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Implementation of the Model of Noosphere-Aesthetic Education of Primary School Students by Means of Regional Culture

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Abstract

The relevance of the problem of noosphere-aesthetic education of primary school students is due to the need for their entry into noosphere-cultural space of the region which affects the formation of humanistic attitude of students to all life on the earth, their native nature and culture; insufficient theoretical and practical development of the model for the implementation of this phenomenon.

The purpose of the article is theoretical substantiation, development and implementation of the model of noosphere-aesthetic education of primary school students by means of regional culture.

The leading method of research is modeling which allows to create and implement an integral system of noosphere-aesthetic education of primary school students by means of regional culture.

On the basis of cultural and environmental approaches we have defined the content of the concepts "noosphere-aesthetic education of primary school students", "regional culture" and proved the effectiveness of the model for implementing this approach. In this article from the standpoint of cultural and environmental approaches the concept of "noosphere-aesthetic education of primary school students" is clarified, the effectiveness of the implementation model of this phenomenon by means of regional culture is proved, prospects of using its building blocks: target, structural, diagnostic, technological and effective in the education system are substantiated.

The results of the research presented in the article and statistical processing of experimental data using R.Fisher's angular coefficient of transformation proved the effectiveness of proposed model in educational process.

Practical significance of the study is that diagnostic techniques, program, process unit of the model presented in the article contribute to more efficient noosphere education of primary school students and can be used by teachers of higher school, primary school teachers and educators in their activities.

Key words: noosphere-aesthetic education, a primary school student, regional culture, model, criteria, levels.

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Introduction

The topicality of the problem. The relevance of the problem of noosphere-aesthetic education of primary school students is related to strategic aspects of society focusing on the problems of human survival in connection with social disasters (natural disasters, coronavirus, etc.) that have engulfed the world and on the idea of dependence of all life on natural environment. The resulting environmental situation which is determined by atmospheric pollution and destruction of plant and animal life can lead to global noosphere changes in the world. This problem is of importance in terms of loss national cultural values, reducing the level of artistic, aesthetic and spiritual-moral education of the individual, destruction of links between moral values and noosphere consciousness of society and influence of cultural environment on the personality. These factors that affect the system of education have led to the need to form humanistic attitude to environmental phenomena and processes, based on spiritual and creative development of the individual assuming his entry into noosphere-cultural space and internalization acquired external cultural values in the internal structure of the individual.

Regional culture takes a special place in solving this problem. It not only fosters love to mother nature, region, heritage, but also develops noosphere-aesthetic sense, gives the key to understanding spatio-temporal symbolism of artistic and aesthetic perception of the world; forms creative attitude to the beauty of all life and realizes in activities the idea of the Unity of the man, the nature and the cosmos. Being the most important component of the world space, regional culture is based on traditions and innovations, on the past, the present and the future. It combines elements of other cultures and creates prerequisites for forming worldview based on cosmoplanetary space of consciousness, for Love to any form of life on the Earth and in the Space and for responsibility for the Future of the entire system of the Life on the Earth (Subetto, 2019).

The appeal to primary school age is not accidental. In FSES of new generation the aesthetic activity of primary school students is considered as sensitive. At this age quantitative and qualitative transformation of mental processes of the individual (memory, thinking, speech, imagination, etc.) occur to update cognitive development of the individual, analytical and systematic function of the cerebral cortex involved in understanding complex relationships in the world. Significant place in mental development of children is occupied by emotional immediacy of perception of objects in regional culture, imagery of thinking. Ideas about noosphere aesthetics are formed and they are aimed at the harmonious relationship of the man and the nature through artistic images and their moral understanding.

All of the above requires development and implementation of the model of noosphere-aesthetic education of primary school students by means of regional culture which should be taken into account when building education system in primary classes and have significant impact on self-consciousness of the individual.

Purpose and objectives of the study

Purpose of the study is to substantiate theoretically, develop and implement the model of noosphere-aesthetic education of primary school students by means of regional culture.

Literature review

The study of philosophical, aesthetic and psychological-pedagogical literature has shown that historically noosphere-aesthetic education of the individual is considered in many aspects. Russian cosmists (Berdyayev, 2018; Vernadsky, 2016; Rerikh, 1992) define it from the standpoint of the synthesis of Truth, Goodness, Beauty and Harmony. These categories represent the threads that form "complex patterns" (Roerich's term, 1992) of forming Russian culture. Other scientists (Bakhtin, 1975; Losev, 2015) connect noosphere education of the individual with spiritual value of people, their culture aimed at the development of cosmic aesthetic thinking. Teachers (Pechko, 2016; Ovchinnikova, 2018) reveal this problem based on the aesthetic picture of the world and self-expression of the individual in creativity. Scientists (Borisova, 2004; Prishvin, 2008) characterize specifics of noosphere-aesthetic education in accordance with the idea of the Unity of the man, the nature and the cosmos. Foreign scientists (Bullot et al., 2017) highlight sociogenetic aspects of the problem.

Spiritual formation of the individual as the basis of noosphere education is characterised in several aspects: a) development of space and time, its fluidity and duration in the space-earth-human system (Rerikh, 1992, Subetto, 2019; Andreoletti & Torrenco, 2019); development of spiritual abilities at moral, mental and transcendental levels (Ozhiganiva, 2010,) based on the imitation of charitable behavior by primary school students (Solovyeva & Guseva, 2015);

Features of regional culture that embodies the memory of the family, historical and religious trends, typical features of the region that affect noosphere-aesthetic education of primary school students were covered in national literature (Abramova, 2019; Borisova, 2004; Kunitsyna, 2014).

Modern trends in noosphere-aesthetic education of students are related to: a) environmental problems of education (Shulzhenko, 2018); b) social and spiritual self-determination of primary school students in the process of studying regional art (Molodichenko et al., 2019; Subetto, 2019); c) aesthetic experience of the individual formed on the basis of contemplation of beauty and expressiveness of objects of the nature and the Universe (Klein, 2017; Pechko, 2016).

Thus, the analysis of aesthetic and psychological-pedagogical literature indicates interest in noosphere-aesthetic education of primary school students. However, a number of issues are insufficiently developed, in particular: a) content and structural components of noosphere-aesthetic education of primary school students in the educational process are not fully disclosed; b) influence of regional culture on the development of this phenomenon is not established; c) the model of noosphere-aesthetic education of primary school students by means of regional culture is not developed.

All this actualize *the problem of research* consisting of theoretical substantiation and implementation the model of noosphere-aesthetic education of primary school students by facilities of regional culture which is new, compared to traditional methods, allows to form value attitude to the nature, the world, the cosmos more efficiently and may be considered in the development of systems of primary and secondary education.

Methodology

Methodological basis of noosphere-aesthetic education of primary schoolstudents by means of regional culture is cultural and environmental approaches.

Cultural approach (Losev, 2015; Pechko, 2016) has spiritual basis which ensures integration of the individual into artistic and aesthetic space of the world, national and regional cultures. It promotes creative self-realization of a primary school student in the process of dialogue of different cultures and allows us to consider noospheric and aesthetic education of primary school students a) shaped memory of culture; b) in accordance with the understanding the idea of "Unity"; c) as a spiritual formation of the personality in the system of space-to-earth-people reflected in art; d) in understanding spatial and temporal significance of culture; e) in the synthesis of Truth, Goodness, Beauty and Harmony. These directions justify the need for further study culture of Russian people, aimed at the development of noospheric ecology, as reflection of global harmony, as law and norm of existence (Subetto, 2019, p. 14). It is based on the synthesis of "Noospheric, Ecological and Spiritual" (Roerich, 1992). The main idea of this approach is to develop the basics of noospheric thinking of primary school students through knowledge with artistic and aesthetic originality of the region, its Orthodox and folk traditions. This understanding of the problem focuses on noospheric-ecological and aesthetic orientation of regional art in education.

Environmental approach (Manuilov, 2008) is associated with noosphere-aesthetic formation of the individual in accordance with trophic capabilities of environment which includes nature, society, and culture of the region. It is aimed at forming national identity of primary school students in the process of studying regional art. The environment is spiritual and aesthetic atmosphere in which the individual lives and develops. It includes natural, historical, religious, cultural, material and social conditions affecting primary school students.

These approaches allowed us to determine the place of regional culture in noosphere-educational space of Russia and create conditions for comprehensive study of this problem.

Research methods and techniques: a) theoretical: analysis, modeling, generalization, interpretation of obtained data; b) empirical: survey, analysis of creative works of primary school students, experiment.

Research methods: author's methods for determining motives and needs of noosphere-aesthetic understanding of regional culture by primary school students; multifunctional criterion of R. Fischer's angular transformation.

Experimental base of the research: MBEE SOSH No. 24 named after M. B. Rakovsky, Lipetsk; MBOU TSO "Pskov pedagogical complex". A total of 108 people were examined. 96 people were subjected to detailed study: 48 students of 3 classes of EG and 48 students of 3 classes of CG. The experiment was carried out in 2019-2020 academic year.

Stages of the research.

The study of the problem of noosphere-aesthetic education of primary school students by means of regional culture was conducted in three stages:

at the first stage theoretical analysis of research problem based on cultural and environmental approaches was carried out, content and structure of the model of

noosphere-aesthetic education of primary school students were clarified on the basis of cultural and environmental approaches;

at the second stage the model of noosphere-aesthetic education of primary school students was developed by means of regional culture;

at the third stage ascertaining, forming and control stages of the experiment were carried out and described, the model of noosphere-aesthetic education of primary school students by means of regional culture was implemented and its effectiveness was proved.

Results

In the article on the basis of the analysis of psychological and pedagogical literature the concept of "noosphere-aesthetic education of primary school students" was clarified, structural components of the model consisting of interconnected blocks: target, structural, diagnostic, technological, and productive were described.

The target block included the goals: to develop the content and technology of noosphere-aesthetic education of primary school students by means of regional culture at a higher level. In accordance with this goal the following tasks were set: 1) to clarify the content and structure of noosphere-aesthetic education in primary school; 2) to identify the main directions of the noosphere-aesthetic education of primary school students by means of regional culture; 3) to determine criteria and levels of noosphere-aesthetic education of primary school students; 4) to develop and implement technology and program of noosphere-aesthetic education of primary school students by means of regional culture; 5) to determine the effectiveness of the presented model.

Structural and content block of the model described the content of the concept to develop the content and technology of noosphere-aesthetic education of primary school students by means of regional culture at a higher level in accordance with this goal the following tasks were set: 1) to clarify the content and structure of noosphere-aesthetic education in primary school; 2) to identify the main directions of the noosphere-aesthetic education of primary school students by means of regional culture; 3) to determine criteria and levels of noosphere-aesthetic education of primary school students; 4) to develop and implement technology and program of noosphere-aesthetic education of primary school students by means of regional culture; 5) to determine the effectiveness of the presented model "noosphere-aesthetic education of primary school students" and "regional culture".

"Noosphere-aesthetic education of primary school students" is the process of forming their ability to feel, perceive, understand and evaluate nature, the Earth, and the cosmos from noosphere-aesthetic positions: 1) perception of the nature, the world, the cosmos from the perspective of truth, goodness and beauty; 2) awareness of the value of the nature, regional culture and its identity as the basis for development of moral and creative potential of the individual; 3) understanding the nature and the cosmos based on the idea of Unity; 3) responsibility for all life on the Earth as the fulfillment of a certain mission on the Earth.

During the research the following features of this concept were identified: 1) perception of phenomena and objects of the micro-and macrocosm from the position of Unity (General) based on the understanding of harmony and disharmony, order and chaos, good and evil; 2) its emotional and imaginative description (individual); 3) uniqueness and expressiveness of the image from the position of noospherism (special);

4) humanization objects of the nature and the cosmos (General); 5) moral and aesthetic assessment of objects.

By regional culture we mean integration of various material and spiritual cultures of peoples inhabiting the region and united by similar natural conditions of life and territorial ties. It creates forms of storage, reproduction and dissemination of cultural values of the region.

In comparison with the views of scientists (Pechko, 2016; Shulzhenko, 2018), which focused on the ecological and aesthetic aspect of personal development and ideas related to the aesthetics of traditional culture (Voevodina, 2015), in our study the phenomenon of noosphere- aesthetic education of primary school students is revealed in all the variety of generalization of semantic experience of regional culture in spatial and temporal understanding of the unity of micro-and macrocosmos.

Regional culture is considered at three levels: a) global, associated with the influence of world cultural heritage on the culture of the region; b) local, which unites all areas of regional culture, depending on their demand; C) sublocal, associated with the presence of certain subcultures of the region.

In this regard, the content of the concept of "regional culture" is considered in a new way. It reflects the way of life of the region, refracted through aesthetic generalization of the world. Its noosphere aspect allows us to determine specifics of cultural space of the region, expressed in the nature of native land, its landscape, creatively transformed by the man, national traditions, folklore, features of clothing, everyday life, their symbolism, revealing the noosphere meanings of life. It is viewed in the following directions: 1) noosphere understanding of nature of the region, 2) noosphere understanding of regional art, 3) noosphere understanding of decorative and applied creativity; 4) noosphere understanding of Orthodox culture.

Stages of the experiment to implement the model.

The article presents three stages of the experiment: ascertaining, forming, and control.

The ascertaining stage of the experiment presented in *the diagnostic block of the model* was carried out in early 2019. 108 respondents were surveyed. 96 people were subjected to a detailed survey (48 students in grades 3 of EG and 48 students in grades 3 of KG). It included criteria (motivational and cognitive), methods and author's methods, assessment scale and levels of noosphere-aesthetic education of primary school students.

The authors used the following research methods to determine noosphere-aesthetic education of primary school students according to the *motivational criterion*: questionnaire, conversation, analysis of students ' creative works (essays). The authors of the article developed questionnaire questions and tasks in which children should circle the number that coincides with their opinion:

1. *What are the most important noosphere-aesthetic values for you:* a) beauty and harmony of nature, Space and the man; b) love for all living things; C) careful attitude and charity to nature, micro and macrocosm; d) creativity.

2. *What is the place of nature of one region in your life:* a) important;

b) Hardly the most important; C) insignificant; d) I can't say.

2. *What place does the art of your native land occupy in your life:* a) important; b) hardly the most important; C) insignificant; d) I find it difficult to say.

3. *Which of regional art forms are you most interested in:* a) fiction; b) music; C) theatre; d) fine arts; e) architecture; f) decorative and applied arts (arts and crafts); g) I find it difficult to distinguish.

4. *What is the place of Orthodox culture in your life:* a) important; b) hardly the most important; C) insignificant; d) I find it difficult to say.

5. *Where do you most often get acquainted with it:* a) in the classroom; b) in museums, exhibitions, concerts.

Ranking the results of the study by motivational criteria showed that noosphere-aesthetic values of primary school students are distributed as follows: 35.2% EG, 29.2% CG highlighted the value of caring and mercy to nature, micro and macrocosm; 27.1% EG and 25.0% CG-love for all living things; 20, 8% EG and 24.9% CG-creativity 16.9 % EG, beauty and harmony of the nature, the cosmos and the man and 20.9%.

27.1% of EG students and 31.1% of CG students believed that nature had an important place in their lives. 39.6% of EG and 37.5% of CG students showed interest to the art of their native land studying it mainly at school, in the classroom less often visiting school or local history museums together with teachers. As for regional art forms they were most interested in fiction; less in arts and crafts (22.9 % EG, 22.9% CG); then fine arts (14.5% EG, 16.7%), music (13.4% EG, 15.0% CG); theatre and architecture occupied a minor place (13.8 EG, 7.9% CG). Orthodox culture was named in 8.3% EG;12.5% CG. Analysis of the results of the study on motivational criterion allowed us to identify three levels of noosphere-aesthetic education of primary school students: high, medium, and low.

Noosphere-aesthetic education of students according to *cognitive criterion* included knowledge of noosphere-aesthetic values, key concepts and the main directions of regional culture. Children were asked the following questions in the author's questionnaire:

1. The Noosphere is...; the biosphere is...; space is...; time is...; space is.

2. Name some of the most beautiful places in the cities of Lipetsk, Yelets, Pskov.

3. Name famous writers and poets of the Lipetsk and Pskov regions and their works.

4. What are the names of famous artists of the Lipetsk and Pskov regions and their works?

5. Name famous composers of the Lipetsk and Pskov regions and their works.

6. Name the main crafts of the Lipetsk and Pskov regions.

7. What are the main means of expression that convey the main idea in these works?

The results of the study showed that the concepts of the noosphere, biosphere, space, space and time are intact and deterministic, but they are fragmentary. Only 6, 25% in the EU and 10.4% in the EU were able to allocate significant amount of data.

Among the most beautiful and expressive corners of Lipetsk primary school students called "Verkhney Park", "Nizhny Park", "Bykhanov garden", "Cathedral square", "Petrovskiy descent". In Yelets this is bell ringing, Ascension Cathedral, chimes, Yelets lace, the icon of Yelets Mother of God, holy spring, convent, Yelets valenki, Yelets piano accordion.

Among the most famous writers of the Lipetsk and Pskov regions were I. A. Bunin, M. Y. Lermontov, M. M. Prishvin, A. S. Pushkin (35.4% and 37.5%, respectively), and among famous artists - N. N. Zhukov, V. S. Sorokin (22.9%, 16.7%). Among the composers are T. N. Chrennikov, N. A. Rimsky-Korsakov and M. P. Musorgsky (15% EG, 15% CG). Further, primary school students were offered tasks to understand the main idea of the work related to noosphere aspects in literature (extract from the work of M. M. Prishvin "Storeroom of the Sun"), music (symphony poem by M. K. Churlenis "the Sea", (a fragment) and the painting by K. Churlenis "Sonata of the Sun".

The main meaning of works in literature associated with the idea of "unity" was revealed by 15.0% of EG and 18.7% of CG students. However, the largest number of primary school students (56.2% EG; 60.4% CG) found it difficult to define the main idea related to noosphere understanding of nature from the standpoint of its moral understanding and the idea of Unity. The children mostly retold the content of this fragment. Only 16.7% of EG and 15.0% of CG respondents noted the expressiveness of objects and established links with their noosphere understanding of the meaning of the work. Some students used metaphors, comparisons and personifications to justify the main idea (12.5% EG, 16.7% CG). In some cases they highlighted the essential, the main thing.

The idea of beauty and eternity in the painting "Sonata of the Sun" by N. Churlenis and a symphonic poem "The Sea" was defined only by 7.9% of EG and 6, 25% of CG students.

The analysis of research results revealed three levels of noosphere-aesthetic education of primary school students according to motivational and cognitive criteria.

Students with pronounced motives and needs, capable of emotional and imaginative assessment of objects, possessing deep and complete knowledge of noosphere-aesthetic values of regional culture, its types, and able to establish connections between the main noosphere concepts and their understanding in regional culture were assigned to the *high level*.

The *average level* included students with fragmentally expressed motives and needs for studying noosphere aspects by means of regional culture; showing partial knowledge of noosphere-aesthetic values and key concepts; capable of partial emotional and imaginative assessment of objects and not always revealing significant connections between noosphere concepts and the expression of the main idea in regional cultural works.

Low – grade students are students who are not interested in studying noosphere aspects of regional culture; they have not formed concepts about noosphere values of nature and space, there are only fragmentary ideas, and there is little emotional response to the works of regional culture.

The forming stage of the experiment was described in *the technological block of the model*. It included the main directions of the program, themes, types of students' activities, forms and methods of noosphere-aesthetic education of primary school students by means of regional culture. The content of the model's process block is shown in Table 1.

Table 1. Technological block of the model of noosphere-aesthetic education primary school students by means of regional culture.

The main directions of the program	Themes	Types of activities	Forms	Methods
<p>Noosphere-aesthetic understanding of nature:</p> <p>a) transmission in the image of various states of nature</p> <p>b) transmission the image of nature by means of artistic expressiveness</p>	<p><i>Noosphere understanding the beauty of surrounding nature and the Cosmos</i></p> <p>Nature of native land, parks, squares, boulevards, the Cosmos, planets, constellations</p>	<p>Cognitive activities on forming the ability to show expressiveness of color, shape, to express mood; creative, practical</p>	<p>Excursion, classes</p>	<p>Observing, methods of activation and perception of real objects, conversation,, creative methods</p>
<p>Noosphere understanding regional art by means of artistic expressiveness: form, color, rhythm, movement, symbol</p>	<p><i>Museum in city's life.</i></p> <p>Prishvin museum, Zhukov museum, Sorokin museum (Lipetsk, Yelets), Chrennikov museum (Yelets), Pushkin museum, Rimsky-Korsakov</p>	<p>Cognitive, value-oriented, research activity</p>	<p>Oral journal "Noosphere", excursion, methods of museum, pedagogy</p>	<p>Project, CCA</p>

The main directions of the program	Themes	Types of activities	Forms	Methods
	museum, Musorgskey museum (Pskov) Ideas of noospherism in their creative activity			
Noosphere understanding arts and crafts, symbolism	<i>Art in your house:</i> a) folk toys (romanovskaya, dobrovskaya), rag dolls; б) dish (Lipetsk patterns, khokhloma, palekh, Yelets lace, piano accordion. Noosphere symbolism	Cognitive,creative, research, practical	Master-class, CCA	project,
Noosphere understanding space, architecture and Orthodox culture, symbolism	Temples of Yelets,Lipetsk,Psk ov - legacy of centuries	Cognitive,creative,rese arch,practical	Conversation, story, creative methods	Excursion, class, project, watching films, report, presentation

After the model was implemented in the educational process of primary schools a control stage of the experiment was conducted. Comparative results of control and ascertaining stages of the experiment are presented in Table 2.

Table 2. Levels of noosphere-aesthetic education of primary school students by means of regional culture

Levels	Points	Before the experiment %		After the experiment %	
		EG	CG	EG	CG
High	8-10	10,4	8,3	29,1	10,4
Average	4-7	62,4	66,7	64,3	70,9
Low	1-3	27,2	25,0	6,2	18,7

The results of the study in the experimental group (EG, f 46 people) after the experiment at a high level increased 2.8 times (before the experiment 10.4% after the experiment 29.1%), and low decreased 4.4 times (up to experiment 27.2% and after the experiment 6.2 %). Evaluation of the effectiveness of the model and validity of the

study is confirmed by the calculations of the criterion by R. Fisher (f^* -criterion), the average value is $\varphi^*_{EMP} = 4,54$. Obtained empirical values of φ^* are in the zone of significance. H_0 is rejected (the significance axis is 1.64-2.31). While in CG at the results increased 1.25 times at a high level, and decreased 1.3 times, $\varphi^*_{EMP} = 4.54$. The resulting empirical value φ^* is in the zone of insignificance. H_1 is rejected.

Thus, the study proves the effectiveness of the developed model which allows making the process efficient and manageable.

Discussions

The analysis of literature on the problem of research has shown that there is insufficient development of research on the creation and implementation of the model of noosphere-aesthetic education of primary school students by means of regional culture; possibilities of cultural and environmental approach to implement the model of noosphere-aesthetic education of primary school students are not described; there is no clear definition of criteria for noosphere-aesthetic education of primary school students and interpretation of the results of the study; the technology of noosphere-aesthetic education of primary school students is not fully developed. However, scientific literature presents the following aspects of noosphere education of the individual: a) environmental (Shulzhenko, 2018); b) social and spiritual self-determination of a primary school student in the process of studying regional art (Molodichenko et al., 2019, Subetto, 2019); c) influence of regional art on education of the individual (Borisova, 2004).

Conclusion

The significance of the problem of noosphere-aesthetic education of primary school students is determined by the need for them to enter noosphere-cultural space of the region. This process involves clarifying the content of the concept of "noosphere-aesthetic education of primary school students" in accordance with the ideas of Unity, truth, goodness, beauty and harmony.

Theoretically based and implemented model that includes interrelated blocks (target, structural-content, diagnostic, technological, and effective) is effective-target basis of noosphere-aesthetic education of primary school students by means of regional culture.

Its effectiveness is proved on the basis of the developed criteria, levels, diagnostic methods and the angular coefficient of R. Fischer's transformation.

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