

Green School Practices To Strengthen Environmental Awareness And Sustainable Behavior In Education

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Abstract: Environmental challenges demand educational responses that integrate sustainability into daily practice. This study investigates how green school practices strengthen environmental awareness and sustainable behavior among students. A qualitative design was employed through interviews, observations, and document analysis in schools implementing environmental programs. The study examines implementation processes, the development of environmental awareness, and behavioral outcomes. The findings show that structured activities such as waste management, school gardening, and energy conservation create experiential learning environments that connect knowledge with action. Students demonstrate increased understanding of environmental issues, stronger ecological concern, and active participation in sustainability practices. Awareness develops through continuous exposure, reflective learning, and social interaction within the school environment. Sustainable behavior emerges through repeated practice, peer influence, and teacher guidance, leading to consistent pro-environmental actions that extend beyond school settings. These results indicate that green school practices support the integration of environmental values into school culture and contribute to long-term behavioral transformation. The study highlights the importance of participatory, structured, and sustained environmental programs in promoting sustainability-oriented education.

Keywords: Green School Practices, Environmental Awareness, Sustainable Behavior, Environmental Education, School Culture.

INTRODUCTION

Environmental challenges such as climate change, biodiversity loss, and increasing waste production have intensified the demand for educational institutions to cultivate environmentally responsible individuals. Schools serve as critical environments where knowledge, values, and behaviors are constructed through daily interaction and structured learning experiences. Environmental education is no longer limited to theoretical understanding. It has shifted toward experiential and action-oriented approaches that engage students in real-life sustainability practices (Stevenson et al., 2017). This shift reflects the growing recognition that environmental literacy requires cognitive, affective, and behavioral dimensions to be developed simultaneously.

Green school practices emerge as a practical framework for integrating sustainability into educational settings. These practices encompass a wide range of activities, including waste management systems, energy conservation programs, school gardening, and environmentally integrated curricula. Such initiatives provide students with opportunities to directly engage with environmental issues, allowing them to observe the consequences of human actions and explore solutions through participatory learning (Ardoin et al., 2020). Schools that implement these practices create environments where sustainability is embedded in daily routines rather than treated as an isolated subject.

The role of schools in fostering environmental awareness is closely linked to the quality and consistency of these practices. Environmental awareness refers to students' understanding of ecological issues and their sense of responsibility toward environmental protection. Awareness develops through repeated exposure to meaningful experiences that connect knowledge with action. Students who participate in hands-on environmental activities tend to develop deeper ecological understanding and stronger emotional connections to environmental issues (Otto & Pensini, 2017). This connection supports the internalization of environmental values, which is essential for long-term behavioral change.

The development of sustainable behavior requires more than awareness. Behavioral transformation is influenced by social context, institutional support, and opportunities for consistent practice. Schools that establish a culture of sustainability through policies, routines, and collaborative activities provide a supportive environment for students to adopt pro-environmental behaviors. These behaviors include waste reduction, responsible resource use, and active participation in environmental initiatives. Social learning processes within schools also play a significant role, as students observe and imitate the actions of peers and teachers (Evans et al., 2018). Repetition and reinforcement of sustainable actions contribute to the formation of lasting habits.

Green school practices also align with global sustainability agendas, including the integration of environmental education within broader frameworks of sustainable development. Education systems are expected to prepare students to address complex environmental problems

through critical thinking and responsible action. Schools that integrate sustainability into their culture contribute to the development of competencies such as systems thinking, collaboration, and ethical responsibility (Wamsler, 2020). These competencies are essential for navigating environmental challenges in contemporary society.

The effectiveness of green school practices depends on how they are implemented and experienced by students. Structured programs that are supported by school leadership, teacher commitment, and student participation tend to produce stronger outcomes. Implementation involves not only the presence of environmental activities but also their integration into school culture and learning processes. Schools that maintain consistent and participatory practices create meaningful learning environments that influence both awareness and behavior.

This study is guided by three research questions that reflect the core dimensions of green school practices in education. The first question examines how green school practices are implemented in educational settings. The second question explores how these practices influence students' environmental awareness. The third question analyzes how green school practices contribute to the development of sustainable behavior among students. These questions provide a framework for understanding the relationship between environmental practices, awareness, and behavior within school contexts.

METHOD

This study applies a qualitative research design to examine the implementation and impact of green school practices within educational settings. A qualitative approach enables an in-depth understanding of participants' experiences, meanings, and interactions related to environmental programs in schools. The research was conducted in selected schools that actively integrate sustainability initiatives into daily routines, including waste management, environmental campaigns, and eco-based learning activities. Participants consisted of teachers, students, and school administrators who are directly involved in planning and implementing green school practices. Their diverse roles provide comprehensive perspectives on how environmental values are introduced and practiced within the school environment. A purposive sampling strategy was

used to select participants who have direct experience with sustainability programs, ensuring the relevance and richness of the data collected (Creswell & Poth, 2018).

Data collection involved three main techniques: in-depth interviews, participant observation, and document analysis. Interviews were conducted to explore participants' perceptions, experiences, and reflections on environmental practices and their influence on student awareness and behavior. Observations were carried out to capture real-life practices, routines, and interactions related to sustainability activities within the school context. Document analysis included reviewing school policies, program reports, and environmental campaign materials, which provide supporting evidence of institutional commitment to green practices. The use of multiple data sources strengthens the credibility of the findings through triangulation, allowing cross-verification of information from different perspectives (Nowell et al., 2017).

Data analysis followed a thematic analysis approach to identify recurring patterns and key themes related to environmental awareness and sustainable behavior. The process involved data familiarization, coding, theme development, and interpretation. The researcher engaged in prolonged interaction with the data to ensure depth and accuracy in analysis. Trustworthiness was established through triangulation, consistent data comparison, and careful documentation of the research process. This approach ensures that the findings reflect authentic experiences and provide meaningful insights into the role of green school practices in shaping students' environmental responsibility.

RESULT AND DISCUSSION

Implementation of Green School Practices in Educational Settings

The findings indicate that green school practices are implemented through structured, routine-based, and participatory activities that embed sustainability within daily school life. Schools develop waste management systems that include sorting organic and inorganic waste,

recycling initiatives, and composting programs. These activities are not limited to technical procedures. Students are involved in the entire process, from waste separation to monitoring cleanliness in classrooms and school environments. This engagement fosters a sense of responsibility and ownership toward environmental conditions. School gardening programs also play a central role by allowing students to cultivate plants, manage green spaces, and understand ecological processes through direct interaction. Such experiential learning supports the development of environmental literacy by connecting knowledge with real-world practice (Djamila et al., 2018).

Energy conservation practices are integrated into classroom routines and school policies. Students are encouraged to turn off lights, reduce the use of electronic devices, and optimize natural lighting and ventilation. These habits are reinforced through visual reminders, teacher guidance, and peer monitoring systems. Behavioral consistency emerges from repeated exposure to simple actions that gradually become part of students' daily habits. The presence of structured routines strengthens students' awareness of resource use and promotes a culture of efficiency within the school environment. This aligns with findings that habitual engagement in sustainability practices can shape long-term pro-environmental behavior (Mogensen & Schnack, 2019).

Integration of green school practices occurs across both curricular and extracurricular domains. Teachers incorporate environmental topics into various subjects, linking sustainability concepts with science, social studies, and civic education. Learning activities are designed to encourage critical thinking, problem-solving, and reflection on environmental issues. Students are invited to analyze local environmental problems and propose practical solutions. Extracurricular programs such as environmental clubs, green campaigns, and school-wide events provide additional opportunities for active participation. These activities create a holistic learning environment where sustainability is experienced as a shared responsibility rather than an isolated topic. Educational environments that combine formal instruction with participatory activities tend to produce stronger engagement and deeper understanding of sustainability concepts (Rickinson et al., 2019).

The role of school leadership emerges as a significant factor in ensuring the consistency and sustainability of green school practices. School leaders establish policies, allocate resources, and create a vision that supports environmental programs. Their commitment influences teacher involvement and student participation. Schools with strong leadership support demonstrate more organized and sustained implementation of environmental initiatives. Institutional policies related to waste management, energy use, and environmental education provide a framework that guides daily practices. These policies also signal the importance of sustainability as a core value within the school culture. Leadership-driven approaches contribute to the institutionalization of green practices, making them part of the school's identity (Leal Filho et al., 2019).

Student involvement is another critical element in the successful implementation of green school practices. Students act as active participants rather than passive recipients of information. They take part in planning activities, monitoring programs, and promoting environmental awareness among peers. Peer influence strengthens the adoption of sustainable behaviors, as students observe and replicate positive actions within their social groups. Participation also enhances students' sense of agency, encouraging them to take initiative in addressing environmental challenges. Schools that create opportunities for student leadership in environmental programs tend to achieve higher levels of engagement and behavioral change.

The availability of facilities and infrastructure supports the effectiveness of these practices. Schools that provide recycling bins, composting areas, and green spaces enable students to practice sustainability in a practical manner. Adequate infrastructure reduces barriers to participation and reinforces the importance of environmental actions. The interaction between physical environment and behavioral practice highlights the role of contextual factors in shaping sustainability outcomes. Schools with well-developed facilities demonstrate more consistent implementation and stronger integration of environmental values into daily routines.

Continuous implementation of green school practices contributes to the formation of a sustainability-oriented school culture. Repetition of activities, reinforcement through policies, and collective participation create an environment where environmental responsibility becomes normalized. Students internalize values through daily practice, which supports long-term

behavioral transformation. The findings suggest that effective implementation requires alignment between policy, practice, and participation. Schools that sustain these elements over time are more likely to cultivate environmentally responsible individuals who carry sustainable habits beyond the school context.

Influence of Green School Practices on Environmental Awareness

The findings show that students who participate in green school programs develop a stronger understanding of environmental issues through direct and sustained engagement. Activities such as waste sorting, recycling, and school gardening create opportunities for experiential learning that connects abstract concepts with observable outcomes. Students begin to recognize patterns related to waste production, energy consumption, and ecological balance as part of their daily experiences. This form of learning encourages deeper comprehension since knowledge is constructed through interaction with real environmental contexts rather than through passive instruction. Experiential engagement has been widely associated with increased environmental literacy, as students are able to internalize concepts by linking theory with practice (Kopnina, 2020).

Environmental awareness among students is also reflected in their attitudes and perceptions toward ecological issues. Students express concern about environmental degradation, demonstrate sensitivity toward waste management practices, and show interest in conserving natural resources. These attitudes are shaped through repeated exposure to environmental values embedded in school routines. Emotional engagement plays an important role in strengthening awareness, as students who feel connected to environmental issues are more likely to develop a sense of responsibility. Educational experiences that combine cognitive understanding with emotional involvement tend to produce more meaningful awareness outcomes (Chawla, 2020). Students in green school environments often articulate their role as active contributors to environmental protection, indicating a shift from passive awareness to personal commitment.

Classroom discussions and reflective activities further enhance the development of environmental awareness. Teachers facilitate conversations that encourage students to analyze environmental problems, evaluate possible solutions, and reflect on their own behaviors. Reflection enables students to critically assess the impact of their actions and consider alternative

practices that support sustainability. This process fosters higher-order thinking skills, including critical analysis and ethical reasoning. Learning environments that promote reflection and dialogue create space for students to question existing habits and explore new perspectives on environmental responsibility (Sinakou et al., 2019). Through these processes, awareness evolves into a more complex understanding that integrates knowledge, values, and action.

Consistent exposure to environmental messages and practices strengthens the continuity of awareness development. Schools that implement ongoing campaigns, visual reminders, and routine-based activities create an environment where sustainability becomes a shared norm. Posters, announcements, and school-wide initiatives reinforce key messages related to conservation and environmental care. Repetition plays a significant role in shaping awareness, as students encounter similar messages across different contexts within the school. This continuous reinforcement helps embed environmental values into students' cognitive frameworks, making them more likely to recall and apply these principles in various situations.

Peer interaction within green school settings also contributes to the development of environmental awareness. Students observe the behaviors of their peers, engage in collaborative activities, and share experiences related to sustainability practices. Social interaction enhances learning by creating opportunities for discussion, feedback, and collective problem-solving. Students often influence one another through shared norms and expectations, which strengthens the adoption of environmentally responsible attitudes. Social learning processes highlight the importance of group dynamics in shaping awareness, as individuals tend to align their perspectives with those of their community (Wals, 2015).

The role of teachers and school culture remains central in sustaining environmental awareness. Teachers act as facilitators who guide students through meaningful learning experiences, model environmentally responsible behavior, and provide consistent reinforcement of sustainability values. A supportive school culture ensures that environmental awareness is not treated as a temporary initiative but as an integral part of the educational experience. Schools that integrate sustainability into their vision and daily practices create a coherent environment that supports the development of awareness over time.

The findings suggest that environmental awareness is not formed through isolated activities but through continuous, integrated, and participatory experiences. Students who are consistently engaged in green school practices demonstrate higher levels of understanding, stronger emotional connections to environmental issues, and greater willingness to adopt sustainable perspectives. The interaction between experiential learning, reflective processes, and social influences creates a comprehensive pathway for developing environmental awareness within educational settings.

Contribution of Green School Practices to Sustainable Behavior

The findings indicate that green school practices contribute significantly to observable changes in students' sustainable behavior through continuous engagement in environmentally oriented activities. Students who participate in structured programs such as waste sorting, recycling, and reduction of single-use plastics begin to adopt environmentally responsible habits as part of their daily routines. These habits are not limited to compliance within school rules. They reflect internalized values that shape students' decisions and actions across different contexts. Behavioral change becomes visible when students demonstrate consistency in managing waste, conserving resources, and participating in environmental initiatives both inside and outside school environments. Empirical studies highlight that repeated exposure to pro-environmental practices strengthens behavioral intention and supports the transition from awareness to action (Steg & Vlek, 2009).

The extension of sustainable behavior beyond school settings reflects the effectiveness of experiential and context-based learning. Students bring their habits into their homes and communities, influencing family members and peers through everyday actions. This transfer of behavior suggests that school-based environmental programs can serve as catalysts for broader social change. Students act as agents of change by introducing practices such as reducing plastic use, promoting recycling, and encouraging energy conservation in their immediate surroundings. Behavioral spillover occurs when actions learned in one context influence behavior in another, reinforcing the sustainability of these practices over time (Thøgersen & Crompton, 2009). The continuity of behavior across settings indicates that green school practices contribute to long-term habit formation rather than temporary behavioral shifts.

Sustainable behavior is also shaped by social interactions within the school environment. Peer influence plays a critical role in reinforcing positive actions, as students tend to align their behavior with group norms and expectations. Collaborative activities such as environmental campaigns, group projects, and school clean-up programs create opportunities for shared responsibility and mutual encouragement. Students observe the actions of their peers and are motivated to adopt similar behaviors, leading to the development of collective environmental responsibility. Social norms established within the school context support the consistency of sustainable actions and reduce resistance to behavioral change. Research on pro-environmental behavior emphasizes the importance of social influence in shaping individual actions, particularly in group-based settings such as schools (Nolan et al., 2008).

Teacher guidance further strengthens the development of sustainable behavior by providing direction, modeling, and reinforcement. Teachers integrate environmental values into classroom practices and demonstrate responsible behavior through their actions. This modeling effect influences students' perceptions of acceptable and desirable behavior. Guidance from teachers helps students understand the rationale behind sustainability practices, which increases their willingness to engage in environmentally responsible actions. Educational environments that combine instruction with behavioral modeling create stronger outcomes in terms of habit formation and value internalization (Bandura, 2001).

The role of structured programs is essential in sustaining behavioral change over time. Schools that implement consistent and well-organized environmental initiatives provide clear expectations and opportunities for practice. Routines such as scheduled clean-up activities, monitoring of waste management systems, and participation in environmental campaigns create a stable framework that supports habit formation. Structured programs reduce ambiguity and make sustainable behavior a predictable part of daily life. This consistency allows students to develop automatic responses to environmental situations, which is a key characteristic of habitual behavior.

A supportive school environment enhances the effectiveness of these programs by aligning policies, facilities, and cultural values with sustainability goals. The availability of infrastructure such as recycling bins, composting areas, and green spaces enables students to practice sustainable

actions without significant barriers. School policies reinforce these practices by establishing norms and expectations that guide behavior. A culture of sustainability emerges when environmental values are shared by all members of the school community, including students, teachers, and administrators. This collective commitment creates an environment where sustainable behavior is recognized, encouraged, and maintained.

The findings suggest that long-term behavioral transformation is achieved through the interaction of practice, social influence, and institutional support. Students who are continuously exposed to structured environmental programs and supportive environments demonstrate stronger and more consistent sustainable behavior. The integration of environmental values into daily routines ensures that these behaviors become embedded in students' lifestyles. Green school practices play a crucial role in shaping individuals who are capable of contributing to sustainability efforts beyond the educational context.

CONCLUSION

Green school practices function as an effective approach for integrating environmental values into educational environments and shaping students' awareness and behavior. The findings show that the implementation of structured and routine-based environmental activities creates meaningful learning experiences that connect theoretical knowledge with practical engagement. Students develop environmental awareness through direct interaction with sustainability practices, reflective learning processes, and continuous exposure to environmental messages embedded in school culture. This awareness is reflected in students' attitudes, perspectives, and sense of responsibility toward environmental issues. The integration of environmental education across curricular and extracurricular activities strengthens the consistency of these practices and supports the internalization of sustainability values.

Sustainable behavior emerges as a result of repeated practice, social interaction, and institutional support within the school environment. Students demonstrate consistent pro-

environmental actions such as responsible waste management, reduced resource consumption, and active participation in environmental initiatives. These behaviors extend beyond school contexts, indicating the development of long-term habits that influence broader social environments. The presence of supportive policies, leadership commitment, and adequate infrastructure reinforces the effectiveness of green school practices. Schools that maintain participatory and continuous programs contribute to the formation of a sustainability-oriented culture that promotes lasting behavioral transformation. The study emphasizes that the alignment of practice, awareness, and social context is essential for developing environmentally responsible individuals who are capable of contributing to sustainable development in diverse settings.

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