



Technologies For the Development of Students' Information and Computer Culture in The Framework of Informatization of Education

**Turdialiyev Jamshid
Kadiraliyevych**

Kokan Medical College is a teacher of "Information technologies in professional activity"

ABSTRACT

The proposed article deals with the problems of developing the information and computer culture of students in the framework of informatization of education. The author reveals the importance of introducing innovative information technologies into the educational process in order to create a unified information environment in the educational space of an educational institution. The actualization of the problem under study is connected with the possibility of using information technologies to intensify all levels of the educational process, improve its efficiency and quality. The article analyzes the possibilities of using a computer to move an individual to a qualitatively new stage of his development. In the context of informatization of society, the significance of the formation of information and computer culture of students is revealed. The article shows what functions of computer culture structure the value, cognitive and behavioral components. In this regard, it is concluded that it is the development of information and computer culture that is the most important condition for providing opportunities for the individual to become a full member of the modern information society.

Keywords:

Information society, information Technology, information culture, computer culture, computer literacy, computerization of education, educational process, educational information, computer facilities.

At present, the level of social and professional expectations of a modern person puts forward the need for an information and computer culture of a modern specialist, since the information development of society depends on the level of adaptability of the individual in new conditions, and on his own professional knowledge and skills in the field of operational capabilities. Thus, today there is a contradiction between the needs of society for an information and computer developed personality and the existing objective processes in society, which often do not always contribute to its development.

An analysis of the state of this problem shows that today there is a lack of competence of future teachers in the field of readiness for the development of information and computer culture of students, which gives rise to a clear contradiction between theory and the objective needs of practice. It is on the solution of this problem that the scientific research of domestic researchers is directed. So, in their works they consider the following aspects of informatization of education and the development of information and computer culture of the individual: the problem of information and analytical culture of the individual [14]; information content of the

educational environment of the school [8]; information competence of modern teachers [9]; introduction of information technologies in education [12]; the use of computers in education and training [1]; personification of information technologies in the university [7]; organizational aspects of information training of students [6]; computerization of the learning process in educational institutions [2]; information competence of specialists [15]; the use of informatics in the subject training of future specialists [11], etc. Thus, the views on the problem of forming the professional competence of future teachers, who must be able to carry out their professional activities in the conditions of informatization and computerization of the education system, are undergoing certain changes.

Informatization of education today is associated with socio-pedagogical transformations with the involvement of information tools and technologies in educational systems, as well as with the introduction of information tools based on microprocessor technology into educational institutions. Thus, the informatization of education (from Latin *informatio* - explanation, presentation) as a process of providing the education sector with methodology and practice of using modern information technologies focused on the implementation of the goals of training and education, has become the following:

- creation of methodical training systems focused on the intellectual development of students;

- improving the methodology for selecting the content, methods and organizational forms of training and education that would correspond to the tasks of personality development in the conditions of informatization of society;

- creation and use of diagnostic methods for monitoring and assessing the level of knowledge of students based on computer technology;

- improving the mechanisms for managing the education system based on the use of an automated data bank.

However, the reality is that the absence of an information-computer culture automatically creates a number of problems, for example, the problem of balancing the amount of information provided by a computer and the amount of information that an individual has to mentally cover, comprehend and assimilate at the same time. This aspect, in the context of informatization of education, is associated precisely with a new way of cognition (compared to the traditional way of educational cognition, which consists in understanding the essence of phenomena in the algorithm "from simple to complex"), when information flows saturated with specifics (i.e. volume of facts), require an accelerated passage of the stages of systematization and classification of information and a clear orientation in it. That is why it is so important today to introduce information technologies into education, which are the most important components of modern educational systems when implementing educational processes in them. The introduction and use of information technologies in education (and this is necessary for those who receive education, and for those who teach and educate, and for those who organize and manage education, etc.) opens up the following opportunities:

- accelerates the renewal of the content of education in the framework of the development of new educational and methodological literature;

- increases efficiency in achieving by students the established requirements for the quality of education;

- increases additional time for students for individual independent work, and for teachers to improve the educational process;

- reduces the time to search for the necessary educational and scientific information;

- promotes the use of information technology software as a didactic learning tool to increase visibility in the presentation of educational material;

- helps to implement various forms of education: individual, collective, independent and distance learning;

solves the problem of learning automation using modern automated learning systems;

carries out qualitative monitoring of the assimilation of knowledge, etc. [2; 3; 5; 13].

The use of information technology also contributes to the development of the information culture of students, the main factors of which we would include the following:

raising the economic level of the country, where the material possibilities of people depend on the use of modern information technology (computers, electronic means of communication, televisions, etc.);

expansion of the information infrastructure in any environment of society, which increases the ability of people to receive, store, transmit and use information;

modernization of the education system, which determines the increase in the level of intellectual development of students [4].

Information culture is often considered in both psychological and pedagogical contexts, i.e. as the presence of objective and subjective conditions for effective mastery of information, and hence the ability to adapt to socio-cultural realities. In other words, information culture is a socio-cultural reality created by a person, which at the same time really affects the behavior of a particular individual, determining his needs and motives. From the point of view of socio-cultural reality, information culture becomes the subject of the philosophy of culture, which singles out the following criteria for an individual's information culture: the ability to navigate independently in the information space; the ability to motivate their needs for information; the ability to carry out productive information interaction; the ability to transform educational and professional activities; ability to maintain individual information retrieval systems; ability to implement computer literacy; the ability to understand the role of information in society, to understand the laws of the information environment and one's place in it; improve knowledge of new information technologies; the ability to demonstrate the personal factor of professional competence as the ability to organize learning space and time and self-organization, etc.

As for the mastery of computer culture, this can be considered one of the main modern requirements today, and therefore one of the most urgent tasks of education. The effectiveness of the productive use of computer technology and, ultimately, the rise of the scientific, technical and socio-economic development of society depends on how successfully it is solved.

As is known, certain factors influence the formation and development of an individual's computer culture. Objective factors include, in particular, the level of development of young students and, in this regard, the functioning of the education system itself in the era of informatization of society, etc. Subjective factors usually include both personal experience of using a computer (for example, on the Internet), and the level of material well-being of an individual, his social status, etc.

In this regard, if we conduct a sociocultural analysis of computer culture, we will see that it, as a system, allows an individual to receive all the necessary information at the right time and in the right place; give their information a public character, thereby influencing the formation of the value orientations of society; to promote understanding by the individual of his place and his role in society, etc. This suggests that computer culture can shape the cultural existence of a person, his types of communication and interaction, transform cultural communication itself. For this, it is necessary to develop not only new knowledge, skills and abilities, but also the formation of a new system of values and norms in order to accumulate experience with its subsequent implementation in activities and behavior. Proceeding from this, the computer culture of an individual in one way or another will always be connected with his education, since his activity today is carried out in the information society, where the ability to extract and process information is necessary. It is computerization that provides such opportunities as reducing the time for access to the necessary educational and scientific information; the release of additional time for individual independent work; acceleration in the achievements

demanded by the modern market for the quality of education, etc.

Regarding the idea of using a computer in the field of education, we note that its role and place in the educational process have changed dramatically. By the beginning of the 90s, tens of thousands of different training systems had already been created, including:

- problem learning (associated with learning to solve problems based on indirect control);

- game programs (act as learning tools);

- training programs (focused on strengthening skills and abilities);

- simulation and modeling programs (associated with an increase in the understanding of educational material, the development of professional skills, etc.);

- mentoring programs (focused on the assimilation of concepts).

To form a computer culture today, there are various areas of application of information technologies in education, such as:

- automation of training using automated training systems;

- implementation of such forms of education as: individual, collective, independent and based on distance learning;

- development of computer training courses and related software and methodological complexes in academic disciplines;

- the use of information technology software as a didactic application to the learning process;

- the use of computer telecommunications in the learning process;

- development of computer training programs, etc.

According to the point of view of the researcher E.I. Mashbits, all this contributes to the formation of two main directions of computerization of education: 1) the use of a computer as an object of education; 2) mastery of all ways of using a computer as a means of educational activity [10]. In this regard, computer culture is somehow connected with the use of computer technologies and various software and hardware complexes used in the educational field, about which students should have at least a general idea. Taking into account

all the provisions, computer culture can be understood as the ability of an individual to creatively design new products of an intellectual orientation within the framework of computer communication in order to use a computer in cognitive activity, organize self-learning and qualitatively solve problems that arise in the process of searching and processing information, as well as choosing optimal software programs. funds for a particular job.

Hence, the computerization and informatization of the educational process at all its levels requires today from its participants the qualitative development of information and computer culture, including computer literacy and culture, as well as information culture and competence. Information and computer culture is impossible without the personal development of the student and his readiness for self-development, which is built on the basis of knowledge and self-knowledge [16].

So, the informatization of education and the development of information and computer culture are closely interconnected, since, on the one hand, increasing the level of information and computer literacy significantly affects the efficiency of using information technologies in all areas of pedagogical activity; and on the other hand, the informatization of education contributes to the formation of an information-computer culture of each subject of the educational process, which significantly contributes to stimulating the self-development of their information-computer competence. In this regard, the informatization of education increases the efficiency of all types of educational activities due to the competent use of various information and telecommunication technologies by the subjects of education.

Based on the foregoing, we came to the conclusion that the informatization of education as the basis for the development of information and computer culture is a complex multi-level process aimed at improving the efficiency of all types of educational activities in the course of using information and telecommunication technologies in order to improve the content, functions, forms and methods pedagogical work in the direction of forming the information culture of teachers for work at all levels of the

educational process based on improving the quality of training specialists with a new type of thinking that meets the requirements of the information society.

The formation of the information society has led the educational system itself to the need for dynamic changes in it, which is currently expressed in the development of new information technologies, the organization of information education, and hence the increase in the information and computer culture of the individual.

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