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FORMATION OF SCHOOLCHILDREN ECO-ORIENTED LIFE WHEN STUDYING A CULTURAL LANDSCAPE

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Abstract

The article reveals a pedagogical problem related to the development of environmentally-oriented activities of students in cultural landscapes, the priority of which is due to the advanced function of modern education as the main factor in changes in the direction of sustainable development. The scientific integral and cultural-ecological potential of the cultural landscape as an educational environment is noted, which contains a wide range of opportunities for creating culturally-oriented integrated situations that encourage students to use eco-oriented activities. The aim of the article is a theoretical justification, development and experimental confirmation of the effectiveness of the formation of methods of eco-oriented life based on culturally-oriented integral situations. The leading research methods were system-structural analysis, synthesis, systematization, modeling, pedagogical experiment, where 70 members of school geographical clubs took part. The use of theoretical methods made it possible to determine a number of significant scientific and theoretical propositions, ideas, and approaches: cultural and ecological, axiological, landscape-environmental, personal-activity, integral-situational and to use them effectively in the process of designing technology for the formation of methods of environmentally-oriented life activity on the basis of integral culturally-oriented situations. Empirical methods made it possible to test the developed technology in educational practice and to prove its effectiveness. The results obtained in the study can be useful for teachers, students of pedagogical specialties and curators of children's associations.

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Keywords: Culture, environmental management culture, methods of eco-oriented life activity, cultural landscape, integral-situational approach, culturally-oriented integrated situations.



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1. Introduction

The transition of society to the trajectory of sustainable development applies new requirements to education. In modern conditions, it is becoming a social factor contributing to overcoming crises and problems that have developed as a result of irrational environmental management. The outstripping nature of education should become the main driving force of the “total ecologization of lifestyle” (Kovylin & Mamedov, 2017), the transformation of a person into the subject of the modern noospheric co-evolutionary process (Shubinsky, 2010).

These provisions actualize the need for students to develop environmentally-oriented ways of life, which we consider in the context of environmental management culture. This is due to the fact that, from the standpoint of the activity concept of culture, the culture of nature management is a way, the result of cognition, assessment and activities on the cultural and economic development of human territories of various sizes in the direction of their sustainable development (Demidova et al., 2019). In the current crisis ecological situation, it ensures the transition of society to co-evolution, co-creation of a person and nature. Its functions and structure make it possible to determine the ways of ecologically-oriented life activity as “life perception”, “life understanding”, “life creation”, which reflects the stages of a person’s cultural development of the surrounding reality: from adaptation to understanding and further to creative creation in the environment. In this regard, the methods of ecologically-oriented life are tools for the formation of students’ ideas, knowledge, values, relationships, actions, which are the basis for the synthesis of environmental management culture as an integral quality of personality. These conclusions were justified during the study on the project of the Russian Foundation for Basic Research and published in a number of scientific articles. In the framework of the article, in continuation of these studies, special attention is paid to the problem of the formation of methods of ecologically-oriented life activity in the landscape on the basis of culturally-oriented integral situations.

In solving this problem, we proceeded from the fact that the culture of environmental management manifests itself as a social phenomenon (a way of knowing, evaluating and developing a territory) and as a human culture (personality quality).

A powerful potential for the formation of environmentally-friendly ways of living is contained in the cultural landscape. Its educational opportunities were emphasized in the works of geographic scientists (Vedenin, 2018). Being the bearer of certain historical and cultural codes, a valuable and information resource for present and future generations, the cultural landscape creates the conditions for students to comprehend its co-evolutionary values, to read its cultural meanings, and to perceive it as an example of sustainable nature management.

Embodying the ideas of post nonclassical science, the cultural landscape acts as a “human-sized” model of cognition. Its study allows schoolchildren to be conscious of self as part of this complex aggregate, which is a single whole with them, and within which they live and act. Prerequisites are being created for students to understand their place in the cultural landscape, to be responsible for it as an environment of life, on the quality of which their normal functioning depends.

In educational terms, the cultural landscape can be considered as a cultural and environmental developmental environment “nourishing and nurturing a personality”, containing “value, emotionally-colored meanings” (Gibson, 1988), which is a “place of meaning” (Heidegger, 2018), a field of cultural and

creative activity. This determines the wide possibilities of this environment for the design of culturally-oriented situations, which awaken and encourage schoolchildren to ecologically-oriented ways of life. Such situations make it possible to reach a new level of understanding and analysis of the fundamentals of mutual improvement of personal qualities and qualities of the surrounding landscape environment, and use integrated ideas in the study of landscape.

An analysis of the literature made it possible to establish a number of studies that are the scientific basis of such an integral consideration. In the works of Mann and Plieninger (2017) and Conesa (2016) the cultural landscape is revealed as a multidimensional formation, manifested in five dimensions: spatial essence, mental essence, temporal dimension, the connection between nature and culture, a complex system. In the studies by Matloch (2018); Carrasco-Sáez et al. (2017), the cultural landscape is presented in the form of a complex structure of the interconnections of natural and cultural components. A holistic view of the cultural landscape can be traced in the works of Ragulina (2015). Realizing the ideas of the integral approach of Wilber (2016), she describes the landscape as a complex integrity of interconnected dimensions: subjective, intersubjective, objective and interobjective.

School geographic clubs have significant potential in the study of cultural landscapes. Not limited by strict rules and regulations, they are characterized by mobility, voluntariness, a variety of forms and methods, orientation to socially significant activities, thereby contributing to a more effective achievement of educational goals and objectives.

At the same time, as shown by the diagnosis and analysis of educational practice, members of geographical clubs have a low interest in the study of cultural landscapes, and environmentally-oriented ways of living in them are not well formed. A fragmented understanding of this complex “human-sized system” dominates; there is no awareness of the relationships within its components. In this regard, teachers point out the need for the development of didactic technology that promotes the formation in schoolchildren of ways of ecologically-oriented life activity in the study of cultural landscapes.

2. Problem Statement

As a result of the provisions presented in the previous paragraph, a number of contradictions have been developed:

- between the unique educational potential of the cultural landscape as a cultural and environmental educational environment, containing the possibility of designing culturally-oriented situations of an integrated nature, encouraging students to environmentally-oriented ways of life and the fragmented use of this potential in the educational practice of children’s geographical clubs;
- between the need to create a technology that sequentially forms ecologically-oriented activities of the students in the cultural landscape in the context of the cultural paradigm and the poor development of this didactic problem.

These contradictions made it possible to identify the key research problem: the lack of didactic technology in the theory and educational practice, which consistently forms the methods of ecologically-

oriented life activity in the cultural landscape among the members of children's geographical clubs in the context of cultural ideas.

3. Research Questions

To solve the research problem, the following questions were formulated:

- What are the scientific and theoretical foundations of the formation of ways of ecologically-oriented life based on culturally-oriented integral situations?
- What are the features and structure of didactic technology for the formation of methods of ecologically-oriented life based on culturally-oriented integral situations?
- What is the effectiveness of the formation of environmentally-friendly ways of life based on culturally-oriented integrated situations in educational practice?

4. Purpose of the Study

The main goal of the article is the theoretical justification, development and experimental confirmation of the effectiveness of the formation of ways of environmentally-friendly life activities of schoolchildren in the study of the cultural landscape.

To achieve the goal, the following tasks were set:

- to identify the scientific and theoretical foundations of the formation of ways of ecologically-oriented life activity of schoolchildren while studying the cultural landscape;
- to develop and justify a technology for the formation of ways of ecologically-oriented life activity of schoolchildren while studying the cultural landscape;
- to verify the effectiveness of the developed technology with the help of experiments.

5. Research Methods

5.1. Analysis, synthesis and systematization of scientific literature

An analysis of the scientific literature made it possible to establish the scientific and theoretical foundations for the development of the formation of ways of ecologically-oriented life activity of schoolchildren in the cultural landscape.

In the course of the analysis of scientific and geographical research, it was determined that at present, three complementary concepts of the cultural landscape have been developed in world and domestic science: environmental, ethnocultural, and cultural (value). The ethnocultural concept (Kalutskov, 2014) considers the cultural landscape as the habitat of a person, a certain group of people who are carriers of specific cultural values, and who have been living on its territory for a long period. Culturological concept focuses on the importance of human intellectual and spiritual activity in the formation of the cultural landscape (Darvill, 1997; Terkenli, 2001; Vedenin, 2018; etc.).

The ecological well-being or trouble of the territory, the development of the ecological potential of the landscape are in the focus of attention of the ecological concept of the cultural landscape (Kochurov et al., 2020). In applied landscape science, cultural landscapes are considered to be “human-sized” systems.

Environmental ideas in the study of the cultural landscape, considering the landscape as an environment for the development of society; mechanisms of the influence of environmental structures on human life, the spatial manifestation of perception and behavior are of great importance (Gold, 1990).

The works of Ragulina (2015), considering the cultural landscape as part of an integrated approach are of considerable value. Based on the integral model (Wilber, 2016), she “distributed” the landscape as a complex integrity into the following quadrants: subjective awareness of the cultural landscape (quadrant “I”), the cultural layer of the landscape, general value attitudes (quadrant “We”), cultural landscape as a material object (quadrant “IT”), cultural landscape as a system that interacts with social and economic, environmental systems (quadrant “THEY”). Such a consideration reflects the relationship of the natural science and social and cultural aspects and methods of studying the cultural landscape by including the internal and external faces of the formation of its space, the role of the individual, society and culture in its development.

Analysis and synthesis of psychological and pedagogical work in the context of the research problem allowed identifying a number of important ideas and provisions:

- about the personality as a special quality, which is acquired by the individual in the totality of relations and is manifested in viewpoint, communication and thinking, about the determinants of personality development (Asmolov, 1986);
- on the “singleness” of forms of subjectivity (Petrovsky, 2015);
- cultural paradigm of education (Bondarevskaya, 2014; Yakimanskaya, 2013, etc.).

5.2. Modeling the technology of the formation of methods of ecologically-oriented life based on integral culturally-oriented situations

The technology for the formation of ways of ecologically-oriented life activity of schoolchildren while studying the cultural landscape was modeled in accordance with methodological approaches.

The personal-activity approach focuses on the formation of personality as a subject of cultural and environmental life, where activity is a special action through which a person reproduces himself, his own being in the world around him (Petrovsky, 2015), and culture is considered as a way of natural and socially-conditioned activity of human existence (Kagan, 2018), its universal “adaptively-adapting mechanism”. As a result, a hierarchy of ways of ecologically-oriented life activity of an individual in a cultural landscape is built: life perception - life understanding - life creation. “Life perception” ensures the entry of the subject into the cultural space based on the creation of representations, images, cultural symbols. “Life understanding” is a way of ecologically-oriented activity related to the meaning and understanding of the co-evolutionary values laid down in the cultural landscape. “Lifecreation” is considered from the standpoint of creative activity, the strategy of which is developed in the process of developing the cultural landscape as a living environment and life activity.

The landscape-environmental approach provides for the consideration of the cultural landscape as a cultural and ecological developing environment, which acts as a kind of simulator of the environmentally-oriented life activity of the individual.

The integral-situational approach (Loshchilova et al., 2019) focuses on the study of the cultural landscape by students in the context of a variety of educational and life situations in the process of cultural development of reality through the dialectic of the "whole" and "part". This makes it possible to present the general picture of the jointly developing and interacting components of the cultural landscape (natural, subjective, cultural, social and economic) as an integrated complex (Figure 01).

This consideration is based on the integral model (AQAL (All Quadrants, All Levels) of K. Wilber, consisting of four "quadrants", as well as their levels, lines and types. This creates the prerequisites for the development of culturally-oriented integrated situations that allow the formation of ecologically-oriented ways of perceiving, understanding and vitalizing these situations are a pedagogical mechanism that contains conditions that "trigger" the personal development of schoolchildren (Kryukova, 1999) and immerse them in a state of "increased activity of mental abilities" (Likhachev, 2017). The creation of such an "educational tension" is facilitated by an integrated algorithm for solving culturally-oriented situations, which allows studying the cultural landscape through the categorical matrix of the "whole" and "parts." The structure of the algorithm is built along the line: "whole" - "part" - "whole", which contributes to the awareness of the students of the landscape as a system.

<p><i>I</i> -subjective, individual SUBJECTIVE COMPONENT lifeworld, values of the person, identity, self-determination.</p>	<p><i>IT</i> - objective, individual NATURAL COMPONENT features of the development of nature.</p>
<p><i>WE</i> - cultural, intersubjective CULTURAL COMPONENT values of cultural community.</p>	<p><i>THEY</i> - social, interobjective SOCIAL AND ECONOMIC COMPONENT systemic organization of society and technosphere.</p>

Figure 01. Integrated cultural landscape model

Thus, these methodological approaches became the foundation for creating a model of technology for the formation of methods of ecologically-oriented life based on culturally-oriented integrated situations (Figure 02).

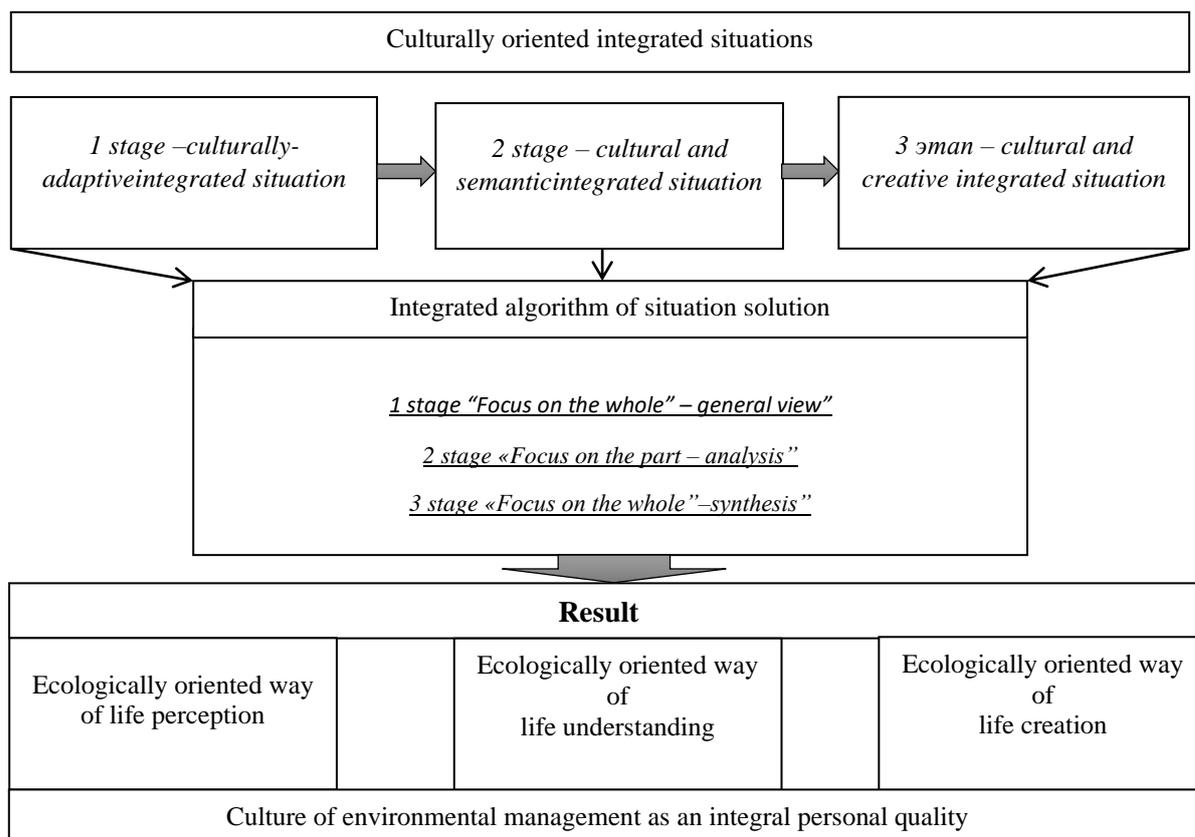


Figure 02. Model of culturally-oriented integrated situations of the formation of environmentally-oriented ways of life in the cultural landscape

5.3. Pedagogical experiment

The main empirical research method was a pedagogical experiment. Pilot work was carried out in four stages.

Stage I (preparatory) suggested specifying the object of study and the purpose of the experiment; determination of the experimental base and necessary resources; establishing a correlation between the goal and the hypothesis of the experiment with the goal, objectives and hypothesis of the study, development of experiment programs. The object of pedagogical diagnostics was the process of forming the methods of ecologically-oriented life activity in the cultural landscape among the members of the children’s geographic club. The purpose of the experimental study is to test and determine the effectiveness of the developed technology for the formation of methods of ecologically-oriented life based on integrated culturally-oriented situations. The research hypothesis is established: the development of methods of ecologically-oriented life activities for members of school geographical clubs will be effective if the technology of forming methods of ecologically-oriented life activities based on integral culturally-oriented situations is introduced into the educational process.

Schools of a number of districts of Nizhny Novgorod Region (Russia) became the experimental testing base, on the basis of which children's ecological associations function. The experiment involved 70 members of children's environmental associations aged from 12 to 15 years. Diagnostic tools have been developed, including criteria, indicators and diagnostic tasks.

The mastery of environmentally-oriented life activities by students in the study of cultural landscapes was diagnosed through the formation of an integral personal quality - nature management culture. It is tested at three levels, reflecting the stages of development of the cultural landscape: Level I – culturally-adaptive; level II - cultural and semantic; level III - cultural and creative.

The indicators of the formation of each level are the components of the culture of environmental management: motivational, information and cognitive, value-normative, communicative and practical-constructive (Table 01).

Table 01. Criteria and indicators of the formation of environmental management culture

№	Components	Indicators
1	Motivational component	Cultural-like activity in the cultural landscape: (low, medium, high)
2	Informative and theoretical component	Quality of assimilation of scientific content: (depth, generalization and awareness)
3	Value-normative component	Dominance of value attitude to nature: (low, medium, high)
4	Practical and creative component	Subjective experience of nature and cultural activity: (low, medium, high)
5	Communicative component	Dialogue relations (individual and cognitive, collective and analytical, personality-reflective)

Stage II is a stating experiment. It included: a) the definition of the experimental and control groups among members of children's geographical clubs; b) conducting diagnostic sections in order to identify the current state of formation of the methods of ecologically-oriented life activity in the cultural landscape; c) statistical processing of the received materials.

The obtained empirical data made it possible to ensure “equivalence” of the control and experimental groups, to reveal the dynamics of the formation of environmentally-oriented life activity in the experimental methods in the experimental and control groups through the lens of “ascertaining stage - control stage of the experiment”.

Stage III is a formative experiment. At this stage, the implementation and actualization in a real pedagogical process of the technology of forming ways of ecologically-oriented life based on integrated culturally oriented situations were carried out. Using it, 40 lessons were conducted in experimental groups. The control group used traditional, standard technologies.

Stage VI is a controlling experiment. It made it possible to evaluate the effectiveness of the introduction of technology for the formation of methods of ecologically-oriented life based on integral culture-oriented situations. In the control and experimental groups, a control diagnostic section was conducted aimed at identifying the levels of environmental management culture. It consisted of 5 blocks, each of which included three tasks. In turn, the tasks suggested three solutions (A, B, C). Students had to choose only one of them that best corresponded to their ideas about themselves.

The first block consisted of tasks (No. 1-3) checking the formation of the motivational component. Each of them contained three versions of statements related to the culture-like activity of a person in the cultural landscape. The second block of the assessment was aimed at evaluating the information-cognitive

component. Students were asked to complete a number of tasks (No. 4-6) to define concepts, systematize knowledge, explain cause-effect relationships, and also apply knowledge in new conditions. The third block included tasks (No. 7-9), aimed at diagnosing the valuable attitude of students to cultural landscapes, their place in the system of individual values. The fourth block made it possible to determine the formation of the communicative component, so the tasks (No. 10-12) were of a discussion nature. The fifth block contained tasks (No. 14-15) of a creative and practical nature, involving the creation of an educational product. With their help, the development of a practical and constructive component, reflecting the presence of subjective experience of culture-like activity, was checked.

The received data were processed using a special key (Figure 03). Option "A" was evaluated at 1 point, option "B" - at 2 points, and option "C" - at 3 points.

Mc.									I-Th.									V-Nm.					
1			2			3			4			5			6			7					
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
V-Nm.						C.c.						P-cr.											
8			9			10			11			12			13			14			15		
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3

C.c. – Communicative component
 P-cr.- Practical and creative component

Mc. -Motivational component
 I-Th. -Informative and theoretical component
 V-Nm. - Value-normative component

Figure 03. A special key

The calculation of the results for each respondent was carried out by summing the points received. The interpretation of the indicators was based on Table 02.

Table 02. Formation levels of environmental management culture

	Points	Level	Formation indicators
I	0-15 p.	Culturally-adaptive level (low)	<p><i>Motivational component:</i> reflects the low level of constructive and environmental activity of students. Personal search is based on the concept of "necessary."</p> <p><i>Informational and theoretical:</i> environmental knowledge is presented at the level of facts; their application is modeled.</p> <p><i>Value-normative component:</i> Value dominant ideas occupied with consumer values.</p> <p><i>Communicative:</i> delimiting individuality, awareness of the importance of dialogue.</p> <p><i>Practical and creative:</i> practical activity is poorly expressed. There is no subjective experience of culture-like activity in the context of sustainable development of the territory of the cultural landscape.</p>
II	16-30 p.	Cultural and semantic level (medium)	<p><i>Motivational component:</i> characterized by insufficiently high structural and environmental activity of students. Personal search is characterized by the concept of "want."</p> <p><i>Informational and theoretical:</i> consciously apply environmental knowledge in familiar situations;</p> <p><i>Value-normative:</i> recognition of environmental meanings, the importance of observing environmental standards, imperatives, the dominance of co-evolutionary values.</p> <p><i>Communicative:</i> recognition of the importance of teamwork:</p>

			<i>Practical and creative:</i> poor formation of the subjective experience of cultural creation in the context of sustainable development of cultural landscapes.
III	31-45 p.	Cultural and creative level (high)	<p><i>Motivational component:</i> high constructive and environmental activity of students. Personal search is characterized by the concept of "aspire."</p> <p><i>Informational and theoretical:</i> knowledge is consciously applied in unfamiliar situations.</p> <p><i>Value-normative:</i> recognition of the intrinsic value, the uniqueness of cultural landscapes.</p> <p><i>Communicative:</i> they understand the significance of the "other", they are aware of themselves as part of the content of the life of others.</p> <p><i>Practical and creative:</i> the subjective experience of cultural creation in landscapes in the context of sustainable development is formed.</p>

6. Findings

6.1. Technology of culturally-oriented situations

As a result of the study, a technology was developed for the formation of methods of ecologically-oriented life based on culturally-oriented integrated situations.

Its "core" is culturally-oriented integrated situations that awaken and encourage students to ecologically-oriented ways of life perception, understanding of life and creation. They represent a structure-process, reflecting the continuity of the cultural development of the landscape: from adaptation - comprehension to constructive and creative activity. Each of them allows students to understand the close "interweaving" between its components, to carry out integral landscape synthesis (Ragulina, 2015):

Stage 1 is the cultural and adaptation integral situation, which contributes to the mastery of schoolchildren by the method of "life perception" of the cultural landscape. The conditions are created for sensually-figurative comprehension of the landscape as a territory of vital activity, the emergence of students' emotional feelings, intuitive representations, interest and the need to know the cultural landscape.

The content of the situation is aesthetic properties of the landscape, the history of the formation of its appearance. The result of its solution is the creation of a geographical mental image of the cultural landscape.

Stage 2 is the cultural-semantic integral situation focused on the formation of a way of "life-understanding" of the cultural landscape. It contains opportunities for students to realize the universal value of the cultural landscape (cognitive, resource, moral and aesthetic), its spatial-temporal vector of development, and the education of ethical standards of existence in it.

It involves the study of the history of the formation of the cultural heritage of the landscape, traditions, customs, cultural values, and the worldview of the ethnic group living on its territory, as well as the comfort and quality of life in the landscape.

The educational result of solving this situation is the creation of a "Life Code of the nature user".

Stage 3 is the cultural and creative integral situation, which stimulates students to construct a life strategy for behavior in the cultural landscape, to manifest ways of ecologically-oriented "life creation" in it, defined by the culture of nature management. It involves the consideration of the practices of creation,

rationality, harmony and balance in the cultural landscape, the study of the interactions between its components that affect the types of nature management, methods and intensity of economic development of its territory.

The result of studying this situation is the development by students of a “road map” of an environmentally-oriented life-creation strategy in the cultural landscape, eco-design and futurodesign projects of the cultural landscape.

6.2. An algorithm for solving culturally-oriented integrated situations

The decision algorithm involves three stages of solving situations.

Stage 1, “focusing on the whole - a general view”, opens for students the world of the cultural landscape in all its beauty and complexity. At this stage, schoolchildren get acquainted with the content of the situation and reflect their primary associations and ideas caused by the “first contact” with the cultural landscape in the mental map. This contributes to the formation of their response to the proposed situation, the creation of prerequisites for entering the dialogue mode. The unique life experience (emotional, practical, etc.) of schoolchildren associated with the cultural landscape (“I-unique”) is being updated.

Stage 2, “focusing on parts - analysis”, involves the study of the dialectics of the relationship of all components of the cultural landscape: the natural environment, culture, economic results and the worldview of the subject.

The integral table of the cultural landscape gives learners an opportunity to trace the “tetraevolution” between the quadrants (Table 03).

Table 03. Integrated cultural landscape table

EXTERNAL					
1. Natural line quadrant interactions			2. Social and economic line quadrant interactions		
Aspects of the influence of the natural component			Aspects of the influence of the social and economic component		
Natural -Social and economic aspects (IT-THEY)	Natural and cultural aspects (IT-WE)	Natural-subjective aspects (IT-I)	Social and economic - natural aspects (THEY-IT)	Social and economic - cultural aspects (THEY-WE)	Social and economic – subject aspects (IT-I)
INTERNAL					
3. Cultural line quadrant interactions			4. Subject line quadrant interactions		
Aspects of the influence of the cultural component of the landscape			Aspects of the influence of the subject component of the landscape		
Cultural and natural aspects (WE-IT)	Cultural – Social and economic aspects (WE-THEY)	Cultural and subjective aspects (WE-I)	Subject and natural aspects (I-IT)	Subject-social and economic aspects (I-THEY)	Subject and cultural aspects (I-WE)

Based on it, a sequential study of the influence of landscape components on each other is carried out along the following "lines of quadrant interactions":

- *“The natural line of quadrant interactions”* involves the consideration of aspects of the impact of the natural component of the cultural landscape on the social and economic, cultural and subjective components.
- *“Social and economic line of quadrant interactions”* provides for the study of the influence of the social and economic component of the landscape on the evolution of cultural, natural and subject components.
- *“The cultural line of quadrant interactions”* helps to consider the influence of the cultural component of the landscape on the formation of socio-economic, natural and subjective components.
- *“The subject line of quadrant interactions”* is aimed at studying the worldview, intellectual and spiritual activity of the subject of life, at developing the cultural, social and economic and natural components of the cultural landscape.

Studying each “line of quadrant interactions” involves a team form of work. This allows schoolchildren to realize the value of using mutual experience - “I” of a different person is in me,” which is an important condition for their formation as subjects of ecologically-oriented life. Students are divided into three teams, come up with a name, a motto, choose a leader, and distribute roles among themselves. Then each of them examines one of the aspects presented in the “line” and prepares a report based on the results of the work. It is presented and discussed during the round table. All participants enter the conclusions obtained into the integrated interaction table (Table 03). Then the students begin to study the following “line of quadrant interactions”.

Stage 3, “focusing on the whole - synthesis”, focuses on the holistic vision of the cultural landscape by the subject. At this stage, teams summarize the study of all “lines of quadrant interactions”. A discussion is organized, which can be held in various forms: discussion, debate, conference. The result of this stage is the collective creation by students of an educational product, the content of which depends on the culturally-oriented situation in question.

6.3. The results of experimental testing of technology

The systematization of the obtained experimental data, including quantitative and qualitative analysis, made it possible to evaluate the effectiveness of the technology for the formation of methods of ecologically-oriented life based on culturally-oriented integral situations. In the analysis of the controlling stage of the experiment, it was determined that 25% of the members of the experimental group have a low (cultural-adaptive) level of environmental management culture. For them, sensory perception of the cultural landscape, its figurative representation is more characteristic. Consumer values prevail. There is no awareness of the importance and necessity of co-evolutionary interaction with the landscape, of creatively-constructive activity in it. This indicates the lack of formation of environmentally-oriented ways of life. For comparison, in the control group this level is observed in more than half of schoolchildren (54%).

For 46% of the respondents of the experimental group, the average (cultural-semantic) level of environmental management culture is characteristic. They realize the importance and intrinsic value of the cultural landscape, the internal connection with it. Co-evolutionary values for them are personally significant and take on a subjective form. They understand the existing relationship between the

components of the landscape as a holistic system, and their controlling role in it. They are able to select appropriate ways of understanding the patterns of organization of the cultural landscape, its spatially hierarchical differentiation, and the study of co-evolutionary spatially-oriented relationships of a person with the environment. It can be concluded that these students fully mastered the environmentally-oriented way of understanding the cultural landscape. In the control group, the percentage of students with an average level of environmental management culture is 32%, which is 14% lower than in the experimental one.

The cultural and creative level of environmental management culture was diagnosed in 29% of the participants in the experimental group. This is one and a half times higher than in the control group (12%). Pupils with such a high level of environmental management culture are focused on maintaining the stable functioning of the cultural landscape of their locality. They have formed the subjective experience of life creation. In their activities in the social and cultural environment, they are guided by ethical standards and environmental imperatives, are able to develop environmental projects related to eco-design, development of a strategy for co-creative interaction with the cultural landscape.

In the course of comparing the results of the ascertaining and controlling experiment, the dynamics of the development of methods of ecologically-oriented life activity among the participants of the experimental group was revealed. The number of students with a low level of environmental management culture has decreased by more than two times (from 64% to 25%). The share of schoolchildren with an average, cultural-semantic level increased by 20%, which indicates their mastery of co-evolutionary values, understanding of their responsibility to maintain a balance between all components of the cultural landscape. An increase of 18% in the number of members of the experimental group with a high level of culture was established. They are capable of creative and constructive activity in the cultural landscape, its cultivation, transformation and improvement of its qualities (Table 04).

Table 04. Formation levels of environmental management culture at the ascertaining and controlling stages of the pedagogical experiment

	STATING STAGE		CONTROL STAGE	
	Control group	Experimental group	Control group	Experimental group
Cultural and adaptive level (low)	60%	64%	54%	25%
Cultural and theoretical level (medium)	29%	26%	32%	46%
Cultural and creative level (high)	11%	10%	14%	29%

Thus, it can be concluded that $\frac{3}{4}$ schoolchildren of the experimental groups have formed ways of ecologically-oriented life activity: life perception, life understanding and life creation. Indicators of this fact have become medium and high levels of mastery of the culture of environmental management. These results indicate the effectiveness of the technology for the formation of methods of ecologically-oriented life based on culturally-oriented integrated situations.

7. Conclusion

In the course of solving the research problem, theoretical ideas and methodological approaches were identified that became the foundation for the development of a technology for the formation of ways of environmentally-oriented life activity of schoolchildren while studying the cultural landscape. The technology structure is defined and justified, which is represented by three situations that consistently form ecologically-oriented ways of life perception, life-thinking and life-activity in schoolchildren: 1) culturally-adaptive integral situation, 2) cultural and semantic integral situation, 3) cultural and creative integral situation. An integral algorithm for solving them is disclosed, which includes three stages: “focusing on the whole: general view”, “focusing on the parts: analysis”, “focusing on the whole: synthesis”, which reflects the dialectics of the categorical matrix of the “whole” and “part”.

The effectiveness of this technology in the formation of environmentally-oriented ways of life among members of children's geographical clubs has been experimentally confirmed.

The results obtained made it possible to determine the theoretical and practical significance of the study. The theoretical significance lies in the design and construction of technology for the formation of methods of ecologically-oriented life based on integrated culturally-oriented situations, which contributes to the further development of landscape-environmental, personal-activity and integrally-situational approaches in geographical education.

The practical significance of the study lies in the development and implementation in practice of a comprehensive school of technology of integrated culturally-oriented situations, which contributes to the formation of ecologically-oriented ways of life among members of children's geographical clubs.

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References

- Asmolv, A. G. (1986). Historical and evolutionary approach to understanding the individual: problems and prospects of research. *Psychologyissues*, 1, 28-40.
- Bondarevskaya, E. V. (2014). Philosophical and conceptual foundations of systemic modernization of teacher education. *Bulletin of the Volgograd State Pedagogical University*, 9(94), 19-2.
- Carrasco-Sáez, J. L., Butter, M. C., & Badilla-Quintana, M. G. (2017). *The New Pyramid of Needs for the Digital 204 205 Citizen: A Transition towards Smart Human Cities. Sustainability*. Leipzig/Berlin - Cham.
- Conesa, P. (2016). Smart cities: Una vision integral para acelerar la innovacionurbana, un camino a recorrer. *Rev. Telos*, 105, 6 – 8.
- Darvill, T. (1997). Ever increasing circles: Sacred geographies of Stonehenge and its landscape. *Proceedings of the British Academy*, 92, 167–202.
- Demidova, N. N., Vinokurova, N. F., Zulkharnaeva, A. V., & Loshchilova, A. A. (2019). Designing an environmentally-oriented life activity of a student's personality in a cultural landscape: theoretical and methodological discourse. LLC “Cyrilitsa”, LLC “Blagoves”.
- Gibson, J. J. (1988). *An Environmental Approach to Visual Perception*. Progress.
- Gold, J. (1990). *Psychology and Geography: Foundations of Behavioral Geography*. Progress.

- Heidegger, M. (2018). *On the essence of human freedom. Introduction to philosophy*. “VladimirDal”.
- Kagan, M. S. (2018). *Philosophy of culture: a textbook for academic undergraduate studies*. Yurayt.
- Kalutskov, V. N. (2014). Applied cultural and geographical zoning of Russia. *Proceedings of RAS. Geographical Series*, 6, 30-39.
- Kochurov, B. I., Lobkovsky, V. A., & Smirnov, A. Ya. (2020). *Efficiency and culture of nature management*. Rusyns.
- Kolbovsky, E. Yu. (2018). Cultural landscape: in a variety of meanings it has not lost its meaning. *Legacy and modernity*, 1(4), 8-22.
- Kovylin, Yu. A., & Mamedov, N. M. (2017). Formation and development of the technosphere: prospects for harmonization. *The century of globalization*, 4(24), 33-44.
- Kryukova, E. A. (1999). *Personally-developing educational technologies: nature, design, implementation*. Peremena.
- Likhachev, B. T. (2017). *Pedagogy: course of lectures*. Yurayt.
- Loshchilova, A. A., Vinokurova, N. F., Zulkharnaeva, A. V., & Korshunov, M. Y. (2019). Practice-oriented educational program of activities of the children environmental association as a tool to form the seventh and eighth-graders' environmental responsibility. *Nuances-estudossobreeduacao*, 30(1), 601-631.
- Mann, C., & Plieninger, T. (2017). The potential of landscape labelling approaches for integrated landscape management in Europe. *Landsc Res*, 42(8), 904–920.
- Matloch, J. (2018). *The Assessment of German Cultural Landscapes. Evidence from Three Regions Located in the Metropolitan Area of Hamburg. RaumFragen: Stadt – Region – Landschaft*. GmbH. - Springer Fachmedien Wiesbaden.
- Petrovsky, V. A. (2015). “Subjectivity” in the space of culture and in reality. *The world of psychology*, 3(83), 14-38.
- Ragulina, M. V. (2015). *Cultural landscape: an integral view: a monograph*. Zebra.
- Shubinsky, V. S. (2010). Problems of an interdisciplinary synthesis of knowledge about a person as a pedagogical goal. In *New studies in the pedagogical sciences* (pp.7-14). Moscow State Pedagogical University.
- Terkenli, T. (2001). Towards a theory of the landscape: the Aegean landscape asia cultural image. *Landscape Urban Plann.* 57, 197–208.
- Vedenin, Yu. A. (2018). Cultural landscape as the keeper of the historical memory of the earth. *Regional issues*, 21, 28-34.
- Wilber, K. (2016). *The eye of spirit. The integral world*. Ripol classic.
- Yakimanskaya, I. S. (2013). *Fundamentals of personality-oriented education*. BINOM. 206 - Knowledge Laboratory.