



**The Model Of Formation Of Ecological Culture Of Schoolchildren In Conditions
Of Sustainable Development Of Society**

Aisylu R. Bagapova^{1*}, Irina V. Abdrashitova¹, Alena B. Abdrashitova¹

1. - Kazan Federal University, * Aisylu.bagapova@mail.ru

ABSTRACT

This article deals with the problems of forming an ecological culture of schoolchildren, who are able to predict the results of their impact on natural objects, and have a moral responsibility for their own behavioral strategy. In modern conditions of sustainable development of society, it is necessary to include moral values in the system of school environmental education. Environmental education projects of modernization should ensure the implementation of approaches to the formation of such level of ecological culture, which will contribute to the achievement of balanced state in the interaction between "man and nature".

Keywords: ecological culture, ecological and educational project, sustainable development, pedagogical experiment, model.



1. INTRODUCTION

The history of mankind is inextricably associated with the history of nature. At the current stage, the issues of its traditional interaction with man became a global environmental problem. At present, there is a need to strengthen the practical orientation of environmental education of schoolchildren, their involvement in activities on conservation of their native nature. Own work on the protection of nature raises the effectiveness of ecological education of children, promotes the strengthening of basic ecological knowledge, determines the ecological view of nature, and amplifies the requirements for environmental activities on the development of nature and the use of natural resources. Ecological component of educational process contributes to the formation of new relationships in the system "man-nature" (Abdrashitova I.V. 2004.).

The concept of sustainable development (SD) is one of the most modern, widespread and supported in the world concepts of interaction of the system "man - nature". Academician N.N. Moiseev believed that the term "sustainable development" should be interpreted as a strategy of transitional period to such state of man and nature, which we can characterize with the term "coevolution" or "the epoch of the noosphere". "Crucially, the scale of values must be changed - the transition from the consumer society to the "creative society", to the "ecological socialism" (Moiseev N.N., Frolov I.T.1984).

SD is a new way of development, a revision of the relationship between nature and man. UR presupposes the harmonization of "human-nature" relations in accordance with the laws of nature. It will become possible under the condition of conscious limitation of resources consumption, based on the capabilities of biosphere.

The development of environmental culture, in the context of SD, is aimed at forming the abilities of schoolchildren to predict the results of the impact on the natural world; taking responsibility for their behavior.

Zabelin defines the environmental culture as a special culture, inherent to the "ecological community" (Zabelin S.I.1998). Douglas considers the environmental culture as a type of cultural reflection, emerging in the era of modernization and the growth of the planet's population (Douglas, M. 1992). Partridge regards ecological culture as a specific kind of ethics, a moral imperative or a system of commandments (Partridge E (ed).1981). In this connection, we propose our definition of the personal environmental culture – this is the



level of development of a common culture, characterized by the realization of the inherent value of the natural world and a man, as part of nature, developed by the need for responsible, predictable, expedient activities, based on the moral, aesthetic and value perception of the natural environment, leading to humane establishment of conformity and harmony between ecological needs by a morally and aesthetically educated person, with the capabilities of the natural world, resulting in the convergence of nature and culture, i.e., eco-noosphere" (Abdrashitova I.V. 2004).

Thus, one of the options for restoring the natural balance is the development of environmental culture and raising its level; renewal of the laws of morality and ethics, the culture of ancestors, the formation of which must begin at school.

Environmental education is one of the directions for the implementation of FSES program, which involves the integration of various forms of activity. The implementation of federal state standards for general education of the second generation should contribute to the formation of universal educational activities among schoolchildren. Having mastered by personal, regulative, cognitive and communicative learning activities, schoolchildren will have a basis for successfully solving various life problems, they can orient themselves in the increasing flow of information (Sukhorukov V.D., Suslov V.G. 2014).

The problem of modern environmental education is the low level of the formation of ecological culture in schoolchildren against the background of insufficient implementation of environmental education projects in schools.

According to a number of domestic and foreign scientists (N.N. Moiseev, I.D. Zverev, N.A. Rykov, G.A. Yagodin, S.O. Schmidt, P. Agess, V. Giacomini, P. Kuusi, G. Hefling) the question of the mankind's survival in many respects depends on the level of ecological education and upbringing of the person, who possesses the environmental culture. The school plays an important role in solving this issue. Consequently, the search for the technologies, means, methods of teaching and diagnostics of ecological education, providing the formation of a value attitude to nature, the ability to assess their behavior and the behavior of surrounding people, gain ground.

In the presented work "The Light of Life", Maura O'Connor from the USA, describes the technology of continuous education in the field of the environment, intended for teachers



and schoolchildren, aged from 6 to 18. The complex of courses has interdisciplinary nature. Lessons involve children in the study of various phenomena of nature and human interaction with it, especially in urban environments (Maura O`Connor. 1993).

Howson J. criticizes the formulation of modern environmental education, pointing out that teachers are not well prepared for teaching environmental aspects, and do not have time for education under the conditions of a rich school curriculum. The author believes that many teachers have a backward view of environmental education, as a mix of parts of many areas of knowledge. Howson J. considers that environmental education should be interesting; it must be carried out through the activities and experiences of children (Ecological modernization around the world: perspectives and critical debates, 2015 /).

In the UK, the researchers of this problem discuss the formulation of environmental education in the works of Ch. Maresa. It must pervade the whole curriculum and be based on the principle of long-term, interdisciplinary connections, practical activities, the use of the environment as an educational medium, and on the involvement of family and community in the learning process

(http://otherreferats.allbest.ru/pedagogics/00212835_0.html).

The scientist of the Coventry University College Nnaemeka Madumere in his article speaks about the need to ensure the effective public awareness and its involvement in the arrangements for preservation of nature (International Journal of Sustainable Built Environment. 2017).

Domestic scientists consider the environmental behavior, education, the role of environmental movements from the standpoint of different types of ecological consciousness. It is possible to ensure environmentally sustainable development and to improve the artificial environment in an ecologically cultured society. Its development is extremely important, because new ways of human interaction with nature are determined in the noospheric society. Yu.P. Ozhegov and E.V. Nikonorova, V.A. Sitarov, V.V. Pustovoitov, N.V. Solovyova and others conducted a sociological analysis of the formation of the youth ecological culture and found a low level of environmental awareness and education in young people (Abdrashitova I.V. 2004).

In this regard, the state sets schools the task of improving the ecological education of schoolchildren. But at the same time, there is a contradiction, which consists in



insufficient provision of methodological allowances of ecological content for the implementation of the ecological and educational program.

Thus, the teacher, who participates in the environmental education program, should be a highly qualified specialist, and be able to prepare an author's project on the formation of ecological culture of schoolchildren, in the educational system of the educational institution.

The aim of the study is to create the conditions in the educational environment for the formation of an ecological culture, with the activation and improvement of the practical ecological orientation at lessons and after-hour activities, and the development of a model for the formation of personal ecological culture.

The schoolchild needs to master scientific knowledge, to acquire moral value orientations towards nature, and also to develop practical skills for preserving the favorable conditions of the surrounding natural environment. D.S. Likhachev stated, that "ecology is a moral problem," and as the attitude to the nature, and to the culture, require the general rules of morality, a person's awareness of himself as an integral part of nature and the part of culture (Likhachev D.S.1985).

Today, it is necessary to talk about the formation of an ecological culture of schoolchildren, as a socially necessary moral quality of the individual. In connection with this problem, it became necessary to develop and practically implement an environmental education program, promoting the development of moral qualities of the individual. The components of moral qualities are defined by duty, conscience, moral choice, responsibility, experience of behavior - these formations are based on the feelings of good and justice (Russian Pedagogical Encyclopedia in 2 volumes. 1999.), and serve for the self-control of the personality, the ability to self-assessment, and the ability to formulate moral prescriptions.

2. METHODS

Formation of the moral qualities of the student's personality is the main goal of the pedagogical experiment, which subordinates the functions and actions of all the components of the developed program, on the formation of an ecological culture of the individual. The content of eco-educational program integrates knowledge, gained by schoolchildren in studying of natural disciplines and general cultural subjects,



significantly deepens and complements the pupils' perceptions of the ecological culture of the individual, enriches knowledge with a new concept, representing the development of the world towards the improvement of knowledge, and harmony in the relations between man and nature.

There are many methods of pedagogical research, one of which is modeling. Already for decades, modeling is one of the most relevant methods of scientific research, widely used in pedagogical investigations. In pedagogical science, the method of modeling is justified in the works of V.G. Afanasiev, V.A. Venikov, B.A. Glinsky, I.B. Novik, V.A. Shtoff and others.

In scientific terminology, the model has the following definitions: a sample of a new product, an exemplary copy of something; reduced or life-size reproduction of an object; what serves as a sample for image, reproduction; scheme of a phenomenon or physical object (14. <http://slovo.ru/index.php?ID=40823&a=&pg=74&s=%CC&w=%CC%CE%C4%C5%CB%DC>).

Modeling allows to implement actions at the present time, to give the forecast of the situation development, as well as to determine the possible consequences of decisions.

Working on the model is a research activity. The main components of any activity are the needs and motives, goals and actions, means and operations. These components can turn into each other; its dynamics lies in these transformations.

The next method, used in pedagogical research, is questioning. Questioning as a method allows to obtain significant information about the level of ecological culture. The questions of the survey are aimed at revealing the moral choice in ecological situations, allow to define how this personality builds own relationships with nature, and to determine the level of ecological culture (Abdrashitova I.V. 2004).

3. RESULTS

For the formation of ecological culture of schoolchildren, the "Model of the formation of the personal ecological culture in the conditions of sustainable development of society" was developed and implemented.

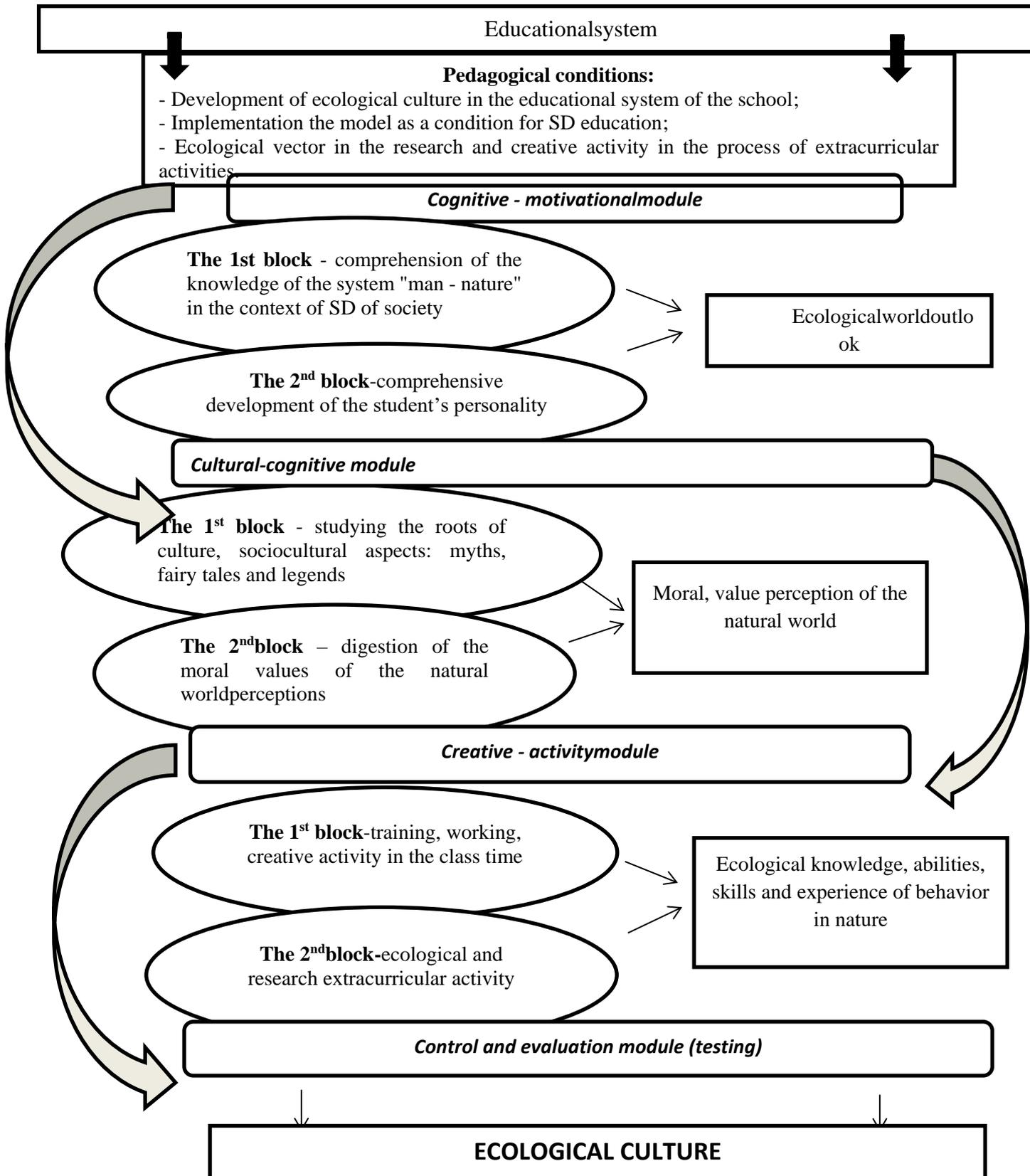
The schoolchildren of the 7th grades (control and experimental groups) of the Municipal autonomous general educational institution "Gymnasium №139" of Kazan, the Republic of Tatarstan, participated in the pedagogical experiment.



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The model consists of 4 modules:

- 1) Cognitive-motivational;
- 2) Cultural-cognitive;
- 3) Creative-activity;
- 4) Control and evaluation.

The model was implemented in 3 stages: ascertaining, forming, diagnosing. The questionnaire survey was conducted during the ascertaining stage of the pedagogical experiment. It allowed to reveal the insufficiently high level of the ecological culture of schoolchildren.

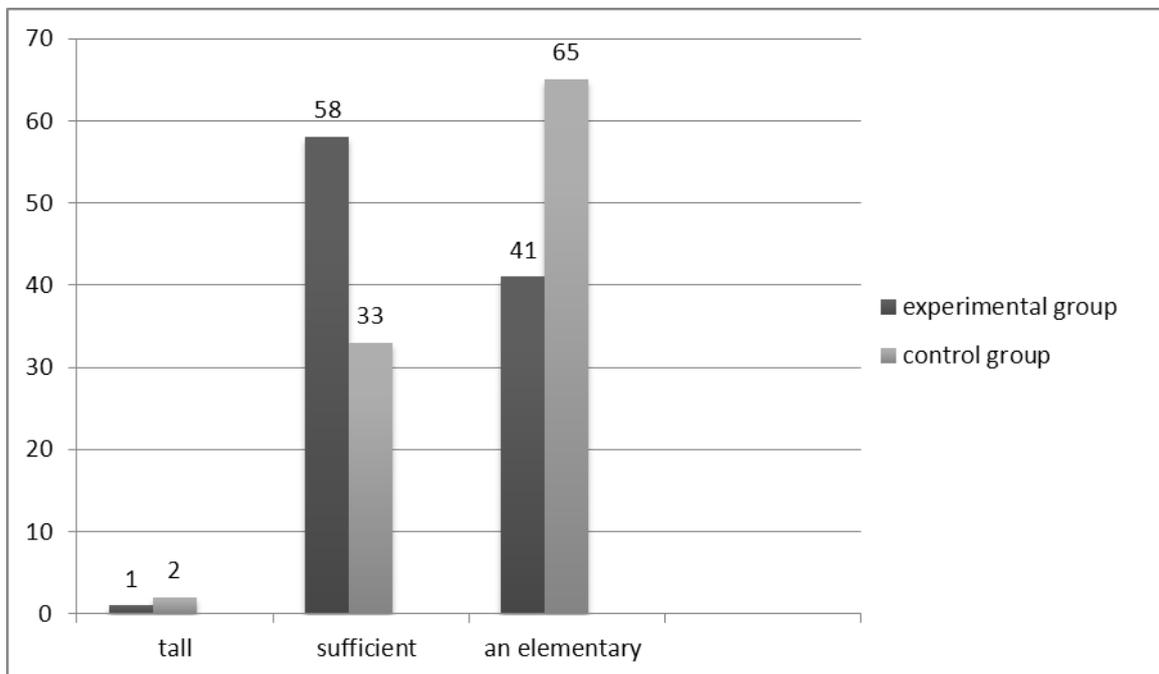


Fig.1 Indicator of the level of ecological upbringing of the students of the experimental and control groups at the ascertaining stage of the pedagogical experiment, %

The forming part of the model was implemented due to the cognitive-motivational module, including 2 blocks, which allows to form the world outlook of ecological culture. This module includes the following environmental measures:



- lecture: "Actual Problems of Ecology";
- viewing of environmental films "The Age of Fools", "Home";
- roundtable discussion "Ecological Problems of a Planet Scale";
- photo-contest "ECOFOTO".

The result of the work at this level is the digestion of the components of learning activity - knowledge, skills, forming the system of worldview, beliefs, views and creation the holistic image of the natural world, revealing the "man - nature" concept.

The cultural-cognitive module forms moral consciousness, allows students to receive and fix ideological-sensual knowledge of the surrounding reality, through studying the roots of culture, sociocultural aspects: fairy tales, myths and legends; digestion of moral, value perceptions of the natural world, indicated in the first and second blocks, and reflected in the following activities:

- debates about the peculiarities of culture in natural myths, fairy tales, legends (personification, deification of natural objects);
- theatrical performance "Myths and Legends of Nature";
- roundtable discussion "Understanding the Language of Wildlife";
- conference "We Are in Nature: Yesterday, Today, Tomorrow" - study of cultural layers of human-nature relations;
- school conference "Pathways of the Native Land."

The implementation of this module forms an ecological outlook in schoolchildren, digestion of the content of moral values and qualities (moral choice, duty, conscience); substantiates the transformation of ancient knowledge in the form of cultural layers.

The third module - creative activity - combines blocks, which reveal scientific cognition (knowledge, skills, experience of research work during and after school hours). Due to this, the student is able to perform environmental work, to understand, evaluate, plan and realize own activities in the natural world. The acquisition of these components of training activities is possible as a result of participation in the following activities:

- ecological brain-ring "Young Ecologists";
- drawing competition "City of the Future";
- ecological passport of the school micro-region;
- quest "Think in the Green Style";



- laboratory work "Principle of the Golden Section".

The potential of this block allows to form an ecological vector of scientific knowledge of schoolchildren; the ability to predict the results of the impact on natural objects, the moral responsibility for own behavior strategy, the ability to act in the natural environment, and to pass the environmental protection experience to others (1).

The fourth - control and evaluation module - makes it possible to monitor the formedness of the ecological culture in schoolchildren, to ascertain the effectiveness of the chosen methodology and pedagogical conditions. At the end of the forming experiment, a control survey of schoolchildren was conducted, to identify the dynamics of the formation of personal ecological culture.

The analysis of the results allows to state about the change in the level of formation of ecological culture in schoolchildren. Changes, which have occurred in the structure of personal ecological culture, were noted. The concept of ecological outlook has been expanded. There was the rethinking of the own position in society. The role of myths and fairy tales in primitive culture was digested. This was the substantiation of moral norms and rules, including rules of behavior in nature. The civil activity of reflecting the moral attitude in the system "man - nature" has been increased.

High level of ecological culture in the participants of pedagogical experiment increased by 19% and amounted to 32%.

The sufficient level has decreased and amounted to 62%, due to the understanding by participants of a low level of value of green images in the conditions of sustainable development of society. There are only 4% of participants at the elementary level.

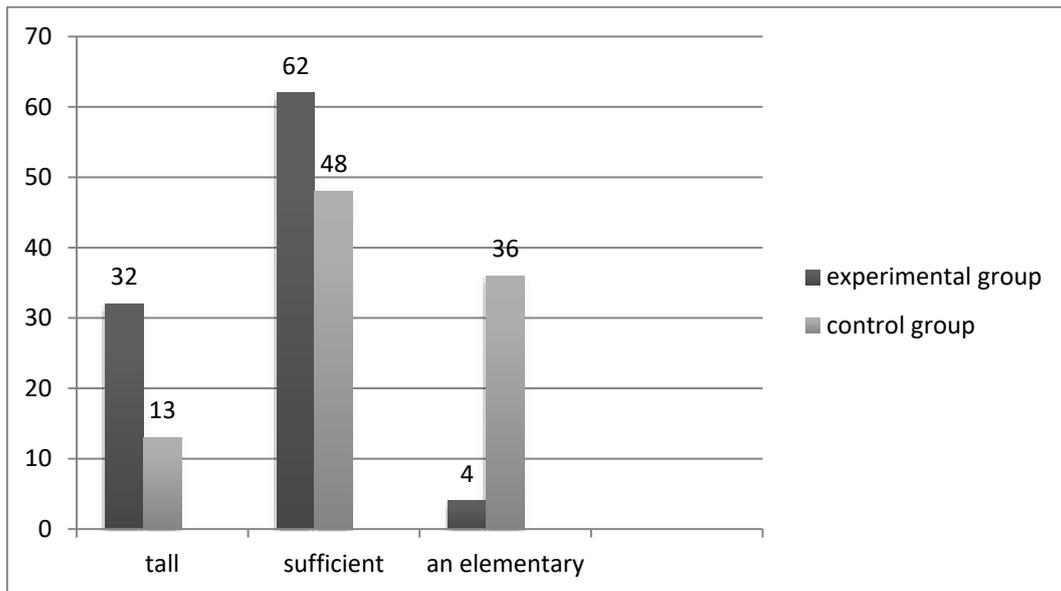


Fig.2. Dynamics of the level of upbringing of schoolchildren's ecological culture

The indicators of the control group of schoolchildren have changed not significantly.

4. CONCLUSIONS

Obtained results indicate positive dynamics in the formation of schoolchildren's ecological culture. Consequently, the "Model of the formation of the personal ecological culture in the conditions of sustainable development of society" has sufficient potential for the formation of the personal ecological culture.

The acquired knowledge in the process of environmental activities significantly broadens the concept of the history of environmental relations between man and nature, develops the interest of schoolchildren in this issue, forms the ability to correlate own actions with nature, using accepted ethical principles, knowledge of moral norms of ecological content. Thus, the integration of class and extracurricular activities in the school's educational system contributes to the formation of the ecological culture of schoolchildren.

In the modern world, ecological culture is considered as a necessary component of general culture. Due to this, a special interest in the problem was caused by the need to study the roots of the formation of human culture, the interaction of man and nature at different levels of development, and to create a theoretical basis of the ecological outlook of modern schoolchildren.



In this article, the meanings of ecological culture of schoolchildren were defined; the pedagogical conditions were grounded; “The model of the formation of the personal ecological culture in the conditions of sustainable development of society” was presented, the potential of which was able to form an ecological outlook, moral, value perception of natural world, ecological knowledge, skills and experience.

These components of educational activity in the conditions of sustainable development of society allow to learn the norms of behavior in nature, and are consisted in the timely prevention of stressful environmental situations.

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