

### The role of information technology in the teaching of biology

**Abstract:** In order to improve the quality of education in the information age, it provides effective use of modern information technologies (e-learning resources, multimedia) and new pedagogical technologies. It is necessary to create an environment of modern information technologies in educational institutions, to develop the skills of pedagogues and students to use these technologies effectively.

**Keywords:** Information technology, ICT, electronic educational resources, multimedia.

"I never teach my students, I only try to provide conditions for them to learn."

Albert Einstein

Introduction: The teacher has acquired a new status, now his task will be to teach students to organize independent learning activities, acquire knowledge independently and apply it in practice. For such purposes, the teacher should choose teaching methods and technologies in such a way that he should create an opportunity for students not only to acquire ready-made knowledge, but also to search for knowledge from various sources, acquire it independently, form a personal point of view, justify it, and use previously acquired knowledge to obtain new ones. [1. 21 –b]

In improving the quality of education, modern information technologies can ensure the effective use of the possibilities of new pedagogical technologies. Innovative approaches in the educational system are achieved on the basis of modern educational technologies, programmed tools, tests and other non-traditional educational tools. In today's information age, active use of e-learning tools in biology classes, as in many educational subjects, serves as a factor of efficiency.

The use of electronic means of education in biology classes and their introduction into the educational process creates a unique new method. It is appropriate to include the following in the educational process of electronic resources from biology:

visuality of displayed information (use of various colors, illustration, sound, video, animation and other elements);

quick feedback (test systems installed during the acquisition of materials provide quick control); the interactive method teaches the student to self-control in the rapid acquisition of educational materials;

they help to constantly correct the training manuals and enrich them with new information (replacement of old information in the electronic training manual with new ones, and their changes are made so that they are understandable to users in the future).

The use of electronic educational resources in the teaching of biology ensures the effectiveness of education, as well as the effective solution of educational tasks. The use of electronic educational resources in teaching biology provides the following didactic facilities:

- 1) sharing complex assimilative knowledge, that is, familiarization with the processes occurring in the external and internal environment of the organism, it is used in the study and analysis of situations where it is not possible to observe them directly through the monitor;
- 2) the location of organs in the animal organism and the study of their function is organized in a unique way;
- 3) in addition to topics about the way of life of animals, distribution, reproduction and development in nature, and their diversity, the presentation of short volumes of scientific popular films in the form of CDs and DVDs forms educational concepts that the student has a direct relationship with nature and the need to respect it;
- 4) develops the student's independent learning. [2.581-b]

As a result of the introduction of modern information technologies in the educational system, the following will be achieved:

- \* students acquire professional knowledge;
- \* deep mastery of the field of science by modeling the phenomena and processes being studied;
- \* independent mastering of distance learning courses;
- \* to the expansion of the field of independent activity of the student due to the diversity of the organization of educational activities;
- \* to individualize and differentiate the learning process based on the introduction of interactive communication opportunities;
- \* by using the capabilities of the artificial intelligence system, the student acquires the strategy of mastering educational materials;
- \* formation of information culture in every member of the society;
- \* showed that the presentation of the studied processes and events by means of computer technologies is of great importance as a means of increasing interest and activity among students. [1, 17-b]

Information technology - the total methods, devices, methods and processes used to collect, store, search, process and distribute information. Modern information and communication technology (ICT) means information technology that uses modern computers and telecommunications tools and has a "friendly" interface for user operation.

Modern information technology tools include: computer, scanner, video camera, video camera, LCD projector, interactive whiteboard, fax modem, telephone, e-mail, multimedia tools, Internet and Intranet networks, mobile communication systems, database management systems, artificial intelligence systems. possible

In the educational process, computers are mainly used as follows:

- passive use - the computer is like a simple counter;
- active communication - guiding the computer student and taking the exam;

- interactive communication - the computer is used as an artificial intelligence, that is, it is used to communicate with the student. (3.18-b)

The use of high-quality electronic tools and their proper application in the educational process, the reception of information by students, their processing, regular control of acquired knowledge, skills, qualifications, support and special competences in science, nurturing creativity, changing the organization of the educational process and Additions allow continuous monitoring of educational results. At the same time, it creates necessary conditions for diagnosing and predicting students' activities, developing appropriate recommendations for designing future lessons, and determining the procedures for repeating specific information in students' learning activities. [2.580-b]

In order to improve the quality of education, the use of multimedia, one of the modern electronic media, brings a number of conveniences to teachers. Because, on the one hand, the audio programs, pictorial developments, animated recordings (presentations), movies created in the form of multiplication, and animations on this subject are new for the teacher, on the other hand, they are interesting and attract the attention of the students and motivate them to master the subject well.[3.25-b]

CONCLUSION: By creating an environment of modern information technologies in educational institutions, by developing the skills of pedagogues and students to effectively use these technologies, the didactic model and methodical system, which are difficult for students to master directly, to increase the scope of knowledge acquisition of students in the educational system, including biology. enables easy learning of biological processes based on electronic educational resources.

The reputation of the teacher and the effectiveness of his activities depend not only on the level of knowledge of the course content and his pedagogical ability, but also on the level of the teacher's use of modern information and communication technologies in the collection, processing and teaching of specific educational material. In other words, education in the digital age must be rethought and the educational paradigm

changed, because students no longer want to learn in the traditional way, and teachers are also wrong to teach in such a conventional way.

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