



METHODS AND OPPORTUNITIES FOR THE USE OF INFORMATION TECHNOLOGY IN EDUCATION

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<https://doi.org/10.5281/zenodo.4719655>

ARTICLE INFO

Received: 23rd April 2021

Accepted: 25th April 2021

Online: 27th April 2021

KEY WORDS

*information,
computer, technology,
office, expert.*

ABSTRACT

Information technology is a process that uses a set of means and methods for collecting, processing and transmitting data to obtain information of a new quality about the state of an object, process or phenomenon. The purpose of information technology is the production of information for its analysis by a person and making, on its basis, a decision to perform an action.

INTRODUCTION

The introduction of a personal computer into the information sphere and the use of telecommunication means of communication have determined a new stage in the development of information technology. New information technology is information technology with a "friendly" user interface, using personal computers and telecommunications facilities. The new information technology is based on the following basic principles.

1. Interactive (dialog) mode of working with a computer.
2. Integration with other software products.
3. Flexibility of the process of changing data and setting tasks. Common types of software products are used as information technology tools: word processors, publishing systems, spreadsheets, database management systems, electronic calendars, and functional information systems.

METHODOLOGY

Currently, the role of information technology in people's lives has significantly increased. Modern society has become involved in a general historical process called informatization. This process includes the access of any citizen to information sources, the penetration of information technologies into scientific, industrial, and public spheres, and a high level of information services. The processes taking place in connection with the informatization of society contribute not only to the acceleration of scientific and technological progress, the intellectualization of all types of human activity, but also to the creation of a qualitatively new information environment of society that ensures the development of human creative potential.

One of the priority directions of the process of informatization of modern society is the informatization of education, which is a system of methods, processes and software and hardware integrated for the purpose of collecting, processing, storing, distributing and using information in the interests of its consumers. The goal of informatization is the



global intensification of intellectual activity through the use of new information technologies: computer and telecommunications. Information technology provides an opportunity to:

1. Rationally organize the cognitive activity of students during the educational process;
2. Make learning more effective by involving all types of sensory perception of the student in a multimedia context and arming the intellect with new conceptual tools;
3. Build an open education system that provides each individual with their own learning path;
4. Involve categories of children with different abilities and learning styles in the process of active learning;
5. Use the specific properties of the computer, allowing you to individualize the learning process and turn to fundamentally new cognitive tools;
6. To intensify all levels of the educational process.

The main educational value of information technologies is that they allow you to create an immeasurably brighter multi-sensory interactive learning environment with almost unlimited potential opportunities at the disposal of both the teacher and the student. In contrast to the usual technical means of teaching, information technologies allow not only to saturate the student with a large amount of knowledge, but also to develop the intellectual and creative abilities of students, their ability to independently acquire new knowledge, work with various sources of information.

The main types of information technology include the following.

1. Information technology of data processing is intended for solving well-structured problems, the algorithms for

solving which are well known and for the solution of which there are all the necessary input data. This technology is used at the level of performing activities of low-skilled personnel in order to automate some routine, constantly repeated operations of managerial work.

2. Information technology management is designed to provide information services to all employees of enterprises associated with making management decisions. Here information is usually presented in the form of regular or special management reports and contains information about the past, present and possible future of the enterprise.

3. Information technology of the automated office is designed to complement the existing communication system of the enterprise personnel. Office automation involves the organization and support of communication processes both within the company and with the external environment based on computer networks and other modern means of transferring and working with information.

4. Information technology decision support is designed to develop a management decision that occurs as a result of an iterative process involving a decision support system (computational unit and control object) and a person (control unit specifying input data and evaluating the result).

5. Information technology of expert systems is based on the use of artificial intelligence. Expert systems enable managers to receive expert advice on any problems that these systems have accumulated knowledge about.

The purpose of material production technology is to produce products that meet the needs of a person or a system. The purpose of information technology is the production of information for its analysis by a



person and making, on its basis, a decision to perform an action. It is known that by applying different technologies to the same material resource, you can get different products, products. The same will be true for information processing technology. Information technology is the most important component of the process of using society's information resources. To date, it has gone through several evolutionary stages, the change of which was determined mainly by the development of scientific and technological progress, the emergence of new technical means of information processing. In modern society, the main technical means of information processing technology is a personal computer, which significantly influenced both the concept of building and using technological processes and the quality of the resulting information. The introduction of a personal computer into the information sphere and the use of telecommunication means of communication have determined a new ethane for the development of information technology and, as a result, a change in its name due to the addition of one of the synonyms: "new", "computer" or "modern". Information technology is closely related to information systems, which are its main environment. At first glance, it may seem that the definitions of information technology and systems introduced in the textbook are very similar to each other. However, it is not. An information system is an environment, the constituent elements of which are computers, computer networks, software products, databases, people, various kinds of technical and software communication facilities, etc. The main purpose of the information system is to organize the storage and transmission of information. The information system is a human-computer information processing system. The implementation of the functions

of an information system is impossible without knowledge of information technology oriented towards it. Information technology can exist outside the sphere of the information system. Information technology of work in the environment of the word processor Word 6.0, which is not an information system. Information technology of multimedia, where images and sound are transmitted and processed on a computer using telecommunications. Thus, information technology is a more capacious concept that reflects the modern understanding of the processes of information transformation in the information society. In a skillful combination of two information technologies - management and computer - the key to the successful operation of the information system. Information system - a human-computer system for decision support and production of information products, using computer information technology. Obsolescence of information technology It is quite natural for information technologies that they become obsolete and replaced by new ones. The technology of batch processing of programs on a mainframe in a computer center was replaced by the technology of working on a personal computer at the user's workplace. The telegraph has transferred all its functions to the telephone. The telephone is gradually being replaced by the express delivery service. Telex has transferred most of its functions to fax and e-mail, etc. When introducing new information technology in an organization, it is necessary to assess the risk of lagging behind competitors as a result of its inevitable obsolescence over time, since information products, like no other types of material goods, have extremely high rate of replacement by new species or versions. The turnover periods range from several months to one year. If, in the process of introducing new information technology, this factor is not



given due attention, it is possible that by the time the company is transferred to the new information technology, it will become outdated and it will be necessary to take measures to modernize it. Such failures in the implementation of information technology are usually associated with imperfect technical means, while the main reason for failures is the absence or poor elaboration of the methodology for using information technology.

CONCLUSION

The ability of a computer to act as a teacher in the educational process is evaluated in different ways: from their absolute denial to the statement that the computer can be transferred to all the main and auxiliary functions of the teacher. Most experts are of

the opinion that computer, carrying out a number of features of training, not be able to fully replace a teacher for a number of reasons, the main of which are:

1. The computer cannot be fully simulated those aspects of a teacher related to its educational function;

2. The purpose of training is also to develop the human communication ability; the computer will not be able to replace human communication and understand the mystery of human thought.

At the present stage, the most constructive approach seems to be that the computer should not be opposed to the teacher, but it is advisable to consider it as a means of supporting the professional activity of the teacher.

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