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ICT: Concept and Types

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Abstract
This article is about consideration of the didactic possibilities of modern information technologies, as well as the design of an electronic training course aimed at studying English grammar.
Key Words: *ICT, virtual reality, hardware, devices, software tools.*

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Information technologies of training are all technologies using special technical means (computers, audio, cinema, and video). When computers became widely used in the educational process, the term “new information technology of learning” appeared. But some researchers emphasize that it is possible to talk about a new information technology of teaching only if it satisfies the basic principles of pedagogical technology (preliminary design, reproducibility, integrity, etc.), solves problems that have not been theoretically or practically solved before, and if the means of transmitting information to the student is computer and information technology.

Information and communication technologies (ICT) are “a wide range of digital technologies used to create, transmit and distribute information and provide services”.

ICTs include: Computers, personal computers; sets of terminal equipment for computers of all classes, local computer networks, information input/output devices, means of entering and manipulating text and graphic information, means of archival storage of large amounts of information and other peripheral equipment of modern computers; devices for converting data from graphic or audio forms of data representation into digital and vice versa; means and devices for manipulating audiovisual information (based on multimedia technology and “Virtual Reality” systems); modern means of communication; artificial intelligence systems; machine graphics systems, software complexes (programming languages, translators, compilers, operating systems, application software packages, etc.), etc.

The acceleration of scientific and technological progress, based on the introduction of flexible automated systems, microprocessor tools and software control devices, robots and processing centers into production, has set an important task for modern pedagogical science – to educate and prepare the younger generation capable of actively engaging in a qualitatively new stage of development of modern society associated with informatization. The solution of the above–mentioned task – the fulfillment of the social order of society - fundamentally depends both on the technical equipment of educational institutions with electronic computing equipment with appropriate peripheral equipment, educational, demonstration equipment operating on the basis of ICT, and on the readiness of students to perceive the ever-increasing flow of information, including educational [1].

The widespread use of information resources, which are the product of intellectual activity of the most qualified part of the able-bodied population of society, determines the need to prepare a creatively active reserve in the younger generation. For this reason, it becomes urgent to develop certain methodological approaches to the use of ICT to implement the ideas of developmental learning, the development of the student's personality. In particular, for the development of the individual's creative potential, the formation of the learner's ability to predict the results of their activities, to develop a

strategy for finding ways and methods of solving problems - both educational and practical [2].

Equally important is the task of providing psychological, pedagogical and methodological developments aimed at identifying optimal conditions for the use of ICT in order to intensify the educational process, improve its efficiency and quality.

The relevance of the above is determined not only by the social order, but also by the individual's needs for self-determination and self-expression in the conditions of a modern society of informatization.

Modern ICT tools can be used as:

Means of teaching, improving the teaching process, increasing its effectiveness and quality. At the same time, it provides:

- the implementation of the capabilities of software and methodological support of modern PCs, etc. for the purpose of communicating knowledge, modeling educational situations. implementation of training, monitoring of learning outcomes;
- the use of object-oriented software or systems (for example, text preparation systems, spreadsheets, databases) in order to form a culture of educational activity;
- realization of the capabilities of artificial intelligence systems in the process of using intelligent learning systems [3].

A tool for cognition of the surrounding reality and self-knowledge. Means of developing the personality of the student. The object of study (for example, as part of the development of a computer science course). Means of information and methodological support and management of the educational process. educational institutions, the system of educational institutions. Means of communication (for example, on the basis of asynchronous telecommunications) in order to disseminate advanced pedagogical technologies.

Automation of control processes, correction of learning outcomes, computer pedagogical testing and psychodiagnostics.

Automation tools for processing experimental results (laboratory, demonstration) and control of educational equipment. Means of organizing intellectual leisure, educational games.

All ICT tools used in the education system can be divided into two types: hardware and software.

Hardware:

A computer is a universal information processing device. The printer allows you to record on paper information found and created by students or a teacher for students. For many school applications, a color printer is desirable.

The projector increases the level of visibility in the teacher's work, as well as the ability to present the results of their work to the whole class to students.

The telecommunications unit gives access to Russian and world information resources, allows for distance learning and correspondence with other schools.

Devices for entering text information and manipulating screen objects: keyboard and mouse, the corresponding devices play a special role for students with motor problems, for example, with cerebral palsy.

Devices for recording (entering) visual and audio information (scanner, camera, video camera, audio and video recorder) make it possible to directly include information images of the surrounding world in the educational process.

Data recording devices (sensors with interfaces) significantly expand the class of physical, chemical, biological, and environmental processes included in education while reducing the study time spent on routine data processing.

Computer-controlled devices enable students of various levels of ability to master the principles and technologies of automatic control.

Intra-classroom and intra-school networks allow for more efficient use of available information, technical and temporary (human) resources, provide shared access to the global information network

Audio-video tools provide an effective communicative environment for educational work and mass events.

Software tools:

General purpose and related hardware (drivers, etc.) make it possible to work with all kinds of information.

Information sources are organized information arrays - encyclopedias on CD-ROMs, information sites and Internet search engines, including specialized ones for educational applications.

Virtual constructors allow you to create visual and symbolic models of mathematical and physical reality and conduct experiments with these models.

Simulators allow you to practice automatic skills of working with information objects: entering text, operating with graphic objects on the screen, etc. [4].

Test environments allow you to design and apply automated tests in which a student receives a task in whole or in part via a computer, and the result of completing the task is also fully or partially evaluated by a computer.

Complex training packages (electronic textbooks) are combinations of the above types of software tools that automate the learning process to the greatest extent in its traditional forms, are the most time-consuming to create, and most restrict the independence of the teacher and student [5].

Information management systems ensure the passage of information flows between all participants in the educational process: students, teachers, administration, parents, the public.

An expert system that uses the knowledge of a specialist expert to effectively solve problems in any subject area [6].

The breakthrough in the field of ICT, which is currently taking place, forces us to reconsider the issues of organizing information support for research activities. There are several ways to use information technology:

to search for literature

a) in the electronic catalog of the library of the educational institution;

b) on the Internet using browsers such as Internet Explorer, Mozilla Firefox, etc., various search engines (Yandex.ru , Rambler.ru , Mail.ru , Aport.ru , Google.ru , Metabot.ru , Search.com , Yahoo.com , Lycos.com etc.);

for working with literature during abstracting, taking notes, annotating, quoting, etc.;

for automatic translation texts using translation programs (PROMT XT), using electronic dictionaries (Abby Lingvo 7.0.);

for storing and accumulating information (CDs, DVDs, external magnetic disk drives, Flash drives);

for planning the research process (Microsoft Outlook management system);

for communicating with leading specialists (Internet, e-mail);

for processing and reproducing graphics and sound (Microsoft Media Player, WinAmp, Apollo, WinDVD, zplayer, image viewer programs ACD See, PhotoShop, CorelDRAW, programs for creating diagrams, drawings and Visio graphs), etc.;

to promote and implement the results of the research (speeches in video forums, teleconferences, publications in the media, the Internet).

Information technologies can also assist in the creation of educational and educational films, cartoons, programs, social advertising commercials for television, educational computer programs, games, interactive travel, encyclopedias, etc. based on the results of research.

References

[1]. Murphy Raymond. English Grammar in Use/ Murphy Raymond. — Cambridge. — Cambridge University Press, 1997.— 278p

[2]. Carstairs-McCarthy, A. In Introduction to English Morphology: Words and Their Structure / A. Carstairs-McCarthy. — Edinburgh: Edinburgh Univ. Press, 2002. — 160 p.

[3]. http://native-english.ru/grammar

[4]. http://www.towerofenglish.com/

[5]. http://dic.academic.ru/dic.nsf/enc_literature/1425/

[6]. http://www.ed.gov.ru/