

THE FEATURES OF FORMING THE ECOLOGICAL CONSCIOUSNESS OF A PERSON

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Abstract: In recent decades, people have faced a severe threat of an ecological catastrophe, primarily due to the conflict between culture and the laws of nature. Society has exceeded the capabilities of the biosphere. In this context, there is a need to make all aspects of social life more environmentally friendly, including developing and implementing resource-saving and waste-free technologies, which requires the active participation of ecologically conscious persons. The environment must be provided with the necessary resources for carrying out socially significant work. Knowledge of the interactions between society and the environment, understanding the immediate and long-term consequences of natural changes, appreciation, conservation of natural resources, and love for nature are essential. Technological progress has improved people's financial lives, but unfortunately, it has caused significant damage to the entire biosphere. In these conditions, the understanding of contradictions arising in the "nature-conscious society" sphere lags behind the constant growth of conflicts. Resolving the ecological problems of the current stage of social development requires a new worldview and the formation of people's thinking and attitudes toward the major issues of human life. The formation of this ideology allows people to recognize their honesty and naturalness and transform consumer relations into sustainable consumption. Despite society's attempts to reflect its actions against nature, people's perceptions of the world are still distorted, their natural behavior is ecologically abnormal, and people are not yet ready to actively work in harmony with nature. Therefore, the relevance of the research topic is determined by the need for a deep and comprehensive analysis of information on the formation of ecological consciousness in the context of natural social development. Theoretical research enables the creation of a broad concept of environmental consciousness and the revelation of its nature, functions, and role in the development of the environment. The article hypothesizes that the formation of ecological consciousness depends on the person's age. Based on a sociological study conducted by the Ilko Kucheriv Democratic Initiatives Foundation on behalf of the Environmental Law Association, problems of forming ecological consciousness and age-specific features of ecological perception were identified. As a result, forms and methods of creating ecological consciousness for different age groups were developed: children (preschoolers), adolescents (schoolchildren and students), and adults. The article emphasizes the necessity of educational and awareness-raising activities among the people of each age group to form ecological consciousness effectively.

Keywords: consciousness, ecology, frugality, knowledge, formation, age groups.

1 Introduction

Changes in the functioning of the environment and human life caused by the ecological crisis require a shift in the worldview of life and social production towards the interaction between humans and nature. In this regard, an innovative psychological approach to ecological education and the upbringing of the younger generation should be aimed at forming basic environmental values in students, developing their ability to perceive and recognize natural phenomena, and engaging them in critically critical ecological issues. Most contemporary research in this field is focused on energy conservation, air pollution reduction, and soil restoration. For instance, Jorgenson & White (2019) found that educators and ecological researchers are focused on studying and promoting energy-saving behaviors with an emphasis on children and youth. The new studies are focusing on energy transitions at regional and national levels. Rousell & Cutter-Mackenzie-Knowles (2020) identified the need for interdisciplinary, creative, and impact-oriented approaches to climate change education, which are currently lacking in the literature. The authors emphasized the necessity of developing new forms of climate change education that directly involve youth in responding to climate change's scientific, social, ethical, and political complexities. Similar research in this field has been conducted by Ardoin & Bowers (2020) and Ardoin, Bowers & Gaillard (2020). Air pollution has been addressed by researchers such as Yuen et al. (2020), who demonstrated the numerous benefits of autonomous transportation in terms of improved safety, comfort, resource utilization (i.e., land and energy), and environmental protection. Chin et al. (2019) highlighted the need for measures to raise public awareness of air pollution, notably

its health risks, and strategies to enhance perceived behavior control, especially regarding automobile usage. Fu et al. (2020) and Elnabawi & Hamza (2019) also emphasized the search for innovative approaches to protect the atmosphere from harmful emissions. Rustam, Wang & Zameer (2020) drew attention to soil protection and restoration in their research, which requires further enhancement of environmental consciousness education based on psychological theory and practice. However, these studies predominantly focus on practical environmental protection approaches. At the same time, it is currently relevant to develop preventive measures for nature conservation through the formation of ecologically conscious behavior.

The problem of studying the process of forming and developing environmental consciousness is relevant for ecological psychologists, particularly the methodological principles and fundamental concepts of environmental consciousness (Scoones et al., 2020), and it unfolds the eco-pedagogical theme. The issues of consciousness (Melloni et al., 2021) and the ecological image of youth and university students (Anthonyamy, Koo & Hew, 2020) have been explored in studying ecological consciousness in psychology and pedagogy. The article by Umarjonovna (2023) illustrates the use of an interactive method of teaching primary environmental education in preschool educational institutions. It includes aspects related to the environment, its pollution, the causes, the prevention of pollution, cleaning, lecture, practical and excursion methods of teaching, and methods of response in pedagogical teaching technology. The research by Pihkala (2020) analyzes the challenges and opportunities that "eco-anxiety" poses for environmental education. Variations of ecological anxiety are examined, and it is asserted that educators must be aware of the numerous forms of this phenomenon. In the study by Šorytė & Pakalniškienė (2019), the directions for forming ecological awareness in children are defined: family, school, diverse literature, computer games, television, and observing the behavior of others. At the same time, there is a lack of specialized research demonstrating the age-related connections of ecological attitudes among younger schoolchildren, gender differences in students' environmental consciousness, and the specific role of gender in orientation. Insufficient attention has been paid to studying psychological conditions and modalities that shape ecological consciousness based on personal attitudes toward the environment and nature.

The analysis of studies by environmental psychologists shows that only a few have dedicated themselves to developing psychology and teaching methods for environmental education. However, none of the authors have set out to investigate age-related aspects. The importance and insufficient development of theoretical and applied aspects of this specific problem have led to the choice of this research topic.

This study aims to analyze contemporary issues in the formation of ecological education of persons in the context of different age groups.

The following tasks were addressed to achieve the aims of the article:

- to clarify ecological issues based on an analysis of a sociological study conducted by the Ilko Kucheriv Democratic Initiatives Foundation;
- to identify differences in the formation of environmental consciousness among different age groups;
- to propose forms and methods for forming ecological consciousness for each age group.

The object of the study is the principles and methods of creating the ecological consciousness of individuals.

The subject of the study is the collective economic and psychological interactions that arise between stakeholders in forming ecological consciousness.

2 Materials and Methods

The article presents a theoretical analysis of environmental education based on scientific and literary preparation, the study and generalization of popular and advanced educational experiences, educational observation, posing questions, conversations, essays, and knowledge transfer.

The theoretical significance of this research lies in its potential to complement and refine contemporary notions of the educational potential of different age groups as an essential factor in environmental education. The practical significance of this work lies in the deliberate utilization of family, educators, and caregivers' resources for environmental education, creating a pedagogical prerequisite for forming this process.

The material presented in this study can be used as follows:

- in educational activities in general education schools;
- in the development of methodological guides for primary school teachers and preschool educators;
- in lectures and symposiums for university and secondary school students;
- for enhancing the qualifications, education, and cultural level of parents.

The research results can be seen in the authors' studies, scientific papers, reports, and dissertations.

The scientific background of this research is ensured by the following:

- a comprehensive analytical approach to the problem;
- the methodological and theoretical substantiation of the initial statement;
- the diversity of sources used;
- the compatibility of the research method with its goals, main ideas, hypotheses, and conclusions;
- an extended period of study;
- involvement of a large number of parents, students, and teachers in the experiment;
- the cross-checking of results;
- the representativeness of the research sample.

The hypothesis of the research suggests that the development of ecological culture among preschoolers, students in general education schools, and adults are successful when there is a methodological basis for addressing the problems through the application of systemic activity and research methods, with significant theoretical and methodological aspects in the selection and organization of the ecological content potential. Tutoring primary school students from the standpoint of complementary pedagogy has led to the development of a structural-functional model of environmental and cultural identity. It is determined by the correlation between relevant, material, functional, evaluative, and practical blocks. Numerous educational conditions have been created, which form the basis for the teachers' work in graduate programs on the ecological-cultural development of students in higher education institutions. These include developing and implementing a comprehensive cultural program in the ecological-cultural development of children and students undergoing additional training in general education schools with socially significant value orientations and fostering the students' need for environmental conservation activities.

4 Results

Their social environment often shapes the ecological consciousness of a person. Under the same environmental conditions, different social groups, strata, and classes may have varying assessments, attitudes, and approaches to environmental

issues. It also applies to a person's ecological consciousness. Therefore, it is necessary to identify the key factors in forming ecological consciousness, primarily examining the role of the social environment, family, education, culture, mass media, and environmental education in this process.

A study by the Ilko Kucheriv Democratic Initiatives Foundation on behalf of the Environmental Law Alliance Worldwide sheds light on the causal relationships and specificities of forming ecological consciousness in contemporary conditions. This sociological research highlights the influence of factors such as worsening overall environmental conditions on the formation of ecological consciousness.

The report indicates that environmental problems concern Ukrainian citizens and are gaining popularity (Figure 1). The citizens are particularly concerned about soil, water, and air pollution.

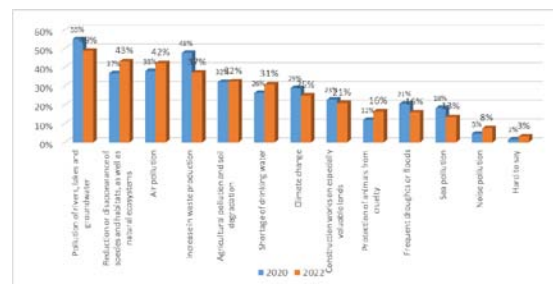


Figure 1. The importance of environmental issues for a person at the present stage

This survey was conducted among people between 18 and 60 years and older. It allowed us to identify differences in the formation of environmental awareness depending on the age category. Thus, the citizens receive information about the ecological situation and problems solving differently (Figure 2).

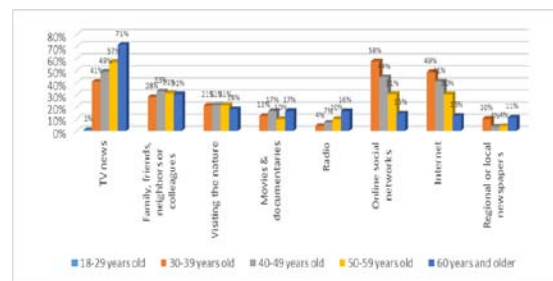


Figure 2. The age-specific peculiarities of perceiving information on environmental changes

Based on the results of the sociological research, the formation of ecological consciousness should vary depending on the people's age. We propose distinguishing the following age groups: children (mostly preschool-aged), adolescents (schoolchildren and students), and adults. Within these proposed age groups, ecological consciousness is shaped based on education. Education enables people to attain awareness and act environmentally responsibly in the future. Figure 3 illustrates the scheme of consciousness formation and environmental education's influence on a person's behavioral aspects.

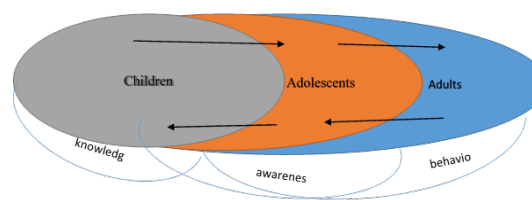


Figure 3. Interaction of different age groups during the formation of ecological consciousness

Thus, the figure shows that ensuring environmental education in preschool age will allow conscious action in adolescence and form the correct environmental behavior in adulthood. At the same time, parents' behavior affects the ecological perception of adolescents and preschool children, as they imitate the actions or

inaction of their elders. Thus, environmental education is vital in every age group. However, the formation and ways, and methods of achieving it differ. Table 1 presents the methods and outcomes of environmental education for each age group.

Table 1. Forms and methods of environmental education for different age groups

Age group	Main goal	Methods	Expected results
Children	Formation of a worldview system that includes a cognitive and effective attitude to nature based on views and beliefs.	The educational content includes introducing children to nature through experiments, observation, educational and environmental games, flower gardens, ecological walks, work parties, and drawings.	The program provides for the achievement of an aesthetic sense and understanding of interrelationships in nature. It creates the foundations of environmental culture and fosters a caring attitude to nature and the basics of ecological culture.
Adolescents	Formation of a positive environmental perception based on an active life position	The educational content is comprehensive. It is based on including an environmental component in academic disciplines (chemistry, biology, etc.) and conducting sightseeing tours, expeditions, training, etc.	The goals and tasks of educational, scientific, and environmental awareness activities are interrelated and contribute to forming a responsible attitude toward nature.
Adults	Eliminating consumerism and conquering attitudes towards the environment.	Informing people about the methods and ways of environmental preservation, reducing the negative impact on nature, and forming positive ecological behavior in the eyes of children.	The goal is achieved through practice-oriented environmental activities and implementing environmentally friendly technologies and measures.

As the table shows, a child's personality learns about the world at preschool age and forms behavior through their impressions. That is why the primary goal of environmental education at this age is to ensure the formation of ecological awareness through educational activities in preschool institutions, extracurricular clubs, and educational events. In this case, the cognitive component of environmental education involves:

- familiarizing children with the environment;
- the mechanisms of life within it;
- emphasizing the close relationship between humans and nature.

This goal is achieved through narratives provided by teachers, educators, and parents at home. The emotional component is formed through children's behavior, their attitudes toward the environment, and various forms of communication with nature. In this context, using games as a component is applied to engage children's interests. The motivational component explains the interdependence between humans and nature and fosters the understanding of the necessity to preserve it. The behavioral part is facilitated through practical interactions with nature, observing and imitating the behavior of adults towards wildlife and environmental conservation. In this component, the close proximity of a child to nature and the opportunity to have direct contact with it at home can play an important role. It is also essential to understand that the formation of environmental education in preschool age serves as the basis for developing ecological behavior in the future.

In adolescence, ecological consciousness is formed through learning, acquiring knowledge about the functioning of the surrounding natural environment, and the practical application of skills for interacting with nature. The emotional component at this age is formed through an interest in gaining knowledge about the mechanisms of the surrounding environment's functioning. This aspect is achieved by appealing to self-assessment, encouraging critical thinking, fostering the person's desire to mature, and developing mechanisms for adapting to a lifestyle in harmony with nature based on these foundations. The motivational component is formed through the awareness of the interdependence between humans and nature and the desire to seek ways to preserve it. The behavioral part at this age is shaped by applying acquired knowledge, engaging in practical role-playing activities, and participating in environmental events and thematic projects.

In adulthood, ecological awareness is also formed through acquiring new knowledge and adapting to changing environmental conditions. Currently, the focus is often on the issues of deteriorating environmental conditions due to hostilities in Ukraine. Prominent issues include energy conservation, protection and restoration of soils, and air pollution. The emotional component will be formed through realizing the necessity of environmental restoration and developing behavior aimed at resource conservation. The motivational part lies in creating correct ecological behavior and conveying the importance of preserving the environment for future generations. The behavioral component entails adopting an environmentally-friendly attitude and educating children and adolescents about protecting the natural environment.

In addition, environmental consciousness includes knowledge of environmental standards, the necessity of implementing measures, citizens' responsibilities towards the natural environment, and environmental protection skills. It is evident that this is possible at different stages of human development. The preschool age is the best period for shaping a person's attitude towards the world, especially nature. Therefore, the role of teachers and educators is to encourage children to acquire knowledge and skills at this stage of development. In the context of environmental culture, modern preschoolers, as future massive consumers of natural resources, should strive to challenge established traditions of relating to nature and fight for alternative algorithms for solving environmental problems.

Environmental education is fundamentally a global problem requiring practical solutions by selecting tasks, principles, means, forms, and methods corresponding to preschool children's work's age-specific characteristics, abilities, and peculiarities. One of the crucial prerequisites for the success of early childhood environmental education is the selection by educators of the most effective natural forms and methods of teaching children.

Extrapolating the characteristics of philosophical consciousness to environmental consciousness enables us to identify the following functions of the latter: worldview and educational, evaluative, and practical. The ideological and educational role of environmental consciousness is to teach children the basic norms of ecological ethics in a more specific and professional form at the initial stage of a child's development and through the process of in-depth and continuous study of environmental problems and disciplines. Forming a new ecological consciousness is the first

step towards an ecology of personal space, which is only possible through environmental education. The evaluative function involves creating a new system of values in which humans and nature form an inseparable whole. It became possible due to the influence of environmental symbolism on the emotional and sensory world of humans through the transmission of information that includes new information technologies and processes of environmental education and upbringing. The most important task of the practical function is the development of environmental responsibility as a universal legal system of interaction between humans and the environment.

The foundation of any civilization's development is education, i.e., a system for transmitting accumulated knowledge, experience, cultural and moral values, and a plan for rational interaction between humans and nature. Humanity's future fate and survival depend on solving the most acute environmental problems. Therefore, one of the essential contemporary tasks is forming a new ecological mindset, i.e., cultivating the corresponding culture. It can only be achieved through the environmental transformation of the entire education and training system. Education can be distinguished as one of the main directions for environmental protection and specialized environmental education in further developing and disseminating ecological consciousness. Ecological education, expressed in theory, ethics, aesthetics, ideology, rights, and personal worldview, should emphasize environmental responsibility, linking the consequences of proposed actions and considering the acceptable ecological impact. Scientific popular literature, articles in specialized periodicals, and materials provided in widely accessible newspapers, radio, and especially television have played an essential role in raising awareness and preparing people to perceive the regularities of real-life circumstances.

Ecological education is part of a three-fold system: "ecological education-ecological upbringing-ecological behavior." All its components form the basis on which people develop an environmental worldview based on realizing the need to preserve an optimal living environment for humans on a global, regional, and local scale.

Thus, an effective ecological education system is based on principles such as continuity, ease of use, modularity, and regional specificity. Within the framework of formal education, the best choice for incorporating ecological aspects into general subjects would be through the study of related disciplines and subjects such as biology, chemistry, physics, and geography. However, humanitarian issues also have ecological potential, and education should also be viewed from the perspective of ecology, human safety, economics, social engineering, and ethics. Social, philosophical, and ideological perspectives are becoming increasingly important in modern ecological education systems. More attention is being given to developing educational programs for intellectual circles with a distinct humanitarian component. These programs serve as the underlying assumptions based on recognizing the indivisible unity of humans and nature and assessing this unity from past, present, and future perspectives.

Therefore, forming adequate ecological consciousness involves taking ecological principles from science, religion, and folk wisdom as normative foundations of one's worldview.

5 Discussion

The interaction between humans and nature is a highly relevant contemporary issue. Its significance grows stronger with each passing year because humans' planned production of material resources sometimes becomes unplanned, which has a detrimental impact on the production of living organisms in the biosphere and the entire external ecosystem. Its dimensions are sufficient to threaten the destruction of all life on Earth, including humans. The most important aspect of addressing the problem of conserving the Earth's natural resources is the ecological education of persons and the entire population, including the younger generation. This thesis is supported by

authors Bergmann & Ossewaarde (2020) and Chen (2019). The formation of ecological awareness and ecological culture is a long-term process that occurs under the influence of ideology, politics, art, scientific knowledge, production practices, education, and other aspects of human life. Molina-Motos (2019) has shown that ecological education was prompted to define its specific nature, distinct from supposedly more integrative educational movements. The preschool age can be considered the beginning of an environmental orientation of the person since it is during this period that the foundation for conscious attitudes toward the surrounding reality is created, and vivid emotional impressions accumulate, which remain in a person's memory for a long time (Demidov et al., 2019). Therefore, the importance of addressing ecological issues, ecological awareness, and culture are directly related to the practice of early childhood education. It has led to an era of increasingly focused environmental education. Everyone who harms nature was once a child. Therefore, preschool educational institutions play a significant role in the upbringing of children from an early age.

A distinctive feature of ecological education is the importance of positive examples of adult behavior. Reid (2019) has demonstrated that problems and dangers of science and research in this field are highlighted by comparing them with various possibilities and potential within a wide range of studies published in this and related areas, such as understanding who teaches and learns about climate change in education, as well as in identifying the conceptual, political, and economic factors and barriers associated with its implementation. Chawla (2020) has determined that direct experiences interacting with nature during childhood contribute to caring for nature throughout life. In response to this, many conservation organizations advocate for establishing a connection between children and nature, and there is an increasing interest in measuring the relationship of young people with nature, understanding how it relates to their well-being and environmental behaviors, and creating programs to enhance this connection. Martin et al. (2020) found that specific types of nature contact and individual differences in nature connection are differently associated with aspects of health, well-being, and pro-environmental behavior. Therefore, educators not only take this into account but also consider collaboration with parents to be very important. Clarity is key here. Parents need to know that they cannot demand that a child follow behavioral rules if adults themselves do not always adhere to them; it is impossible to achieve this. Instilling a positive attitude towards nature in children can only be accomplished when parents possess an ecological culture. The influence of parenthood stems from the conviction of adults in the necessity of environmental values. The family's structure, hierarchy, quality, and lifestyle significantly impact a child's upbringing.

6 Conclusion

Environmental consciousness reaches all spheres of society's consciousness. As a multidimensional form of self-improvement, ecological consciousness is reflected in nature and society, serving as a universal spiritual organism. The formation of ecological consciousness and culture among the citizens of Russia and Kazakhstan is an essential condition for the development of modern society, enabling people to engage in practical activities, align them with natural laws, and change their habits. By embracing utilitarian consumption, recognizing the intrinsic value of nature, and adopting an interactive approach to science, we can avoid global ecological crises, climate catastrophes, and environmental problems. Ecological education receives increased attention at all levels of education. It is known that people with ecological culture can live in harmony with their internal and external worlds. In childhood, this ability is formed through specialized knowledge, the development of an emotional environment, practical skills in ecological activities, and the formation of moral values. These values include a sense of responsibility for nature and life in all its manifestations and a deep belief in the necessity of nature conservation. In this regard, the role of schools in shaping ecological culture within the population has grown, making it an essential part of social life. This opinion is supported by the Law

of the Russian Federation "On Education," the Law "On Environmental Protection," the "National Strategy for Environmental Education in the Russian Federation," the "Concept of Education Development of the Republic of Kazakhstan by 2015," the "Strategic Plan for the Development of Kazakhstan by 2030," and others. At the same time, the level of ecological literacy among students is characterized by significant educational deficiencies that are often underestimated. A review of the national and foreign scientific literature reveals that researchers conduct comprehensive and multifactorial studies on ecological education. Through a scientific-theoretical analysis of philosophical, psycho-pedagogical, and sociological literature, the problems of environmental and cultural development of young children in the context of additional education have been analyzed. This issue is likely related to the theory and practice of teaching and requires further theoretical discussion. Through theoretical analysis, the structure of ecological culture in primary school children has been determined, comprising the interconnected components of values, knowledge, and motivation. Each component represents a relatively independent substructure and is subject to the general law of personality development, which reflects the unity of consciousness, actions, and social relations. Based on the requirements of systematic activity, research methods, and literature analysis, we define the concept of "ecological and cultural development of high school students" as acquiring knowledge and forming value orientations regarding the environment. It is crucial to guide the necessary research and practical measures concerning nature and environmental conservation and develop diverse programs for educational activities to foster an ecological culture among young people, transform the sociocultural environment of other educational institutions, and optimize ecological education in schools. The conducted research only considers one aspect of the complex and multifaceted problem of fostering an ecological culture in primary school children within the framework of further education. The most important aspect is to develop various educational activities and programs to develop an environmental culture in youth, change the sociocultural environment of other educational institutions, and optimize ecological education in schools.

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