Methods of Organization of Information And Communication Technologies In Institutions of Higher Education

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Summary

The article considers aspects of improving the quality of training of specialists based on the use of modern information and communication technologies in the educational process; the use of teaching methods and, as a result, an increase in the creative and intellectual components of educational activities; integration of various types of educational activities (educational, research, etc.); adaptation of information technology training to individual the characteristics of the student; ensuring continuity and consistency in learning; development of information technologies for distance learning; improving the software and methodological support of educational process.

Key words:
information technology, communication technologies, education system, educational process, optimization.

1. Introduction

Use of information and communication technologies opens up new opportunities and features for the teacher in teaching his discipline. When studying any discipline using information and communication technologies, it gives students the opportunity to reflect and take part in creating the elements of the lesson, which undoubtedly contributes to the development of interest students to any subject. If you include information and communication technologies in the learning process, it helps to increase the efficiency of classes, frees the teacher from everyday work, enhances the attractiveness of the presentation of the material, varies forms of feedback.

In the modern world, it is required that every teacher can prepare and conduct a lesson using information and communication technologies, and the use of information and communication technologies in the educational process is one of the ways to increase the motivation of learning. Information and communication technologies contribute to the development of the creative personality of not only the student, but also the teacher himself, the use of such technologies contributes to the realization of the main human needs - communication, education.

In general, the emergence of information and communication technologies associated with the emergence of modern means storage of information, development of means of communication, the ability to process information using computer.

For the effective use of ICT, it is necessary that these technologies be available to both teachers and students. Providing access for both parties will significantly improve the quality of student achievement. Computers must be installed in each audience, and they must have access to the Internet [13].

The use of information and communication technologies is not the influence of fashion, but a necessity dictated by the current level of education development.

With the help of information and communication technologies in the classroom in a general education school, you can:

- to make the educational activities of students more meaningful and attractive;
- to make educational information for perception more interesting by attracting visual images;
- to improve the quality of education, desire to learn;
- to make the lesson clear and dynamic.

It is known that the most effective way of teaching is visual demonstration and synchronous explanation of the material being studied.

Classic and integrated lessons, accompanied by multimedia presentations, online tests and software

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products, allow students to deepen the knowledge gained earlier, as stated in English proverb - "I heard - and forgot, I saw - and remembered."
The use of animation in slides allows the educator to give learners a more vivid idea of what they heard in class Students are happy to immerse themselves in the material of the lesson. Increased motivation and cognitive activity is achieved due to a variety of forms of work, the possibility of including a game moment: if you solve the examples correctly, you open the picture, insert all the letters correctly, you move the fairytale hero closer to the goal. The computer gives the teacher new opportunities, allowing, together with the students, to enjoy the fascinating process of learning, not only pushing the walls of the classroom with the power of imagination, but with the help of the latest technologies allows you to immerse yourself in bright colorful world. Such a lesson causes an emotional uplift in children, even students with poor academic performance willingly work with a computer. The computer does not replace live communication with the teacher and other sources of information, however, taking into account the interests of students, increases interest in studying any discipline.
One of the advantages of using information and communication technologies in teaching is improving the quality of education due to the novelty of activities, interest in working with a computer. The use of information and communication technology in the classroom is essential increases its effectiveness, speeds up the process of preparing for the lesson, allows the teacher to fully demonstrate his creativity, provides visibility, attracts a large amount of didactic material, increases the volume of work performed in the classroom by 1.5-2 times.
Use of information and communication technology opens up didactic opportunities related to the visualization of material, its "revitalization", the ability to make visual travels, the ability to visualize those phenomena that cannot be demonstrated in other ways, allow you to combine control and training procedures. "The golden rule of didactics is clarity."
Multimedia systems make it possible to make the presentation of didactic material as convenient and visual as possible, which stimulates interest in learning and allows you to eliminate gaps in knowledge [7].
In their daily work, teachers use information and communication technology is constantly. The main directions of using computer technologies in the classroom can be identified:
- visual information (illustrative, visual material);
- demonstration material (exercises, reference diagrams, tables, concepts);
- simulators;
- control over the skills of students;
-work on the Internet;
-educational and developmental programs;
In preparation for the lesson, using information communication technology teachers do not forget that it is lessons, and therefore a lesson plan, are made based on its goals. When selecting educational material, they observe the basic didactic principles:
systematicity and consistency, accessibility, differentiated approach, scientific character, etc. In this case, the computer does not replace the teacher, but only supplements him. Teachers use electronic resources educational purpose: presentations for lessons, logic games, test shells, Internet resources. They use information technology at all stages of the lesson: when explaining new material, consolidating,
repetition, generalization, control, during physical culture minutes, extracurricular activities.
The use of Internet resources allows students to present a unique range of materials for classes to the attention of students, make virtual trips to museums of writers, artists, learn more about their biography and work, get the opportunity to get acquainted with works that cannot always be found among printed visual aids.
Integration of a regular lesson with a computer allows the teacher to shift part of his preparatory work to lessons on the shoulders of a computer, making the learning process more interesting, varied, and intense. In particular, the process of recording definitions, theorems and other important parts of the material becomes faster, so as the teacher does not have to repeat the text several times (he displayed it on the screen), the student does not have to wait for the teacher to repeat exactly the fragment he needs.

2. Theoretical Consideration

Information and communication technologies are technologies that allow you to search, process and assimilate information from various sources, including the Internet. This is the presentation of information in electronic form, its processing and storage, the use of the computer, a variety of programs [3].
Creative (creative) information technologies include a person in the process of working with information (text editor). In practice, information technologies of education are called all technologies that use special technical information means [16]. ICT can be classified according to their functional application, as a rule, the following types of information are distinguished technologies: presentations, educational games and educational programs, didactic materials, programs - simulators, virtual experiment systems, electronic textbooks, electronic encyclopedias.
Presentations are a common type of presentation by the Sami demonstration materials. A presentation is, in fact,

key phrases where the very essence is displayed, helping to guide your speech. Presentations are especially interesting because they can be created by any teacher who has access to a computer, with minimal investment of time. The type of information and communication technologies [2].

Games aimed at learning and educational programs targeted at preschoolers and younger students. This type includes interactive programs with a game scenario. By doing various tasks during the game, students develop fine motor skills, spatial imagination, logical thinking and, possibly, get additional skills when working on the keyboard.

Didactic materials - collections of exercises, numbers, as well as reports submitted in electronic form, in the form of a simple set of file texts.

An electronic library is an information system that allows you to reliably save and effectively use a variety of collections of electronic documents (text, visual, audio, video, etc.) localized in the system itself, as well as available to it through telecommunication networks.

Perhaps the most striking example of the embodiment of achievements modern information technology in real life has become a cell phone. Today, a cell phone is no longer just a phone with which you can call anywhere in the world, from anywhere, but a compact computer. The developers have built almost everything into the modernized cell phone modern discoveries, and today it can easily replace us:

notebook, organizer, mp3 player, camera, allows you to play mobile games, use e-mail and the Internet, make purchases in stores.

The phone has also become an element of prestige. Interactive whiteboards are a touchscreen connected to computer, the image from which is transferred to the board by the projector. Together they are an interactive complex.

Programs - simulators perform the function of didactic materials. Modern programs - simulators can track the progress of the solution and report errors.

Electronic textbooks and training courses are combined into a single software package all or several training programs [3].

Information and communication technologies (ICT) used in the classroom:

- text editors;
- Power Point presentations;
- spreadsheets;
- online tests;
- Internet resources;
- training programs;
- multimedia dictionaries;
- electronic textbooks;
- distance learning;
- Internet Olympiads and much more.

When working with these sources of information, the teacher has the need to pay attention to the reliability of the information found and it is necessary to adapt the material for different levels of student learning.

ICT educational tools can be classified according to a number of parameters:

1. According to the solved pedagogical tasks:

- means providing basic training (electronic textbooks, training systems, knowledge control systems);
- means of practical training (problem books, workshops, virtual designers, simulation programs, simulators);
- aids (encyclopedias, dictionaries, reading books, developing computer games, multimedia training sessions);
- complex means (remote).

2. By functions in the organization of the educational process:

- informational and educational (electronic libraries, electronic books, electronic periodicals, dictionaries, reference books, educational computer programs, information systems);
- interactive (e-mail, electronic teleconferences);
- search engines (catalogs, search engines).

3. By type of information:

- electronic and information resources with textual information (textbooks, study guides, problem books, tests, dictionaries, reference books, encyclopedias, periodicals, numerical data, software and educational materials);
- electronic and information resources with visual information (collections: photographs, portraits, illustrations, video fragments of processes and phenomena, demonstrations of experiments, video excursions;

statistical and dynamic models, interactive models; symbolic objects: schemes, diagrams);

- electronic and information resources with audio information

(sound recordings of poems, didactic speech material, musical compositions, sounds of animate and inanimate nature, synchronized audio objects);

- electronic and information resources with audio and video information (audio and video objects of animate and inanimate nature, subject excursions);
- electronic and information resources with combined information (textbooks, teaching aids, primary sources, anthologies, problem books, encyclopedias, dictionaries, periodicals) [6].

4. According to the forms of ICT application in the educational process:

- full-time;
- independent;

-remote.

5.According to the form of interaction with the student:

- technology of asynchronous communication mode - "offline";

- technology of synchronous communication mode - "online".

There are several aspects of using different educational means ICT in the educational process:

1. The motivational aspect. The use of ICT contributes to an increase in interest and the formation of positive motivation of students, since conditions are created:
- maximum consideration of individual educational opportunities and needs of students;
- a wide choice of content, forms, rates and levels of training sessions;
- disclosing the creative potential of students;
- mastering by students of modern information technologies.

2. Content aspect. ICT opportunities can be used:
- when building interactive tables, posters and other digital educational resources on certain topics and sections of the educational discipline,
- to create individual test mini-lessons;
- for the creation of interactive homework assignments and simulators for independent work of students.

3. Educational and methodological aspect. Electronic and information resources can be used as educational and methodological support of the educational process. The teacher can use various educational ICT tools in preparation for the lesson;
directly when explaining new material, to consolidate the acquired knowledge, in the process of quality control of knowledge; for the organization of independent study of additional material by students, etc.
Online computer tests and test tasks can be used to carry out various types of control and assessment of knowledge.
In addition, the teacher can use a variety of electronic and information resources when designing educational and extracurricular activities.

4. Organizational aspect. ICT can be used in different options for organizing training:
- when teaching each student according to an individual program based on an individual plan;
- with frontal or subgroup forms of work.

5. Control and evaluation aspect. By means of monitoring and evaluation educational results of students with the use of information and communication technologies are tests and test items that allow for various types of control: input, intermediate and final.
Tests can be conducted on-line (carried out on a computer in an interactive mode, the result is automatically assessed by the system) and offline (the results are assessed by a teacher with comments, correcting bugs). Thus, the use of ICT in teaching any subject significantly increases not only the effectiveness of teaching, but also helps to improve various forms and methods of teaching, increases the interest of students in deep study of educational material.

Conclusions

Thus, the introduction of new information and communication technologies into the modern educational process helps to carry out the most high-quality training of students. The use of multimedia in the educational process, in any of the disciplines, is an attempt to offer one of the ways to bring intensity into the educational process, optimize it, motivate students to study any subject, implement the ideas of developing education, also increase the pace of the lesson, increase the volume of independent work. Information and communication technologies contribute to the development of logical thinking, a culture of mental work, the formation of students' independent work skills, and also has a significant impact on the motivational sphere of the educational process.

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