

# Ecological education of schoolchildren in the Russian Federation (on the example of primary schools in the Vologda region)

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**Abstract**—The article presents the results of a study devoted to the problem of environmental education of primary school students. The aim of the experimental work was to develop and test the effectiveness of the program of formation of environmental culture of younger students in extracurricular activities. The implementation of the program contributed to the development of environmental concepts, environmental awareness and feelings of students. The program, designed for one academic year, included games of environmental orientation, hiking in nature, planting flowers, trees and shrubs on the territory of the school site, competitions of crafts made of natural material, an exhibition of works and photographs, etc. Purposeful extracurricular work allowed creating conditions for direct contact of children with nature. The study showed that a specially designed program based on the principles of appropriateness, continuity, diversity of the used means, methods and forms of work, integration with other areas of academic and extra-curricular activities, is an effective means of contributing to the development of ecological culture of junior pupils of the school.

**Keywords**—*ecological thinking, ecological behavior, ecological education, ecological culture*

## I. INTRODUCTION

According to many modern experts, the environmental situation on the planet is becoming more dangerous every year. The state of soils is deteriorating, water is polluted, biodiversity is being reduced, the protective ozone layer in the atmosphere is decreasing, and the amount of waste polluting the environment is increasing. This is not a final list of the problems of our time to be solved. Currently, in Russia the norms related to environmental safety are legislated in the Federal law "On environmental protection" [1], as well as other regulatory legal acts of the Russian Federation. In order to draw public attention to environmental problems, 2017 was declared the year of ecology in Russia [2].

In the Vologda region, the regional state environmental supervision (control) over the rational use and protection of subsoil, air, water bodies, the protection and use of specially protected natural areas is carried out by the Department of natural resources and environmental protection. The same body coordinates environmental education and public education. At the regional level contests and promotions environmental focus: the contest of children's handwritten book "the wonderful world of Vologda region", festival of children's ecological theatres "Green planet", contests, videos, environmental posters, environmental leaflets

"Children for the protection of nature!", ecological clean-up "Green Spring", ecological conferences "Let's save the natural environment and cultural heritage of the Vologda region", etc. [3].

The need for environmental education is reflected in the Concept of continuous environmental education, upbringing and education of the population of the Vologda oblast in the interests of sustainable development of the region until 2020 [4]. The implementation of this strategy involves the use of the resources and potential of educational institutions, vocational education organizations, the media, museums, libraries, cultural institutions, environmental institutions, sports and tourism organizations.

We are deeply convinced that the formation of ecological culture should begin with preschool and primary school age. At this age, human communication with the surrounding world of nature causes an emotional response, as it is its brightness, diversity and dynamism affects all his feelings. In children of this age stage there is a pronounced curiosity, the desire to bring closer to them, to know and understand nature. At the same time, not only the spectrum of positive, but also negative emotions in relation to nature is manifested in primary school age. This is noticeable in cases when children tear flowers, break branches of shrubs and trees, catch butterflies, dragonflies, frogs, lizards, etc. On how the system of formation of ecological culture of primary school children will be organized, their attitude to nature in the future will largely depend. Nature should become for every child not only a living laboratory where you can observe and study the life of its inhabitants, but also a school of reasonable use, multiplication and preservation of its wealth.

Thus, the problem of environmental education of primary school children, - one of the key problems of modern education in Russia, is the subject of our study. This article attempts to present the results of experimental activities aimed at the formation of environmental culture of primary school students.

## II. METHODS

Defining the essence of environmental education, we have identified the following features of this process: focus and feasibility; multistage character; duration, continuity; complexity in the organization; discontinuity; variety of tools, methods and forms of work; integration with other areas of educational work. The purpose of environmental education is the formation of a responsible attitude to the

environment, which is based on environmental consciousness. This involves the observance of moral and legal principles of environmental management and promotion of the ideas of its optimization, active work on the study and protection of the nature of the area, the promotion of the ideas of proper use of nature, in the fight against all that is detrimental to the environment.

Ecological education begins with the formation of ecological ideas, the development of ecological consciousness and feelings. Then there is the formation of beliefs in the need for environmental activities; development of skills and habits of decent behavior in nature; overcoming consumer attitudes to nature; the formation of appropriate (natural) needs, motives and attitudes, skills and habits. The formation of ecological consciousness is also associated with the development of moral, aesthetic feelings, education of sustainable will, character, and behavior.

In this paper we rely on the works of Russian scientists N. F. Vinogradova [5], A. A. Pleshakova [6], G. M. Shipitsina [7] and others in which the psychological and pedagogical justification of this process is given, features of younger school age from the point of view of formation of ecological culture are revealed. With proper organization of educational and extracurricular work on environmental education in children successfully formed ecological consciousness - respect for the surrounding world of nature, but most importantly, that in the process of properly organized environmental education in children formed a strong interest in nature and a conscious attitude to the world.

Students learn the basics of environmental science in the process of studying the subject "the World around us". Practice shows that the knowledge gained in the study of this subject is not enough to form environmentally correct behavior. We agree with the opinion of some authors: N. Iskulova [8], R. O. Kadyrova [9], V. M. Minaevoy [10], T. And Tarasova [11] that well-organized, focused class work allows the use of additional material broadens the mind and concrete the knowledge. During extracurricular activities, students have the opportunity not only to learn theoretical material, but to come into direct contact with nature and participate in socially useful work [12]. Observations and analysis of real life by younger students in the process of extracurricular activities allow them to draw conclusions about the state of the environment, to plan specific programs for its improvement, to learn lessons for the future, to change the goals of their activities and behavior in the environment in accordance with the laws of nature.

The success of extracurricular activities depends largely on the characteristics of the class, the level of overall development of children, their interests, local conditions, as well as the methods and means used. The formation of ecological culture of primary school children is possible only if the relationship of different types and types of extracurricular activities. Various activities provide an opportunity for students to acquire deep knowledge about human relations with nature, to see environmental problems in real life, to learn the simplest skills for the protection of nature. According to its content, form of organization, methods of extracurricular activities can be different.

Individual work includes specific tasks for individual children who are interested in nature. At the same time, the

subjects of their conduct can be very diverse: for the care of plants, animals of a corner of wildlife or at home; carrying out individual observations in addition to the program minimum; conversations on the materials of the read literature about nature; staging simple experiments, etc.

The most common type of group extracurricular work is occasional work of groups, often dedicated to the preparation of mass events in the school, the area of natural history and environmental orientation. Episodic groups usually have a temporary composition, disintegrating after the mass event.

Mass types of extracurricular activities make it possible to attract almost all younger students to participate in socially useful environmental activities. Such events include: evenings, conferences, holidays, competitions, quizzes, matinees, thematic weeks, excursions, competitions, marathons, role-playing games, travel to stations, quests, etc.

Thus, extracurricular work on the formation of ecological culture allows the use of a wide variety of forms, methods and means of work. One of the most important pedagogical means is the game. In the game, the most junior student psychologically prepares for real environmental situations, learns to understand the attitude to nature of people performing different roles depending on the profession and position, master the techniques of communication with peers. Younger students are happy to perform the "role" of protected species of animals, plants or fungi, while each type of mouth of the student talks about its importance in nature and human life and justifies the need for its preservation. Various types of extracurricular activities on environmental education complement each other, enriching the process of teaching and education of younger students.

### III. RESULTS

In 2016-2018, students of the faculty of social work, pedagogy and psychology of the Vologda state University conducted an experiment. The aim of the experimental work was to develop and test the effectiveness of the program of formation of environmental culture of younger students in extracurricular activities. To achieve the goal, the following tasks were set:

- to determine the initial level of formation of ecological culture of primary school children;
- to develop a program aimed at improving the environmental culture of primary school children;
- to test the program in experimental groups of students and to analyze its results.

To identify the starting level of formation of environmental culture of students, the method of questioning was used. The questionnaire of L. V. Moiseeva [13] and the personal test on identification of level of ecological culture of S. N. Glazachev were taken as a basis [14]. Implementation of the program "Formation of ecological culture of younger students" was carried out at school in extracurricular activities. The program was designed for one academic year, consisted of a variety of activities on the subject: familiarity with the flora and fauna of the Vologda region; virtual journey through the pages of the red book; quiz "I love this Land"; competition "Poems about nature say"; games environmental orientation; Hiking in nature with their

parents; creating a living corner in the classroom; planting flowers, trees and shrubs on the school site; making crafts from natural materials; competition for the best feeder for wintering birds; action "Clean the planet from debris"; exhibition of works and photos "Our four-legged friends"; holidays "Fish, birds, animals - you are my friends!"; "International day of birds"; discussion "Healthy food - "for" and "against»»; charity events to raise funds to help homeless animals, etc.

At the end of the program on the basis of questionnaires were obtained data on changes in the level of formation of ecological culture. The significance of the differences before and after exposure was verified by mathematical statistics using Wilcoxon T-test and Mann-Whitney U-test [15].

Comparative analysis of the results of the control and experimental groups using the methods of static analysis revealed significant differences and confirmed the effectiveness of the developed program of formation of environmental culture of younger students in extracurricular activities. The results of the work indicate the expediency of the organization of extracurricular work on the formation of environmental culture in primary school age in a General education organization.

#### IV. DISCUSSION

Summing up, it should be noted that the formation of the necessary level of environmental thinking involves the ability of the child to determine their attitude to the natural environment; to analyze the impact of environmental factors on the living environment. The basics of environmental culture, laid down in primary school, allow expressing their attitude to nature through drawings, works, models, design and research, to disseminate environmental knowledge and participate in practical matters to protect the environment, to choose the option of safe behavior. Environmental education should be considered as one of the conditions of spiritual and moral development of children, the formation of their values, skills and environmentally sound interaction with nature and society.

In our opinion, an ecologically educated citizen of the XXI century is a person whose characteristics include the following qualities:

- Able to understand the harmony of the world of nature and man;
- accepts the beauty of the world, its aesthetic value;
- Aware of the usefulness and importance of new environmental knowledge;
- understands that the state of the environment depends not only on the set of actions of all, but also on individual actions of a particular person;
- shows readiness for active activity on preservation of the peace of the nature;
- understands and accepts responsibility to the present and future.

This interpretation can serve as a basis for further research and discussion.

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