CONCEPTUAL FRAMEWORK FOR THE USE OF INTEGRATIVE TECHNOLOGIES FOR TEACHING BIOLOGICAL SCIENCES IN ACADEMIC LYCEUMS

Ibodova Mahfuza Namozovna
Navoi State Pedagogical Institute
Associate professor of the Department of biology

ABSTRACT

This article provides information on the conceptual basis of integrative technologies in the teaching of biological sciences in academic lyceums.

Keywords: E-learning resources, information technologies, education, natural sciences, reproductive, productive, creative, need to translate.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Today, in the era of information globalization, an urgent problem is to increase the effectiveness of teaching without the use of pedagogical and electronic educational resources in the educational process. In the normative documents adopted to improve the effectiveness of teaching in educational institutions in the field of pedagogy, the use of pedagogical and information technologies is defined as an important task. To use information technologies in the teaching of natural sciences, including zoology, it is necessary to take into account the specifics of the content of biological education. Through the use of electronic educational resources in teaching biological, it is possible to develop students' educational moti vation, organize differentiated learning, monitor and evaluate students' acquired knowledge, and organize students' independent and creative search.

The e-learning resources used in teaching zoology perform the following tasks:
1. Developing task-control of knowledge, skills and Educational task-it becomes possible to give students comprehensive knowledge about the main and additional material on the topic under study, about the basic concepts and their explanations, about various tables, diagrams, experiments of a complex scientific and industrial nature.
2.The task of the orientation of students' educational activities – along with work on educational, simulated and control programs that are products of information technology, as well as animation tools, these programs include the organization and management of students' cognitive activity, that is, they direct students to obtain deep and solid knowledge.
3. The task of clarity-unlike other teaching tools, animation, which is a product of information technology, plays an invaluable role in the learning process, as it has the ability to move and dynamically depict biological processes by students.
4. Control task-control and assessment of knowledge, skills and abilities acquired by students in all forms of zoological education: lesson, extracurricular work, extracurricular activities, as well as at all stages of the lesson of anatomy and physiology, performs the actual work of control, regularity, complexity, reproducibility.
5. The developing task is to control the knowledge, skills and abilities mastered by students according to the level of complexity of educational tasks in the programs: reproductive, productive, partially research and creative, increases the desire of students to perform tasks of the next stage in accordance with the knowledge of tasks, needs and interests, creates the basis

for a solid assimilation of the basics of science and creates the possibility of development as a person. brings.
6. Educational task-as a result of working with information programs, students develop the skills of educational and mental work.
7. The task of developing a scientific worldview is that the study of nature and objects in it should be divided into two worlds: macro- and microcosm, and biological science in its content in most cases relies on educational materials on the microcosm: a cell, a process occurring in tissues, the structure of a molecule of chemical elements, an atom, for example, metabolism and energy, photosynthesis, protein biosynthesis, biotechnology and genetic engineering. learning through animation, abstract thinking and scientific worldview develop and eventually expand.

One of the urgent problems of today is the definition and introduction into practice of ways of using electronic educational resources in the teaching of biological in the educational process, taking into account the above tasks
1. Electronic educational resources create the basis for the collection, sorting, didactic processing of educational material, its dissemination and use in the educational process, which makes it possible to realize educational, educational and developmental goals provided for by the teaching of biological
2. Allows you to set the trajectory, the pace of learning in accordance with the talents, needs, interests and educational motives available to each student, if necessary, repeatedly use information programs.
3. Fundamentally changes the structure of zoology lessons, the course of the lesson, the nature, translates the cognitive activity of students from subject-subject relations to subject-subject, i.e. students become active participants in the pedagogical process to achieve educational goals.
4. Prepares the ground for the development of students' skills of independent, creative, logical and systematic thinking.
5. In cases where implementation in an educational institution is impossible (lack of necessary equipment, experiments are harmful to the health of students, long-term, the study of technologies of industrial enterprises), a virtual demonstration of experiments is possible.
6. Prepares the ground for the development of students' creative abilities, intensification of students' educational and cognitive activity, and acquisition of educational motivation.
7. In order to determine the effectiveness of the educational process, feedback arises, that is, the possibility of identifying and evaluating the knowledge, skills and abilities acquired by students in a short time. One of the most important tasks of pedagogical activity in pedagogical education is to increase the interest of students in mastering the basics of science, ensuring their competence based on the development of skills of independent and creative mental work. The products of e-learning resources are becoming increasingly important for solving these problems. Lessons that use the products of electronic educational resources are informative, visual, interactive, use time with maximum efficiency, each student learns at his own pace, and the teacher, differentiated and individual work with students, makes it possible to carry out training, while simultaneously creating a basis for monitoring and evaluating learning outcomes.
It is recommended to use e-learning resources for the following purposes:

I. Demonstration tools, multimedia demonstrate visibility.
II. Management of cognitive activity of students with the help of modular programs.
III. Collection of additional materials and independent work on them development of work.
IV. Control and assessment of students' knowledge through control programs, test tasks.

V. Didactic games, puzzle solving - tasks to meet the need for knowledge acquisition and interest development. As can be seen from the above points, the harmonious use of not only pedagogical, but also information technologies in teaching biological gives high efficiency, allows developing the interests and needs of students in mastering the basics of science. Demonstration tools, multimedia demonstrate visibility. Management of cognitive activity of students with the help of modular programs.

The teacher should study the electronic textbook, versions and multimedia, which are products of electronic educational resources, based on the content of the topic being studied, and as a result of their analysis, determine the possibilities of implementing the didactic goals of the subject, ways of using educational, simulated and control programs, multimedia. To do this, it is necessary to determine the ways of using the products of these electronic educational resources in biological lessons, to develop ways of organizing the cognitive activity of the student.

It is known that electronic educational resources give the intended effect when used in the educational process in combination with pedagogical technologies. In this process, in the harmonization of modern pedagogical and information technologies, such information technology functions as information, organization and management of cognitive activity of students, visibility, control and evaluation of students' knowledge, activation of cognition, the teacher should study an electronic textbook, versions and multimedia, which are products of electronic educational resources, based on the content of the topic being studied, and as a result of their analysis, to determine the possibilities of implementing the didactic goals of the subject, ways of using educational, simulated and control programs, multimedia. To do this, it is necessary to determine the ways of using the products of these electronic educational resources in biological lessons, to develop ways of organizing the cognitive activity of the student.

In conclusion, didactic game, modular, problem-based teaching methods are considered, which are used in teaching biological sciences in academic lyceums at a special methodological level, realizing the possibilities and importance of technologies for joint learning, organization and management of information, and cognitive activity of students. information technology Visualization provides opportunities to combine the functions of monitoring and assessing students' knowledge, activating students' cognitive activity and increasing their interest in classes.

REFERENCES

1. J.O.Tolipova “Biologiyani o`qitishda innovatsion texnolo giyalar” Pedagogika oliy o`quv yurti talabalari uchun darslik. Toshkent - “Cho`lpon” – 2011 y.
2. J.O.Tolipova “Pedagogik kvalimetriya moduli bo`yicha ma’ruzalar matni va amaliy mashg`ulotlar. Toshkent – 2015 y.
3. Abduquddusov O.A. Kasbiy kompetentsiyani shakllantirish dao’quv amaliyotining o’rni. Respublika ilmiy-amaliy konferen tsiya materiallari. Toshkent 2016 yil 30-b
4. J.O.Tolipova, A.T.G`ofurov Biologiya o`qitish metodikasi (akademik litsey va kasb – hunar kolleji biologiya o`qituvchilari uchun metodik qo`llanma) Toshkent. Bilim. -2016y
5. М.Н.Ибодова Биологияни ўқитишнинг интерфаол ва муаммоли изланиш методлари . Педагог журнали 11. 07. 2022 й
6. М.Н.Ибодова Биология дарсларини ташкил этиш технологияси. Услубий қўлланма. (Академик лицей 3920001 табиий фанлар тайёрлов йўналиши ўқувчилари учун мўлжалланган). 11. 08. 2022 й

7. M. N. Ibodova . Effectiveness of independent work in tne educational process. Academicia An International Multidisciplinary Research Journal. 10.10.2021г.
8. M. N. Ibodova Akademik litseylarda biologiya fanini o'qitishninh interfaol va muammoli izlanish metodlaridan foydalanish texnologiyasi Oriental Renaissance: Innovative, educational, natural and social sciences (E)ISSN:2181-1784 www.oriens.uz SJIF 2023 = 6.131 / ASI Factor = 1.7 3(4/2), April, 2023
9. J.O.Tolipova, A.T.G`ofurov Biologiya ta'limi texnologiyalari. Metodik qo`llanma «O`qituvchi», Toshkent. 2002y
10. J.O.Tolipova, A.T.G`ofurov "Biologiya o`qitish metodikasi" Toshkent, "Iqtisod- moliya" -2013y.