

COMPETENCIES FORMED IN STUDENTS DURING THE TEACHING OF BIOLOGY

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Abstract. This article, first of all, when teaching biology, examines the basic competencies that are and should be developed in students, as well as the basic ideas, theories, laws and concepts of biology, and the formation of a scientific worldview in students. and that it is necessary to create an education system inextricably linked with the formation of a conscious attitude of man towards nature and society, and opinions were also expressed about the requirements for teachers when transmitting biology to students.

Keywords. Perfect personality, scientific worldview, thinking, ecological culture, aesthetic education, economic education, physical education, hygienic education, labor education.

Аннотация: В данной статье, прежде всего, при преподавании биологии рассматриваются основные компетенции, которые формируются и должны формироваться у студентов, а также основные идеи, теории, законы и понятия биологии, формирование научного мировоззрения у студентов. и что необходимо создать систему образования, неразрывно связанную с формированием сознательного отношения человека к природе и обществу, а также были высказаны мнения о требованиях к учителям при передаче биологии учащимся.

Ключевые слова: Совершенная личность, научное мировоззрение, мышление, экологическая культура, эстетическое воспитание, экономическое воспитание, физическое воспитание, гигиеническое воспитание, трудовое воспитание.

The successful fulfillment of the task of shaping a well-rounded individual and citizen first of all requires the development of a scientific worldview in students. Biology, regarded as one of the leading sciences about nature, carries significant responsibility in forming students' scientific outlook. Therefore, the content of school biology as a subject possesses great potential for fostering a scientific worldview in learners.

Forming a scientific worldview. Students' study of the subject of biology leads them to understand the principles governing the structure, development, and vital functions of biological objects. This knowledge forms the system of students' scientific worldview and convictions. Their scientific worldview is based on understanding biological laws from the perspective of the historical development of the relationship between "nature–human–society." In studying the topic "The Plant as an Integral

Organism,” included in the botany curriculum, the knowledge that serves as a basis for shaping students’ scientific worldview is systematized, and opportunities arise to apply nature conservation skills in practice. This biological knowledge, to a certain extent, determines students’ attitudes toward the environment and even their behavior. Therefore, the teacher must prepare thoroughly for teaching this topic and, drawing students’ attention to these concepts, guide them toward understanding the importance of natural resources for nature and human life, as well as toward the conclusion that these resources must be preserved.

To cultivate ecological awareness in students, the following tasks must be carried out: Ensuring that students acquire scientific knowledge about the integrity of nature and the interrelationship between society and the natural world, and helping them develop the ecological understanding, skills, and competencies necessary for forming a conscious attitude toward nature; Helping them understand the broad significance of nature and its components, and recognize the difference between renewable and non-renewable resources; Developing motivations for using natural resources efficiently, preserving environmental cleanliness, participating in greening and resource-replenishing activities, and taking an active role in socially beneficial work.

It should be kept in mind that developing ecological culture in students is a fundamental component of the educational and upbringing efforts aimed at nurturing a well-rounded individual.

Aesthetic education. The National Program for Training Personnel places strong emphasis on developing a rich aesthetic worldview in learners. As is known, aesthetics is the science concerned with the elements, conditions, and principles of beauty. Aesthetic education is aimed at nurturing a sense of beauty, emotions, and artistic taste. Aesthetics fosters a desire to create beauty in one’s surroundings—whether in work, in social life, or in personal life. The ability to see, perceive, create, and do things beautifully is one of the key tasks of education. In natural science lessons, the teacher highlights the beauty of plants when studying their organs, flowers, fruits, and plant cover. In doing so, students’ attention is drawn to the external beauty of plants, while also teaching them to perceive the hidden beauty of their life processes, their harmony with the environment, and their role in nature and human life. In cultivating students’ aesthetic education, the orderliness, comfort, and beauty created in the biology classroom, the school’s “living nature corner,” and the experimental plots play an important role.

Economic education. The transition of our country to a market economy necessitates providing students with economic education within the teaching–learning process. In botany, zoology, and general biology classes, students become familiar with issues such as increasing the productivity of plants and animals, improving field fertility, fundamentally changing attitudes toward soil and land, and enhancing both the quantity

and quality of agricultural products. The teacher must integrate economic education into the lesson in accordance with the content of the topic being studied.

Physical education is an integral part of shaping a well-rounded individual and ensures students' harmonious spiritual-moral, intellectual, and aesthetic development. Physical education yields the expected outcomes—such as preserving and strengthening one's health, adhering to hygienic norms in daily activities, and developing motor skills—only when it is carried out in close connection with students' intellectual and moral upbringing. In the methodology of teaching biology, the issues of physical education are addressed through the study of the human body's structure, vital processes, and development.

Hygienic education is based on knowledge about the conditions necessary for maintaining and strengthening students' health and the ways to create these conditions. In teaching natural science, hygienic education occupies an important place and is implemented in accordance with the content of each topic.

Labor education. Labor education plays an important role in nurturing a well-rounded individual. For this reason, the continuous education system emphasizes an essential task: guiding students toward choosing a profession that aligns with the current stage of scientific and technological development, the needs of the state and society, and the students' own interests and abilities, while also fostering in them the skills of both work and academic labor. Labor education creates the foundation for implementing the principle of close connection between theory and practice in teaching, developing positive motivation toward productive work, forming a careful attitude toward tools and equipment, and encouraging cooperation among students.

In the process of conducting laboratory and practical exercises included in the curriculum, students develop academic work skills such as using a microscope, preparing micro-preparations and sets, and working independently with textbooks, visual aids, and handouts. These skills may later develop into professional work skills aligned with the occupations the students choose in the future.

In carrying out labor education, the teacher should focus on preparing students psychologically for work activities, improving their work culture, and developing the skills needed to properly organize mental and physical work by applying the theoretical knowledge they have acquired. One of the main tasks of labor education is to cultivate diligence—a core quality of a well-rounded individual. In this process, it is recommended to use our people's rich spiritual heritage—such as hadiths, wise stories, and proverbs—to support students' harmonious moral, intellectual, emotional-volitional, psychological, and physical development.

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