THE DIALECTICAL UNIFICATION OF THE DIGITAL SOCIETY AND THE HUMANIZATION OF HIGHER EDUCATION

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ANNOTATION

This article describes exactly what the digital society should focus on in the process of humanization of dialectical and higher education, as well as the results of the introduction of digital technologies in human activities and their use.

Keywords: digitization, information technology, digital technology, information products, information sources

INTRODUCTION

Today, the level of development of higher education institutions in the developed countries of the world determines the level of culture of each country. Development in any society is determined by the dependence on electronic information. Nowadays, owning a database is a strategic task.

While the transition from the second half of the twentieth century to the "Knowledge Economy" in the civilized world has been a key factor in the socio-economic development of society, the 21st century has been an important factor in the digital age. The importance of information in solving almost all the problems of the world community is paramount. This scientific and technological revolution is gradually transformed into intellectual information, useful and effective modern means of organizing and managing science-based social demands, science, culture, education, useful and effective modern products, the socio-economic development of society as a whole. forms.

Modern advances in information technology, operating systems, and telecommunications have elevated the types of high technology, i.e., information technology, to a higher level. The results of scientific and applied research in the field of information technology, computer equipment and communications have laid a solid foundation for the emergence of a new network of knowledge and information industry. The world's information services, computer production and computerization, automated information processing technology are successfully developing in the world.

Thus, we can see that the full process of information support for the socio-economic development of society on a modern basis of informatization consists of information technology and appropriate technical means.

Therefore, the problem of informatization of higher education institutions (higher education institutions) has become a priority in society and its importance is constantly growing.

The term "information technology" appeared in the late 1970s. Computers have changed the way information is handled, increasing efficiency and effectiveness of management, but at the same time, the computer revolution has brought serious social problems to information security.

The definition of computer use tasks in universities, their classification and hardware and software have been established.

Information technology has long been ingrained in our daily lives and rooted in it, but the concept itself remains multifunctional and ambiguous. Technology is traditionally understood as a creative, production process in both art and craft. However, the process itself involved a series of consistent efforts to achieve the goal.

The use of computer technology allows universities to take advantage of the training of competitive personnel using digital technologies:

- Improving the effectiveness of teaching and learning through the use of technology, electronics, tools and communications;
- Improving individual efficiency through data collection and access to databases;
- Improving the reliability and speed of information processing through information technology;
- Creating a technological basis for specialized teamwork.

The information era began in the 1950s, when the first computers appeared on the market. Information technology is the process of selecting, processing, and transmitting data and studying money transfers to obtain new qualitative information about the state of an object, process, or event. At different stages of human development, information technology has gained importance in its own style and at different levels.

In modern conditions, the information, as well as the radical restructuring of production processes that do not affect individual links, is now managed by all sectors of the national economy, information support, information services management and regulatory framework with rapid images being created. Management of information services, production informatization are gaining urgency. As a result of these measures, the process of "initial accumulation" of information market resources and resolving the cultural rules of the next stage has begun. In this regard, the necessary development of high-performance, functional information technologies is of course required to develop on the basis of our national and cultural values.

Therefore, the purpose of our research is to regulate the information environment in education, to have information about digital technologies, digital culture at the current stage of development.

Along with teaching, the following tasks will be performed during the development of digital culture:

+ To give the concept of information technologies and review the history of their formation;
+ Describe the goals of the development and operation of digital technologies;
+ Creating examples of digital culture methods through funds and digital technologies.

The structure of the information process through digital technologies is controlled by the individual, and includes not only goals, but also specific tools, methods, strategies.

As information is one of the most valuable resources of society, one of the most important resources of society (material wealth - oil, gas, minerals, etc.) takes precedence in the process of owning an information resource. Working with information resources can be compared to traditional production processes and can also be called technology. Then the following definition is fair: information technology is a process or set of information processing processes. Konopleva I.A., Khokhlova O.A., Denisov A.V. (Information technology. - M .: Prospekt, 2013. - 328 p.)

Because at the input and output of information technology there is information, not matter, energy: information technology collects, processes primary data to obtain new qualitative information about the state of an object, process or event and can also be described as a set of processes that use transmission tools and methods.

This information, which is presented in a new quality, is called an information product. The process of converting information into an information product and then into a software product can be schematically described as follows (Figure 1). In this case, threats are understood as a combination of factors that pose a risk to valuable data, in particular: the possibility of unauthorized access and / or distribution. Yudina I.G. (Complex information product: features and definition // Bibliosphere. 2012. No 5. P. 43-46).

If the production of material products is done to meet the needs of people and their communities, the goal of information technology is presented as the acquisition of an information product by man to analyze and make decisions based on it to perform actions. As in material production, another information product can be obtained by applying different technologies to the incoming information.

In the legal literature, the term "information product" is defined as: Documents prepared in accordance with the needs of users and documented information intended or used to meet the needs of users. Sinatorov S.V. (Information technology. - M .: Dashkov and Co., 2010. - 456 p. (Fig. 1))
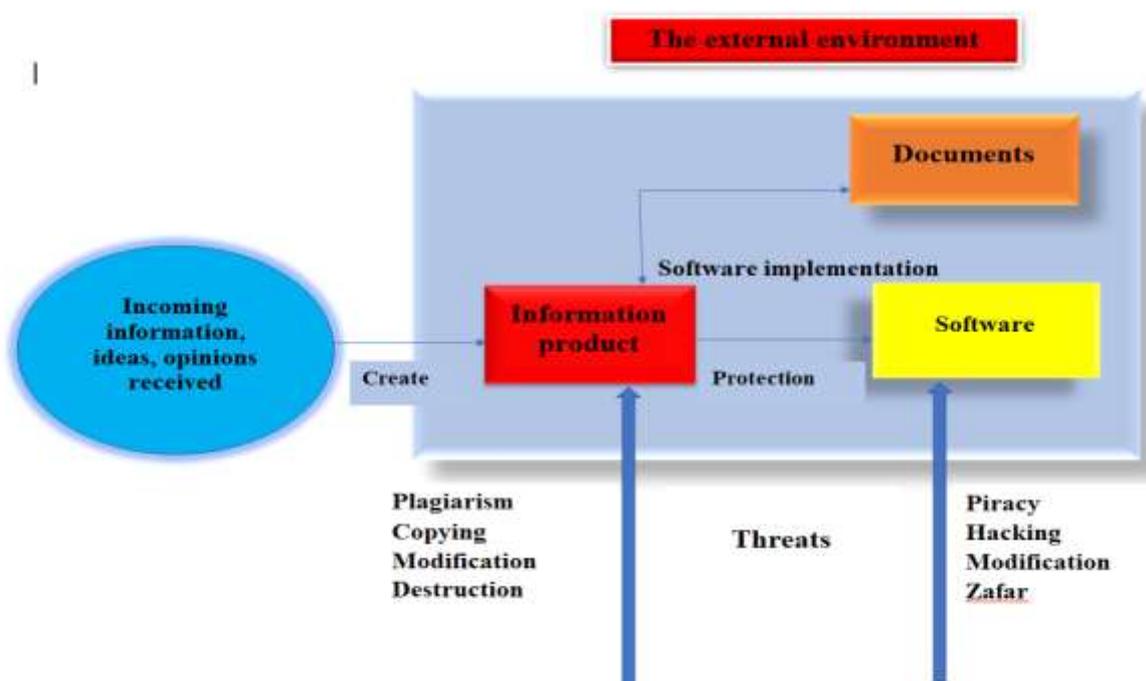

Figure 1. Information and software products in the information framework system

Consequently, the final destination of the information product, as well as information technology, is assessed by the satisfaction of human needs. The beginning of the era of information technology (IT) can be considered as the time when man began to distinguish himself from the outside world: language, verbal repetition of information, its transmission

through symbols, sounds - all this can be called the first stage in the development of information technology.

According to XRAloshti's scientific research (Philosophical approach to information and information technologies // Scientific and technical data. Part 2: Information processes and systems. 2012. No 4. P. 1-12 ..) The emergence of writing is a feature of the second stage of information technology development. Due to the ability to reproduce information about material carriers (wood, waxed or clay tablets, papyrus, leather), the first data warehouses - libraries - are formed. However, mass dissemination of information was initiated by typography (Table 1).

The third stage in the development of information technology can be called the emergence and rapid introduction of mechanical devices such as typewriters or addition machines for processing, storing and transmitting information.

The discovery in the field of electricity brought about a revolution in information technology, which led to the transition to the fourth stage of their development. It was possible to transmit large amounts of data over long distances at very high speeds (telephone, teletype), storing them in a magnetic medium. The beginning of the fifth stage of information technology development is associated with the transition to the first electronic computers and computers.

Stages of mass dissemination of information

Table 1

Stages of development.			
Period	Technique	Tasks to be solved	IT type
The first is 150,000 years BC. - 3 thousand years BC	Primary tools for drawing symbols on everyday items	The unification of individual tribes into tribal communities, the formation of early societies	Not mechanized
The second - 3 thousand BC - V century	Writing tools, first printing presses	Maintaining power and order in the first states, organization of labor	Primitive mechanized
Third - V-XIX centuries.	Printing and calculating-keyboard machines	Mechanization of control systems	Mechanized
The beginning of the 4th century AD - 1940s	Remote communication complexes	Automation of global processes	Automated
Fifth - 1940s - the present	Computers, digital technology	Management of the world economy in the context of the information market	Electronic, digital - a combination of computer technology and communications

The main advantage of electronic information sources compared to analogues is their efficiency and increasing mass (a good example is data on the Internet). The rapid development of computer technology is creating new forms and methods of information processing, storage and transmission.

There are separate stages in the development of computer information technology:
- stage of machine resources (introduction of computers, programming in machine codes);
- programming stage (programming languages, batch processing);
- the stage of new information technologies characterized by the emergence of personal computers, computer networks, workstations (automated workstations), databases, OLAP technologies (dynamic data analysis), Internet technologies, etc.

The main tasks of modern information technology:
- achieving universality of communication methods;
- support for multimedia systems;
- maximum simplification of communication in the "human-PC" system.

In addition, information technology as a system has the following features:
- expediency;
- availability of components and structure;
- interaction with the external environment;
- integrity;
- timely development.

Pastukhov V.A. (Management of information technology // Oil refining and petrochemistry. Scientific and technical achievements and best practices. 2011. No 5. P. 59-61.) The concept of "information technology" is a repository of knowledge. They are designed to educate through education. You can learn from a variety of sources. This technology is different from traditional printed sources. Of course, it may not be like a reliable source accepted by traditionally published sources, but it may serve as a source of information.

Information is also one of the traditional resources of a society such as oil, gas, minerals and so on. Thus, a data processing process similar to the process of processing material resources is also a technology.

Sources of information - a set of data, which determines the prestige of universities and is valued as a material resource. Information resources include texts, audio and video materials, presentations, lesson plans, knowledge, information files, and more.

Information Technology - A combination of methods of collecting, storing, processing and distributing data and additional software to increase the use, reliability and efficiency of information resources.

According to the definition adopted by UNESCO, information technology (IT) is an interconnected scientific, technological, which studies the methods of effective organization of data processing and storage using computer technology. a set of engineering sciences. The organization and interaction of people and production processes, their practical application, as well as a set of social, economic and cultural issues related to it.

Information technology can be divided into three groups according to the field of application:
1) Global Information Technology - includes models, methods and tools that formalize and allow the use of information resources of the whole society.
2) Basic information technologies - technologies designed for a specific field of application;
3) Special information technology - specific information technology that performs the processing of specific data in solving specific functional tasks of the user (e.g., planning, accounting, analysis tasks, etc.).

The main goal of information technology is to make a decision based on its subsequent analysis and analysis of the optimal solution associated with the implementation of any action.

With the advent of the personal computer for all computer-assisted approaches, a new phase in the development of information technology has begun.

Modern material production and other areas of activity require more and more information services, a large amount of data is processed. The universal technical means of processing any data is a computer. Expansion of the intellectual potential of man and society, in general, means the means of communication using computers to transmit and receive information. The emergence and development of computers is a key factor in improving the information process of universities.

Informing the society is an example of modern social development. Although similar to the term "computerization of society," the concepts are significantly different.

"Community informatization" is a broader concept than "computerization of society" and involves the rapid exchange of information to meet its needs. Based on the introduction of information and telecommunication technologies, society needs a significant increase in labor productivity in the information efficiency of social production. More than half of the working-age population is engaged in information technology. For example, more than 60 percent of the working-age population is employed in the U.S. information industry, compared to about 40 percent in the CIS.

Some types of modern information technology are: telephone, television, personal computer.

From a modern point of view, using the phone seemed a lot of fun. But now, thanks to the advent of common computers and the Internet, it is possible to communicate using a computer. Www - This is the beginning of computer-assisted communication.

The Internet offers an unprecedented way to get information. It opened up a wide range of opportunities for education, business and the development of mutual understanding between people. WORLD NETWORK- (www) On the Internet - this provides the freedom of specific expression of the most open data.

It is also used for communication between universities, their students, faculty, staff and partners. The use of intranets within universities is a step forward compared to the past for more information for their members. Has the technological capabilities to store, search and describe documents, access them and engage indicators.

Information technology processing is the process of entering the necessary data, algorithms, and processing them. Therefore, the introduction of information technology and systems at this level will significantly increase the effectiveness of education, which is free from routine operations.

At the operational level, the following tasks are solved:

· Processing information on educational processes developed by universities;

· Creating periodic monitoring reports on the status of teaching processes in universities;

Therefore, any universities should have a data processing system and appropriate information technology developed;

· solving unique structural tasks that can be developed;

· Execution of standard procedures - data processing. Existing standards define the usual data processing procedures and determine compliance with all types of HEIs;

• automatic implementation of the main volume of work with minimal participation of students;
• use of detailed information;
• focus on the chronology of events;
• Minimal need for help in solving problems by professionals at other levels.

Data storage: much of the data from an operational activity must be stored for future use or here or at some other level. Databases are created for storage.

Reports (documents): In the processing of information technology, it is necessary to create documents for the company's employees and for cooperation.

Information technology management can be useful at any level of control.

In order to make decisions at the information management level, the causes of data change trends and possible solutions need to be considered. At this stage, the following data processing tasks are solved:

• assessment of the planned condition of the management facility;
• assessment of deviations from the planned situation;
• identify the causes of deviations;
• Analysis-based solutions and actions.

Regular reports are scheduled at the time of their creation. For example, an analysis of the effectiveness of higher education in each semester.

Using the appropriate software, the content of the database is converted into periodic and special reports that are included in the decisions of the experts involved in the organization. The database used to obtain this information must consist of two elements:

1) Data collected on the basis of evaluation of operations carried out by universities;

2) General plan, standards, budgets and other normative documents defining the planned state of the management institution.

The effectiveness and flexibility of information technology largely depends on the characteristics of the decision-making interface. The interface includes: user language, computer message language, display dialog, user knowledge.

User Language - The actions that this user performs using keyboard options, joysticks, "mice" on the system. The simplest form of user language is to create input and output documents.

Message language - User on the display screen (characters, graphics, colors, audio, video), data received from the printer, audio output signals, etc. An important part of the selected interface between the user and the system is the form of dialogue between the user and the system. The most common forms of dialogue today are: query, reply, command mode, menu mode. Depending on the type of task, it is possible to divide the advantages and disadvantages of user features and decisions.

User knowledge is the competence of working with the system.

Information technology expert systems

The most advanced systems among computer data are expert systems. Expert systems is a system of supporting a manager or specialist to get expert advice on any issues of knowledge.

Solving special tasks requires special knowledge. However, not every company can invite government experts on all issues related to the performance of their work, or even them every time a problem arises. All this allows the use of expert systems technology as consulting systems.

The similarity of information technology used in expert systems and provides a high level of decision-making in decision support systems.

Problem solving within decision support systems reflects the user's level of understanding and decision-making ability. Instead, expert systems technology invites the user to make a decision to prioritize their capabilities.

The second difference of these technologies is reflected in the ability of expert systems to explain their arguments in the process of obtaining a solution. Often, these explanations are more important to the user than the decision itself.

The third difference is the use of information technology - a new component of knowledge.

The main components of information technology used in the expert system: user interface, knowledge base, interpreter, system creation module.

The manager (specialist) uses the interface to enter information and commands into the expert system. Orders contain parameters that focus on the information processing process. The information is usually given in the form of values defined by a specific variable.

Expert systems technology allows you to receive the necessary explanations not only as a solution, but also as a product.

There are two types of explanations:
 • Comments by requirements. The user can request an explanation of their actions at any time;
 • Problem solving comment. After making a decision, the user may be asked to explain how it was obtained. The system needs to identify each step of the way of thinking that leads to problem solving. All the rules used in the expert system form a system of rules, which shows that in a relatively simple system can be several thousand rules.

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