

## THE ROLE AND IMPORTANCE OF "NATURAL SCIENCES" IN THE DEVELOPMENT OF UNDERSTANDING OF NATURE IN GENERAL SECONDARY SCHOOLS

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**Abstract.** *Natural sciences teach students about the causes and interrelationships of events and processes occurring in animate and inanimate nature, the stages of development in nature, including the evolution of the development of living organisms, the natural-scientific foundations of modern techniques and technology, the interrelationship and influence of nature and society, natural resources helps to learn about the scientific basis of frugal use, the importance of a healthy lifestyle. The student's inner motivation is important in understanding the state of the natural and social environment through his interest in mastering natural sciences, in understanding environmental and human problems, and in being able to make decisions to find their solutions. This article is dedicated to the teaching of "Natural science" in the primary classes of general secondary schools and the related tasks.*

**Keywords:** *interaction and influence of nature and society, natural resources, healthy lifestyle, environmental and human problems, stages of development in nature, development evolution of living organisms, formation of natural-scientific, technical, ecological and economic literacy in students, elementary school age students, teachers, education system.*

### РОЛЬ И ЗНАЧЕНИЕ "ЕСТЕСТВЕННЫХ НАУК" В РАЗВИТИИ ПРИРОДОПОНИМАНИЯ В ОБЩЕОБРАЗОВАТЕЛЬНОЙ ШКОЛЕ

**Аннотация.** *Естественные науки знакомят учащихся с причинами и взаимосвязями явлений и процессов, происходящих в живой и неживой природе, этапами развития в природе, в том числе с эволюцией развития живых организмов, естественнонаучными основами современной техники и техники, взаимосвязью и влиянием природы и общества, природные ресурсы помогает узнать о научных основах бережливого использования, важности здорового образа жизни. Важна внутренняя мотивация учащегося в понимании состояния природной и социальной среды через его интерес к овладению естественными науками, к пониманию экологических и общечеловеческих проблем, к умению принимать решения по поиску их решения. Данная статья посвящена преподаванию «Естествознания» в начальных классах общеобразовательной школы и связанным с ним задачам.*

**Ключевые слова:** *взаимодействие и влияние природы и общества, природные ресурсы, здоровый образ жизни, экологические и человеческие проблемы, этапы развития в природе, эволюция развития живых организмов, формирование естественнонаучной, технической, эколого-экономической грамотности учащихся, элементарная школьники, учителя, система образования.*

### INTRODUCTION

In paragraph 1.2 of the Resolution of the President of the Republic of Uzbekistan dated August 12, 2020 "On measures to increase the quality of continuous education and the effectiveness of science in the fields of chemistry and biology" No. PQ-4805 attention is paid to the introduction of methods. In particular, in order to improve the teaching of natural sciences, a

number of tasks have been defined to gradually introduce the teaching of natural science as a single subject instead of the surrounding world, natural science, geography, biology, and physics in grades 1-6.

## **MATERIALS AND METHODS**

The science program created for "natural sciences" includes the subjects of biology, geography, physics, chemistry, astronomy and ensures their interrelationship. Each of these disciplines has its own content, structure and research methods. Models (solar system, ecosystem, plant life cycle) are used to explain various phenomena and processes occurring in the world to the student based on the interconnection of natural sciences.

The teaching of "natural sciences" creates the basis for the formation of natural-scientific, technical, ecological and economic literacy in students, as well as the development of critical and creative thinking. Also, through this science, interdisciplinary integration is aimed at students to understand the opportunities and problems of modern scientific and technical development, to understand the essence of environmental problems through the goals of sustainable development, to form the skills of using the acquired knowledge in everyday life, the ways of rational use of nature, the principles of healthy lifestyle.

The topics included in the "Natural Sciences" program are expressed in the following main contexts:

- systems (plant, animal, human organ systems, knowledge about the Solar system);
- matter and energy (heat, light, sound);
- form, order and structure (animate and inanimate nature, living organisms);
- scale and measurement (weather temperature, distance, Earth and Space);
- stability and change (development of living organisms, weather, seasons, habitat);
- form and function (living organisms, plant and animal diversity, heat, light and sound sources).

## **RESULTS**

The student of natural sciences learns the reasons for the occurrence of events and processes occurring in animate and inanimate nature and their interrelationships, the stages of development in nature, including the evolution of the development of living organisms, the natural-scientific foundations of modern techniques and technology, the interrelationship and influence of nature and society, natural resources helps to learn about the scientific basis of frugal use, the importance of a healthy lifestyle. The student's inner motivation is important in understanding the state of the natural and social environment through his interest in mastering natural sciences, in understanding environmental and human problems, and in being able to make decisions to find their solutions.

Pupils' formed ideas about the world around us are practically reinforced in the process of educational activities, didactic and creative houses, self-service and making socially useful cocktails. In this way, educational, educational and developmental issues are solved for the purpose of activating the knowledge activity of students and their development as a mature person in all respects.

Observations, excursions, experiments, and practical work play a leading role in learning natural science. Children will continue to be trained in observation methods, note their results in a daily notebook, and make conclusions and generalizations based on them. When conducting

excursions, great attention is paid to studying natural objects and reality in their natural state. This also applies to classes held in classrooms based on high performance. Therefore, it is necessary to pay special attention to conducting natural science classes.

The rapid growth of consumption of natural resources, the expansion of the scope of human production activities have an increasing impact on the environment. Disruption of natural systems, changes in the quality of the main components of the natural complex, decrease in the ability of nature to increase the resources and conditions necessary for human life and the further development of society are currently classified as social problems.

At this stage, overcoming the crisis, caring for the environment should motivate people to act. Prospects for solving environmental problems at all levels (global, regional, local) depend on the general environmental awareness of children of primary school age, understanding of the origin, nature and methods of solving the current crisis situation. It is he who determines the need to "green all sciences, all spheres of human activity" (64,20). Therefore, the problem of raising a young generation capable of subordinating their needs for all types of labor to the idea of rational use of natural resources, protection of the environment from destruction and pollution is very urgent at the moment. At the core of ecological knowledge, which is defined as the priority direction of school activity, students are directly encouraged to solve the problem aimed at developing the skills of understanding nature, loving it and preserving it [5].

At different stages of education, a number of concepts were developed to introduce, protect, treat nature to students and define its educational goals, tasks and content. On this basis, special attention is paid to the issues of organizing environmental activities of elementary school students based on the understanding of nature based on natural science and starting them in school and extracurricular educational processes [4].

In the process of mastering natural science, students' ecological cultures are formed. The main task of environmental education and upbringing, which is predicted to be formed in this case, is the formation of environmental culture among schoolchildren, in which "the student's personality is formed on the basis of certain knowledge and beliefs about nature and events related to it, the student's readiness for this activity, as well as their practical in his actions, he creates conditions for the preservation of nature and respect for it" (6).

The conducted experimental studies show that one of the conditions for the development of natural and scientific knowledge of elementary school students, their formation as an ecologically knowledgeable person is to introduce and understand the nature of the area where they live. It is for this reason that the problems of local studies in nature - comprehensive knowledge of the nature of mother earth and responsible treatment of it are of great importance today.

When studying the subject of natural science, junior schoolchildren form biological and geographical ideas and basic concepts, intellectual and practical skills: analysis, comparison, comparison, generalization, drawing conclusions about objects and natural phenomena, phenological observations, observing the effects of anthropogenic factors. about natural ecological systems.

Improving the formation of biological-geographical knowledge of young students in studying the subject of natural science is solved by strengthening the developmental function of education and training.

The methodology of teaching natural science is a pedagogical science that reveals the content and methods of comprehensive education of children in teaching natural science. It is based on research in pedagogy and uses its methods, taking into account the content and characteristics of teaching its subject.

By teaching natural science to students, the teacher not only equips them with the knowledge, training and skills necessary for continuing education and practical activities, but also forms their outlook, will, character, and develops their intellectual abilities. To this end, Kura develops forms and methods of teaching natural science.

## DISCUSSION

The organization of natural-scientific knowledge of elementary school students on the basis of modern educational tools and the effectiveness of using digital educational technologies is a position on the organic relations, unity and certain hierarchy of three groups of pedagogical conditions. In this:

- general conditions for the effectiveness of the holistic educational process affecting all aspects, including the processes that we study and serve as a prerequisite for the implementation of other groups of conditions;

- as one of the aspects of the overall educational process, the conditions that ensure the effectiveness of the knowledge of nature of young students on the basis of modern educational tools and serve as a necessary condition for the use of digital educational technology;

- the basis of the conditions that have a direct impact on the practical activities of young students is the increased demand for the use of computerized electronic resources in the educational process, etc.

## CONCLUSIONS

The use of interactive methods and educational games, modern information and communication technologies in primary classes helps students to think independently, expand the scope of creative research and logical thinking, connect what they learned in classes with life, and increase their interest. The effective use of conditions created by teachers based on such modern requirements and the organization of lessons based on advanced pedagogical and information communication technologies guarantees the quality of the educational process.

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