni rivojlantirish omillari.
- 12.SHARIFZODA, S. O'quvchilarda tayanch kompetensiyalarni shakllantirishda integrativ yondashuvdan foydalanishning pedagogik-psixologik asoslari. Pedagogik ahorat, 78.
- 13.А.С. Сигов, В.А. Мордвинов. Мобильные информационные технологии в учебном процессе школы и вуза. Магистр, № 5-6, 2001.
- 14.Образование и 21 век. Информационные и коммуникационные технологии. М. 1999. С.21