

Reflection Article

Impact of teaching methods and support measures on the development of creative thinking in primary school students

Fortalecimiento de las actitudes ambientales en el aula

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Correspondencia:

wendy.hernandez1@correo.tdea.edu.co

Wendy Dariana Hernández Ortega 

Estudiante de la Licenciatura en Educación Infantil.

Institución Universitaria Tecnológico de Antioquia.

CAT Los Patios, Colombia

Email institucional:

wendy.hernandez1@correo.tdea.edu.co

<https://orcid.org/0009-0001-1533-1895>

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Abstract

Environmental education activities are a process of raising environmental awareness and developing skills to protect the environment. Therefore, this paper aims to reflect on fostering environmental attitudes in elementary school students through proper waste management, water conservation, and environmental preservation. It considers it very important to analyze the relationship between environmental education in school and children's daily lives at home. Emphasis is placed on the need to develop an appropriate approach to addressing these issues within the school context. I would like to reflect on how we can use environmental culture and teaching practices as tools to help our students become good citizens capable of maintaining a responsible attitude toward the environment and contributing positively to future societies. I believe that any initiative to improve environmental culture should be based on a series of fundamental premises: the relevance of students' environmental knowledge, beliefs, and actions at home and in other contexts, as well as the actual role they play in our lives. It is essential to carry out projects that aim to truly integrate the principles of sustainability into our lives. It is essential to carry out projects aimed at truly integrating the principles of sustainability into our lives. We need to assess how the experience of working on these issues can be effectively applied to help our students develop their skills and change their attitudes toward waste, water, and other environmental issues.

Keywords: Environmental Education; Natural Resource; Pollution; Recycling; Waste
(Source: DECS)

Resumen

Este artículo de reflexión aborda la influencia de las estrategias de enseñanza y apoyo en el surgimiento del pensamiento creativo en estudiantes de educación primaria, mediante una revisión del enfoque de dichas estrategias. Los trabajos analizados demuestran que estrategias como el aprendizaje basado en problemas, el aprendizaje basado en proyectos, el constructivismo, la pedagogía metacreativa, los organizadores previos, el pensamiento computacional y las herramientas cognitivas pueden aplicarse para fomentar diversos aspectos del pensamiento creativo: fluidez, flexibilidad, originalidad y elaboración. Asimismo, se consideran las características culturales, cognitivas y personales de los estudiantes, así como la necesidad de un entorno educativo participativo, basado en el descubrimiento, orientado a las ideas y enfocado en la resolución de problemas. Desde esta perspectiva reflexiva, los docentes de primaria pueden percibir la necesidad de transformar sus prácticas tradicionales para lograr un proceso pedagógico más activo, flexible y personalizado. En este contexto, se concibe al docente como guía y facilitador del desarrollo del pensamiento creativo del alumnado, proporcionando materiales, recursos, interrogantes, interacciones y oportunidades para que los estudiantes construyan su propia comprensión y expresen sus ideas. Por consiguiente, el desarrollo de dimensiones del pensamiento creativo como la flexibilidad, la fluidez, la originalidad y la elaboración requiere una atención especial por parte del profesorado, una implementación práctica profunda de las estrategias y una evaluación adecuada para medir el progreso de los estudiantes y ajustar las intervenciones pedagógicas subsiguientes.

Palabras clave: Educación ambiental; Recursos naturales; Contaminación; Reciclaje; Residuos (Fuente: DECS)

1. Introduction

Environmental education can be described as a process through which individuals acquire knowledge and attitudes toward the natural world. This is particularly significant during the early stages of development, as school activities can be closely associated with lifestyle habits and behaviors. Rojas and Martínez Suárez (2018) argue that addressing environmental education alone is not sufficient. They emphasize the need for the

involvement of the government and relevant ministries to ensure substantial improvements in environmental conditions. Therefore, to set a positive example within schools, teachers should consider engaging students in projects related to recycling, resource conservation, and similar initiatives, enabling them to understand how they can positively influence their surroundings (Rojas & Martínez Suárez, 2018).

The challenge lies in the fact that students do not always develop positive environmental attitudes through their

school experiences. According to Campoverde-Robledo and Soplapuco-Montalvo (2024), primary education faces serious environmental issues resulting from a low level of environmental awareness among students. These problems are reflected in unhealthy habits, deteriorated learning spaces, the spread of various communicable diseases, and a general lack of interest in environmental matters. Consequently, it can be argued that the time has come to strengthen environmental learning by emphasizing appropriate and consistent practices before individuals incorporate these values and behaviors into their daily lives. With these objectives in mind, this article aims to propose strategies for reinforcing environmental attitudes from a personal perspective. Specifically, the reflection focuses on the impact of environmental projects in three key areas: waste management, water consumption, and general behavior within school facilities.

2. Method

The relationship between knowledge and behavior is essential for practices aimed at improving students' environmental attitudes. González Labrada, Reyes López, and Pérez Vega (2024) emphasize that students know how to preserve the environment; however, they do not always demonstrate similar tendencies regarding the implementation of specific practices in their daily lives. Therefore, it is crucial to create conditions that encourage students to translate their thoughts into actions, since being informed alone is not sufficient. For example, activities related to the three pillars of sustainable development, such as waste separation, water conservation, and care for local environments, should be continuously promoted. In this regard, the assessment of

attitudes and knowledge can be used to support educational decision-making, as it helps identify deficiencies and address them through relevant practices. Although environmental education involves promoting a sustainable community based on global responsibilities, it should begin with simple actions within educational institutions to foster environmentally responsible citizens.

On the other hand, according to Del Rey et al. (2022), environmental education is regarded as a powerful tool for promoting education for sustainability. Environmental education should be oriented toward developing positive attitudes among students regarding environmental preservation through initiatives such as waste separation, the rational use of water resources, and care for the environment. At the same time, such efforts will only be effective if individuals are genuinely capable of acting responsibly. Therefore, in practice, specific actions involving waste recycling, resource conservation, and similar activities should not be excluded (López-Alcarria et al., 2021). It is essential to increase personal awareness of current environmental challenges and to develop the capacity to enhance sustainability through appropriate initiatives. Considering the above, these variables help explain why students' environmental attitudes are crucial for fostering environmental awareness.

Teaching competencies are among the most influential tools for improving environmental attitudes. Although teaching practices vary in their implementation, all approaches aim to increase student participation. On the one hand, teaching competencies have frequently been identified as effective means of ensuring environmental

preservation through contextualized initiatives. According to López-Alcarria et al. (2021), it is essential to use teachers' action competencies to ensure the inclusion of environmental topics within the school curriculum. In other words, teachers can incorporate concrete and current environmental issues, such as waste management, water conservation, and local environmental care, into any relevant school practice whenever possible. Furthermore, since environmental education seeks to promote sustainability across different areas of human activity (Ilham et al., 2023), the role of the teacher is fundamental.

Students can broaden their awareness of environmental issues through specialized learning materials while also having opportunities to discuss and apply their ideas about environmental protection in real-life situations.

As a result, it can be stated that teaching competencies make it possible to integrate sustainability practices into the school curriculum and support students' individual actions aimed at preserving the environment.

The development of an environmental culture also plays a significant role in shaping students' environmental attitudes. Spínola (2021) defines environmental culture as a coded matrix of norms, values, and organizational rules shared by a society or social group and learned by individuals through social interaction, education, or socialization processes.

Environmental culture is based on education and socialization; therefore, practices such as waste separation, resource conservation, water management, and care for local environments can only be effectively implemented through

human experience. At the same time, Ivanova and Schepalova (2020) explain that the ecological and cultural environment is a powerful factor in the development of a territory. In accordance with the examples of the pillars of sustainable development mentioned previously, waste management, water conservation, and care for the local environment represent expressions of environmental culture within school education. Thus, the local environment can contribute to the construction of an environmental culture through ongoing cooperation and communication. It is essential to prioritize the role of environmental culture in the design of effective environmental education because it shapes people's cultural and social relationships.

Regarding the influence of culture on sustainability, Chwialkowska et al. (2020) highlight the significant impact of culture on sustainability due to the diversity of consumer perceptions. In this sense, environmental education should encourage students to change habits that negatively affect the environment while considering their personal interests and expectations. Consequently, it is important to emphasize the role of prior knowledge, as it is fundamental in determining the direction of learning.

When individuals encounter new information, they can classify similar facts, distinguish differences, and integrate them with existing ideas about a specific question or phenomenon. Shuell (1990) states that the initial phase of learning provides individuals with different facts to capture their attention; however, they continue to rely on their previous experiences to understand new topics. For this reason, meaningful learning is valuable because it helps establish

connections between existing cognitive structures and new ideas. Indeed, Nurhasanah et al. (2022) suggest that Ausubel's theory of meaningful learning involves using ideas and information already known by students as a basis for introducing relevant new knowledge.

The purpose of such strategies is to ensure that students perceive academic information as relevant and integrate it into their existing conceptual structures. In this regard, Nurhasanah et al. (2022) indicate that the principles of meaningful learning help optimize instructional content. Furthermore, the purpose of meaningful learning is to stimulate students' interest in learning new concepts by building upon their prior experiences and knowledge.

Nugroho et al. (2025) describe a similar approach, demonstrating that meaningful learning enables students to connect relevant knowledge with their current experiences and previously acquired ideas. This implies that non-meaningful learning prevents students from exploring relationships between what they already know and the information presented in current lessons.

When students are given the opportunity to engage in meaningful learning, they can recognize the relevance of different methods for addressing real-world problems. Ultimately, Ayu et al. (2026) note that numerous discussions about non-meaningful learning have emerged within both the natural and social sciences.

According to these researchers, non-meaningful learning eliminates the connection between real-world contexts and the content provided, resulting in students' limited understanding of the origins and significance of knowledge.

Consequently, non-meaningful learning is not conducive to the development of environmental attitudes because it does not guarantee the use of prior knowledge. In contrast, meaningful learning should be employed to demonstrate the relevance of information to students' everyday lives.

In conclusion, meaningful learning is valuable because it establishes connections between new information and students' prior experiences and knowledge. In other words, Nurhasanah et al. (2022) explain that David Ausubel introduced the concept of meaningful learning to demonstrate that new information must be linked to ideas already known by students. When teachers facilitate these connections, students are more likely to apply newly acquired knowledge in their daily lives. Research has shown that non-meaningful learning does not ensure such connections; therefore, it should be avoided in educational processes.

Furthermore, environmental education that incorporates meaningful learning is the type of instruction most likely to foster strong environmental attitudes among students because it helps them understand the importance of environmental stewardship. Likewise, Nugroho et al. (2025) indicate that meaningful learning facilitates the connection between new information and students' prior experiences and knowledge.

Meaningful learning is emphasized because it promotes a deeper understanding of the significance of different ideas and concepts. In this way, an environmental education proposal can encourage students to recognize current environmental challenges and consider how to address them by drawing upon their previous experiences and knowledge.

Based on the analysis presented above, Figure 1 is introduced as a synthesis of the topics addressed.

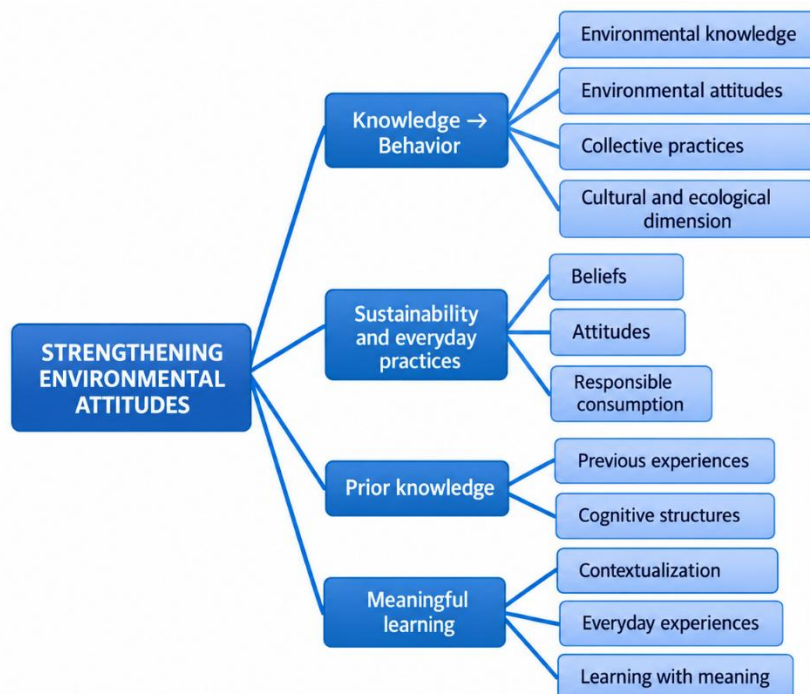


Figure 1. Conceptual Framework for Strengthening Environmental Attitudes (Source: Prepared by the authors).

3. Conclusions and Practical Application

Increasing environmental awareness among primary school students involves much more than simply providing them with knowledge. Although knowledge is important, it does not fully support the main objective of this study: ensuring that students genuinely develop a consistent and responsible attitude toward the environment. By focusing on recycling, water conservation, and other factors associated with human impacts on the natural environment, children can put into practice what they have learned. Since these activities are closely related to their daily experiences, students are more likely to understand how environmental responsibility can be applied in their

everyday lives. Therefore, considering all these aspects, our project can become a meaningful learning experience for students, with the school serving as their primary reference point for environmental education.

Consequently, the evaluation of the project should be based on the positive changes that occur in students' attitudes and habits, rather than solely on the expansion of their knowledge. In other words, our action plan must recognize that influencing students' everyday behaviors requires a process that takes time, patience, and sustained engagement. Thus, it can be argued that improving environmental practices at the primary school level contributes to providing meaningful educational experiences for children and helps them

consolidate years of learning while developing environmentally responsible behaviors.

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