

## ENVIRONMENTAL CULTURE DEVELOPMENT IN THE CONDITIONS OF EDUCATIONAL ENVIRONMENT: PROBLEMS AND PERSPECTIVES

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**Abstract:** The article relevance is stipulated by the necessity of finding ways to increase environmental safety level, forming planet population environmental culture, including in Russia, which strives to implement the sustainable development concept. The article objective is to analyze problems and reveal pedagogical conditions for raising the efficiency of forming environmental culture in school educational environment. The leading approach to investigating this problem was theoretical analysis. Besides, the polling data of 80 elementary school teachers were used so as to subjectively estimate the comfort degree of educational environment. As a result of theoretical analysis, the problems of developing environmental culture was found to be based upon contradictions between society demand in environmentally cultural, educated personality capable to join the process of protecting and investigating the environment, and insufficient development level of pupils' environmental culture. Thus, it was concluded environmental culture is a part of general culture connecting informational, technological (activity), and axiological layers. The performed research of psychological and pedagogical conditions for forming environmental culture can be useful for officials in the education sector, practical teachers, and all citizens interested in environmental education issues. **Keywords:** ecological education, ecological worldview, ecological behavior, ecological consciousness, ecological and developing environment, school ecology, family ecology.

### 1. Introduction

A large-format discussion of environmental problems started to form at the end of 1960's and since that time hundreds of text-books, thousands of theses, monographs and articles have been written. Almost every research mentions the necessity to transfer to a new model of development otherwise the environmental planet-scale catastrophe can happen [Vakhrushev, 2013]. This model was named the 'concept of sustainable development'. In 1992 the ways of solving environmental problems were announced at the conference in Rio de Janeiro. Then the UNO offered all countries to develop the concept of transfer to sustainable development, and as a result the Russian Federation also accepted this concept in 1996. However, in spite of this long-standing issue it is impossible to say that environmental problems in Russia are solved. Moreover, it should be stated that until now the 'population does not recognize the scales of the environmental danger and mostly is indifferent to the environment' [Petrov, 2000].

The article titled 'Why not education for the environment?' [Robottom, 1984] states that discussion on organizing ecological education is not over yet. The fact that ecological education issues are theoretically analyzed does not mean that these issues find their due reflection in educational practice. H. Spork shares this opinion and emphasizes still existing contradiction between ecological education theory and practice [Spork, 1992]. N.

Gough writes about ignorance in the sphere of ecological education, and K. Walker is honest in referring to ecological education success as doubtful [Walker, 1995].

The reasons for such situation are related to the low level of environmental education and enlightenment, and insufficiently developed environmental culture. Both Russian and foreign researchers emphasize the lack of teachers' training, absence of 'good ideas', and use of outdated techniques and forms of ecological education [Dada, Eames & Calder, 2017; Gough, 2002; Huckle, 1991; Strife, 2010]. The international conference that took place in Tbilisi forty years ago in 1977 was dedicated to the education issues in the field of environment. It resulted in stating the necessity to create educational enlightenment programmes for all social groups [Pavlov, 2006].

The necessity of environmental education has been constantly mentioned since then but these problems become especially relevant in this millennium. For example, the 'Principles of the state policy in the field of environmental development of the Russian Federation for the period up to 2030' emphasize the importance of forming 'ecologically responsible philosophy and environmental culture' for the country population [Principles of state policy, 2012]. It seems logical that implementing these tasks planned by the Government lies with developing environmental education and upbringing in the educational system. The analysis of the regulatory documents guiding this sphere proves certain attention of the state to environmental education issues.

The Federal law 'Education in the Russian Federation' specifies the main principles of the state policy in the educational sector. There is a principle of 'caring attitude to nature and environment' among these principles [The Federal Law on Education in the Russian Federation, 2001]. The Concept of spiritual and moral development and upbringing of Russia's citizen personality recognizes nature as the basic national value – 'native land, wilderness, planet Earth, and environmental consciousness' [Danilyuk, 2009]. The objective of the article is to analyse the problems and to reveal pedagogical conditions for improving the efficiency of forming environmental culture in the educational sector; to determine relevant and perspective aspects of studying the issues of environmental culture development.

## 2. Materials and Methods

Monographic, educational and learning, psychological and pedagogical works by Russian authors, publications in daily press were used as the material for this research. Theoretical analysis was the main method used. The data of the discrete polling of elementary school teachers from seven schools in Nizhny Novgorod 'Subjective estimation of the educational environment comfort' were used. The polling took place in 2015 and 2017 [Kurbatova, 2016]. The questionnaire required teachers to determine their answers rank on the scale from 1 to 10 where the extreme points meant diametrically opposite situations. For example, "Estimate the condition of your physical health on the scale from 1 to 10, where 1 – often or chronic diseases, and 10 – completely healthy". The questionnaire also contained the scales with the following topics: awareness of health saving techniques; estimation of monotony degree of pedagogical work; how much joy communication with children and colleagues brings; estimation of their physical activity; estimation of their conformity to the profession requirements; estimation of the profession conformity to their requirements; subjective estimation of their performance; if they faced the following phenomena: stress tactics of teaching, ignoring pupils' functional and age peculiarities by the teacher, punishing pupils in the form of homework, work hygienic conditions are not observed (illumination, air freshness, temperature mode), irrational organization of educational activity, absence of pedagogical knowledge among parents.

### 3. Results

The theoretical analysis made it possible to reveal several contradictions:

- between the demand of the society in the environmentally cultural, educated personality capable to join the process of environment protection and research, solution of social and environmental problems and insufficient development level of pupils' environmental culture;
- between the level of environmental knowledge and level of environmental culture maturity;
- between the variety of forms and methods of developing environmental culture and selection of those forms and methods that support its complete development;
- between the targeted and spontaneous impact of the educational environment on developing pupils' environmental culture.

These contradictions specified the problem of research, which consists in analyzing psychological and pedagogical conditions of environmental culture.

### 4. Discussion

The interpretation of the notion environmental culture is diverse. In the strict sense environmental culture is a result of acquiring corresponding knowledge, skills, and competences. The activity of the educational institution shall be directed exclusively to forming knowledge of nature, necessary for proper management of natural resources within this concept. However, in the wide sense environmental culture is interpreted as a new core of the third millennium universal culture. It appears in the system of value orientations and has a high spiritual orientation, and it is formed by many components: environmental philosophy, environmental mentality, environmental recognition, humanistic values, moral attitude, and personal responsibility.

Environmental culture is a part of general culture within this interpretation, based upon unity of a human being and nature, harmonic combination of social and human needs with existing and developing natural environment [Kurbatova & Khanova, 2016]. Therefore, environmental culture is discussed as philosophy renovation process; forming new thinking style [V.L. Tolbina, N.N. Bolgar, N.F. Reymers, B.T. Likhachev, Z.E. Sadykova, K.I. Shilin, K. Skamp ]. Today the 'development of the modern type of environmental culture is known to be characterized by experts as post-civilized or nature saving, humanistic, noo-spheric, and eco-centric' [Shilin, 2013, p. 87]. Due to this interpretation the notion of the general culture has a profound environmental sense, all spheres of the individual's existence and their relations with nature are found inside culture.

All authors share the same opinion that 'environmental education and upbringing is the state's task of high priority' [Simonova, 2000]. Changing philosophy, forming environmental conscience and responsible attitude is impossible without efforts on developing environmental culture in the elementary school. Elementary school age is a unique period with its emotionality and cognition. During this time the foundation for forming pupils' interests, their cognitive motivation, readiness and ability for joint activity is laid. Moral behaviour is formed that determines the personality's attitude to the world around, i.e. the period of study at the elementary school can be considered sensitive for forming environmental culture fundamentals.

The basic curriculum offers to elementary school pupils to study the course 'The world around' [Exemplary Programme of the World around, 2011]. The planned results of

implementing this course are described by the Federal State Education Standards (FSSES) [Federal State Educational Standard, 2009]. Though the term ecology is used in the Standards only once, the course ‘The world around’ has a strong environmental focus. The course is ‘directed to developing love and respect to nature, your city (village), your motherland. It is also aimed at comprehending a child’s personal communication experience with nature and people; understanding a child’s place in nature and society; teaching children to comprehend the world rationally on the basis of a profound emotional and value-based attitude to it’ (Federal State Educational Standard, 2009). This actually means developing environmental culture as the planned result of studying this subject. To achieve this result children learn the notion of ecology, study various aspects of the impact and interrelations of animate and inanimate nature at the lessons of ‘The world around’.

In Russian schools teaching practice the notion nature is introduced in the first year: ‘that is what is around us and was not created by the human’. Then as a result of analysis children learn about the division of nature into animate and inanimate nature. Learning animate nature features helps to solve the complicated task and determine to which group this or that natural object or subject refers to: it is born, grows, breathes, eats, reproduces itself, and dies. Everything that does not correspond to these characteristics refers to inanimate nature. The next step is synthesis, children’s independent discovery of other ecological interrelations between animate and inanimate nature.

Developing environmental culture in the elementary school presupposes solution of the following problems: introducing general notions of protecting inanimate nature [water, air, soil) to the children, that it is impossible to pollute, destroy, and completely deplete them; considering conditions of preserving animate nature : variety of species and integrity of communities where they exist; analyzing circumstances providing human’s health preservation; discussing and implementing various types of overcoming humans’ utilitarian, consumer approach to the environment around them.

Concern about education development problems led to the situation that some schools began positioning themselves as environmental schools, participating in the ‘green’ movement, organizing environmental hobby clubs, ecological elective courses were developed [Petrov, 2000]. However, environmental education does not often lead to developing environmental culture; it does not become a motive for acquiring sustainable environmental skills. Executing nature protective measures are still single actions, they do not form a confident own choice in favour of eco-cultural values.

Three interrelated layers can be distinguished in environmental culture development: informational, technological (activity), and axiological. The informational layer is connected with transmitting and accepting accumulated knowledge. The technological layer presupposes acquiring skills and competences that bring qualitative change to activity content. The axiological layer appears during the process of knowledge absorption. This layer is connected with forming a new attitude, which is based upon value approach, developed environmental philosophy and refusal of usual utilitarian attitude to nature.

Analysis of educational programmes for pupils, regular estimation of educational achievements shows that pupils have sufficient knowledge of environment [Demidova, 2014]. Monitoring acquisition quality of environmental notions demonstrates positive dynamics; tests errors analysis shows that difficulties, if they are found in acquisition of informational layer, are subjective. The difficulties of acquiring the technological layer are connected with the fact that previous generations’ experience to create ecological risks exceeds many times the experience of ecologically reasonable behaviour.

Besides, there is a lack of support for ecological ideas in the context of family education. The importance of family influence on forming a new ecological outlook is

indisputable [Bronfenbrenner, 1986; Dada, Eames & Calder, 2017; Payne, 2005]. The conditions for developing and targeted impact on forming environmental philosophy are not provided in Russian families. Most families have not yet accumulated positive experience of organizing their life's activity from the point of the environmental feasibility that could become the potential of family environmental education. However, the authors of this article suppose these difficulties can be overcome by means of pupils' participation in extracurricular nature preservation activity, implementation of social projects [Belyaeva, 2007]. Undoubtedly, attracting parents' interest to these measures will be a positive point.

The main problem is new ecological culture development, overcoming the informational layer and involving the technological layer, is not transferred to the axiological internal layer. The reason, probably, is strong influence of consumer society ideals, a person's wish to change the environment according to their needs, in sustainability of economic consciousness priorities instead of environmental one.

The idea that all roots of environmental problems are 'not outside but inside the person, in their consciousness, philosophy, and culture' deserves special attention [Vagner & Tkacheva, 2015, p. 23]. The solution of these problems is associated with forming a new cultural code. This new code decoding can be seen in the insights of ethic and philosophical thought, ethic concepts of M. Gnadi, E. Lasso, O. Leopold, K.E. Tsiolkovsky, and T. Trainer. The re-coding is, definitely, an extremely complicated and long process that can start today from changing educational environment.

The authors of the article connect environmental education and enlightenment inefficiency with inability to call educational environment ecological and developing environment. The problem of impact of educational environment on developing environmental culture is paid insufficient attention to though it is this educational environment that represents the 'system of impacts and conditions of forming the personality according to the preset sample and also opportunities for personality development contained in the social, space, and object environment [Yasvin, 2001, p. 12]. The authors of the article suppose that forming environmental culture by means of ecological and developing educational environment is very perspective.

Educational environment can create opportunities for developing teachers' and pupils' actual and potential capabilities. Elementary school pupils are extremely sensitive to external influence. Educational environment researchers tend to believe its impact in the period of elementary education to be determining for a child's development [Ivanova, 2014; 2015]. The educational environment is an integrated phenomenon. It includes the concept of education chosen by educational institutions, child-adult communication peculiarities, communicative sphere, and living space organization.

Environmental philosophy formation is influenced by creating educational environment favorable for the child and all educational process participants or, in other words, observing the didactic principle of creating necessary conditions for education and upbringing. The new standards of education specify that the conditions should be not only necessary but also encouraging the all-round development (Federal State Educational Standard, 2009). V.A.Sukhomlinsky wrote: '... the lesson is a teamwork of the children and the teacher, ... the success of this teamwork is determined, firstly, by interrelations that are formed between the teacher and pupils', the comfort of educational environment is influenced by the teacher's ability to encourage the pupil's activity in the educational activity, when the studied material and the way it is explained develop the child's self-confidence [Rubtsova, 2008, p. 74]. All these aspects of educational process were named school environment in Pedagogics [Kurbatova, 2016].



The appearance of this notion reflects modern tendencies of understanding the environment in the wide sense of the word as a global process of environmental ideas penetration into the fields that are not directly connected to biology, determining the interaction and interdependence of the elements and phenomena of natural environment and social environment. 'The modern society shall direct all its efforts to the drastic changes of social and individual consciousness that will include understanding the essence and inseparable unity of environmental and moral imperatives when the category 'environmental' will become a qualitative characteristic of upbringing and school educational environment. Being environmental education shall not only provide transferring environmental cultural values to the growing generations but will also create conditions for implementing subjective potential of childhood in the wide format process of cultural creativity on the basis of these environmental cultural values' [Vagner & Tkacheva, 2015, p. 24].

The ecology of modern school educational environment can be estimated as problematic. According to the data of the Scientific Centre of Children's Health of the Russian Academy of Medical Sciences nowadays max. 3-10 per cent of children (depending upon their age) can be considered completely healthy [Russian national strategy of actions in the interests of children, 2012]. According to research performed in Nizhny Novgorod schools the number of teachers evaluating subjectively their state as 'completely healthy' is also very low (8.3 per cent) [Kurbatova & Yagin, 2016]. Ushinsky wrote that 'true upbringing penetrating into the character is not possible without the teacher's personal direct impact on the pupil' [Ushinsky, 2005]. Obviously, if the teacher is under permanent stress, he/she will transmit it inevitably to children and in this case, there is no chance for comfortable, ecological, and developing environment.

Educational environment comfort is greatly influenced by psycho-emotional state of educational process participants. Even in the XIX century the Russian teacher and philosopher V.V. Rozanov wrote: 'to understand the system of education it is necessary to study the problem of teaching comprehensively' [Kurbatova, 2016]. The situation will improve if the 'sign of slave' will be removed from teaching [Rozanov, 1990, p. 17]. Some changes in this regard are happening; positive dynamics is observed. Polling repeated two years later showed the increase in positive answers by 2.1 per cent.

Teachers' efforts have to be directed to understanding necessity of forming healthy ecological and developing environment. Systematic efforts are necessary that are directed to developing pupils' striving to non-pragmatic interaction with the natural world. The actual aspects of work on developing environmental culture can include the following:

- a child must perceive himself/herself as part of nature; developing respect to all nature' species without exclusion, regardless of their sympathies and antipathies;
- forming emotionally positive, esthetic attitude to the world around, capability to see the beauty and uniqueness of the environment;
- understanding and comprehending the fact that everything in nature is interrelated and the breach of, at least, one of these connections, will cause other changes, that people will not destroy the things that they cannot create themselves;
- learning principles of environmental safety, forming a wish to preserve the environment;
- developing needs to communicate with the natural world.

The system of understanding of elementary school age children shall also include data that show global, without the state borders, character of environmental protection problems, that can be solved efficiently only by means of close international cooperation.

Achieving the goal of forming environmental personality culture in the educational sector aimed at the problems of sustainable development is beyond the scope of waste collection by pupils. The set goal can be achieved only in such educational environment where the necessity of 'co-creation' of the person and environment are declared but also the conditions necessary for realizing the advanced experience of nature protection activity are created (energy saving technologies, alternative heating methods, ecological design of the territory near school, areas for pilot and experimental work of rational natural resources management, separate collection of wastes, etc.). This is especially true for city schools, incurring a deficit of direct contacts of a child and natural objects.

## 5. Conclusion

Creating ecological and developing educational environment presupposes, firstly, giving up utilitarian approach to the natural environment (developing emotionally positive, esthetic children's attitude to the world around, understanding internal natural interrelations); secondly, special attention to the influence of psycho-emotional component of forming school social environment (feeling of comfort and well-being for all participants of educational process); besides, overcoming material resources deficit (priority of development goals, not survival ones); moreover, increasing environmentally reasonable behaviour level in family education (increasing intensity of practical nature protection lessons with parents' mandatory participation); finally, studying regional and also global ecology, that helps to transfer from the informational to the activity and axiological level. In terms of environmental education, school shall, with state's support, establish itself in the position when educational system was the pioneer and advocate of innovative ideas. The efficiency of forming environmental philosophy will consist not only in local research projects but in formal participation of the educational institution in creating ecological and developing environment.

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