

PRACTICE-ORIENTED EDUCATIONAL PROGRAM OF ACTIVITIES OF THE CHILDREN ENVIRONMENTAL ASSOCIATION AS A TOOL TO FORM THE SEVENTH AND EIGHTH-GRADERS' ENVIRONMENTAL RESPONSIBILITY

PROGRAMA DE ATIVIDADES EDUCACIONAIS ORIENTADAS PELA PRÁTICA DA ASSOCIAÇÃO AMBIENTAL DAS CRIANÇAS COMO FERRAMENTA PARA FORMAR A RESPONSABILIDADE AMBIENTAL PARA ALUNOS DO SÉTIMO E OITAVO ANO

PROGRAMA DE ACTIVIDADES EDUCATIVAS GUIADO POR LA PRÁCTICA DE ASOCIACIÓN AMBIENTAL PARA NIÑOS COMO UNA HERRAMIENTA PARA LA RESPONSABILIDAD AMBIENTAL PARA ESTUDIANTES DE 7º Y 8º AÑO

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Abstract: The Article covers the problem of forming form the seventh and eighth-graders' environmental responsibility in additional (informal education), which is caused by focus of the modern education on forming the environment-orientated moral personality qualities, which can assure the switching of the society over to the sustainable development; by significant possibilities of the children environmental associations in developing the environmental responsibility, and the lack of scientifically substantiated, approbated practice-oriented programs favoring the solution to this problem. The article is aimed at substantiating the specificity of a goal, content-related, procedural and technological components of the program of activities of the children environmental association "My environmental responsibility: to the co-creation with the nature"; opening of the pedagogical раскрытие педагогического tools of diagnostics of its efficiency, presentation of results of the program implementation in the educational practice. As the leading theoretical methods, simulation and designing were used, which make it possible to develop the key structural components of the program. The basic empirical method of the research is a pedagogical experiment, during which the program efficiency was diagnosed in terms of criteria and indicators of maturity of the environmental responsibility components with 210 members of the children environmental associations at the age from 11 to 14 years old. The article considers the theoretical and methodological basis of the program, which includes the ideas of ecohumanism, coevolution and sustainable development; an axiological, personal-activity and ecopsychological approaches, which provide for an organization of the developing ecology-oriented educational environment of the children association as a tool of forming the environmental responsibility. The article presents the program content, which consists of two components (external and internal components),

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discusses the succession of forming the environmental responsibility, which includes four stages and substantiates a technology of forming the environmental responsibility in the children association, which is presented by a system of environmentally responsible businesses. The article materials are of practical value to school teachers, additional education teachers, students of pedagogical specialties and advisers of children environmental associations.

Keywords: Environmental responsibility, sustainable development, children environmental association, ecohumanistic values and standards, coevolution, developing ecology-oriented educational environment.

1. Introduction

The technology-centered development of civilization, predominance of anthropocentric world outlook leads to global environmental changes in all the planet shells. It is possible to stop the neglected destructive processes only through change of each person's attitude to the environment, instillation in the younger generation an environmental responsibility – a personality quality, which makes it possible to assure the anthropospheric, environmental-ethical vector of the civilization development.

G. Yonas, 1984; A. Leopold, 1983; A. Sveitser, 1973; R. Attfield, 1990; A. Naess, 2000; D. Rodman, 1978; H. Rolston, 1988; D. Foreman, 1993; Taylor P., 1986; A.I. Subbeto, 2006; N.M. Mamedov, 2015 and others emphasized the primary importance of the responsibility problem of a man for the future of the living on the earth.

Apart from the ecophilosophers, the world community realizes the importance of responsibility for nature conservation, safety and prosperity of the future generations (United Nations Conferences on Sustainable Development “Rio+10”, “Rio+20”). While solving this problem, the education plays a key role. Under modern conditions, the education is designed to fulfill an advanced function, thus favoring the switching of the civilization over to the sustainable development. Importance of the education as a global changes factor and necessity of the sustainable development issues integration into the education structure at all the levels is emphasized in a whole number of conceptual papers: UNECE Strategy for the sustainable report (2005), the Road map of implementation of global program of action on education in the interest of sustainable development (UNESCO) (2014).

The problem of the students' upbringing and development of environmental responsibility is covered in the papers of a whole number of the Russian and foreign scientists (I.D. Zverev, 1983; I.T. Suravegina, 1988; A.N. Zakhlebny, 1984; G.N. Karopa, 2000; D.S. Ermakov, 2002; T.V. Kucher, 1984; D.N. Kavtaradze, 2012, L.M. Gorbunov, 1994; N.F. Vinokurova, 2017; Bonnett, M., 2013; Palmer, J., 2002; Hungerford, H. R., 1990; LIEBERMAN & G. Erald A., 1998 and others). The authors, in their research, uphold I. T. Suravegina's position and they consider

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the environmental responsibility as a personality quality, which is characterized by extremely positive attitude to the social requirements and standards, which is based on reasonable, fundamental understanding of their actions in the environment, ability to predict consequences, realization of their role in improving the ecological situation (I.T. Suravegina, 1988). In terms of structure, the environmental responsibility is a unity of motivational, cognitive, value-standard, praxeological and personality components.

It is established that the children environmental associations and efficient forms of the civil society have significant possibilities to instill this personality quality. When functioning on the basis of governmental and private establishments, social structures, they are a part of an informal entity and are also a self-organizing, self-managed community, which is established on a voluntary basis on the initiative of children and adults to achieve certain ecology-oriented goals and tasks (Alieva L.V., 2007). A team basis of the children association, availability of a working asset, focus on the activities in the immediate socio-natural surrounding make it possible to create a special developing ecology-oriented educational environment (Yasvin, V.A. 2000; Panov V.I., 1996), which contain a whole range of possibilities to include schoolchildren in various kinds of ecology-oriented activities, which favor the development of all the environmental responsibility components.

At the same time an analysis of the educational practices showed that the children environment associations pay little attention to the problem of forming the students' environmental responsibility and do not use the potential of the ecology-oriented educational environment to instill this personality quality in full. It is difficult for advisers of the children associations to select the content, to determine stages and technologies of forming the environmental responsibility. In this connection, it is necessary to develop the practice-oriented programs, methodic recommendations and manuals assuring the integral systematic formation of the environmental responsibility.

As a result, there were some contradictions, which are to be resolved by this research:

- between the unique possibilities of the children environmental associations to form the environmental responsibility and the fragmentariness of their use in the educational practice;
- between the necessity to develop the scientifically substantiated approved practice-oriented programs aimed at forming the environmental responsibility with the members of children environmental associations and insufficiency of opening this methodical problems in the practice of informal (additional) education.

This article materials are aimed at overcoming the emphasized problem. The article represents the goal, content-related, procedural and technological components of the practice-oriented program of activities of the children environmental association “My environmental responsibility: to co-creation with the nature” as well as the results of its implementation in the educational process.

2. Method

The theoretical and methodological basis of the research formed the environmental ethics papers (Fritsch A.J., 1980; Rolston III H., 1988; Jonas H., 1984), ideas of coevolution of sustainable development (Mamedov N. M., 2009; N.N. Moiseev, 1999; A.I. Subetto, 2006; A.D. Ursul, 1993), environmental ideas in the education (E. Willems, 1969; V.A. Slastenin, 2003; V.A. Yasvin, S.D. Deryabo, 1996; V.I. Panov, 1996.), ideas of organizing the social support, upbringing by means of the team (Ya. Korchak, 1991; A.S. Makarenko, 1978); regulations on moral necessity (V.N. Myasishev, 1998), on connection between the initiative and responsibility (K.A. Abulkhanova-Slavskaya, 1985), on a moral action as display of проявлении self-consciousness (M.M. Bakhtin, 1994), on the leading part of activities in the personality formation (D.I. Feldshtein, 2002), locus of control conception (J.B. Rotter, 1966), regulations on the environmental responsibility structure (I.D. Zverev, I.T. Suravegigna, 1988) and its formation mechanism (G.N. Karopa, 2000), a technology of collective and creative businesses (I.P. Ivanov, 1989).

According to the analysis of the psychological and pedagogic research (L.I. Bozhovich, 1968; R.S. Nemov, 2003; M.G. Kazakina, 1979; I.S. Kon, D.I. Feldshtein, 1980; E. Erikson, 1963), the juvenile age is the most sensitive for development of the personality environmental responsibility. During the juvenile age, a number of complicate mechanisms is formed successively, which signify the switching over from external determination of living and activities to the personality self-regulation and self-determination. Apart from formation of relevant personality mechanisms – freedom and responsibility – their content-related value filling takes place, which is expressed in forming the individual world outlook, the personal values system. G. Piage (1969) said that in the juvenile age the personality is formed ultimately, the wish to rebuild the world appears, and people ascribe themselves a significant role in saving the mankind (“quixotic endeavor”). According to I.S. Kon and D.I. Feldshtein (1980) “this is an age of inquisitive mind, longing to acquire knowledge, an age of intense vitality, violent activity, leadership role, zeal”.

In view of this, as foundational approaches assuring the formation of environmental responsibility with the members of children environmental associations, the ecopsychological, personality-activity and axiological approaches are used.

Axiological approach (V. A. Slastenin, 2003; N. E. Schurkova, 2000) reflects the orientation to the students' acquisition of the ecohumanistic values and standards system, rules of relationship between the man and the nature, understanding of universal value of the nature and realization of responsibility for its conservation.

Personal-activity approach (V.A. Petrovsky, 1996; I. S. Yakimanskaya, 1996) directs toward the personality formation as a subject of activities, assures the creation of conditions for the students' self-realization, their inclusion in the choice situations, taking of responsible decisions and actions in the socio-natural environment.

Ecopsychological approach (V.I. Panov, 2007) assures the development of the students' responsible attitude to the nature with account take of their age peculiarities and proposes creating the developing the ecology-oriented educational environment. Note that the initial basis to select the ecopsychological approach as the leading one in forming the environmental responsibility is the regulations of a number of scientists (I.D. Zverev, I.T. Suravegina, 1988) saying that the development of responsible attitude to the nature is one of the steps of forming the environmental responsibility as a stable personality feature.

According to V.I. Panov (2007), the ecopsychological approach core is a systemic "the man – the (external-internal) environment relations" and types of interaction between components of those relations. Note that the external environment is formed from the schoolchild's external living space, while the internal environment is represented as a set of values and sets about itself and about the outside world.

The subject-generating interaction type is the most significant to form the environmental responsibility of six interaction types, which are sorted out within this approach. It provides for the joint development of components of the system "The man – the environment", as a result of which it becomes a single subject of joint development of both the man and the nature. While realizing itself as a part of this system, the man shows "its responsible participation" (according to M.M. Bakhtin, 1994), which is include the "participation experience", "participation thinking", "participation action".

The ecopsychological approach provides for the creation of developing ecology-oriented educational environment, which is a system of pedagogical and psychological conditions and impacts to develop the personality of students in accordance with their individual and age

peculiarities. Its structure includes the unity of the following components: 1. *Activity or technological component* assures the inclusion of the schoolchildren in the aggregate of various kinds of the ecology-oriented activities, which correspond to their age peculiarities; 2. *Communicative component* has a special systemic meaning, assures the mastering of information, ecohumanistic and coevolution values and standards; development of the subject-generating interaction type; 3. *Space and object component* includes an area of the native land, the immediate socio-natural surrounding of schoolchildren, within which they will build their interaction with the environment during various kinds of activities.

Research methods

The research used the theoretical and empirical methods: the analysis and generalization of literature on the problem researched, designing, simulation, pedagogical experiment including the observation, questionnaire polls, tests, diagnostics methods, systematization and generalization of facts.

Experimental research base.

The pilot and experimental work was implemented in the Russian secondary comprehensive schools No. 32 and 26 in the town of Dzerzhinsk, No. 25 in the Babino settlement, No. 9 in the town of Balakhny, on the basis of which the children environmental associations function. 210 members of the children environmental associations at the age from 11 to 14 years old took part in the pedagogical experiment.

The methods of verifying the efficiency of the practice-oriented program of activities of the children environmental association "My environmental responsibility: to co-operation with the nature".

The research was conducted in three stages:

At the first stage (a preparatory stage) the research problem in the pedagogic theory and practice was analyzed. The target, object, goal and tasks of the research were defined, the operational hypothesis was formulated. The questionnaire poll of advisers of the children environmental associations was carried out to reveal their interests and readiness to form the students' environmental responsibility. The methods of the ascertaining experiment were defined, whose performance was organized in the Russian secondary comprehensive schools No. 32, 26 of the city of Dzerzhinsk, No.25 in the Babino settlement, No. 9 in the town of Balakhny.

On the basis of the researches conducted by K.A. Ablkhanova-Slavskaya,1985; V.A. Yasvin, 2000; I.Ya. Lerner, 1978; V.N. Myasishev, 1998; R.V. Ovcharova, 2003; Rotter, J.B., 1996; M.V. Matyukhina, 1984 the tools of pedagogic diagnostics of maturity of all the components of environmental responsibility was developed, which made it possible to reveal the program efficiency.

Table1. Tools of pedagogical diagnostics of the program efficiency of activities of the children environmental association “My environmental responsibility: to co-creation with the nature”.

<i>Consecutive number</i>	<i>Components of environmental responsibility</i>	<i>Maturity criteria</i>	<i>Diagnostics methods</i>
1	Motivational component	Socially-and individually-significant environmental motives	Controlling and diagnostic assignments developed on the basis of the methods by R. V. Ovcharova (2003)
2	Cognitive component	Depth, generality, consciousness geocological knowledge	Methods of assessment of the knowledge quality (I.Ya. lerner,1978)
3	Value and standard component	Dominance of environmental values	Express-method “Dominant idea” (B.A. Yasvin, 2000)
4	Praxeological component	Levels of voluntary performance of responsible businesses	Controlling and diagnostic assignments developed on the basis of the methods by M.V. Matyukhina (1984)
5	Personality component	Internality – externality Levels of maturity of environmental responsibility	Controlling and diagnostic assignments developed on the basis of the methods by G. Rotter (1966) Developed on the basis of the research by K.A. Abulkhanova-Slavskaya(1985), V.N. Myasishev (1998)

The environmental personality motives became criteria of maturity of the *motivational component* of the environmental responsibility. On the basis of the research conducted by R.V. Ovcharova, 2003 the following indicators of their development were defined: a) internal negative environmental motives, b) external positive environmental motives, c) internal socially important environmental motives, d) internal individually important environmental motives.

The cognitive component reflected the maturity of environmental knowledge. It was diagnosed through the criteria of depth, generality and consciousness (I.Ya. Lerner, 1978). 1. The knowledge depth is considered as understanding of the essence of an object or a phenomenon, nearness to the truth. It can be represented at two levels: at the level of facts and at the level of understanding of the essential features of the notion. 2. The generality is characterized by understanding of essence of the problem researched and the knowledge systematization. 3. The consciousness is considered as a possibility to operate with generalizations. The consciousness appearance form is an independent application of all the knowledge aggregate in different routine and non-routine situations requiring the creative activities.

The value and standard component of the environmental responsibility was diagnosed on the basis of the dominance criteria (V.A. Yasvin, 2000). The dominance parameter describes a subjective values-based attitude along the “insignificant-significant” axis. This is an indicator of a place of the values-based attitude to the nature in the students’ values system: the more important role a certain attitude in the man’s living plays and the higher “central” position it occupies in the inner world, the more dominant it is. V.A. Yasvin singles out three levels of dominance: high, medium and low.

Maturity of the *praxeological aspect*, which becomes apparent in the conscious and voluntary choice, taking of decisions and actions, was verified through a criterion – the levels of voluntary performance of responsible businesses. This indicator was revealed on the basis of the papers by M.V. Matyukhina, 1984, who singles out the following levels of the voluntary performance of responsible businesses:

- *low* (it is characterized by extremely rare voluntary performance by the students of their responsible businesses);
- *medium* (it is characterized by unsystematic performance of responsible businesses, a student can fulfill the assignment poorly or untimely);
- *high* (systematic performance by the students of their assignments qualitatively and timely).

As an indicator of the maturity of the *personality component* of the environmental responsibility the “internality – externality” criterion was chosen, which reflects two kinds of the subjective control (J.B.Rotter, 1966):

- *Internality* (internal control) is determined by realization of its personality as a reason for changes, which happen to it in the life and by incurring responsibility for consequences of its actions.
- *Externality* (external control) is characterized by the personality's avoiding the responsibility, its inclination to consider other people and external circumstances to be responsible for all the things happening to it in the life.

On the basis of the research conducted by V.N. Myasishev, 1998; K.A. Abulkhanova-Slavskaya, 1985, which are connected with characteristics of different correlations of personal desires and social necessity, the authors built our levels of the environmental responsibility development: 1. Participant; 2. Performer; 3. Responsible performer; 4. Responsible initiator-creator.

Table 2. Levels of environmental responsibility development (they are singled out on the basis of researched conducted by V.N. Myasishev, K.A. Abdulkhanova-Slavskaya)

1 step – “Participant”
Personal demands and interests prevail, the behavior is regulated by the “I want” principle. Participation in the ecologically-responsible activities influenced by external standards and requirements. Unstable nature of the activities, high probability of failure to perform the responsible business.
2 step – “Performer”
External control. The “I can – I want” principles, personal incentives and social objective requirements are differentiated. The environmentally-responsible activities lack initiatives. The consequences of actions in the environment are predicted rarely. The nature of performing the responsible businesses is unstable. Responsibility for negative results is shifted on external circumstances.
3 step – “Responsible performer”
The sense sets, which correspond to this level, can be described by the “I must-I want” principle. There is a gradual interiorization of external requirements and standards into the internal personality requirements for itself. The student realizes the environmental responsibility role in the daily life, it is concerned about quality of the responsible business, it is charged with, or about its performance. The reflection is situational. This stage indicator is a high degree of discipline and industriousness.
4 step – “Responsible initiator-creator”
The unification of initiative and responsibility. The “I must” set will develop into the “it is necessary” set. There appear moral and sense feelings of the personality in the form of a sense of duty and conscience. The student fulfills the standards and requirements of the environmental ethics voluntarily as well as shows initiative and independence. A high level of self-consciousness, sustained interest and activity in all the ecologically-responsible businesses.

Within the above-represented criteria the diagnostic assignments were developed and the initial level of the diagnosed indicators was ascertained, those indicators made it possible to determine the initial data for the further pedagogic research.

At the second stage (the main stage) of the research the accumulated theoretical and empiric material was systematized, on the basis of which the program of forming the students' environmental responsibility “My environmental responsibility: to co-creation with the nature”

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was developed and implemented. An educational experiment was carried out to verify its efficiency.

At the third (final) stage the pedagogical experiment results was comprehended and generalized theoretically. The research results were systematized and executed. The conclusions were formulated, the prospects for the problem development were specified.

2. Results

According to the represented theoretically-methodological grounds the authors determined the goal, content-related, procedural, technological and effectually-estimative components of the program of activities of the children environmental association “*My environmental responsibility: to co-creation with the nature*”, which is oriented to seventh and eighth-graders. **Goal component** of the program “My environmental responsibility: to co-creation with the nature” is represented with *the goal*, which is to form the students’ environmental responsibility by the means of the developing ecology-oriented educational environment of the children environmental association (Figure 1).

Content-related component

The developing ecology-oriented educational environment as a tool of forming the environmental responsibility provides for the building of two-component (external and internal) content of the program, which makes it possible to create conditions for the subject-generating type of interaction in the “Person-Environment” system.

1. External content is aimed at realizing by the participants in the children association of interrelations between the person and environment, realization of their dialectical unity, role responsibility for sustainable development of this system. It is structured with account taken of peculiarities of development of the personality’s responsible attitude to the environment (according to G.N. Karopa, 2000) and represented with three content-related lines:

I “Education about environment” line has an informationally-cognitive orientation. It is based on the knowledge about unity of the person and the environment; kinds of the person’s environmental impact and its responsibility for the nature conservation; about environmental situations and problems of the native land, ways of harmonizing the relations of the person and the nature and others. Thus, this line content favors the development of primary ideas about environmental responsibilities, formation of an image of an ecologically-responsible person.

II “Education for environment” content-related line has a communicative and value-standard orientation, assures the value-sense interaction between the students and the nature. It contains

the knowledge from the sphere of environmental ethics and the responsibility ethics. The line opens the ecohumanistic and coevolution values of interaction with the nature, environmental standards, traditions and models favoring the formation of the person's responsible attitude to the environment.

III "Education via the environment" content-related line targets the constructive, responsible activities of the students in the immediate socio-natural surrounding.

2. Internal content is represented as educational personality increments; the aggregate of designated the personality-appropriated coevolution, ecohumanistic values, standards, sets about itself and the outside world.

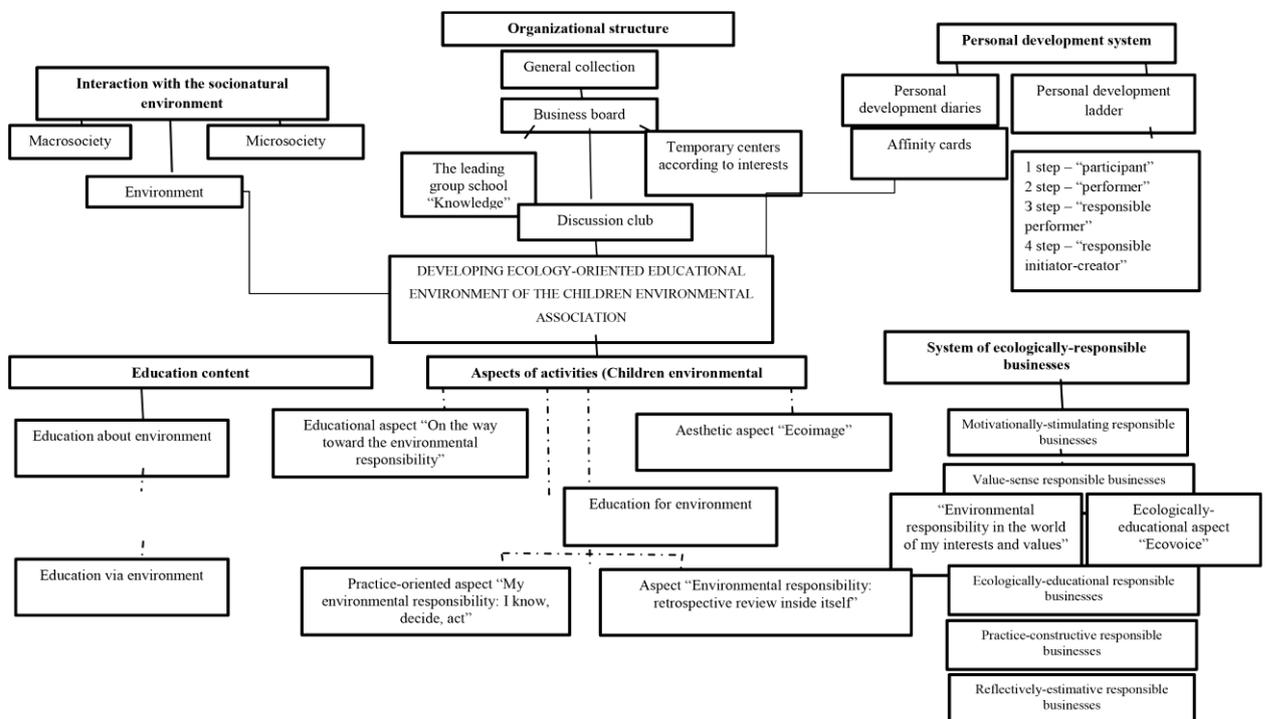


Fig.1 Structure of the developing ecology-oriented educational environment of the children environment association

The brief content-related line is assured with certain aspects of activities (Table3).

Table 3. Structure of external program content

<i>Nº</i>	<i>Name of a content-related line</i>	<i>Aspects of implementation of the content-related line</i>
1	1 line "Education about environment"	<ul style="list-style-type: none"> • <i>Educational aspect "On the way toward the environmental responsibility" provides for the organization of studies of the leading group school "Knowledge", within which the members of</i>

		<p>the children association come to know the ecohumanistic and environmental information.</p> <ul style="list-style-type: none"> ● <i>Aesthetic aspect “Ecoimage”</i> creates conditions for feelings, emotional perception of beauty and fragility of the nature world, formation of image ideas about environmentally-responsible and irresponsible forms of human activities.
2	II content-related line “Education for environment”	<ul style="list-style-type: none"> ● <i>Aspect “Environmental responsibility in the world of my interests and values”</i> provides for the organization of a weekly discussion platform “I am in the environment, the environment is in me”. In the course of participation in this platform, the members of the children association comprehend the knowledge, which they receive during the leading group school studies. The schoolchildren are involved in discussion of various situations and texts, scientists and travels, which favors the comprehension of the personal sense of the environmental responsibility, their appropriation of ecohumanistic values and standards. ● <i>Environmentally-educational aspect of activities “Ecovoice”</i> provides for the promotion of environmentally-responsible behavior among the population and junior schoolchildren.
3	III content-related line “Education via environment”	<ul style="list-style-type: none"> ● <i>Practice-oriented aspect “My environmental responsibility: I know, decide, act”</i> provides for the schoolchildren’s involvement in various kinds of environmentally-responsible practical activities in the environment. ● <i>Aspect of activities “Environmental responsibility - retrospective review inside itself”</i> provides for the organization of realization by the students of the results of their own activities, their assessment. The assessment is individual, the students are assessed in relation to themselves as they were earlier rather than in relation to other people. The negative assessment provides for revelation of the reasons for such results. ● The work with diaries of the personal development “My environmental responsibility” is provided for too.

Procedural component of the program

The program content is implemented consecutively, in accordance with the stages of forming the environmental responsibility, which are singled out on the basis of the researches conducted by G.N. Karopa, 2000: 1. *Motivationally-reference stage*; 2. *Intellectually-value stage*; 3. *Activities-action aspect*; 4. *Reflex-transforming aspect*.

Those stages reflect the objective logic of interiorization of the social standards and requirements into the components of the internal personality structure.

1. *The first stage, a motivationally-reference stage*, is aimed at the children’s orientation in the environmental responsibility world, development of socially important environmental

motives of the personality's attitude to the nature, comprehension of the role of the environmental responsibility in harmonization on interrelations of the person and the nature.

2. *The second stage is an intellectually-value stage.* The ecohumanistic and environmental content is comprehended more deeply, the meaning of environmental responsibility is realized (the subject responsibility). The ecohumanistic values acquire the personal meaning. The cognitive activity is sent with account taken of the value relations, the conviction in necessity of the environmentally-responsible behavior is formed.

3. *The third stage is an activities-action stage.* The stage provides for the implementation by the children association participants of the knowledge, value relations and the ways to solve the environmental problems in the practical activities, which is built on the basis of voluntary observation of ethical standards and requirements in relation to the nature, independent search and decisions taking, prediction of consequences of their actions in the socio-natural environment.

4. *Reflex-transforming stage* provides for the showing by the students of self-assessment, self-analysis, self-control, readiness to assume responsibility for the result, to forecast and to simulate their activities in the socio-natural environment.

Technological component of the program

While developing the programs technological component, the 2007V.I. Pavlov regulations were taken into account that the developing ecology-oriented environment provides for inclusion of the property in maximally various kinds of activities, creation of certain tension, which is expressed in the following indicators:

- in making the personality responsible, which means the free choice;
- in free choice of the difficulty level, ways and methods of the work;
- in assessment system, or replacement of external assessments with internal ones.
- in wide use of, reaching the project activities;
- close connections with the reality and the student experience;

With account taken of those provisions on the basis of the collective-creative businesses technology of I.P. Ivanov (1989) the authors developed *the environmentally responsible businesses system*. The system is based on principles of voluntariness and free choice; it makes it possible to take into account the individual peculiarities, bents and interests of the children association participants.

The basic structure unit of the system developed is an environmentally responsible business, whose performance has a group nature. The similar organization favors a more efficient

formation of environmental responsibility, as in the course of the responsible business implementation there appears a jointly-distributed nature of interaction aimed at achieving the common goal. This, in its turn, demands the schoolchildren to mutually exchange the ways and operations of jointly performed action, their appropriation (interiorization and exteriorization) and, therefore, personal change (V.I. Panov, 2007),

The responsible businesses are implemented in micro-groups in two stages developed on the basis of the researched conducted by I.P. Ivanov (1989). It is possible to come to know about them in Fig. 2

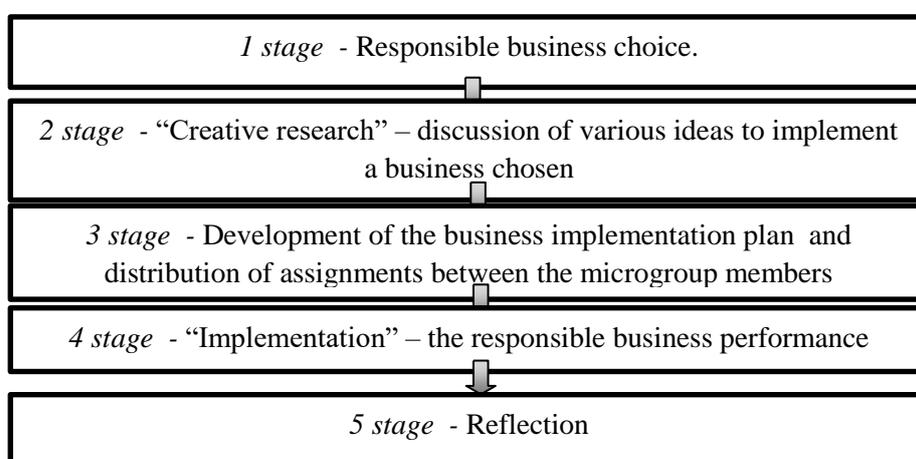


Fig. 2. Stages of implementation of the environmentally responsible business

According to the structure and succession of forming the environmental responsibility, the system developed includes five kinds of environmentally responsible businesses:

1. *Motivationally-stimulating responsible businesses:*

- The “Search” Internet-operation on the subjects: “Environmental responsibility and environmental problems: points of contact”, “Aphorisms about environmental responsibility”
- The “Video reel” operation on the subjects: “Future natures in my hands”, “Environmental responsibility: to be or not to be?”;
- The story-relay race in the subject “As we understand the environmental responsibility”; “Ecopolice of my dream”;
- The “Photo chronicle” operation on the subject “Environmentally responsible behavior of city dwellers”

– The “Symbols and signs” operation aimed at artistic representation of environmental responsibility, creation of an image of environmental responsibility.

2. Value-sense responsible businesses:

– The “Comprehension” operation on the subjects: “Environmental responsibility of our ancestors”, “Basket of folk wisdom”;

– The “Fund and assess” Internet-operation on the subjects: “Mass media about environmental problems of our land”.

– The “Multimedia presentation” operation on the subject of “What we appreciate in the nature of our land”;

– The “Let’s compose together” relay race on the subject “Rules of environmentally responsible behavior of the city dweller”

– The “We are analysts” operation on the subject “The person and the climate”;

– The “Let’s compose together” relay race for development of the rules of environmentally responsible behavior in the city».

3. Environmentally-educational responsible businesses:

– The “Leaflet” operation on the subject “What shall we retain for our descendants?”

– The “booklet” operation on the subjects: “In harmony with nature”;

– The Internet-operation “We are sociologists: we study to protect”;

– The “book to babies” operation to compose a fairy tale about consequences of environmental irresponsibility

– The “Exhibition” operation

– The tournament-quiz on the subjects: “Friends of the nature”, “Rules of behavior in the nature”, “Environmental problems of the native land”.

– The “About the nature to babies” operation aimed at holding the game programs for junior schoolchildren

4. Practice-constructive businesses, responsible businesses;

– The “Naturalist” operation on the subject “Harmony”

– Environmental campaigns aimed at protecting the environment of the native land

– Environmental Internet-campaign on the subjects: “We shall solve the problem together”;

- Social and environmental projects aimed at implementation with the environmental responsibility
- The labor attack “Plant a tree – take a step to the future”, “Let’s decorate the school with flowers”; Technologies watching over the nature: we think and decide

5. Reflectively-estimative responsible businesses.

- The “Immersion” operation
- The “self-assessment” operation
- The “relay race of achievements” on the subject “Our contribution to nature conservation”;
- The “thinking and assessment” operation

A peculiarity of the children environmental association is heterogeneity of its participants contingent in terms of their ages, aptitudes, motives and interests, so, in order to make the process of forming the environmental responsibility efficient, It is necessary, while charging the schoolchildren with responsible businesses, to take into account their intellectual and creative demands, peculiarities of personal development.

For getting a more integral picture of the program Table 4 contains the content-related, procedural and technological components in reference to each other.

Table 4 Correlation of the content-related, procedural and technological components of the program “My environmental responsibility: to co-creation with the nature”

No.	Procedural component	Content-related component	Technological component
1	<i>1 stage is - a motivationally-reference stage</i>	<p>1. Content-related line of the program “Education about environment”</p> <ul style="list-style-type: none"> ● Educational aspect “On the way toward the environmental responsibility” ● Aesthetic area “Ecoimage” 	1. Motivationally-stimulating responsible businesses;
2	<i>2 stage is an intellectually-value stage</i>	<p>2. The content-related line “Education for environment”</p> <ul style="list-style-type: none"> ● The aspect “Environmental responsibility in the world of my interests and values”, ● Environmentally-educational aspect of the “Ecovoice” activities 	<p>2. Value-sense responsible businesses</p> <p>3. Environmentally-educational responsible businesses</p>

3	3 stage is an activities-action stage	3. Content-related line “Education for environment”	4.Practice-constructive responsible businesses
4	4 stage is a reflex-transforming stage	<ul style="list-style-type: none"> ● Practice-oriented aspect “My environmental responsibility: I know, decide, act” ● “Environmental responsibility - retrospective review inside itself” 	5. Reflectively-estimative responsible businesses

The developing ecology-oriented educational environment of the children environmental association provides for the creation of conditions for personal development, social support of a child. For this purpose a “ladders” of the personal growth “My steps to the environmental responsibility” was developed. While developing its levels the authors took into account the regulations of V.N. Myasishev (1998) on the moral necessity, which are determined by accepted and mastered from outside social requirements, which are turned into internal personality’s requirements to itself and the people around it with forming the responsibility. And the regulations of K.A. Abulkhavova-Slavskaya (1985) that the criterion of completeness of the acceptance by the personality of the responsibility is a coordination of necessity with wishes and demands личности, or appearance of initiatives, going beyond the required things. The personal growth ladder includes four levels (steps), each of which is a certain stage of forming the environmental responsibility: 1) the participant; 2) the performer; 3) the responsible performer; 3) the responsible initiator-creator.

At the common meeting the children association participants previously familiarize themselves with the content of each step and with conditions of the switching over from one step to the other.

The pyramid picture is moved on one of the walls of the headquarters of the children environmental association. Each child makes its sign-identifier in order to monitor its “movements” on the pyramid. Switching over from the stage to the stage depends on quantity of the completed responsible businesses, shown environmental initiatives, collective discussion by the adults and children of the personal increments of each person (during the reflection).

The results of implementation of the program of activities of the children environmental association “My environmental responsibility: to co-creation with the nature”

The final stage of the program implementation repeatedly diagnosed the maturity of components of the environmental responsibility with the participants of the children environmental association according to the criteria singled out. The experimental and control (where the program was not implemented) groups were diagnosed in order to assure the experimental data pureness.

Diagnostics of the maturity of the motivational component made it possible to establish that the internal socially important and individually important environmental motives prevail with 39% of schoolchildren of the experimental group. In the control group those kinds of motives are observed with 25% of schoolchildren. Their activity is caused by the team and a teacher's wish to be approved and praised.

The analysis of results according to criteria of quality of mastering the scientific content (depth, generality, realization) showed a positive dynamics of absorbing the environmental and ecohumanistic knowledge with the children participating in the experiment.

The diagnostics of the value-standard component according to the criterion "dominance" made it possible to establish the prevalence with the children of the experimental group of medium and high levels of dominance (46% and 27%, respectively). They realize the nature value and the necessity of responsible attitude to it. In the control groups the high dominance indicators are typical for only 16% of respondents.

The results of study of the maturity of the praxeological components showed that 57% of participants of experimental groups have a high level of voluntary performance of the environmentally responsible businesses, which they were charged with. In the control groups this indicator made up 25%.

It was also established that internal character the environmental responsibility prevails with more than a half of the schoolchildren participating in the experiment. They realize their responsibility for consequences of their actions in the environment. In the control group this type of the environmental responsibility is typical for 34% of eight-graders.

The analysis of maturity of the environmental responsibility levels (Fig. 3) made it possible to establish the significant dynamics of switching over of the members of children environmental association from the "responsible performer" level to the "responsible initiator-creator" level (38% versus 22% in the control grades).

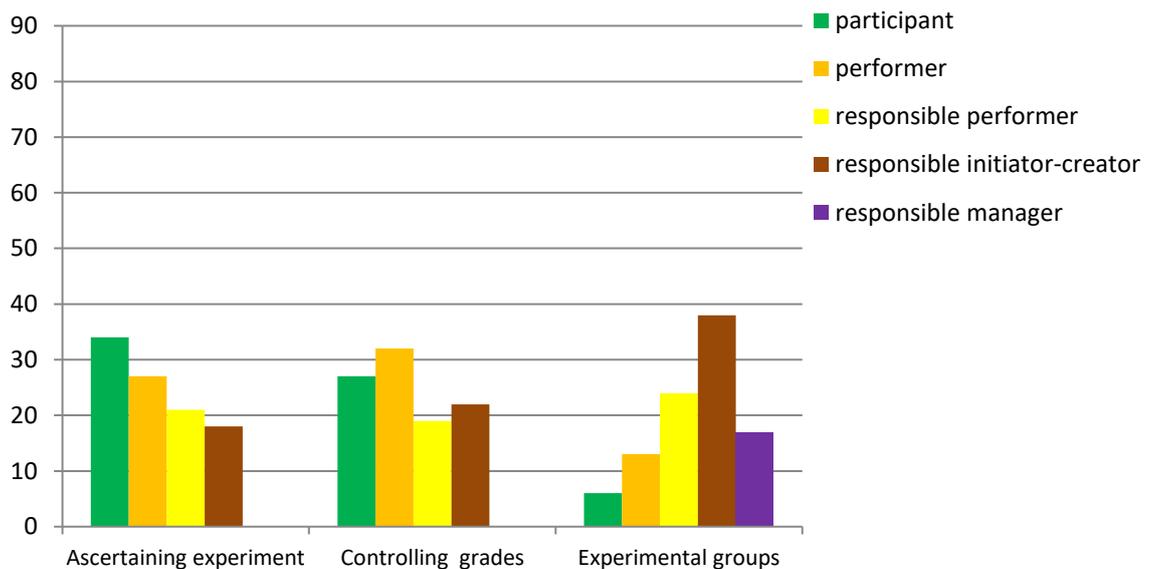


Fig.3. Levels of the maturity of environmental responsibility

The data received indicate that the program of activities of the children environmental association “My environmental responsibility: in co-creation with the nature” is effectiveness and efficiency.

1. Discussion.

In the Russian and Belorussian education A.N. Zakhlebny (1984), I.D. Zverev (1988), I.T. Syravegina (1988), G.N. Karopa (2000) made a major contribution to development of the theory and methods of forming the students’ environmental responsibility. This research continues the work in this aspect. It tried to comprehend the problem of forming the environmental responsibility in the context of environmental ideas, the axiological, personal-activities, eopsychological approaches.

The scientific novelty of the research consists in the development, substantiation and approbation of the practice-oriented programs of activities of the children environmental association “My environmental responsibility: to co-creation with the nature” and the use of the developing ecology-oriented educational environment for forming the environmental responsibility with the environmental association participants.

The article-represented specific pedagogical experience can be used in the practice of informal (additional) education, in the out-of-school activities on ecology and geography.

The research prospects on this problem provide for:

- development of the manuals and academic recommendations to form the environmental responsibility for teachers and advisers of the children environmental associations;
- professional training of a teacher for implementation of the problem of forming the students' environmental responsibility.

2. Conclusion

It established that the problem of forming the environmental responsibility under the conditions of the global environmental challenge acquires strategic importance. A pivotal role in its solution is played by the education system, which plays the superior role in switching over of the society to sustainable development. The practice-oriented program of activities of the children environmental association “My environmental responsibility: to co-creation with the nature”, which the authors developed, implements the ideas of ecohumanism, coevolution and sustainable development. The goal, content-related, procedural and technological components of the program were built with account taken of the axiological, personal-activities and ecopsychological approaches implying the use of the developing ecology-oriented educational environment to form the environmental responsibility with the members of the children environmental association. The program content consists of two components (external and internal components), which makes it possible to create conditions for the subject-generating type of interaction in the “Person-environment” system. Note that the external content favors the realization of the existing interrelations between the person and the environment, their dialectical unity, and the personal responsibility for keeping and functioning of this system. It includes three content-related lines: “education about environment”, “education for environment” and “education via environment”. The internal content is represented as educational increments of the personality.

The procedural component implies the succession of forming the environmental responsibility consisting of four stages: the motivationally-reference, intellectually-value, activities-action and reflex-transforming stages.

The technological component is represented by a system of the environmentally responsible businesses developed in accordance with the structure and succession of forming the environmental responsibility.

The program efficiency was verified according to the criteria of maturity with the participants of the children environmental association of the components of the environmental responsibility: socially and individually important environmental motives, the depth, generality

and realization of environmental and ecohumanistic knowledge, dominance of environmental values, the levels of voluntary performance of responsible businesses, internality-externality, the levels of maturity of the environmental responsibility.

Those criteria were used during the pedagogical experiment, which made it possible to establish the efficiency of the program “My environmental responsibility: to co-creation with the nature”.

PROGRAMA DE ATIVIDADES EDUCACIONAIS ORIENTADAS PELA PRÁTICA DA ASSOCIAÇÃO AMBIENTAL DAS CRIANÇAS COMO FERRAMENTA PARA FORMAR A RESPONSABILIDADE AMBIENTAL PARA ALUNOS DO SÉTIMO E OITAVO ANO

Resumo: O artigo aborda o problema de formar a responsabilidade ambiental da sétima e oitava séries em adicional (educação informal), causada pelo foco da educação moderna em formar qualidades de personalidade moral orientadas para o ambiente, que podem garantir a mudança da sociedade para o desenvolvimento sustentável; por possibilidades significativas das associações ambientais das crianças no desenvolvimento da responsabilidade ambiental e pela falta de programas orientados para a prática, cientificamente comprovados e favoráveis, que favoreçam a solução para esse problema. O artigo visa substanciar a especificidade de uma meta, componentes relacionados a conteúdo, procedimentos e tecnologias do programa de atividades da associação ambiental infantil “Minha responsabilidade ambiental: co-criar com a natureza”; abertura das ferramentas pedagógicas раскрытие педагогического de diagnósticos de sua eficiência, apresentação de resultados da implementação do programa na prática educacional.

Como métodos teóricos principais, a simulação e o design foram utilizados, o que possibilita o desenvolvimento dos principais componentes estruturais do programa. O método empírico básico da pesquisa é um experimento pedagógico, durante o qual a eficiência do programa foi diagnosticada em termos de critérios e indicadores de maturidade dos componentes de responsabilidade ambiental com 210 membros das associações ambientais de crianças de 11 a 14 anos de idade. O artigo considera a base teórica e metodológica do programa, que inclui as idéias de eco-humanismo, coevolução e desenvolvimento sustentável; uma abordagem axiológica, de atividade pessoal e ecopsicológica, que prevê uma organização do ambiente educacional em desenvolvimento orientado para a ecologia da associação de crianças como uma ferramenta para formar a responsabilidade ambiental. O artigo apresenta o conteúdo do programa, composto por dois componentes (componentes externos e internos), discute a sucessão da formação da responsabilidade ambiental, que inclui quatro etapas e consubstancia uma tecnologia de formação da responsabilidade ambiental na associação de crianças, apresentada por um sistema de negócios ambientalmente responsáveis. Os materiais do artigo são de valor prático para professores, professores de educação adicional, estudantes de especialidades pedagógicas e conselheiros de associações ambientais de crianças.

Palavras-chave: Responsabilidade ambiental, desenvolvimento sustentável, associação ambiental infantil, valores e padrões eco-humanísticos, coevolução, desenvolvimento de ambiente educacional orientado para a ecologia.

PROGRAMA DE ACTIVIDADES EDUCATIVAS GUIADO POR LA PRÁCTICA DE ASOCIACIÓN AMBIENTAL PARA NIÑOS COMO UNA HERRAMIENTA PARA LA RESPONSABILIDAD AMBIENTAL PARA ESTUDIANTES DE 7º Y 8º AÑO

Resumen: El artículo aborda el problema de la formación de la responsabilidad ambiental de los alumnos de séptimo y octavo grado en la educación adicional (informal), que es causada por el enfoque de la educación moderna en la formación de cualidades de personalidad moral orientadas al medio ambiente, que pueden asegurar el cambio de la sociedad al desarrollo sostenible; por las posibilidades significativas de las asociaciones ambientales de niños en el desarrollo de la responsabilidad ambiental, y la falta de programas orientados a la práctica científicamente fundamentados y aprobados que favorezcan la solución de este problema. El artículo tiene como objetivo corroborar la especificidad de un objetivo, los componentes relacionados con el contenido, los procedimientos y la tecnología del programa de actividades de la asociación ambiental de niños "Mi responsabilidad ambiental: la co-creación con la naturaleza"; apertura de las herramientas pedagógicas раскрытие педагогического de diagnóstico de su eficiencia, presentación de resultados de la implementación del programa en la práctica educativa.

Como los principales métodos teóricos, se utilizaron la simulación y el diseño, que permiten desarrollar los componentes estructurales clave del programa. El método empírico básico de la investigación es un experimento pedagógico, durante el cual se diagnosticó la eficiencia del programa en términos de criterios e indicadores de madurez de los componentes de responsabilidad ambiental con 210 miembros de las asociaciones ambientales de niños a la edad de 11 a 14 años. El artículo considera la base teórica y metodológica del programa, que incluye las ideas de ecohumanismo, coevolución y desarrollo sostenible; enfoques axiológicos, de actividad personal y ecopsicológicos, que proporcionan una organización del entorno educativo en desarrollo ecológico de la asociación de niños como una herramienta para formar la responsabilidad ambiental. El artículo presenta el contenido del programa, que consta de dos componentes (componentes externos e internos), discute la sucesión de formar la responsabilidad ambiental, que incluye cuatro etapas y fundamenta una tecnología de formación de responsabilidad ambiental en la asociación de niños, que es presentada por Un sistema de empresas ambientalmente responsables. Los materiales del artículo son de valor práctico para maestros de escuela, maestros de educación adicional, estudiantes de especialidades pedagógicas y asesores de asociaciones ambientales para niños.

Palabras clave: Responsabilidad ambiental, desarrollo sostenible, asociación ambiental infantil, valores y estándares ecohumanistas, coevolución, desarrollo de un entorno educativo orientado a la ecología.

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