

# Theoretical Principles Of Improving The Professional Training Of Future Biological Science Teachers In The Electronic Information Education Environment

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## ABSTRACT

Ushbu maqola elektron axborot ta'lim muhitida bo'lajak fani o'qituvchilarining kasbiy tayyorgarligini biologiya takomillashtirish masalalariga bagʻishlangan boʻlib, asosan, ta'lim tizimini modernizatsiya qilish, biologiya fani oʻqituvchilarining pedagogik faoliyatida elektron axborot ta'lim resurslaridan foydalanish malakalarini oshirish hamda oliy ta'lim muassasalarida biologiya fani oʻqituvchilarini boʻlajak kasbiy faoliyatga tayyorlashning asosiy tamoyillari haqida fikr-mulohazalar keltirilgan.

## **ARTICLE INFO**

Received: 14<sup>th</sup> June 2023 Revised: 11<sup>th</sup> July 2023 Accepted: 20<sup>th</sup> August 2023

#### KEYWORDS:

Ta'lim tizimi, elektron axborot ta'lim muhiti, elektron ta'lim resurslari, kasbiy tayyorgarlik, zamonaviy yondashuvlar, pedagogik faoliyat.

#### Abstract

This article is devoted to the issues of improving the professional training of future biology teachers in the electronic information educational environment, mainly the modernization of the educational system, the use of electronic information educational resources in the pedagogical activities of biology teachers comments on the basic principles of professional training of future biology teachers in higher education institutions are presented.

**Key words:** educational system, electronic information educational environment, electronic educational resources, professional training, modern approaches, pedagogical activities.

#### Аннотация

Данная статья посвящена вопросам совершенствования профессиональной подготовки будущих учителей биологии в электронной информационной образовательной среде, в основном модернизации системы образования, использования электронных информационных образовательных ресурсов в педагогической деятельности учителей биологии представлены принципы профессиональной подготовки будущих учителей биологии в высших учебных заведениях.

Ключевые слова: образовательная система, электронная информационная образовательная среда, электронные образовательные ресурсы, профессиональная подготовка, современные подходы, педагогическая деятельность.

In the 21st century, education on a global scale is recognized as the main factor that ensures sustainable development, and in the new concept of education set by most countries until 2030, the process of "creating the opportunity to receive quality education throughout life" is defined as an urgent task. For this purpose, in our republic, special attention is being paid to the further improvement of the teaching methodology, the gradual application of the principles of individualization to the educational processes, and the introduction of modern information, communication and innovative technologies into the educational system.

To study the existing forms of educational organization in Great Britain, Germany, France, the USA, Russia, Scotland, Finland, South Korea and other countries, to develop methodologies that meet the complex requirements of the era and education based on their advanced experience. , the issues of increasing the effectiveness of education and developing the professional training of future professionals through the introduction of the most modern methods of teaching and information technologies are gaining relevance.

Due to the changes in the field of education that are taking place around the world today, it is necessary to improve the professional training of future teachers of biology in the electronic information educational environment, to organize the integrated presentation of information in natural and virtual form, and to organize multimedia training. to develop a methodology for conducting classes, to establish the requirements for the organization of independent activities of future biology teachers based on modern approaches, to develop technologies for increasing their periodic and continuous methodical training during their professional activities, and, Uzbekistan It is urgent to create conditions for studying national and global achievements in biology.

Teachers who use electronic information educational resources in their pedagogical activity may not always be pedagogically satisfied with the compliance of the finished electronic products with educational goals, their quality, content, and structure. In many cases, this is not measured by the quality of educational programs, but also due to the fact that the modern educational process is individualized and requires a differentiated approach to a large number of changes. Therefore, it is necessary for a biology teacher with high professional training to be able to prepare independent electronic products for his lessons.

Pedagogical software tools for achieving educational goals:

- individualization and differentiation of the educational process;
- control and direct the student's educational activities;
- saving study time due to the use of computer computing capabilities;
- visualization of educational materials;
- modeling and simulating the studied events and processes;
- self-control of students;
- formation of optimal decision-making skills in various pedagogical situations;
- development of a certain form of thinking;
- strengthening the motives for acquiring professional knowledge;
- creates opportunities such as the formation of a culture of cognitive activity.

According to A. Askarov, who researched the possibilities of electronic educational resources in the electronic information educational environment, the pedagogue should regularly update his professional knowledge and further improve his professional abilities and skills, as the main executive in teaching and educating students. it is necessary to keep up with the times, to be a specialist who can respond to the needs of education in accordance with the pace of development.

There are the following basic principles on the basis of professional training of future biology teachers in higher education institutions:

- humanization of professional and methodical training of future biology teachers;

a systematic and technological approach to the formation and development of the creative personality of the future biology teacher in the conditions of advanced information technologies, based on systematic, pedagogical integration, from the point of view of professional activity and from a technological point of view;
equipping future biology teachers with methodological knowledge along with evidence-based knowledge;

- expansion and deepening of the structure and content of the methodological system of training future biology teachers.

Instructional manuals, recommendations, electronic information covering the philosophical, historical, legal, pedagogical, psychological and methodical aspects of improving the mechanisms of preparing future teachers of biology for professional activities in the electronic information educational environment in higher education institutions it is desirable to create educational resources (software, electronic textbooks, mobile applications, electronic control tests, etc.) and developments.

As a conclusion, it can be said that in preparing future biology teachers for professional activities, it is necessary to inculcate in them the characteristics of adaptation to educational processes, professional interests, cognitive knowledge, thinking, perception, and communicative relations between people. Organization of courses through special programs on formation and improvement of professional competencies to improve students' readiness for professional activity in the electronic information educational environment is the demand of the present day.

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