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DEVELOPMENT OF NATURAL SCIENTIFIC THINKING IN ELEMENTARY SCHOOL STUDENTS STYLE

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ABSTRACT

The article provides information on ideas about nature as a semantic component in the development of natural-scientific thinking in primary schoolchildren. At the same time, it was noted that concepts reflecting the natural-scientific landscape of the world are one of the forms of cognition in individual disciplines that stand out in the process of social and scientific knowledge of the laws of nature and are the foundations of the content of school courses on the natural cycle .

Keywords: natural, scientific, universe, thought, contemplation, perception, creativity, nature.

АННОТАЦИЯ

В статье представлена информация о представлениях о природе как смысловой составляющей в процессе развития естественнонаучного мышления младших школьников. При этом отмечалось, что концепции, отражающие естественнонаучный ландшафт мира, являются одной из форм познания в отдельных дисциплинах, которые выделяются в процессе общественно-научного познания законов природы и являются основы содержания школьных курсов естественного цикла..

Ключевыеслова: естественный, научный, вселенная, мысль, созерцание, восприятие, творчество, природа..

АННОТАЦИЯ.

Мақолада бошланғич синф ўқувчиларида табиий илмга асосланган фикрлаш тарзи ўсиши жараёнида унинг мазмуний компоненти сифатида табиат ҳақидаги тушунчалар ҳақида маълумот берилган. Шу билан бирга атроф оламнинг табиий-илмий манзарасини акс эттирувчи тушунчалар табиат қонуниятларини ижтимоий илмий билиш жараёнида айро олинган ва табиий циклли мактаб курслари мазмуни негизи саналган алоҳида фанларда билимнинг шаклларидан бири эканлиги ҳақида айтиб ўтилган.

Калит сўзлар: табиий, илмий, олам, фикр, тафаккур, идрок, ижодкорлик, табиат.

INTRODUCTION

There is a big difference in the perception of natural objects and phenomena in primary and general perception by junior schoolchildren than among preschoolers, although this feature can

only be explained by age. In general, primary ideas are more individual and clear than general ideas in terms of visualization, but they have a certain generalization.

The creativity of a primary school student is the creation of an original product, subject (as well as solving problems, writing an essay, etc.), Knowledge, skills and abilities acquired in the process of working on them are applied independently, including moving them, combining certain action or solution to the problem. A new approach to the solution will be created. "

The most important feature of the act of thinking is that "the novelty that will be discovered in the process of thinking is considered as such in relation to the initial stages of the process." Depending on the level of novelty, the product is divided into productive and reproductive. It is well known that in Western psychology the process of reproductive thinking contradicts the way of productive thinking.

Naturally, in the process of learning about the environment, junior schoolchildren study the laws of science, but do not make subjective discoveries on the basis of educational material and their own experience while creating special pedagogical conditions for the development of creative thinking. Moreover, the child's mental activity is associated not only with the existence of a goal, it is based on the free creative setting of goals, especially when reflecting nature through various educational disciplines. In other words, the concept of creative thinking as a developmental activity should not always be limited to individual activity in achieving a set goal, implementing programs and norms.

In the process of the formation of scientific thinking in younger schoolchildren, the concept of nature arises as its substantial component. Concepts reflecting the natural science landscape of the environment are separated from humanity in the process of social and scientific knowledge of the laws of nature and are recorded by humanity as one of the forms of cognition in individual disciplines that form the basis of the content of natural sciences. cyclic school courses. According to the principle of action, knowledge cannot exist outside of activity, and knowledge is a part of it, which means that "a concept is both a reflection of being and a means of thinking," and mental actions are its operational components. The assimilation of knowledge about the environment is possible only in the process of performing certain mental operations, and the formation of mental operations occurs on the basis of a certain meaningful material, that is, educational material about nature. Distinguishing ideas about the environment as a content component of natural science thinking and mental behavior, as well as an operational component, allows us to talk about the conceptual thinking of elementary school students.

Conceptual thinking is the basis of systematic thinking, which includes the acquisition of knowledge about the environment and the acquisition of ways of knowing it in a particular system. It should be noted that if the general way of assimilating the system of cognition of nature should go from the general to the particular, then in the process of assimilating specific concepts, the ratio of the general and the particular should depend on their semantic load. component. The rise of the child's mind from the abstract to the concrete should also occur when the elementary school student learns about any concept of nature that is added to his knowledge of the natural science landscape of the world around him. The operational component in the development of a way of thinking - mental behavior - reflects the main ways in which mental imagination is present, which is reflected in the child's activity. The factor that shapes human

thinking is the object with which it interacts. This interaction is the most important thing in thinking, in knowledge. However, the object determines thinking not directly, but through the internal laws of mental activity: analysis, synthesis, abstraction, generalization.

Thus, in the process of cognition and study of nature, junior schoolchildren can develop a way of thinking based on natural sciences, taking into account the age and individual characteristics of the personality. This type of thinking develops, among other things, in the study of specific areas of knowledge - nature, and is defined as the unity of theoretical and empirical thinking, as well as integrated, creative, conceptual thinking. The logic and independence of thought, understanding of the basic interactions between the environment and the basic system of knowledge about nature, the expression of an emotionally respectful attitude towards nature and oneself, the depiction of nature using various means of creative activity are the main indicators of development. natural science thinking. The main means for the development of such thinking are the "thoughtful" perception of nature in observation, modeling, correction of the subject's experience on the basis of scientific ideas. They can be used to maximize the sensory abilities of elementary school students to understand the world around them and develop the ability to perform various forms of modeling. The formation of these skills is necessary for the formation of the natural-scientific landscape of the surrounding world in junior schoolchildren. In addition, "the degree of formation of internal ideal forms of modeling" indicates the level of development of mental abilities.

Thus, the process of cognition by primary school students of the world around is associated with social cognition, similar to it, but, of course, not entirely appropriate. In addition to the general patterns of cognition of the environment, for younger students there are characteristic features of its perception, attention, imagination, thinking, which should be taken into account when forming the image of an object on the basis of a natural-scientific landscape.

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