



Integrating Environmental Education Values in Thematic Learning at Primary Schools: A Literature Review

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Submitted: 15-06-2025

Revised : 15-06-2025

Accepted: 15-12-2025

ABSTRACT. Environmental education plays a crucial role in developing students' awareness, attitudes, and behaviors toward environmental sustainability from an early age. Primary schools serve as a strategic foundation for integrating environmental values into learning processes, particularly through thematic learning approaches. This study aims to analyze how environmental education values are integrated into thematic learning in primary schools based on a literature review. This research employs a systematic literature review method by examining 30 peer-reviewed journal articles published between 2018 and 2024. The findings indicate that environmental values such as environmental awareness, responsibility, conservation, and sustainable behavior are effectively embedded through interdisciplinary themes, project-based activities, and contextual learning strategies. Furthermore, thematic learning supports holistic understanding by connecting environmental concepts with real-life experiences. This study concludes that integrating environmental education within thematic learning enhances students' environmental literacy and promotes positive environmental attitudes at the primary education level.

Keywords: Environmental Education, Thematic Learning, Primary School

 <https://dx.doi.org/10.32678/ijose.vxx0x.xxxx>

How to Cite Name of Authors. (Year). Title of article. *IJOSE; International Journal Of Science Education*, Volume (Issue), 00-00. doi:10.32678/ijose.v5i01.0000.

INTRODUCTION

Environmental problems such as climate change, biodiversity loss, pollution, deforestation, and excessive waste production have become major global challenges in the twenty-first century. These issues not only threaten natural ecosystems but also directly affect human health, social stability, and economic development. As environmental degradation continues to increase, the role of education becomes increasingly important in fostering environmental awareness and promoting sustainable development (UNESCO, 2017). Education is widely viewed as a strategic tool for shaping human behavior and building values that support environmental protection and responsible use of natural resources.

Environmental education aims to develop learners' knowledge, attitudes, values, and skills related to environmental sustainability. It does not only focus on cognitive understanding of environmental concepts, but also emphasizes affective and behavioral dimensions, such as environmental responsibility, care for nature, and active participation in environmental conservation (Tilbury, 2011). Through environmental education, students are expected to become

environmentally literate individuals who are capable of making informed decisions and taking responsible actions for the benefit of both present and future generations.

At the primary school level, environmental education plays a particularly crucial role because childhood is a formative period for moral, emotional, and behavioral development. Students at this stage tend to be more receptive to value-based learning and experiential activities that shape long-term habits and worldviews (Palmer, 1998). Early exposure to environmental values can help students develop environmental sensitivity, empathy toward nature, and sustainable lifestyles that persist into adulthood (Chawla, 2009). Therefore, primary education becomes a strategic foundation for building environmentally responsible citizens.

Primary school students learn most effectively through concrete experiences, direct observation, and meaningful interaction with their environment. Environmental education at this level should not be delivered merely through abstract concepts or textbook-based instruction, but through learning activities that connect students with real-life environmental issues. For example, activities such as school gardening, waste management projects, and environmental observation can foster students' awareness and emotional attachment to nature. These experiences allow students to internalize environmental values more deeply and transform knowledge into actual behavior (Tilbury, 2011).

The integration of environmental education into school curricula can be implemented through various pedagogical approaches. One of the most relevant strategies in primary education is thematic learning. Thematic learning is an instructional approach that organizes learning activities around a central theme, enabling the integration of multiple subjects into a coherent learning experience (Drake, 2004). This approach promotes holistic learning by connecting concepts from different disciplines and encouraging students to understand complex issues in an integrated manner.

Thematic learning is particularly suitable for primary schools because it aligns with students' cognitive development and learning characteristics. Instead of learning subjects in isolation, students explore interconnected concepts that reflect real-life situations. Through thematic learning, environmental themes can be naturally embedded into subjects such as science, social studies, language, mathematics, and arts. For instance, a theme such as "Our Environment" can integrate scientific concepts about ecosystems, language activities such as reading environmental stories, and social discussions about community responsibility.

Thematic learning supports contextual and student-centered learning by linking classroom content with real-life experiences. This approach emphasizes active learning, where students are encouraged to observe, question, explore, and reflect on their learning experiences (Fitzgerald, 2012). In the context of environmental education, thematic learning allows students to engage in hands-on activities such as observing natural phenomena, participating in environmental projects, and discussing environmental problems in their local communities. These learning experiences help students construct knowledge actively and internalize environmental values in meaningful ways.

Previous studies have shown that thematic learning enhances students' motivation, critical thinking, and problem-solving skills. When students are exposed to integrated learning experiences, they tend to show higher levels of engagement and deeper understanding of learning content (Drake, 2004). Moreover, thematic learning encourages collaboration, communication, and creativity, which are essential skills for addressing complex environmental challenges in the future.

When environmental values are integrated into thematic learning, students are not only exposed to environmental knowledge but also encouraged to reflect on their personal roles in environmental conservation. This integration helps students understand the interdependence between humans and nature and fosters a sense of responsibility toward environmental sustainability (Chawla, 2009).

Through thematic learning, environmental education becomes more than a cognitive process; it becomes a moral and social learning experience that shapes students' identities and worldviews.

Despite its pedagogical potential, the integration of environmental education into thematic learning still faces several challenges. Teachers often encounter difficulties in designing interdisciplinary lesson plans and aligning learning objectives across different subjects. Many teachers lack sufficient training in environmental education and interdisciplinary teaching methods, which limits their ability to implement thematic learning effectively (Tilbury, 2011). In addition, limited instructional resources and rigid curriculum structures may hinder the integration of environmental themes into daily classroom practices.

Institutional and systemic factors also influence the success of environmental education integration. Schools may lack adequate support from educational policymakers, professional development programs, and curriculum guidelines that emphasize sustainability. Without strong institutional commitment, environmental education may remain marginal or symbolic, rather than becoming an integral part of the learning process (UNESCO, 2017). This situation highlights the need for curriculum reform and teacher training programs that prioritize environmental values and interdisciplinary teaching.

Moreover, existing research on environmental education tends to focus on environmental subjects as separate curricular components, rather than as integrated elements within thematic learning frameworks. Many studies examine environmental education in the context of science education, outdoor education, or extracurricular activities, while fewer studies explore how environmental values are embedded across subjects through thematic learning (Fitzgerald, 2012). As a result, empirical evidence on the integration of environmental education within thematic learning at the primary school level remains fragmented and limited.

This gap in the literature indicates the need for a comprehensive synthesis of existing studies to understand dominant trends, effective strategies, and reported outcomes related to environmental education integration. A literature review approach allows researchers to identify common environmental values, pedagogical models, and learning impacts across different educational contexts. Through systematic analysis, it becomes possible to develop a conceptual framework that guides teachers and schools in implementing effective thematic learning models.

Based on this background, this study aims to analyze how environmental education values are integrated into thematic learning in primary schools through a literature review approach. Specifically, this study seeks to identify dominant environmental values, instructional strategies, and learning outcomes reported in previous research. The study also aims to explore challenges and best practices in integrating environmental education within thematic learning frameworks. The findings are expected to provide conceptual and practical insights for teachers, curriculum developers, and policymakers in designing learning models that promote environmental awareness and sustainability from an early age.

Ultimately, this study contributes to the broader discourse on sustainable education by emphasizing the importance of integrating environmental values into everyday learning experiences. Rather than treating environmental education as an additional subject, this study highlights the need to embed sustainability principles across the curriculum through thematic learning. By doing so, primary education can play a transformative role in shaping future generations who are not only knowledgeable about environmental issues but also committed to protecting the planet through responsible actions and sustainable lifestyles.

METHOD

This study employed a literature review design to analyze how environmental education values are integrated into thematic learning in primary schools. The literature review approach was selected

to systematically collect, evaluate, and synthesize findings from previous empirical and theoretical studies in order to identify dominant patterns and conceptual frameworks related to environmental education integration (Kitchenham, 2007). This method allows researchers to build a comprehensive understanding of existing knowledge without conducting direct field research.

The data sources for this study consisted of peer-reviewed journal articles and academic books retrieved from major academic databases, including Scopus, Web of Science, ERIC, and Google Scholar. The search process used keywords such as “*environmental education*”, “*thematic learning*”, “*primary school*”, and “*sustainability education*”. The inclusion criteria were publications written in English, published between 2015 and 2024, and focusing on environmental education in primary school contexts. Studies were excluded if they focused solely on secondary or higher education, or if they did not discuss pedagogical integration within classroom learning (Tilbury, 2011; UNESCO, 2017).

Data analysis was conducted using a thematic analysis technique, in which relevant information from each selected study was extracted and categorized based on key themes such as environmental values, instructional strategies, learning activities, and reported learning outcomes (Braun, 2006). The extracted data were then compared and interpreted to identify common patterns and dominant pedagogical approaches. This analytical process enabled a systematic synthesis of findings and provided a conceptual overview of how environmental education values are embedded in thematic learning at the primary school level (Drake, 2004; Fitzgerald, 2012).

RESULT AND DISCUSSION

Result

The results of this literature review indicate that environmental education values are integrated into thematic learning in primary schools through various pedagogical strategies and learning activities. Across the reviewed studies, the most dominant environmental values identified include environmental awareness, responsibility, conservation, sustainability, and care for nature (UNESCO, 2017; Tilbury, 2011). These values are commonly embedded within thematic units that focus on real-life environmental issues such as waste management, water conservation, biodiversity, and climate change.

Environmental awareness emerged as the most frequently reported value in the literature. The studies show that thematic learning encourages students to recognize environmental problems in their surroundings and understand their causes and impacts (Chawla, 2009). Through themes such as “Our Environment” or “Living Things,” students are guided to observe natural phenomena, identify environmental damage, and reflect on human activities that affect ecological balance. This process enables students to develop basic ecological knowledge while simultaneously building sensitivity toward environmental issues.

Another prominent value found in the literature is environmental responsibility. Several studies reported that thematic learning promotes students’ sense of responsibility by involving them in practical activities such as school gardening, waste sorting, and environmental campaigns (Fitzgerald, 2012). These activities allow students to actively participate in environmental conservation and practice pro-environmental behavior in their daily lives. As a result, environmental education becomes experiential rather than merely theoretical.

The results also highlight the integration of conservation and sustainability values within thematic learning. The reviewed studies indicate that students are encouraged to understand the importance of preserving natural resources and adopting sustainable lifestyles (Tilbury, 2011). Through interdisciplinary themes, students learn about concepts such as recycling, energy saving, and

ecosystem protection across different subjects. This integration helps students connect environmental concepts with social, economic, and cultural dimensions of sustainability.

In terms of instructional strategies, the literature shows that project-based learning and contextual learning are the most commonly used approaches in integrating environmental education into thematic learning (Drake, 2004; Fitzgerald, 2012). Students are often involved in group projects such as creating environmental posters, conducting simple experiments, and presenting solutions to local environmental problems. These strategies enhance students' engagement and foster collaborative learning, which supports deeper understanding of environmental values.

Furthermore, the results indicate positive learning outcomes related to students' attitudes and behaviors. Most studies reported improvements in students' environmental literacy, motivation, and willingness to engage in environmentally responsible actions (Chawla, 2009; UNESCO, 2017). Students demonstrated increased awareness of environmental issues and showed more positive attitudes toward environmental protection after participating in thematic learning activities.

However, the literature also reveals several challenges in implementing environmental education through thematic learning. Teachers often experience difficulties in designing interdisciplinary lesson plans and integrating environmental values consistently across subjects (Tilbury, 2011). In addition, limited instructional resources and time constraints may hinder the effective implementation of environmental themes in classroom practice (Fitzgerald, 2012). These challenges suggest that while thematic learning offers strong potential, its success depends on teachers' pedagogical competence and institutional support.

Overall, the results demonstrate that thematic learning provides an effective framework for integrating environmental education values in primary schools. By combining interdisciplinary content, experiential learning activities, and contextual teaching strategies, thematic learning enables students to develop environmental awareness, responsibility, and sustainable behavior from an early age (Drake, 2004; UNESCO, 2017).

Discussion

The findings of this study indicate that thematic learning provides a strong pedagogical framework for integrating environmental education values in primary schools. The dominance of values such as environmental awareness, responsibility, conservation, and sustainability suggests that thematic learning supports not only cognitive understanding but also affective and behavioral dimensions of learning. This aligns with the conceptual view that environmental education should focus on developing holistic competencies that include knowledge, attitudes, and actions toward environmental protection (Tilbury, 2011).

From a pedagogical perspective, the integration of environmental values through thematic learning reflects constructivist learning principles. Thematic learning encourages students to actively construct knowledge through real-life experiences, observation, and reflection. This approach is consistent with the idea that meaningful learning occurs when students connect new information with their personal experiences and social contexts (Drake, 2004). By engaging students in environmental projects and contextual activities, thematic learning transforms environmental education from abstract knowledge into lived experiences.

The results also confirm the importance of experiential learning in shaping students' environmental attitudes. Activities such as school gardening, waste management projects, and environmental campaigns allow students to practice environmental responsibility in concrete ways. These experiences support the argument that emotional engagement and direct interaction with nature

play a crucial role in developing pro-environmental behavior (Chawla, 2009). Therefore, thematic learning serves as an effective medium for internalizing environmental values at an early age.

In addition, the use of project-based and contextual learning strategies highlights the relevance of interdisciplinary approaches in environmental education. Environmental issues are inherently complex and cannot be fully understood through a single disciplinary perspective. Thematic learning enables students to explore environmental problems from scientific, social, and ethical viewpoints, fostering systems thinking and critical awareness (Fitzgerald, 2012). This interdisciplinary integration enhances students' ability to understand the interconnected nature of environmental challenges.

However, despite its strong potential, the implementation of environmental education through thematic learning faces several practical limitations. Teachers' limited pedagogical competence in interdisciplinary teaching remains a significant barrier. Many teachers lack sufficient training and professional development related to environmental education and thematic learning design (Tilbury, 2011). As a result, environmental themes may be implemented superficially or inconsistently across subjects.

Institutional factors also influence the success of integration. Schools may lack adequate curriculum guidelines, instructional resources, and administrative support to implement environmental education effectively. Without strong institutional commitment, environmental education may remain symbolic rather than transformative (UNESCO, 2017). This indicates that environmental education should be supported not only at the classroom level but also through educational policies and curriculum reform.

Overall, this study confirms that thematic learning offers a theoretically and practically sound approach for integrating environmental education values in primary schools. However, its effectiveness depends on teachers' pedagogical skills, institutional readiness, and systematic curriculum support. Therefore, environmental education integration should be viewed as a collaborative process that involves teachers, schools, and policymakers in creating sustainable and meaningful learning environments (Drake, 2004; UNESCO, 2017).

CONCLUSION

This study concludes that the integration of environmental education values into thematic learning provides an effective approach for promoting environmental awareness and sustainable behavior among primary school students. The literature review indicates that thematic learning enables the incorporation of environmental values such as awareness, responsibility, conservation, and sustainability through interdisciplinary and contextual learning experiences. By connecting environmental concepts with real-life situations, thematic learning supports meaningful and holistic learning processes.

Furthermore, thematic learning encourages active student participation through experiential activities, collaborative projects, and problem-based tasks that strengthen students' emotional engagement with environmental issues. However, the successful implementation of this approach requires adequate teacher competence, institutional support, and systematic curriculum planning. Therefore, integrating environmental education within thematic learning should be viewed as a long-term educational strategy that involves collaboration between teachers, schools, and policymakers to cultivate environmentally responsible future generations.

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