

Ecological Project “Zilant” as an Example of a Systematic Approach to Environmental Education

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Abstract: The experience of application of systematic approach in the field of environmental education and upbringing of the younger generation there is in the study. The ecological project “Zilant” successfully implemented in the past 18 years in Kazan, Tatarstan Republic. In the framework of “Zilant” project, educational, research, organizational, environmental, methodological activities carried out and the artistic and applied creativity of children is developing. The results of research are annually drawn up at specialized conferences. Project popularity remains stable the total number of participants was 8680 people. The project “Zilant” has a great potential and provides a base and an incentive for development of modern organizational forms of working with children.

Key words: Environmental education, ecological project “Zilant”, systematic approach, sustainable development, modern organizational forms, conferences

INTRODUCTION

The concept of sustainable development includes three equivalent components-ecological, economic and social (Ciegis *et al.*, 2009; Wostl and Hare, 2004). The realization of this concept involves the specific development of the social component. Social development of the country means a strengthening of the role of the education system. The harmonious development of the human personality is impossible without effective multifaceted education.

Development and improvement of the individuality guarantee the development of society. The upbringing of youth was and is the strategic goal of all self-respecting states. The conscious of young generations is subjected to a powerful information attack about existing global problems including environmental ones. In addition, this generation have to solve the complex of these problems.

In connection with foregoing, the semantic load of the term “social adaptation” which often used in pedagogy does not agree. Traditionally, practical initiatives on social adaptation are aimed at focusing attention on risks including environmental ones. These initiatives are integrate into resource management system, in disaster preparedness and in sustainable development programs (Smit and Wandel, 2006).

At present time, there is an urgent need to transform environmental education by increasing the integration of

school children in a variety of activities. One of the steps towards successful integration is the professional development of teachers (Steele, 2010; Iacob, 2013).

Today, the negative impact of man on the environment has exceeded the permissible boundaries in many respects. To change the state of the environment for the better is necessary including the widespread and universal ecological education. The objective of environmental education and upbringing of children is the formation a positive ecological thinking and active life position based on ecological knowledge.

Ecological education and upbringing of the younger generation occupies a special place in the system of additional education. Its implementation in all regions of the country in the form of the movement of young naturalists has become a reaction to the complex environmental situation in the country, dictated by the real problems of modern society and is characterized by high social significance (Monroe, 2003).

Currently, in the training programs of secondary schools in the Russian Federation is excluded discipline “Ecology”. As result, observed of decreased interest of people in environmental issues in today’s society. This was evident during the sociological survey of the population at the time of preparation and holding of the Universiade sport games in 2013 in Kazan (Mingazova *et al.*, 2015; Zamaletdinov *et al.*, 2014).

Fortunately, some elements of ecology subject in secondary schools including some environmental issues

are not completely lost. They are mediated through the subjects of the natural sciences cycle-biology, chemistry, geography and physics. Thus, within the existing program, school children have the opportunity to receive some environmental knowledge.

Today, there exists a necessity to spread environmental knowledge. This is the opinion of the participants of the educational process. They believe that the most correct way of staging environmental education in secondary school is return the teaching of ecology as a separate subject and preserve its elements in the teaching of other subjects of the natural-science cycle (Zamaletdinov *et al.*, 2016).

Insufficiency in the sphere of school environmental education is partially compensated by a number of activities carried out by the system of additional education. This study is devoted to the experience of implementing the long-term ecological project “Zilant” in Kazan as an example of implementation of the systematic approach in additional environmental education and upbringing of the younger generation.

MATERIALS AND METHODS

The content of this study is the result of 18 years research on the implementation of the “Zilant” ecological project in Kazan. The basic method is a systematic approach to environmental education, namely the integration of secondary schools efforts, institutions of additional education and high school for environmental education and upbringing of school children.

RESULTS AND DISCUSSION

A characteristic feature of development in modern conditions is the selection of the most suitable variant of the logistics system. It is important to choose such a structural solution that is the most acceptable complex of indicators for given conditions.

In the system of ecological education of Kazan by integration of efforts realized in the form of long-term ecological project “Zilant”. The implementation of this long-term ecological project started in 2000. The project developed by Kazan University together with Children’s ecological and biological Center of Kazan and Institute of Ecology of Natural Systems of Academy of Sciences of Tatarstan Republic. The name of the project made in honor of a legend about the foundation of Kazan.

The organizational goal of this project is to create a synthesis, a single organism of diverse and disparate ecological and biological competitions, traditional and themed. By the research on the project applied a

systematic approach of management. The project is based on a differentiated approaches of education that taking into account the individual and general psychophysical characteristics of the child, every age group.

The project is based on a synthesis of experience accumulated by many generations, through an integrated approach to problem solving. All forms and methods of research in this case subordinated to the strategic goal-the formation of children environmental thinking as a key to the sustainable development of human society in the future.

Initially, before the beginning of the project was conducted preliminary analysis of the rich experience of research with children in the Soviet period. The basis of the implementation of the project takes into account the successful experience of young naturalist’s movement (operations “Ant”, “Blue” and “Green” patrols). Also in to development took into account the experience of the Russian and international public organizations and forms of research of colleagues from other Russian cities: Moscow, Saint Petersburg, Nizhny Novgorod, Vladimir, Ulyanovsk and others.

The project consists from different directions, research in which is conducted on the following types of activities: research, education, literary, artistic and crafts, environmental and organizational activity. Directions identified by systemic analysis and generalization of the types of activities that used in the system of additional education. An annual summary of this research is open city’s ecological conference “Zilant” which has sections of these areas, headed by a respected and competent jury and an exhibition of creative works of children.

The project is an integrated system of organization of mass environmental events. In its framework along with environmental education and upbringing many different tasks are being solved in parallel. These tasks are closely associated with meaningful leisure, professional orientation and socialization of child’s personality in modern society.

We are talking about the approach when the educational process is seen wider than usual frames (Jonston, 2009). General scheme of project implementation is given in Fig. 1.

Every year the results are announced at a city conference. In fact, this conference is the biggest children’s forum. The first final ecological conference of the project took place in 2001 in Kazan University.

The conference is a synthesis of different forms of research, united by a single ideological concept. In fact, it is a manifestation of integration of environmental education in a variety of types of educational and educative activities. For maintain interest of children and

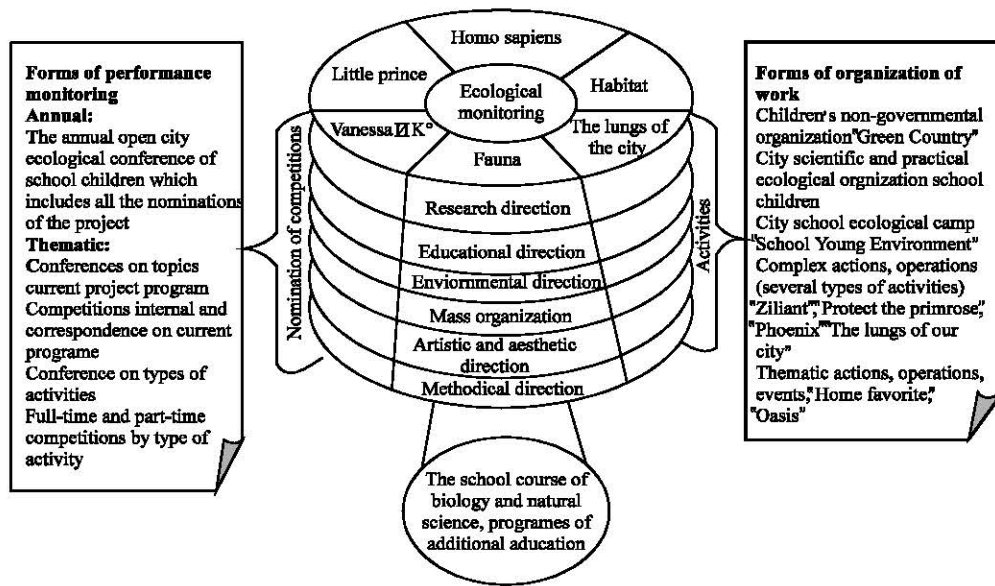


Fig. 1: Scheme of organization of work with children in the framework of the “Zilant” project

teachers, annually change the key topic of the conference: “Zilant” (amphibians and reptiles), “Phoenix” (about birds and their protection), “Environment” (environmental protection) the “Homo sapiens”, “We will be healthy”, etc.

Head action was the action “Zilant”, dedicated to study and conservation of amphibians and reptiles. Then was performed “Phoenix” the object of which were birds. The action “Lungs of our city” was aimed at the study and preservation of city plants. Action “Living water” was dedicated to ponds and their inhabitants. At the end of the calendar year, the action is not completed. The research on the thematic actions is not limited in a time.

The conference is a kind of festival of different forms of ecological education and upbringing. This is facilitated by diversity of directions and the corresponding nominations. The programs are run consistently. This can achieve the effect of novelty of the theme and change the objects of attention. In the project join a new participants and not only from the Kazan and Tatarstan Republic. In active participation for implementation of the project involved groups from Mari El Republic. All kind of activities in the frames of project has competitive nature. The main directions of the project are:

Educational direction: Within the frameworks of this direction, publications in the media and in school wall newspapers on environmental and biological topics are evaluated.

Research direction: This is the largest direction in number of subsections: “Homo sapiens: social ecology, psychology”, “Ecology, physiology, human health”, “Water projects”, “Flora, ecology of plants”, “Fauna, ecology of animals”, “Bio indication, biomonitoring”, “Industrial ecology, anthropogenic ecosystems”, “Agro ecology”, “Biogeography, geoeology”. It also discusses the impact of environmental issues on a human health and ways for it preservation. Within the framework of the direction the abstract works of school children is evaluated.

Organizational and mass activity: Within the framework of this direction the performance of children’s environmental teams on the stage is evaluated.

Environmental direction: Within the framework of this direction take place the assessment of reports about environmental protection and the status of individual components of the ecosystem. At the conference, the jury hears reports about conservation of rare and endangered species of plants and animals. Particular attention is paid to preservation of the natural environment as a necessary condition for maintaining the health of the population.

Artistic-aesthetic direction: The exhibitions of children’s drawings and original applied researches on ecological and environmental theme every year is organize.

Methodological direction: This direction represents a correspondence competition of methodological materials

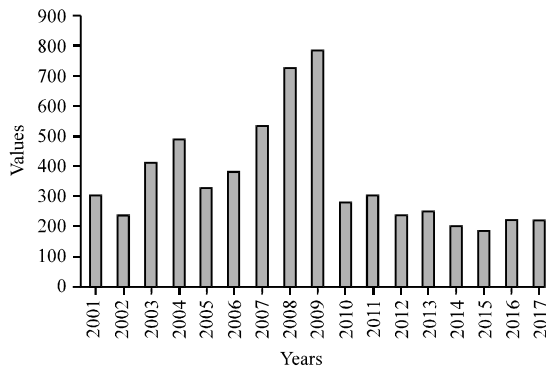


Fig. 2: The number of participants in the final annual conference that spend in the framework of the project "Zilant"

of teachers about organizing of mass, environmental protection measures, during out-of-school activities.

A wide range of directions allows introducing the basics of environmental knowledge in many disciplines (Steele, 2010). Modern place of environmental education in study program led to its features. In particular in the bounds of environmental education has the ability to cover different disciplines (Foladori, 2005).

All forms and methods of research in this case focused on a single strategic goal. This scheme is a variant of the new educational initiative. In the framework of the project "Zilant" is updating a variety of educational practices (Monroe *et al.*, 2007).

Currently, the project is widely known among the scientific and pedagogical publicity of Kazan and Tatarstan Republic. The project conducted a number of thematic actions covering all the main directions of environmental activities of preschool children, school children, students of higher educational institutions and vocational training institutions.

The project will involve the active sections of population and the broad environmental community of the Republic the media, specialized institutions and organizations.

The result of the effectiveness of implementation the project is the sustained interest of children who participate in the annual conferences. In Fig. 2 shows dynamic of the number of participants.

It is necessary to clarify that conference attended by children from secondary schools and secondary vocational education institutions of all ages initially. In this connection it was decided to make conferences separately for younger (1-7 grades) and senior age category (grades 8-11). Separation by age allowed to increase the effectiveness of the event and simplified the research of the jury.

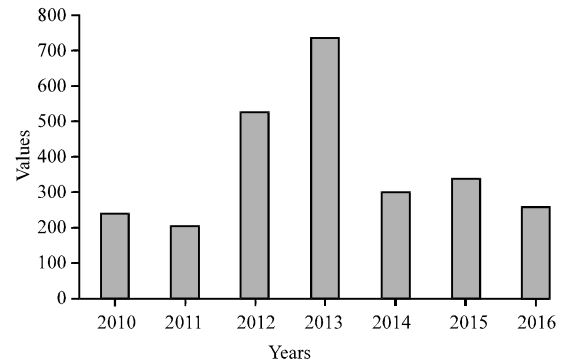


Fig. 3: The number of annual participants in the final conference held in the framework of the project "Zilant-juvenis"

Table 1: The number of participants in conferences which were held in the framework of the project "Zilant"

Variables	The number of participants of the conference "Zilant"	The number of participants of the conference "Zilant-juvenis"
2001	303	-
2002	235	-
2003	410	-
2004	489	-
2005	325	-
2006	378	-
2007	532	-
2008	726	-
2009	783	-
2010	278	242
2011	299	204
2012	236	524
2013	249	737
2014	201	300
2015	184	341
2016	222	259
2017	223	*
Total	6073	2607

*Conference in 2017, still not done; planned for April

This division began since, 2010. In the same year was held the first conference of Zilant-juvenis. In Fig. 3 showed the dynamics of number the participants of younger age category.

Table 1 shows information about total number of participants in the final conference, held in the framework of the project "Zilant". In total, the participants of this conference became 8680 children.

The data about participation of school children in the annual final conference for 18 years period allow concluding that the environmental education of school children has significantly intensified. In reality, the research received a new quality. The project has great potential and gives a meaningful database and the stimulus for the development of such modern forms of work with children as city children's environmental organization "Green country" and encourage for creating urban ecological scientific society of school children.

CONCLUSION

It is clear that environmental education is largely changing due to globalization (Jickling and Wals, 2008). One of the strategies to implement a variety of theoretical and practical opportunities in the framework of environmental education is to develop a map of special teacher "Landscape" (Sauve, 2005). In this case, the project "Zilant" is a real pedagogical "Landscape" of integral plan. The model of development of ecological education that given in this study will enhance performane in this area.

IMPLEMENTATIONS

After implementation of the project "Zilant" research in the field of ecological education of school children in Kazan increased significantly. About this says strong interest from the participants. In fact, the system of ecological education and upbringing received in Kazan a new quality. The project has great potential and gives a meaningful database and the stimulus for the development of such modern forms of work with children as city children's environmental organization "Green country" and encourage for creating urban ecological scientific society of school children.

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