

## COMPUTER INFO-DIDACTICS IN THE CONTEXT OF IMPROVING EDUCATIONAL TECHNOLOGY RESOURCES

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### ABSTRACT

In modern conditions of the rapid formation of the information society and the accompanying increase in information threats in all spheres of human life, multi-level educational work to ensure the safety of human life and society as a whole, including their information security, and particular relevance. Information and educational resources of the Internet act as the most important goal and effective means of training life safety specialists of the broadest profile, including information security. Scientific and methodological research and the accumulated experience of educational work in different levels of educational institutions in the country and abroad based on computer, network and Internet technologies provide the basis for the formation of a special innovative direction in education - computer information didactics. As experience in the training of life safety specialists in the preparation of information security has shown, the practical implementation of the ideas of computer info-didactics really provides a system of educational and educational work based on the principles of individualization in terms of the volume of training materials and the pace of its development, regular feedback, furthermore and higher motivation. All this creates new additional conditions to improving the continuous educational process and optimizing educational routes.

**Keywords:** Info-didactics, improvement, educational technological, resources, motivation, cognitive, activity.

### INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Universal access to the Internet, especially in the younger generation, leads to a certain informational dependence (here we are not talking about psychological illness). A person who is accustomed to being in an infinite information space gradually perceives this as an ordinary component of his life, just like talking on the phone, listening to the radio, watching TV, reading books, etc. Of course, there are cases of psychological dependence, but they are usually the result of earlier psychological complexes or diseases. The phenomenon of “dependence” on the Internet can and should be understood, first of all, as cognitive activity rich in internal motivation.

The educational information environment - in a modern and promising state, these are databases and communication tools that are used in computer classes, laboratories, electronic libraries, modernized reading rooms, interactive multimedia textbooks, innovative educational information resources, the Internet, and network communications. Using a modern information and educational environment is an opportunity, not only and not just to get some portion of educational information (a portion of knowledge about any subject and phenomenon), but also to take an entire training course and even organize permanent self-education. The development of Internet services and information resources allows users to receive versatile information, not only in terms of its presentation (text, audio, audiovisual), but also in terms of its use (linear, interactive, control) [1].

Recently, an assumption has been made and as a result of extensive empirical research that the following parameters can be determined by the activity of Internet users:

- high level of skills (related to working on the Internet) and control;
- high level of mobilization;
- focus attention (high concentration);
- interactivity.

In the course of work with schoolchildren and students, we identified some characteristic features of self-education. So a number of subjects, performing a control task using Internet resources, used:

- means of communication (ICQ 'and "In contact"), where they discussed the task with their friends;
- search engines (Yandex, rambler, google);
- encyclopedic resources (Wikipedia, etc.);
- E mail.

Observing virtual learning, we have identified the following factors that stimulate additional self-study of students:

Organizational factors affecting self-learning. Summarizing the experience of a research experiment, we can talk about the feasibility of using a virtual environment for self-learning, because this allows students: to be informational provided; to accumulate his own educational reference database; to develop communication skills; to develop the ability of search thinking; to develop a system of constant self-learning.

In this environment, the role and place of the learner and teacher in the system and the process of obtaining, assimilating and using knowledge is fundamentally changing. For the successful functioning of the latest information and educational system, not only the student, but also the student will need effective knowledge, skills, personal, moral, volitional and psychological qualities. The organization of the information and educational environment in the virtual space requires the introduction of specific principles and rules of life safety, a healthy lifestyle, legal support for activities, and ethical education.

Based on the specifics of the development and existence of the information and educational environment, educational subjects and disciplines, it is possible to formulate methodological principles in the framework of the use of virtual learning resources at school and university, based on general didactic, general methodological rules, which, in our opinion, are fundamental for info-didactics, such as: communicative orientation (dialogue) of learning; differentiation and integration of training; consciousness (independence; personal focus) in learning; activity (interactivity) of the student, including the choice (correction) of the educational trajectory; accessibility and population of information; intensification (in time) of the educational process; visualization of the material; organization of training based on various types of memory: visual, motor, auditory; developmental education; balance of structural-functional and communicative approaches; the use of structurally functional approach to the organization of educational materials and the use of the moderation method at all stages; scientific learning; functionality and efficiency of knowledge; professionally oriented motivation of the learner and teacher.

Taking into account the laws, principles, as well as the content of education, one or another specific form of education is chosen. If forms are ways of organizing training, then methods are ways of interacting with students. The virtual method includes a certain sequence of techniques for using the Internet in educational (self-education) training. With the virtual

teaching method, visual, audiovisual, telecommunication, kinematic and other teaching aids are used as mandatory, which are kind of information and educational medium.

The modern information and educational environment is a combination of computer tools and methods of their functioning used to implement learning activities. At the same time, it follows from other scientific sources that a single information and educational environment can be understood as a software-telecommunication environment based on the use of computer technology that provides the informational needs of students, teachers, parents, the administration of educational institutions and the public with common technological means. According to the latest definition, such an environment is aimed at informational support of the educational process and school management, at informing all participants of the educational process about its progress and results, as well as about extracurricular activities.

Based on experience, it can be stated that the educational information environment includes organizational and methodological tools, a combination of technical and software tools for storing, processing, transmitting information, providing quick access to pedagogical information and providing educational scientific communications relevant for the implementation of the goals and objectives of teacher education and the development of teacher education science in modern communication conditions.

There are various types of communication, characterized by the composition of the communicants. In our case, we can talk about:

- group communication - communication within a group, between groups or communication of the type "individual - group";
- interpersonal communication - communication in which two communicants participate;
- interactive communication - the interactive (dialogue) interaction of communicants when their messages are associated with many previous messages and with the relationships between them
- mass communication - the systematic dissemination of information via the Internet, print, radio, television, cinema, sound and video recordings with the aim of asserting the spiritual values of society and exerting ideological, political, economic or organizational influence on people's assessments, opinions and behavior. Mass communication is focused on a large number of people.

All of these tools exist on the Internet. Therefore, they can be combined with highlighted common virtual communication, as a means of communication in virtual environment. Using the Internet as an educational tool significantly affects the function and structure of communication: along with preserving the informational, emotional, regulatory functions, the functions of presentation and expression are updated, a special tendency arises to build a life context that simulates the conditions of the natural world, due to which it is possible to talk about the specific function of the world-formation of Internet communication.

The use of virtual communication in the formation of educational information resources that are integrated into a single environment, it is advisable to carry out on the basis of preliminary definition of a specific model of information educational environment. Such a didactic model should reflect its component structure, which includes not only the objects and technologies included in the environment, but also a system of inter-component

interconnections and interactions, which must be satisfied by both individual information resources and the educational information base that unites them [5].

Such a didactic model defines the educational information environment as a multicomponent system of a modern education, including virtual communication tools, electronic teaching materials, high-tech software, specialized simulators and computer simulation tools, knowledge control systems, technical tools, databases and information help systems, automation tools for scientific research, extracurricular and organizational and managerial activities, drawing to any university.

The components of the information educational environment determined by the model that are responsible for the informatization of a particular educational process should have the integral property, which means combining at the level of information resources basic knowledge in the field of science and technology with access to world information resources determined by the profiles of specialist training in open education [3].

The pooling of information resources should, at the model level, take into account possible interdisciplinary relationships and the base of existing additional training materials. In providing higher education, such a model of working with information fits most logically into the system of modern distance learning, which does not lose its relevance in terms of training specialists in life safety. The virtual learning environment is already used in the so-called distance or virtual universities, in some of which hundreds of thousands of students are already studying.

It provides independent, guided and controlled work on the active acquisition of knowledge. The audit time with such training can be reasonably condensed. The student can verify the success or failure of the assimilation of the passed material on their own through mandatory intermediate self-monitoring of the prepared tests and materials. The teacher is freed from a number of secondary functions and acquires the necessary capabilities and time to influence the course of the assimilation process. At the same time, he retains the possibility of both frontal and individualized communication with students during the introduction of information and control over its assimilation [2, 146].

A characteristic and important feature of modern training programs is multimedia. In the modern interpretation of multimedia (MM) - a combination of sound, graphics, animation and video. Moreover, a multimedia program does not have to be interactive in order to be called MM. The student can simply sit and use a computer to watch a movie, in which case the program is called linear.

Along with the existing multimedia teaching aids, it is also worth highlighting separately hypermedia - the third generation distance learning system (model), which provides for the use of new information technologies with the dominant role of computer telecommunications. As the main forms of hypermedia, one can consider the systemic use of information telecommunication networks in which social networks, email, newsgroups, search engines, information portals, IP-telephony and more exist. With further development, this model of distance learning can include the simultaneous, complex use of a complex of such tools as video, telefax and telephone, audio graphics, various hyper funds, databases and artificial intelligence systems (Bork) [4, p. 335-341].

Thus, experience in this direction shows that the primary task of the teacher in this situation will be to select and systematize the main educational material, as well as to show the user the correct use of this material in information security training. The teacher can use the training programs not only to introduce, consolidate and control the assimilation of the material, but also to simulate real situations in teaching information security.

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