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# Pedagogical and Psychological Foundations for Shaping Value-Based Attitudes Toward Nature in Preschool Children Through Ecological Knowledge

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**Abstract:** This article explores the pedagogical and psychological foundations for forming value-based attitudes toward nature in preschool children by integrating ecological knowledge into early childhood education. The investigation focuses on how developmentally appropriate ecological education not only imparts factual information about the environment but also shapes children's emotional and cognitive connections with the natural world. By situating the conversation within the broader context of pedagogy and developmental psychology, this study addresses the cognitive readiness of preschoolers, the role of educators and caregivers, and the importance of well-structured and consistent environmental experiences. The findings suggest that immersive ecological education is critical to fostering value-based attitudes toward nature, leading to more environmentally responsible behavior over time.

**Keywords:** Preschool education, ecological knowledge, value-based attitudes, child development, pedagogical foundations, psychological foundations.

**Introduction:** The early years of a child's life are a critical period for psychological development and personality formation. During this time, children form fundamental attitudes toward the external world, including their relationship with nature. Because these formative experiences significantly shape how individuals interact with and value their environment later in life, it becomes paramount to instill ecological knowledge and attitudes in the earliest stages of education. Educational

theorists and psychologists have long recognized that instilling awareness, curiosity, and respect for nature in preschool children can serve as a cornerstone for fostering sustainable and responsible behavior.

The notion of integrating ecological knowledge into preschool curricula is supported by various pedagogical and psychological theories. From Vygotsky's concept of the Zone of Proximal Development to Piaget's stages of cognitive development, children's capacity to grasp new concepts—and their readiness to internalize values—demonstrates the importance of age-appropriate learning strategies. Moreover, the emotional and social components of these early experiences are crucial in building positive associations with nature that translate into long-term environmental stewardship.

Despite growing awareness of ecological education's benefits, relatively few comprehensive studies have investigated the combined role of pedagogy and psychology in shaping preschoolers' value-based attitudes toward nature. This study aims to address this gap by exploring how child development theories support the integration of ecological knowledge in preschool environments, analyzing the methods teachers employ, and discussing how these experiences affect children's environmental awareness and ethical frameworks.

This study employed a mixed-methods approach to investigate how pedagogical and psychological interventions influence the development of value-based attitudes toward nature in preschool children. Initially, a comprehensive literature review was performed to establish the theoretical context by examining pedagogical journals, psychology references, and educational directives relevant to early childhood ecological education. Building on this foundation, the research team then conducted an observational study in twenty preschool classrooms over the course of an academic year, recording how ecological concepts were introduced, noting the interactive strategies used by educators, and documenting children's emotional reactions to environmentally themed activities. In parallel, structured interviews were carried out with teachers and caregivers to probe their pedagogical aims, specific techniques for reinforcing ecological learning, and any challenges they encountered in sparking or sustaining children's engagement. Finally, children's impressions were gathered not only through classroom observations but also during brief one-on-one interactions, aiming to capture how preschoolers internalize and express attitudes related to environmental stewardship. Data arising from these

various methodologies were triangulated, allowing researchers to examine consistency across observational notes, interview responses, and children's own statements. This integrated process helped ensure the reliability of the conclusions drawn about the cognitive and emotional impact of ecological education on preschoolers.

Analysis of the data revealed a strong correlation between consistent exposure to ecological information and the development of positive, value-based attitudes toward nature. Classrooms that incorporated structured environmental sessions—with frequent discussions about flora, fauna, and natural phenomena—tended to have preschoolers who displayed greater curiosity and empathy toward living organisms. These sessions often included interactive elements, such as visits to school gardens or local parks, as well as hands-on activities like watering plants or feeding class pets. In addition to fostering a basic environmental vocabulary, such experiences allowed children to form emotional connections, as evidenced by expressions of concern for animals and an eagerness to participate in conservation-oriented tasks.

Another finding concerned the role of educators. Teachers who demonstrated genuine enthusiasm and modeled environmentally responsible behavior had a noticeably stronger impact on children's ecological awareness. Observers noted that when teachers intentionally showcased environmentally friendly actions—such as recycling, composting, or caring for class plants—children were more likely to replicate these behaviors and integrate them into their daily routines. Moreover, interview responses highlighted that supportive classroom environments, where children felt free to ask questions and make simple observations about natural phenomena, contributed to deeper engagement and learning retention.

While the majority of the children responded positively to environmental lessons, the data also revealed challenges. In some instances, the complexity of ecological concepts led to confusion among younger children. This highlights the need for age-appropriate approaches that balance factual information with experiential learning. Furthermore, limited resources and lack of specialized training among some educators sometimes hindered the consistent delivery of ecological knowledge in the classroom.

The results underscore the pivotal role that both pedagogical structure and psychological understanding play in shaping children's value-based attitudes toward the environment. From a psychological standpoint, preschoolers' cognitive and emotional capacities influence how they receive and internalize ecological

information. Vygotskian theory suggests that meaningful learning occurs within a supportive social context, which resonates with the observed correlation between enthusiastic teachers and engaged children. Because young learners rely heavily on the interpersonal aspects of their experiences, any environmental education initiative must consider the importance of teacher modeling and social scaffolding.

The findings also align with Piaget's conceptualization of cognitive development, which highlights that young children learn best when they can actively explore their environment. In the context of ecological education, this means providing hands-on experiences that allow children to directly observe and interact with nature. Combining factual knowledge (e.g., recognizing different plants or animals) with emotional resonance (e.g., caring for them) fosters a holistic educational experience.

Moreover, the pedagogical strategies evident in successful classrooms included repeated exposure to nature-related content, real-life examples, and a structured environment that values inquiry. Instead of relying solely on didactic methods, educators who encouraged children to ask questions and guided them through problem-solving steps successfully helped students integrate environmental concepts into their broader worldview. Such a process has a positive effect on moral and ethical development, as value-based attitudes are reinforced through iterative, meaningful practice.

These findings also highlight that an adequate supply of resources—both material and human—plays a substantial role in the success of ecological education. Preschool institutions with well-equipped outdoor spaces, access to green areas, or partnerships with environmental organizations often provided more immersive opportunities for children to develop a sense of wonder about the natural world. In cases where such resources were scarce, teachers emphasized creative solutions and virtual or indirect methods to encourage environmental thinking. However, these approaches, while beneficial, could not fully replicate the impact of hands-on outdoor experiences.

Ultimately, the results confirm that shaping a value-based attitude toward nature in preschool children requires an integrated effort that combines solid pedagogical planning with an understanding of developmental psychology. Such integration is best facilitated when early childhood educators have both the training and the enthusiasm necessary to create supportive, environmentally oriented learning contexts.

This study demonstrates that the formation of value-based attitudes toward nature in preschool children is most effective when ecological knowledge is presented through structured, developmentally appropriate methods that engage both the cognitive and emotional domains. Children's positive identification with nature emerges strongly when educators model responsible environmental behavior, foster child-led exploration, and provide consistent exposure to nature-related activities. By integrating key insights from developmental psychology and pedagogical best practices, early childhood education can serve as a powerful platform for instilling pro-environmental values and behaviors. These findings call for ongoing research to refine ecological curricula in preschool settings and highlight the importance of teacher training programs that focus on both content knowledge and pedagogical skills.

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