

THE PROBLEM OF DEVELOPMENT OF BIOLOGICAL THINKING IN STUDENTS

Aliyeva K.B. (Republic of Uzbekistan) Email: Aliyeva545@scientifictext.ru

Aliyeva Kumush Bakhodirovna – Teacher,
DEPARTMENT METHODOLOGY OF TEACHING BIOLOGY, FACULTY OF NATURAL SCIENCES,
NAVOI STATE PEDAGOGICAL INSTITUTE, NAVOIY, REPUBLIC OF UZBEKISTAN

Abstract: the main problems of development of biological thinking in students are considered in the article. Elementary biological thinking should be formed in school. For this, the student must master a certain minimum of knowledge about the diversity of biological objects and systems, their functioning and interrelationships. In addition, he must be able to perform the simplest analysis and synthesis of biological information. In general, the Ukrainian biology curriculum for secondary school allows this to be achieved. But its practical implementation requires the effective solution of a number of problems.

Keywords: biological thinking, development, school, knowledge, goal.

ПРОБЛЕМА РАЗВИТИЯ БИОЛОГИЧЕСКОГО МЫШЛЕНИЯ У УЧАЩИХСЯ Алиева К.Б. (Республика Узбекистан)

Алиева Кумуш Баходировна – преподаватель,
кафедра методики преподавания биологии, факультет естественных наук,
Навоийский государственный педагогический институт, г. Навои, Республика Узбекистан

Аннотация: в статье рассмотрены основные проблемы развития биологического мышления у учащихся. Элементарное биологическое мышление должно формироваться в школе. Для этого учащийся должен овладеть определенным минимумом знаний о разнообразии биологических объектов и систем, их функционировании и взаимосвязях. Кроме того, он должен уметь выполнять простейший анализ и синтез биологической информации. В целом, украинская программа курса биологии для средней школы позволяет этого достичь. Но её практическая реализация требует эффективного решения целого ряда проблем.

Ключевые слова: биологического мышления, развития, школа, знаний, цель.

Modernization of the system of biological education is impossible without new ideas, approaches, modern technologies, accumulated experience in teaching methods.

What is "biological thinking" and why is it necessary? This concept implies the ability to adequately perceive information related to biological objects, to critically comprehend and rationally use it to make decisions that maximize the effect of causing minimal harm to biological objects and systems. Of course, in everyday life, for a person, the biological objects that are the focus of attention are himself, his relatives and friends, as well as the biocenosis of the settlement in which he lives. Therefore, the great practical importance of biological thinking is quite understandable.

Elementary biological thinking should be formed in school. For this, the student must master a certain minimum of knowledge about the diversity of biological objects and systems, their functioning and interrelationships. In addition, he must be able to perform the simplest analysis and synthesis of biological information.

Biology currently has prospects for development in any specialized school. For humanitarian classes, biology is valuable in its attachment to Nature, to life. School biology at the present stage is not only a structurally oriented subject, but also a sense - and position-oriented.

Our teachers have a variety of resources for teaching biology as a subject, but, as a rule, do not have sufficient knowledge and skills to select the forms and means of academic work if a situation arises that requires individualization, or at least differentiation of the educational process to ensure learning success for specific students or groups of students.

The theorists of education and upbringing point to the need to stimulate the student to mental effort [1]. For mental development, it is harmful if biological knowledge is acquired as a sum of facts, and not as information processed by the student's own thought. This formulation of the question presupposes the consideration of the problem of the development of the individual in close connection with the tasks of forming the emotional sphere, intellectual, strong-willed and moral qualities, culture and mental labor.

First of all, the teacher needs to learn how to shape the students:

- ☐ Ability to see the biological problem and correlate with it the available factual material;
- ☐ Ability to express the problem in a specific goal and cognitive biological tasks;
- ☐ the ability to put forward a hypothesis and build a research program in biology;

- ☐ the ability to analyze available popular scientific literature on the biological problem;
- ☐ Ability to use special research methods, combine known methods and create new ones, look for alternative solutions, etc.

The main factor of personal development is a special form of organization of the pedagogical process in the form of educational and research activities in biology. In the process of such activity, students reproduce not only biological knowledge and skills, but also those emerging abilities that underlie theoretical consciousness and thinking: reflection, analysis, synthesis, planning, experiment, forecasting, etc.

References / Список литературы

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