

# Environmental Management as an Organizational-Pedagogical Condition for Education for Sustainable Development in Kindergarten

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**Abstract:** In the practice of kindergartens, environmental education necessary to overcome the environmental crisis appeared in the 90s. In the process of formation and development up to date, the need to update the existing theory and practice of environmental education of preschool children and the transition to education for sustainable development in the kindergarten has become demanding. The introduction of environmental management in the activities of the kindergarten management system is proposed as an effective mechanism for greening and updating the system of preschool education, which is the purpose of this study. Environmental management acts as a system-forming organizational and pedagogical condition for education for sustainable development in kindergarten, including the environmental education of kindergarten children, parents, and teachers, based on the ecological-system approach. This approach is implemented in the conditions of direct interaction of preschool children with ecosystems of the closest natural, social, and cultural environments in functionally different forms of organizing children's environmental education. As an innovation, organizational, and pedagogical condition, environmental management ensures the effective implementation of internal patterns in kindergarten activities.

## 1. Introduction

Environmental education is a resource necessary for the survival of mankind and the sustainable development of civilization. Environmental education was included in the system of preschool education in Russia in connection with the adoption at the UN Conference on Environment and Development in Rio de Janeiro of the Concept of Sustainable Development in 1992 and recommendations for turning it into a system of spiritual and national attitudes of humanity. In 1996, in Russia, S. N. Nikolaeva developed the Concept for the Environmental Education of Preschool Children [9], which offers a system for managing the environmental education of preschool children in accordance with the specifics of administrative levels. The leading goals of the management system are the following: support of initiatives from below, development of environmental education programs for preschool children, purposeful increase in the level of ecological culture of various specialists in preschool education, opening of experimental sites, dissemination of advanced pedagogical experience, coordination of efforts of individual institutions and the creation of a system of continuing environmental education.

At the level of a preschool institution, these goals are as follows: the organization of a green zone in a kindergarten; the accumulation of teaching material, advanced training of teaching staff; the promotion of environmental knowledge among parents; and the establishment of links with environmental institutions. It is highly advisable to have an ecologist in the staff of the kindergarten. They coordinate the activities of the kindergarten from an environmental point of view but do not replace the teacher (who acts as the carrier and conductor of ecological culture). In addition, the Concept indicates the functions of kindergarten specialists in the environmental education of children [9]. The concept provided for all the organizational aspects necessary to create the conditions and nurture the foundations of the ecological culture of preschoolers. However, in recent years, education for sustainable development has become an alternative to environmental education. Education for sustainable development is focused not only on the formation of a lean attitude

towards nature but also the tasks of sustainable development, designed to ensure the satisfaction of the needs of living generations of people without undermining the conditions necessary for meeting and satisfying the needs of future generations [10]. Modern children represent the society of the future, and the environmental education of a preschooler is one of the strategic components of the personal development of a person who has to solve the problem of sustainable development. Thus, to increase the effectiveness of environmental education and, possibly, its transition to education for sustainable development, it is necessary to introduce environmental management, as an organizational and pedagogical condition for education for sustainable development, in the activities of the kindergarten management system.

The purpose of the study is to provide the rationale for introducing environmental management into the kindergarten management system as an organizational and pedagogical condition for education for sustainable development in kindergarten.

The novelty of the study is the introduction of environmental management into the activities of the kindergarten as a strategic system-forming component of the educational organization, which determines the environmental education of its subjects and the system development of the organization aimed at studying the ecosystems of the closest natural and sociocultural environment. Favorable conditions for the organization can provide an additional synergistic effect on the quality of children's environmental education.

## **2. Materials and Methods**

The basis of the study is the ecological-system approach, which determines the development of educational systems aimed at environmental education. Analyzing the teachings of V. I. Vernadsky on the noosphere, the structure of the biosphere, and its governance, N. N. Moiseev notes that the development of the biosphere should be not so much controlled as directed [8]. E. Laszlo adheres to this position, revealing the inevitability of future changes in world civilization and the life of peoples in connection with the environmental crisis [7]. The ecological-systemic approach [5] is implemented using the following principles: the ecosystem orientation of cognition, systematicity, humanization, and greening of educational activities in kindergarten. The essence of the first principle is that the world around us is not chaotic but ordered. Nature and culture, as the living environment of plants, animals, and people have a similar structure. The leading unit of the world's fabric is ecosystems (natural and man-made), serving as "houses" for living organisms.

Obviously, it is quite possible to form an idea of the house among preschoolers, which means it is more environmentally friendly to carry out the knowledge of the surrounding world in a directional way, i.e., on excursions to the forest (meadow, pond, etc.), direct the vector of children's knowledge of the forest as "home" for plants and animals. S. L. Rubinstein argues that mental development consists of all new possibilities of cognitive and effective penetration into reality, which is inextricably linked with the deepening in the subject of the personal plan, namely the inner life of the person [12], his\her consciousness, thinking, creative abilities.

According to the theory of W. Bronfenbrenner, the ecological approach is the study of the relationship of children with the closest natural, social, and cultural environment, which affects the mutual adaptations of a person and the changing properties of the environment throughout life [2]. Knowing the ecosystems (the word itself is not introduced for preschoolers) and the living conditions of living creatures in them, children form systemic ideas about them, and observing different "houses" and comparing them, they build an integral picture of the world and establish causal relationships. In the forms of direct interaction with nature and the socio-cultural environment, in children, emotional and sensory experience is enriched, and intuition develops, which will determine the strategy of human behavior and activity in the future. The implementation of this principle improves the quality of environmental education in comparison with the traditional one and requires transformations in the educational process of kindergarten through ecological management.

N. N. Kargin put forward the idea that the biological, social, technological, and organizational structures that surround us are essentially systemic entities, and it is impossible to study and even manage and construct new ones except by systemic methods [3]. His idea confirms the consistency of the previous principle and affirms the need to use the principle of consistency, which is expressed in determining the functions of forms

of direct interaction with the environment (walks, targeted walks and excursions [5]. The implementation of this principle creates new tasks for the management system, namely, to provide the necessary conditions for the organization and continuity of these forms and to ensure the safety of children. This will require cooperation not only with environmental institutions but also with law enforcement agencies. In addition, excursions to socio-cultural enterprises require cooperation with these enterprises.

The foundations of a child's personal development are laid in preschool childhood. The principle of humanization is aimed at recognizing the intrinsic value of childhood and creating the most favorable conditions for the development of children, and therefore for environmental education. Important in the implementation of this principle is the consideration of the individual characteristics of children in the process of environmental education and the establishment of partnerships, subject-subject relations between teachers and children. Children have not only different experiences and levels of development, creative potential, but also different types of perception, lateral profile, nervous system, gender differences, and other qualities. This requires teachers to create variable conditions for building individual trajectories of environmental education in accordance with individual characteristics and children's needs. Implementing this principle implies the entire kindergarten team to be formed as a subject of pedagogical activity and a subject of environmental education. In other words, the values of childhood, life, nature and responsibility towards the future are the leading humanistic attitudes of the collective activity and the kindergarten management system.

The principle of greening educational activities in kindergarten is implemented with the aim of integrating educational areas in the environmental education of preschool children, where each educational area is necessary and plays a specific role in children's environmental education [6]. E. N. Knyazeva and S. P. Kurdyumov, considering the interaction of nonequilibrium systems, note the interdisciplinarity of synergetics [4]. In this case, the influence of other educational areas on environmental education cannot fail to produce a result, for example, such as integration in the minds of children of natural science and humanitarian knowledge obtained in the process of perceiving natural objects and providing an increase in the emotional background during perception. The organization of an integrated educational process in kindergarten will also require managerial decisions. The principle of greening educational activities in kindergarten involves the creation of an environmentally friendly educational environment, taking into account the orientation of children's experience in understanding the systemic structure of the world.

According to O. G. Rogovaya, "an ecologically-friendly educational environment is built on the ecological principles of its systematic nature, contains natural and sociocultural objects among the components, and can serve as a source of content for environmental education aimed at studying the unity of the natural and social features of the nearby territory" [11]. In our case, such an ecologically friendly educational environment is the ecologically developed taking into account the subject-spatial environment of the kindergarten, in which the ecosystem orientation of world cognition by preschool children should be reflected in the form of models of subjects, symbolic, systemic, games, etc. O. G. Rogovaya considers environmental management to be a system-forming factor in the organization of an ecologically friendly educational environment and one of the effective mechanisms for implementing the concept of sustainable development [11].

According to N. V. Pakhomova et al., environmental management is "a system for managing the activities of an enterprise (organization) in those forms, directions, parties that directly or indirectly relate to the relationship of the enterprise with the natural environment" [10]. O. G. Rogovaya identifies environmental management as a system-forming element that provides the greening of all ecological components [11]. Environmental management acts as an organizational and pedagogical condition in connection with the fact that it ensures the implementation of internal patterns in the activities of kindergarten, affecting the process of environmental education of preschool children. Regularities include, for example, a system for organizing innovative activities of an educational institution for the environmental education of children, which has a regional focus. Education for sustainable development in kindergarten includes in environmental education all subjects: teachers, children, parents. And environmental management as a system-forming organizational and pedagogical condition provides an additional synergistic effect (the combined merging of all subsystems) [13] to the quality of ecological education of preschool children as future citizens of the planet.

### 3. Results

Due to the fact that without a preliminary discussion of the nature, tasks and role of environmental management in preschool education, teachers did not understand its application to the activities of the kindergarten, questionnaires were conducted with teachers – participants in the seminar and advanced training courses (heads and methodologists of kindergartens) on the topic “Environmental management in kindergarten.” And also, the questionnaire was conducted with undergraduate students in the direction of “Pedagogical education,” the master's program “Preschool Education,” who were trained in the classroom and had experience in kindergarten. A total of 149 respondents participated in the survey. Answering to the question “Do you understand the function of this aspect of the kindergarten management system?”, a total of 70% (104 respondents) replied in affirmatively, 6% (9) negatively, and 24% (36) found it difficult to answer.

“Do you think that the introduction of environmental management will affect the quality of the results of environmental education and the development of children?”: (a) affirmatively – 64% (95 respondents), (b) negatively – 15% (22), (c) had difficulties – 21% (32).

70% (104 respondents) answered in affirmatively, 6% (9) replied negatively, 24% (36) found it difficult to answer to the question “In your opinion, can the introduction of environmental management influence the innovation process and the development of kindergarten?”

1. The result of this study can be considered the final survey of teachers participating in the pedagogical experiment to test the ecological-system approach, the program, and technology of the environmental education of preschool children in the natural and socio-cultural environment of the kindergarten. The survey was conducted in Krasnokamensk and Krasnokamensky district of the Transbaikal Territory of Russia in the period from 2014-2018. A total of 64 teachers participated in the experiment, and they were asked the following question: Which qualitative changes in the activities of the kindergarten did occur in connection with the testing of the ecological-system approach, the program, and the technology of environmental education of preschool children? In general, the answers to this question showed the following scatter of opinions: only 30% (19 respondents) noted the greening of the activities of the kindergarten management system; 47% (30) noted the environmental focus of educational integration; 80% (51) drew attention to the ecosystem orientation of the developing subject-spatial environment of the kindergarten; 30% (19) noted that cooperation with organizations and enterprises located in the immediate socio-cultural environment of the kindergarten had become more active; 53% (34) reported continuing education for educators; 47% (30) noted cooperation with families of foster children; 61% (39) noticed changes in the achievements of pupils, etc.

### 4. Discussion

1. The questionnaire conducted with managers shows that when first thinking about the role and place of environmental management in the activities of a kindergarten, not all teachers sufficiently understand its functions to organize the focus and integrity of the educational institution. It should be noted that most teachers note its positive effect on the results of the environmental education of educational subjects.
2. The analysis of the results of the survey of teachers shows that not all the answers of teachers are correlated with the answers of managers. This may be due to the fact that the teachers in the answers reflected the existing experience and could provide for not all aspects of the kindergarten and their integrity. Regarding the development of children, the question was posed separately, so some teachers did not take it into account.

### 5. Conclusion

Environmental management is an innovation in preschool education, which arose as a need to increase the effectiveness of the environmental education of preschool children and to create organizational and pedagogical conditions for its implementation and focusing the results of the kindergarten on the principles of sustainable development. Environmental management allows one to implement the process of kindergarten management and environmental education in it, use the conditions of the natural and socio-

cultural environment as a resource for children's environmental education. Also, it allows determining natural and man-made ecosystems and preparing conditions necessary for the organization of children's environmental education on the basis of an ecological-systemic approach with the distribution of functions between the forms of direct interaction of children with their immediate environment. Besides, environmental management is used to ensure the organization of a developing spatial domain, taking into account the ecosystem orientation; ensure the environmental safety of life and health of children and adults in kindergarten and immediate surroundings. Improving teacher training and organizing environmental education and cooperation with parents of children are other features. More than that, environmental management allows ensuring the interaction of the kindergarten with institutions and organizations for the implementation of ecological education tasks for children.

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