METHODS OF THE DEVELOPING FUNCTION OF TEACHING BIOLOGY IN A SECONDARY SCHOOL

Dilafruz Sadikova
Doctoral candidate of the Tashkent State
Pedagogical University named after Nizami

ABSTRACT

The article discusses the developmental function of the methodology of teaching Biology. The specificity of the methods of teaching Biology, in contrast to the methods of teaching other subjects, lies in the fact that it explores the laws of teaching the basics of sciences dealing with living objects, complex forms of motion of matter, and special methods for studying them. To provide students with profound, solid and conscious knowledge of Biology, the teacher who is fluent in the content of educational material of school textbooks and uses modern teaching methods can implement the educational and developmental functions of the subject.

Keywords: Methods, developing function, learning, Biology, thinking, creativity.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The present stage of development in public education places higher demands on the level of teacher and student training in a general education school. Today, the main thing is not so much to transfer knowledge as to "learn to learn," which implies the ability of each student to find and process various information and apply it in real life. Modern requirements are as follows: the school should teach students to think and develop in all respects. We must study today thoroughly, economically and quickly. Training will be successful if the learner becomes like-minded with the teacher and if they understand each other [1.3] Finding the answer to the traditional didactic question - how to teach? - leads us to learning methods.
The teaching method is complex, multi-dimensional, multi-quality education.

Objective laws, goals, content, principles, and forms of education are reflected in the teaching method. But neither goals, nor content, nor the form of work can be derived without taking into account the possibilities of their practical implementation, and this is precisely the possibility provided by the methods.

They set the pace of development of the didactic system - learning progresses as quickly as the methods used allow it to move forward.

It is also true that in the field of methods, own creativity, individual skills of teachers manifest themselves most of all, and therefore teaching methods have always been and always will remain the sphere of high pedagogical art. [1.471].

Consider the developmental function of learning Biology.

Beginning in the 1960s, various approaches to the development of developmental education have been developed in pedagogical science.

L. V. Zankov justified a set of principles for the development of thinking in the learning process: an increase in the proportion of theoretical material; learning at a fast pace and at a high level of difficulty; ensuring that students understand the learning process. A.M.Matyushkin, M.I.Makhmutov and others developed the basics of problem-based learning. I.Ya.Lerner and M.N.Skatkin proposed a system of developing educational methods; V.V.Davydov and D.B.Elkonin developed the concept of meaningful generalization in teaching; I.Ya.Halperin, N.F.Talyzin and others substantiated the theory of the gradual formation of mental actions.The unifying idea of the leading scientific research and educational practice of developmental education is the idea of the need to significantly expand the sphere of developmental influence of education. The full-fledged intellectual, social and moral development of the individual is the result of the educational and educational functions realized in unity [9].

The system of developmental education is understood as a new approach to teaching children in our world full of problems. Developed by domestic scientists, it is widely used in the practice of schools in Russia and the CIS countries (The Commonwealth of Independent States).There is also widespread interest from Western teachers. Thus, in Norway, developmental education is widely used not only at the initial stage of school education, but also at the secondary and senior levels, in colleges and universities [12].

The terms “learning”, “learning process” are understood mainly as teaching.

The developmental function is the developmental nature of learning, objectively derived from the very nature of this social process. Properly delivered learning always develops, but the developmental function is carried out more efficiently with a special focus on the interaction of teachers and students for the full development of the personality. This special focus of training on the development of a student’s personality has been consolidated in the term “developmental education”. In the context of traditional approaches to the organization of learning, the implementation of the developmental function, as a rule, boils down to the development of speech and thinking, since it is the development of verbal processes that most clearly expresses the others the overall development of the student. However, this narrowing developmental function of understanding the direction of learning overlooks that both speech and the thinking associated with it develop more efficiently with a corresponding development of sensory, emotional-volitional, motor and motivational-need spheres of personality.
Thus, the developmental nature of learning implies an orientation toward the development of the personality as an integral mental system [12]. Developmental requirements for the lesson: the formation of students' positive motives of educational and cognitive activity, interests, creative initiative and activity; stimulation of the onset of new qualitative changes in the development of students, etc. [2].

Developmental education is the comprehensive development of students, the development of the activity approach, and independence in acquiring knowledge and skills. The teacher here is not an informant or transmitter of knowledge and truth, but the organizer of the search process, activating the students' cognitive activity. The teacher draws attention to different points of view, students regarding the problem under discussion, their versions and suggestions. Pupils freely, with the support of the teacher, come forward, argue or refute the assumptions put forward by someone.

After a lesson in developmental education, students do not always leave with the consciousness of the complete resolution of the problems involved, it is assumed that they will reflect, think

and independently search for answers already outside the classroom. In addition, the teacher, using this type of training, seeks to cause a reaction of surprise among students if they notice something interesting in the familiar. It is very important that the teacher, together with the students, participate in the formulation of theoretical propositions, hypotheses, versions, generalizations when considering individual facts in the context of a general picture of phenomena, events or processes. This type of training is widely used by experienced, creatively working Biology teachers.

In Biology education it is especially important to strengthen the educational and developmental functions of education. When assessing learning outcomes, it should be noted not only the mastering of knowledge of theoretical and factual materials, but also the degree of conviction and effectiveness of their application, as well as the level of development of mental operations, the ability to actively use them in educational and labor activities (10.1). Nowadays, the need to develop a scientifically based concept of managing and self-managing human development as a citizen and professional, as well as identifying ways to realize his richest opportunities at all stages of development, is becoming ever clearer. That is why the thesis about the transition to developmental education as one of the conditions for the real restructuring of the secondary school is being repeated more persistently.

"Technology developmental learning" is a system of qualitatively new knowledge, offering a fundamentally different construction of learning activities that have nothing in common with the reproductive, the basis for harassment and memorization, learning and conservative pedagogical consciousness**.**

The essence of the technology of developmental education is to create conditions when the development of the student turns into the main task, both for the teacher and for the student himself.

Under developmental learning is meant a way of organizing education, the content, methods and forms of organization of which are directly focused on the full development of the child [10.18].

This position can be deciphered by asking a fairly specific question: "What else, besides knowledge, skills, should the development system provide? What do you need and can teach children in a Biology class? "

First of all - the ways of self-comprehension of knowledge in academic subjects. Only then will this knowledge contribute to the development of abilities in the process of carrying out independent cognitive activity, as well as ensuring the emotional value attitude to the content and process of education, the formation of the humanistic orientation of the personality, its need-motivational sphere (11.6.7).

Such an approach cultivates a creative attitude to activity, forms general educational skills, contributes to mastering the means and ways of thinking, develops imagination, attention, memory, will, forms emotional culture and communication culture.

Teachers know that in didactics one of the basic principles of teaching is the "**accessibility principle**", according to which a student can be trained only for what he has already been prepared for by previous mental development.

If we turn to the technologies of developmental education, then it should be noted that the core idea that is used in the process of their application is the idea of advancing the development of thinking, which becomes like a locomotive capable of leading the mental development of the child as a whole, to ensure his readiness to independently use your creative potential (3.1).

In any activity there is an element of creativity, i.e. moment of a new, original approach to its implementation. In this case, any stage of activity can act as a creative element - from posing a problem to searching for operational ways of performing actions. Creative activity arises in the conditions of solving creative problems, and any person for a while can feel himself a creator. It is the teacher who must be a creative person. The main feature of the creative personality is creativity.

Creativity is an integrative quality of the human psyche that provides productive transformations in the activities of the individual, allowing them to satisfy the need for exploratory activity. A creative personality is different from other people by a number of features. Creativity as one of the activities and creativity as a stable set of features that contribute to the search for a new, original, atypical, ensure the progress of society [4.7].

Creative thinking is thinking that gives a fundamentally new solution to problems, leading to new ideas, discoveries and solutions [3.294]. Naturally, if students have the opportunity to creatively comprehend a specific observation of real objects, then they will inevitably manifest and develop their personal abilities. In this case, the students themselves will be able to acquire knowledge, but this raises the question: how much will they be able to learn about living nature, the laws of which are often difficult to identify even by the entire team of scientists and through long-term research. Therefore, the methodology of teaching Biology, not excluding the possibility of acquiring knowledge about wildlife through its own observations and various practical work, considers the whole *system of basic biological concepts as well as a certain system of intellectual, practical and general educational methods to be the content of education* [6.4,5].

Therefore, if you understand the role of communication in human development, its influence on students, if you properly organize this communication, constantly increase the theoretical knowledge that children have, work to make them aware of their mental operations, then your training is developing. At the heart of the developmental learning system is a mechanism allowing to bring students to the theoretical generalizations used in further work, both for solving particular practical problems, and for "nurturing" more voluminous generalizations.
Understanding social experience, its rigorous and publicly available generalization is possible only under the condition of formed theoretical thinking. This thesis is fundamental in the system of developmental education of D.B.Elkonin - V.V.Davydov [7.17].

Theoretical or rational thinking has a number of characteristics that are found in different ways on material related to various forms of social consciousness. So, analysis is peculiar to this thinking as a way to identify the genetically original basis of some whole. Further, it is characterized by reflection, thanks to which a person constantly examines the bases of his own mental actions and thereby mediates one of them by others, revealing their internal interrelationships. Theoretical thinking is carried out mainly in terms of a mental experiment, which is characterized by a person performing such a mental act as planning [8.11]. Therefore, the theory of developmental education has three interrelated concepts:

- Targeted educational process, which includes educational and cognitive direction, goals of learning tasks and a number of learning activities;

- Theoretical thinking;
- Educational reflection.

Developmental education in the system of D. B. Elkonin, V. V. Davydov is possible only if all three concepts are observed.

Based on this, the development standard for this training scheme is a series of indicators that characterize theoretical thinking. It is about reflexivity, goal setting, planning, the ability to act internally, to exchange knowledge products.

With this kind of training, the independence of thinking and actions of students develops, which are based on a firm knowledge of what is learned and what is only planned to be studied, in other words, it is a process of reflexive development of students [12].

So, the main advantage of this method is its economy, the ability to transfer a significant amount of knowledge, skills in the shortest possible time and with little effort. The strength of knowledge, due to the possibility of their repeated repetition, can be significant [2.142]. This type of training is possible during the joint work of the teacher and the student. Moreover, it is important for the teacher to explain less to himself/herself, and to give more direction to the student's mental search activity in the right direction.

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