PEDAGOGICAL ASPECTS OF EDUCATION IN THE INFORMATION AND EDUCATIONAL ENVIRONMENT OF THE UNIVERSITY

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Abstract. This article describes the essence of the information environment of learning at the university as a modern stage in the development of higher education.

Keywords: information environment, information technology, university

ПЕДАГОГИЧЕСКИЕ АСПЕКТЫ ОБУЧЕНИЯ В ИНФОРМАЦИОННО-ОБРАЗОВАТЕЛЬНОЙ СРЕДЕ ВУЗА

Аннотация: в данной статье описан суть информационной среды обучения в вузе как современный этап развития высшего образования.

Ключевые слова: информационная среда, информационная технология, вуз

The current stage of development of society is characterized by the convergence of national education systems, the consolidation of accumulated resources, distributed access to available information and services. The ongoing processes are associated with the formation of a single global information and educational space, which is a collection of localized subspaces of different levels, integrated into a common system of knowledge acquisition.

Such a system is able to ensure the implementation of the principles of open education - education throughout life, when obtaining a new knowledge does not interfere with geographical, age, sociocultural and other factors. In such a situation, it becomes possible to form a new type of specialist who knows how to work with information - the main the value of the emerging type of society.

The concept of the information environment was first proposed by Yu.A.Schrader, who rightly considered the information environment not only as a conductor of information, but also as an active principle, affecting its members [1].

According to such researchers the concepts of "space" and "environment" are close, but not synonymous. They interpret "space" in a broad sense as a certain order of arrangement in (mutual arrangement) simultaneously coexisting objects. Thus, under space is understood as a set of connected in a certain way among themselves conditions of the most diverse nature, which can influence a person. However, human involvement in space is rather conditional, since space can exist independently of it. The concept of "environment" is also defined as a system of conditions that ensure human development. However, in In this case, a person is included in this system and actively interacts with the environment [2, 3].

A characteristic feature of any information environment is availability of information, but it does not in itself guarantee the effectiveness of a person's stay in this environment, since in this In this case, it is more important to have skills in working with information that needs to be developed in the learning process.

According to Yu.A.Schrader [4], "one can read about many things in books, but one cannot acquire the ability to read from them. The information environment can save many knowledge, but cannot retain the ability to use it.

An important feature of modern information technology is that their widespread use not only provides active involvement of trainees in the learning process, but also allows manage this process unlike most traditional learning environments.

The integration of text, animation and sound creates a new, rich learning environment, with the development of which the degree of involvement of students in the learning process increases. The interactive capabilities of distance learning used in this case allow for stimulated feedback and dialogue that are not possible in almost all traditional learning systems.

The use of information-communication technologies, especially the Internet, creates conditions for the development of such distance learning systems, the distinctive features of which are:

− universality of the used information training resources;

− their modularity;

− the ability to work on various hardware and software platforms, in a network (including a local one);

- the possibility of scaling the system for use in educational institutions of various structures and sizes, with different levels and purposes of using distance learning technologies;

− ensuring a high level of system reliability;

− full automation of the system operation and the possibility of integration with other types of information systems [2,5,6].

The following are involved in the formation of the information environment of educational activity:

- teacher - determines the content of the course program, the choice of educational literature, teaching methods, communication style, etc.;

- the teaching staff of the educational institution - establishes general requirements for students, the preserved traditions of this educational institution, the form of relations between the teaching and student teams, etc.;

- the state as a public institution - determines the material support of education in general, the social order for the formation of a particular system of knowledge and views [6, 7].

Recently, the term "integrated information environment" has also been increasingly used, which defines the interaction/combination of individual elements of the system (in this case, the education system) with each other in order to obtain a new quality that is unattainable in the presence of individual components, by organizing them into a system [2,8].

The term "information and educational environment" has been the most popular recently, which is understood as a system-organized set of data transmission means, information resources, interaction protocols, hardware, software and organizational and methodological support, focused on meeting the educational needs of users.

In a narrower sense, the information and educational environment is understood in a certain way as interconnected educational institutions that are in the conditions of information exchange organized by special software [9].

In technological terms, the information and educational environment can be represented as a software and telecommunications environment that provides the educational process with unified technological means, its information support and documentation on the Internet for any number of educational institutions, regardless of their professional specialization and level of education [10].

The concept of an information-learning environment also includes the following conditions that provide learning:

- the presence of a system of means of "communication" with the universal culture, designed to store, structure and present the accumulated knowledge, as well as to transfer, process and enrich it;

- the presence of a system of self-study related to the processing of information;

– the presence of intensive connections (vertical and horizontal) between the participants of the educational process.

In the information and learning environment, five blocks can be distinguished:

- value-target - a set of goals and values of teacher education that can be significant for achieving the goal of teaching and learning;

- program and methodological - all the necessary information regarding possible strategies, forms and training programs;

- information-knowledge - a system of knowledge and skills of a student, which forms the basis of his professional activity, and also determines the properties of cognitive activity that affect its effectiveness;

- communication - a set of forms of interaction between participants in the pedagogical process;

- technological - a system of teaching aids used in the information and training environment [9].

In accordance with the functional purpose, there are three types of information and educational environments:

1) environments focused on the representation of knowledge;

2) environments focused on independent activities for the acquisition of knowledge;

3) mixed type of media [7].

When choosing teaching methods, the decisive factor is their comparative effective, which can be determined by the probability of achieving the learning objectives and the time, material resources and efforts of teachers and students.

The main goal of creating the information and educational environment of the education system is to maximize the satisfaction of the educational needs of students in the widest range of specialties, levels of education, educational institutions and information and educational resources, regardless of the location of both the student and the educational resource or service in which he needs, using the most modern information and telecommunication technologies.

Let us formulate the requirements for the information environment of universities in accordance with the provisions outlined:

- ensuring a personality-oriented orientation of training;

– ensuring interactive access to information and its compliance with scientific and professional requirements;

- development of the intellectual and creative abilities of the individual;

- increasing the desire of the individual for independent learning activities, knowledge sharing and cooperation;

- regulation of the motivation of the student's activity with the help of modern psychological and pedagogical tools and the possibilities of multimedia technology;

– reduction to a minimum of restrictions on the user in his actions and capabilities [10,11].

Creation and development of information and educational environment on the basis of the use of information-communication technologies should be based on the observance of general didactic principles, as well as take into account the psychological and pedagogical features of information-communication, pedagogical potential of means of informatization.

General approach to the pedagogical possibilities of computer technology was formulated back in 1988 in the report of A.P. Ershov on International Congress on Mathematical Education in Budapest:

- the computer is the most adequate technical means learning that promotes an activity-based approach to learning process

– being able to assume the role of an active partner with dynamic combination of call and help computer thereby stimulates student activity;

- computer programmability combined with dynamic adaptability contributes to the individualization of the educational process, maintaining its integrity;

- the computer is the ideal tool for controlling training stages of the educational process;

- internal formalization of the computer, rigor in observance of the "rules of the game" in combination with the principled the cognizability of these rules contribute to greater awareness educational process, increase its intellectual and logical level;

- the ability of a computer to build visual and other complex images greatly improves throughput information channels of the educational process;

- the computer introduces fundamentally new cognitive means, in particular, computational experiment, problem solving with the help of expert systems, design algorithms and replenishment of knowledge bases;

– properties of universality and programmability, the ability computer to multi-purpose applications allow in many cases reduce the cost of field experiments, laboratory work and, having created a cheap software setup, make the transition from one using a computer for something else [12].

With the development of new information technologies and their implementation in education pedagogical possibilities of computer technology are expanding.

Learning within the information and educational environment should be conducted according to classical didactic principles. Computer learning has identified two new principles: the individualization of learning and activity. Mainly computer learning technology was investigated in two directions: visualization of educational content and algorithmization of educational activities. However, consideration of the structure of didactics itself as a set of theories of didactic principles, teaching methods, curricula and the general systems theory of the textbook allows you to each element of the structure to determine both the general and the particular, related to information technology education. First, how already noted earlier, information technology training is a new methodological system that allows considering the student not as an object, but as a subject of learning, and the computer as a means learning. The student moves to a new category, because according to form of computer learning is individual, independent, but carried out according to the general methodology implemented in the training program.

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