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Information technology in a global society

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The main task facing domestic universities in the field of nanoeducation – creating a new educational environment, including through the development of remote technologies, creating new educational programs that will allow by 2020, according to the Ministry of education, to prepare 25 thousand highly qualified specialists, a significant increase in their competitiveness in the world. Many Russian universities are already using and network training, and remote-sensing technologies, which allow, for example, students of MGIMO University to listen to lectures of American professors, without leaving Moscow [18].

Changing the basic structure of the University. Information technologies are transforming the nature of its activity: creation, preservation, integration, transmission of knowledge [3]. Objectives of University education are as follows: to study the theory and applied aspects of science, to conduct research, and to develop the personality of students.

According to B. Turner, the new global University to be fully operational in the Internet space, losing the national and state identity . National education is increasingly becoming a transnational education (GATE), where the teacher and school that provides the education, are in one place (donor country) and the students in another (the recipient country) [17]. This allows you to make a modern virtual University, offering the program through the Internet worldwide. Thus both students and teacher are required to communicate in their native language and the international slang - English language.

Analysis and definition of the educational environment as a set of possibilities for realization by subjects of their educational needs dedicated to the work of O. S. Gazman, I. N. Zakatova, T. G. Zelenova, M. V. Klarina, N. F. The Reimers,. I. D. Frumin, VA.Asvina, V. P. Bespal'ko, A. Ya., Vagramenko, T. G.

Vezirov, V. V. Laptev, M. V. Lachica, E. I. Machuca, A. V. Mogilev, E. S. Polat, I. V. Robert, N. With. Rozova, A. I. Rumyantsev, V. A. Slastenin, V. F. Talyzina, V. A. Tikhonov, Y. A. Uvarova, A. V. Khutorskoy, T. L. Shaposhnikova, etc. In the works of N. B. Zavyalova, E. K. Mikhailov, B. P. Ovechkin, O. N. Podkovyrov, I. N. Rosina developed a classification of educational media by type of the technologies: autonomous, local, Internet technologies, management information.

Digital technologies change the relationship between people and knowledge. The audience is freed from subordination to space and time and enriching the learning process with access to the original materials. It creates an open learning space. According to V. D. Semenova [16], open space characterizes humane rules and balanced type of communication. A. G. Saibidinov [15] as the main characteristics of an open educational environment calls her creative nature. Open educational space is primarily the space, providing high quality educational services in accordance with social demand. According to L. N. Kechiev, G. P. Putilov and S. R. Tomaskova information-educational environment is a set of computer means and methods of their operation, used to implement training activities [7; 8]. The latter is based on the use of computers, software and telecommunications environment, providing technological means and a single open information space of education.

B. P. Ovechkin and O. N. Podkovyrova mean by unified information space of the university information environment in which there is a hierarchy of methods for creation of information resources and work with them. V. I. Shvetsov notes that the information environment of the university includes software systems, databases and the technology that supports the process of managing the organizational activities of the university.

In the works of G. P. Putilov, on technical sides of designing of information educational environments it is noted that «the scope of application of information-educational environments are not only limited to educational institutions. Independent training and retraining of personnel is carried out by large industrial

enterprises, military and civilian organizations. In addition, the industrialized countries have become the standard to provide new sophisticated machines and technologies in computer training systems, facilitating and accelerating the process of their development and implementation. Abroad the development of information-educational environments is considered very expensive because of its high research intensity and the need for joint work of qualified specialists of different specialties: designers, psychologists, teachers, computer designers. Despite this, many large foreign firms Finance the projects of creation of information-educational environments in schools and lead their own development in this area» [12].

Today's students belong to the digital generation and used to be in active communication with the computer. They do not have the habit and desire to learn consistently, following the tutorials, but rather are inclined to training in the form of participation and of experimentation [10]. According to expert estimates, in 1990-ies there were about three hundred colleges and universities offering virtual degrees to more than a million cyber-students [14]. Thoughts on B. Ridings [13], university teaching should be something more than a simple transmission of scientific knowledge and the reproduction of systems of thought, namely, the dialogue. It is the network rather than the traditional audience increasingly becomes a sphere of dialogue and exchange of knowledge.

Information technology of education called all technologies, using special technical information means (computer, audio-, video - film). In connection with the mass proliferation of computers came the term the «new (computer) information technology».

Table

Information technologies used in educational process [2; 5]

<i>The application area</i>	<i>Used technologies and approaches</i>
Storage and delivery of training and educational resources	E-mail, WWW, ftp, file transfer for ipx/netbios, push technology, real audio video, video on

	demand
Educational software	HTML tutorials with static and dynamic pages, educational Java applets, telnet access
Testing and QC software	Implementation of interaction with the test module on the basis of interfaces for CGI, FastCGI, WAI, ISAPI, NSAPI, testing videoconferencing
Electronic interactive educational reference tools (dictionaries and encyclopedias, glossaries, databases with remote access)	HTML-directories, databases, architecture the client-server-based CGI/ODBC/JDBC/SQL, etc.
Remote laboratory workshops	Remote control experiment on the basis of TCP/IP
Educational CAD	Modeling and design with the use of remote and distributed tools
The support tools are collective learning activities	Local and global news groups and mailing lists, Internet chat, video conferencing
Electronic library catalogs, access to the catalogues of individual libraries, the global electronic catalogue, system of literature search and remote ordering system for remote delivery	Database architecture client-server, WWW directories, scan, email and Push delivery
System network navigation and search learning material	Systematic online directories, keyword search, search with natural language search,

	multimedia resources, indexing robots
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At the end of 2012 in the Russian universities with the use of Internet technologies has an enrollment of about 162 thousand people, 25 thousand children with disabilities. Education programmes that are implemented with the use of remote technologies, are offered by about 50 schools. In different constituent entities of the Russian Federation in the framework of the National project "Education" established 88 centers of distance learning [11].

The main types of computer training that are currently being implemented using Internet technologies, are also educational and informational materials (electronic textbooks and lectures, Web sites), and they can effectively be combined with systems of knowledge control. Paper sets of ordinary textbooks, manuals and collections of exercises actively replaced by a modern information system. The organization of structuring the learning material in this system can be carried out by means of warp capability. Information of hyper technology came the labor, provide the organization and structuring of information through the establishment of hyperlinks.

Hypertext is new organizes educational space, establishing stable associative links between articles, sections, paragraphs, individual concepts and terms. In the result the media space is structured not only from the beginning to the end, but also along thematic lines, indexes, and bibliographic pointers. Not text information organizes and structures the learning material and in the form of image, sound, speech, movies. The training material is built in the form of subordinates and interacting communication systems in a hierarchical network of hyperspace.

Hypermedia technology manage information flows, structuring them as text and in graphical format, facilitating teachers and students the best and most adequate to the modern requirements of science understanding and learning. Computer learning program can be used for self-study on a remote computer via a computer network.

Method of information resources is the basis of hyper- and multimedia technologies, which are created in universities and schools e-monographs, textbooks, encyclopedias, reference books, reports and records. The use of Web technologies to create a learning resource, each section of which ends with a test on the studied material. Interactive textbooks differ from conventional textbooks: the principle of flow of materials; methods of teaching in the mode of early identification and timely elimination of gaps in knowledge; a large number of tasks and tests to secure the training topics; the presence of codes to the assignments and tests, allowing to quickly identify the correctness of their implementation by means of microprocessor control devices; the existence of a fully compatible electronic version.

Information support of the project of Samara state aerospace University for students of Bradley University (USA) disciplines in the field of Russian economy getting credits at American University include: electronic mail, videocassettes, CD-ROMs, video conferencing and the materials exposed on the WWW server [2].

Network technology – technology based on the use of local and wide area networks and the Internet. Modern Internet technologies give us the possibility of presenting teaching materials, techniques, and digital libraries in a common format with a public interface on the basis of existing educational standards [5]. A popular means of organization of work of trainees in groups of steel Wiki. Wiki allows you to organize simultaneous work on the same document to several trainees.

In the Internet you can find many different courses for teachers and students, teachers, and students. Most often they are organised by individual centres in different regions of the country on their own programs. Here all kinds of virtual quizzes, competitions, contests, festivals, etc. To help the teacher offers computers and multimedia programs.

Today there are a choice of methods of knowledge management: a method of evaluating a large number of ideas; evaluation and monitoring of changes in the internal environment of the organization; brainstorm allows you to create a large number of ideas through collective discussion; analysis of existing experience to

improve the future situation; the exchange of knowledge and experience in the community of people who are passionate about a common cause and strive to improve their knowledge and skills in a particular area; the search of the best properties of organizations that help her to succeed and to remain effective for further growth, etc. The knowledge management system (KMS - Knowledge Management System) is a set of processes and tools for receiving, storage, systematization, updating, sharing and application of knowledge [9].

Modern information technologies allow greater use of teaching methods such as debates, simulations, role-playing, discussion groups, brainstorming, Delphi techniques, nominal group techniques, forums, project groups, etc. Special didactic value in teaching process acquire computer conferences, which allow participants to exchange messages in the dialog.

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