

**METHODS OF USING INFORMATION TECHNOLOGIES IN THE PROCESS OF
TEACHING BIOLOGICAL SCIENCES IN HIGHER EDUCATION.**

<https://doi.org/10.5281/zenodo.7568528>



ELSEVIER



Received: 22-01-2023

Accepted: 22-01-2023

Published: 22-01-2023

A.R.Malikova

Pr.

M.G'.Rasulova

Master NSPI

Navoi State Pedagogical Institute



Abstract: The article shows the importance and methods of using visualization, especially computer technologies, in the process of teaching biological sciences in higher educational institutions.

Keywords: Information, informatization of sciences, intellectualization, mediatization, computerization, individualization, DVD discs, new information technologies, multimedia animation models.

About: FARS Publishers has been established with the aim of spreading quality scientific information to the research community throughout the universe. Open Access process eliminates the barriers associated with the older publication models, thus matching up with the rapidity of the twenty-first century.

One of the important requirements for the organization of modern education is to achieve high results in delivering comprehensive topics to students in a short time without spending too much mental and physical effort, to create skills and competencies in certain activities, assessing the level of knowledge, skills and qualifications acquired by students requires high pedagogical skills on a new approach to the educational process/

Presenting the information learned in the course of teaching biological sciences in higher education institutions without using information technologies can not fully reveal the subject of the training. Therefore, in today's developing field of education, the appropriate use of visual teaching aids is one of the main tasks of every Biology teacher.

The main purpose of using visualization in the course of the lesson is to develop student's independent observation, communication and thinking skills. The role of information media in the development of society today due to the sharp increase, the use of new information technologies in the field of education, as well as in all areas of human activity, is a necessity of the time.

Biology is one of the main directions of informatization of educational subjects one is the development of educational technologies for all educational courses and it is to apply to the educational process. The second main direction is the use of new information technology tools, multimedia training manuals, textbooks on a large scale for each training session.

According to A,V.Osina "New information technology tools need to change the form and methods of the educational process. They require the teacher to

switch from the presentation of the material to the discussion, as well as to expand the illustrative-explanatory method of teaching to interactive methods”.

It is used to information technology modeling, design and analysis of the information environment related to science, their content and didactic parts. Information technology is one of the new tasks of designing the biological science environment-teaching methodology and requires knowledge in the field of didactics. Modern information technologies are of special importance in the development of students intellectual and creative abilities, assimilation of new knowledge of independent work with various information sources.

The use of computer technology in the teaching of biological sciences expands the effectiveness of the researcher-teacher and student, increases the quality of science teaching, illuminates the important features of phenomena and processes studied in nature, ensures the achievement of the set goal.

The current modern development puts the task of not only imparting knowledge to students and young people, but also developing their unique personal qualities before professors and teachers working in family education.

The humanization of education is specific to the individual student requires attitude. The knowledge imparted by the professor-teacher should appear not only as a goal, but as a method and means of personal development.

The notification covers the following.

1)Improvement of computerization, research tools, data processing.2)Intellectualization is the process of directing people to receive and create information by developing their knowledge and abilities.3)Mediatization is the process of improving the means of collecting, storing and applying information.

Designing information environment of any subject is one of the new tasks of technology methodology and requires special knowledge in the field of didactics, psychology, management.

Information technology.

1)Creates an open education system that provides each student with a personal education path.

2)Will fundamentally change by teaching process, by systematic thinking of students forms.

3)Effective organization of student’s cognitive activities in the educational process achieved.

4)From the computer in order to individualize the educational process use requires resource to new means of cognition.

5)Provides the study of phenomena and process specific to the micro and macro worlds, internal complex, technical and biological systems based on the use of computer graphics and modeling tools.

6) Convenient size for studying various physical, chemical, biological processes, allows to present it very accurately at a high or slow speed.

3. In the course of teaching biology lessons it is possible to use the electronic encyclopedia "Zoology", "Botany", "Open Biology", as well as DVDs "Plant of animals", "World of animals", "World of Plants".

These electronic resources and textbooks help to solve the following didactic tasks.

- acquisition of basic knowledge of science.

- systematization of acquired knowledge.

- mental preparation for exams.

- preparing to answer thought-provoking questions.

- formation of independent working skills educational materials based on the use of new information technologies.

- formation of self-control skills-learning motives, as a whole or within the framework of specific problems of biology forming.

- training for students for exams and useful general education forming a set of skills.

All natural biological processes are characterized by complexity. It is somewhat difficult for students to understand the inner nature of the processes in nature and living organisms, to imagine events without visual aids. It is appropriate to use visualization tools to develop their abstract thinking about natural processes. Multimedia animated models from a holistic picture of biological processes in the minds of students, interactive models allow to independently "design" the process, correct their mistakes, explain to each other, that is, independent learning and self learning and self learning, learns to evaluate.

In conclusion, the use of digital technologies in the process of teaching biological sciences ensures the quality of learning activities. Theoretical knowledge based on this approach, logically completed projects and models are presented will remain in the memory of students for a long time. Therefore, knowing the ways of using information technologies, which is the main demand of today, and applying it to teaching process should be the main goal of every professor.