

The Urgency of Environmental Education in Shaping Pro-Environmental Behavior Among Gen Z University Students

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Abstract

Environmental education plays a strategic role in shaping pro-environmental behavior, particularly among Generation Z university students who have grown up amidst rapid digital technological advancements and heightened awareness of sustainability issues. This study aims to describe the role of environmental education specifically within the "Environmental Education" course in fostering pro-environmental behavior among Generation Z students through the application of a project-based learning model. The findings indicate that experiential learning approaches, such as project-based learning combined with the use of digital media, make a tangible contribution to enhancing knowledge, shaping pro-environmental behavior, and promoting eco-friendly practices among Generation Z students. This learning model strengthens ecological awareness while simultaneously driving real behavioral changes within the university environment. However, the implementation of environmental education faces several challenges, including the gap between understanding and actual action (the value-action gap), limited campus support facilities, and a strong culture of consumerism that influences Generation Z students' behavior. Therefore, it is necessary to strengthen the curriculum by focusing not only on conceptual mastery but also on developing environmental action skills through behavior-based evaluations, student participation incentives, and the provision of campus policies and infrastructure that support sustainable practices. Through such a comprehensive approach, environmental education in higher education is expected to produce a young generation that possesses strong environmental literacy and acts as an agent of change, capable of initiating and disseminating sustainability practices within the wider community.

Keywords

Environmental Education, Generation Z, Pro-Environmental Behavior



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INTRODUCTION

Evolving environmental issues such as climate change, plastic waste, transport emissions, and patterns of overconsumption are increasingly relevant to the lives of today's university students. Amidst this context, Generation Z has emerged as a group deeply familiar with digital media; they are quick to absorb information and actively critique social and ecological issues

within online spaces. However, a high level of concern does not always translate directly into tangible actions that foster pro-environmental change in daily life. Consequently, the university as a hub for knowledge transfer serves as a strategic setting for shaping the pro-environmental character of Generation Z.

Generation Z, or "Gen Z," comprises individuals born between 1997 and 2012—a cohort that grew up in an era defined by rapid technological advancement. This generation is known for its technological proficiency and creativity, as well as its alertness and responsiveness to emerging issues, including environmental concerns. In Indonesia, Gen Z represents the largest segment of the population. Key characteristics of this generation include being "digital natives"—intimately familiar with the internet, social media, and technology from a young age—and demonstrating a strong interest in pressing issues such as the environment, gender equality, and mental health. Another distinctive trait is that they tend to value lived experiences over the accumulation of material possessions or sentimental objects.

In a university setting, environmental education has the potential to be a key driver of pro-environmental behavior among Generation Z students, who are attuned to both technology and social issues. Environmental education serves as one of the most strategic avenues for bridging the gap between knowledge and practice. At the higher education level, this education must go beyond mere information delivery to actively shape students' character.

As digital natives, Generation Z also faces new challenges stemming from intense exposure to environmental content on social media. On one hand, this exposure can foster awareness and activism; on the other, it can lead to emotional exhaustion or "eco-anxiety" if not balanced by a healthy, solution-oriented educational approach. Therefore, environmental education needs to be designed to resonate with the characteristics of this generation, combining problem-based and solution-based approaches.

METHODS

This study employs a qualitative descriptive approach aimed at describing and interpreting the phenomena and behaviors of Generation Z students regarding pro-environmental actions. This approach was selected because the researcher sought to understand and observe the extent of behavioral change processes occurring among the research subjects. The informants for this study were third-semester Generation Z students enrolled in the Environmental Education course within the Civics Education (PPKn) Study Program at STKIP Kusuma Negara, Jakarta (Campus A). Data collection techniques included observation, interviews, document analysis, and a literature review. The general research process involved defining the research focus, collecting data, data reduction, data presentation, and drawing conclusions. Additionally, a literature review related to the research topic and focus was conducted to substantiate the findings. Source triangulation and technique triangulation were employed to verify the validity of the data.

FINDINGS AND DISCUSSION

Generation Z, commonly known as Gen Z, is a group of students who grew up in a digital ecosystem. This generation is accustomed to the rapidly evolving flow of information and is highly familiar with social media and communication technology. In college life, this generation exhibits characteristics that are evident in the way they learn, interact, form opinions, and respond to various social issues, including environmental ones. Gen Z students tend to have a high level of concern for sustainability, climate change, plastic waste, and environmentally friendly lifestyles.

In this study, observations were conducted using a project-based learning model in Environmental Education courses, supported by a literature review of various studies discussing the implementation of environmental education in higher education. This study aims to describe the role of Environmental Education in Environmental Education courses through the application of a project-based learning model to Generation Z students in developing pro-environmental behavior. Research shows that experiential learning approaches, such as Project-Based Learning, combined with the use of digital media, can significantly contribute to increasing knowledge, developing pro-environmental behavior, and promoting environmentally friendly practices in Generation Z students. This learning model can strengthen ecological awareness while encouraging real behavioral change on campus. Despite the growing label of Gen Z, they actually have a focus on higher education, a strong awareness of personal boundaries (work-life balance), and excellent independent or autodidactic learning abilities.

A frequently used framework to explain pro-environmental behavior is the Theory of Planned Behavior, which emphasizes the role of attitudes, subjective norms, and perceived behavioral control in shaping a person's intentions and actions. In the context of college students, this theory helps explain why someone who already understands environmental issues may not immediately change their behavior, such as continuing to use single-use plastics or not sorting waste. This means that knowledge alone is not enough to change behavior and habits (lifestyle).

Numerous studies have shown that environmental education is effective in increasing knowledge and attitudes, but its impact on behavior is often indirect. Research on college students has found that environmental education plays a crucial role in shaping knowledge and attitudes, and these attitudes are more strongly associated with pro-environmental behavior in Generation Z students.

The concept of a Green Campus is also increasingly associated with student behavior. Green campus programs that provide waste management facilities, environmentally friendly transportation, and sustainability policies have been shown to have a positive impact, although pro-environmental behavior is still influenced by both personal and institutional factors. This suggests that environmental education is most effective when accompanied by a campus ecosystem that supports everyday green practices.

Furthermore, the digital dimension cannot be ignored in Environmental Education for Generation Z. Social media can be a tool for education, campaigns, and strengthening ecological identity. Environmental Education needs to balance awareness of problems with a sense of empowerment. In other words, good Environmental Education not only provides students with awareness of problems but also provides them with a sense of ownership and the tools to act.

Project-Based Learning Implementation

In this study, learning implementation was one of the factors subjected to in-depth observation and was also linked to Environmental Education learning outcomes. The learning model observed in this study was project-based learning. With this learning model, Generation Z students not only receive knowledge transfer but also directly engage in the implementation of Environmental Education-related knowledge in their daily lives through projects they individually design.

The campus environment is a crucial space, serving not only as a place for transferring knowledge but also as an arena for the formation of habits, values, and daily behaviors that can strengthen or weaken students' pro-environmental orientation.

Environmental education on campus plays a strategic role in bridging this gap. Educational processes designed in a contextual, participatory, and close to students' experiences have the potential to foster stronger ecological awareness. For Gen Z, a purely theoretical approach tends to be less effective if not accompanied by direct experience, reflective discussions, and spaces for real participation. Therefore, the campus needs to be understood as a social laboratory where students learn not only to understand environmental issues but also to practice sustainable values in their daily lives. Campus life becomes the primary context that shapes their attitudes and actions.

In the context of pro-environmental behavior, the main obstacle is not simply a lack of knowledge. Many students understand the importance of waste reduction, energy efficiency, and environmentally friendly transportation, but find it difficult to implement them due to factors such as convenience, social habits, or a lack of supporting facilities. This is often referred to as the value-action gap, the distance between believed values and actual actions. Environmental education cannot stand alone; it must be reinforced by a consistent campus system.

However, the implementation of environmental education still faces various challenges, including the gap between understanding and concrete actions (value-action gap), limited supporting facilities on campus, and the strong consumerist lifestyle that influences the behavior of Gen Z students.

Research findings confirm that Environmental Education for Generation Z students must be designed to be more applicable. Conventional learning models that only emphasize ecological concepts, policies, or pollution theories tend to stop at cognitive knowledge. To transform learning into behavior, learning needs to address the affective and conative dimensions, for example through reflection, fieldwork assignments, and sustainability

projects on campus.

Project-based learning models are more effective than traditional lecture-based approaches. Ideal environmental education connects awareness, ability, and the opportunity to act. In this regard, the role of lecturers is crucial in creating meaningful learning experiences. Lecturers not only serve as transmitters of material but also as facilitators of behavioral change. When lecturers connect material to real-world problems such as waste management, energy use in the classroom, or consumer behavior, students more easily see the relevance of environmental science to their daily lives.

From a policy perspective, universities need to position environmental education as part of the campus culture, not simply as an elective course or ceremonial activity. Concrete steps such as the Green Campus program, which is integrated into the curriculum, student activities, and campus infrastructure, have proven to be more potent in driving behavioral change. If universities want to produce environmentally conscious graduates, their systems must also practice sustainability.

Generation Z has a great opportunity to become agents of change, especially because they are active in the digital space and sensitive to social justice issues. However, this energy must be directed with a healthy educational approach to prevent it from turning into anxiety without action. The ideal environmental education is one that is able to connect awareness, ability, and opportunity to act.

Evaluation of Research Results

Based on the research results, several evaluations of learning activities within the framework of Environmental Education can be conducted, including: (1) First, universities should integrate environmental education into the curriculum across study programs, not just within environmental majors. This integration can be achieved through local case studies, sustainability projects, and action-based assessments. This approach is more in line with the characteristics of Generation Z, who prefer active and relevant learning. (2) Second, universities need to strengthen facilities that support green behavior. Examples include a consistent waste sorting system, reducing single-use plastics, access to environmentally friendly transportation, and green discussion or community spaces. The Green Campus program, complemented by tangible facilities, has been shown to help shape student behavior. (3) Third, the use of digital media needs to be directed positively. Universities can create environmental campaigns based on popular social media platforms such as Instagram, TikTok, or campus platforms to encourage student participation. Ideal content should not only present problems but also solutions, small challenges, and everyday actions to reduce student burden. (4) Fourth, environmental education evaluations should measure not only test scores but also behavioral changes. For example, lecturers can assess students' participation in campus cleanups, efforts to reduce plastic bottle use, or contributions to community projects. This type of evaluation will make environmental education more tangible and impactful.

CONCLUSION

Environmental education plays a crucial role in shaping pro-environmental behavior among Generation Z students, particularly when combined with active learning, supportive campus facilities, and the wise use of digital media. Environmental knowledge encompasses not only the cognitive domain but also the affective and psychomotor domains, particularly in fostering pro-environmental behavior change. Project-Based Learning can foster positive pro-environmental attitudes in students, a strong desire to act, initiative, and innovation related to environmental stewardship.

Based on research findings, curriculum strengthening is needed, focusing not only on conceptual mastery but also on developing environmental action skills through behavior-based evaluation, rewarding student participation, and providing campus policies and infrastructure that support sustainable environmental practices. With a comprehensive approach, Environmental Education on campus is expected to produce a young generation that not only possesses strong environmental literacy but also acts as agents of change capable of initiating and disseminating sustainable practices in society.

Therefore, campuses need to move beyond simply transferring knowledge and teaching concepts to building a culture of sustainability. Gen Z needs not only information about the environmental crisis, but also the space, tools, and support to be part of the solution. In this context, Environmental Education is not just a course, but a long-term investment in developing the character of a campus community that is sustainable for the future of the earth.

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