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Education-Based Tourism: An Effort to Increase Environmental Awareness among the Younger Generation

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Abstract

Environmental degradation and unsustainable tourism practices remain critical global challenges, particularly as tourism activities increasingly involve younger generations. Education-based tourism has emerged as a strategic approach to fostering environmental awareness by integrating learning experiences into tourism activities. This study aims to analyze the role of education-based tourism in enhancing environmental awareness among the younger generation through a systematic review of empirical and conceptual studies. The research employed a qualitative literature review design, analyzing peer-reviewed journal articles, conference proceedings, and book chapters related to educational tourism, ecotourism, and environmental education. Data were analyzed using thematic content analysis to identify dominant patterns, outcomes, and challenges associated with education-based tourism initiatives. The results indicate that education-based tourism significantly contributes to improving environmental knowledge, attitudes, and pro-environmental behaviors among young participants through experiential learning, contextual education, and direct interaction with natural and cultural environments. Furthermore, education-based tourism supports sustainable tourism development by strengthening environmental responsibility and community engagement. However, challenges related to program design, target group specificity, and integration into formal education systems persist. This study concludes that education-based tourism is an effective instrument for increasing environmental awareness among the younger generation and recommends the development of structured, context-sensitive, and participatory tourism education programs to maximize long-term impacts.

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Introduction

The tourism sector has experienced significant growth over the past few decades and has contributed substantially to economic development in many countries. Tourism functions not only as a source of foreign exchange and employment generation, but also as a driver of regional development, infrastructure expansion, and improvements in local community welfare. However, alongside these

positive contributions, tourism activities that are not managed sustainably have generated various environmental and social problems. Mass tourism practices oriented toward resource exploitation often result in environmental degradation, ecosystem damage, biodiversity loss, and erosion of local cultural values (Ramos Guzman & Fernandez Guillermina, 2013; Wang et al., 2024).

The negative impacts of unsustainable tourism have encouraged the emergence of alternative approaches that emphasize a balance between economic, environmental, and social interests. One approach that has gained increasing attention is education-based tourism. This tourism model does not focus solely on recreational aspects, but deliberately integrates structured learning objectives into tourism activities. Through this approach, tourists are expected not only to consume experiences, but also to become learners who develop understanding, awareness, and responsibility toward the environment and host communities.

Education-based tourism is highly relevant in the context of sustainable development, particularly in promoting environmental awareness. Environmental education is widely regarded as a strategic instrument for shaping attitudes, values, and behaviors that support environmental conservation. In tourism contexts, educational processes that take place outside formal classroom settings enable contextual and experiential learning that is more meaningful. Direct interaction with natural and social environments provides concrete experiences that strengthen conceptual understanding while fostering emotional attachment to the environment (Grimmette, 2014; Sudirman, 2024).

The emphasis on younger generations is particularly important in the development of education-based tourism. Young people, including children, adolescents, and university students, represent future decision-makers, industry actors, and tourism consumers. The level of environmental awareness held by younger generations will significantly influence the future direction of tourism development and environmental sustainability. Previous studies indicate that early exposure to environmental education has a long-term influence on pro-environmental attitudes and behaviors. Learning experiences that are direct, participatory, and contextual are more effective than purely theoretical instruction in fostering environmental awareness and responsibility (Grimmette, 2014; Sudirman, 2024).

In this regard, education-based tourism provides a relevant and effective learning medium for younger generations. Tourism activities designed with educational content enable participants to learn about ecosystems, conservation, and sustainability directly in real-world settings. Various forms of tourism, such as ecotourism, conservation tourism, and community-based tourism, have been utilized as informal environmental education platforms that bridge the gap between theoretical knowledge and practical experience.

Numerous empirical studies demonstrate that ecotourism and educational tourism have positive effects on increasing environmental knowledge and awareness among participants, particularly young people. Research conducted in mangrove ecotourism areas, wildlife conservation sites, and community-based tourism destinations shows improvements in understanding ecosystem functions, biodiversity importance, and human roles in environmental conservation (Afifah et al., 2024; Harahab et al., 2023; Verawati & Idrus, 2023). These findings indicate that tourism activities enriched with educational elements can function as effective and meaningful learning environments.

Beyond cognitive outcomes, education-based tourism also contributes to the formation of environmental attitudes and values. Direct experiences in natural environments facilitate stronger emotional engagement compared to conventional classroom-based learning. This emotional involvement plays a crucial role in fostering concern, empathy, and responsibility for environmental protection. Previous studies report that young participants involved in educational tourism activities demonstrate higher levels of environmental concern and more positive attitudes toward conservation efforts (King et al., 2024; Hayati et al., 2023).

Despite its considerable potential, the implementation of education-based tourism still faces several challenges. Some studies reveal that many educational tourism programs lack clearly defined and structured learning objectives. Tourism activities often prioritize entertainment over education, which limits the effectiveness of learning outcomes (Agung & Sutraningsih, 2023; Novita & Azzahra, 2024). In addition, learning designs that are not aligned with participants' age characteristics further constrain program effectiveness.

Another commonly identified challenge is the weak integration between education-based tourism programs and formal education systems. Many educational tourism activities operate independently of school or university curricula, resulting in fragmented learning experiences and limited long-term impact assessment. Insufficient facilitator competence, lack of standardized educational materials, and limited evaluation mechanisms also influence the effectiveness of education-based tourism programs (Agung & Sutraningsih, 2023; Novita & Azzahra, 2024).

From a theoretical perspective, education-based tourism aligns closely with experiential learning theory. This theory emphasizes that effective learning occurs through cycles of direct experience, reflection, conceptualization, and application. In environmental education contexts, experiential learning allows participants to observe ecological processes firsthand, understand the interconnections between human activities and environmental systems, and reflect on the consequences of their actions (King et al., 2024; Hayati et al., 2023). This approach is considered highly effective in fostering deep and lasting environmental awareness.

Although the relationship between tourism and environmental education has been widely examined, studies that specifically synthesize the role of education-based tourism in enhancing environmental awareness among younger generations remain limited. Most existing research consists of case-specific studies conducted in particular locations or programs, with varying contexts and designs. This diversity makes it difficult to draw comprehensive conclusions regarding common patterns, mechanisms, and key factors influencing the success of education-based tourism initiatives (Aswita, 2018; Safitri, 2017).

This limitation highlights a clear research gap that warrants further investigation. A structured review is needed to consolidate empirical findings across different tourism settings and educational models. Through systematic synthesis, it is possible to identify shared impact patterns, effective learning mechanisms, and recurring implementation challenges. Such synthesis can serve as a foundation for developing more effective and sustainable education-based tourism models.

Therefore, this study aims to analyze the role of education-based tourism in enhancing environmental awareness among younger generations through a systematic review of relevant literature. The study focuses on how tourism activities that integrate educational components contribute to improvements in environmental knowledge, attitudes, and behaviors among young participants. The main contribution of this study lies in providing a comprehensive empirical synthesis, identifying key mechanisms of environmental awareness formation, and offering practical implications for the design of education-based tourism programs that support sustainable tourism development.

Materials and Methods

This study employed a qualitative literature review design to analyze the role of education-based tourism in enhancing environmental awareness among younger generations. A qualitative review approach was selected because it enables an in-depth synthesis of existing empirical evidence, facilitates the identification of recurring patterns and themes, and allows for a comprehensive understanding of complex relationships between tourism activities and environmental education outcomes. This approach is particularly appropriate for examining diverse tourism contexts and educational models without introducing new empirical data.

Research Design

The research was designed as a narrative and thematic literature review focusing on studies that examine education-based tourism, ecotourism, and environmental education within tourism settings. The review emphasized how educational elements embedded in tourism activities influence environmental awareness, attitudes, and behaviors among young participants. The scope of the review was limited to empirical studies to ensure that the analysis was grounded in observed outcomes rather than purely conceptual discussions.

Data Sources and Search Strategy

The literature reviewed in this study consisted of peer-reviewed journal articles, conference proceedings, and book chapters published in reputable academic outlets. The search focused on publications indexed in recognized academic databases. To capture recent developments and ensure the relevance of findings, the review included studies published between 2013 and 2024. This time frame reflects the growing scholarly attention to sustainable tourism, education-based tourism, and environmental awareness in recent years.

The literature search targeted publications addressing tourism activities that explicitly incorporated educational components and environmental learning objectives. Keywords and thematic focus areas included education-based tourism, educational tourism, ecotourism, environmental education in tourism, and environmental awareness among young people. Only sources directly aligned with the focus of this study were selected for further analysis.

Inclusion Criteria

The selection of literature was guided by clearly defined inclusion criteria to ensure consistency and relevance. First, the studies had to explicitly discuss education-based tourism, ecotourism, or tourism activities that integrated structured or intentional educational components. Second, the studies needed to address outcomes related to environmental awareness, environmental knowledge, attitudes, values, or pro-environmental behaviors. Third, the population examined in the studies had to involve younger generations, including children, adolescents, students, or young tourists. Finally, only studies published within the specified time frame were included.

Studies that focused solely on tourism development without an educational dimension or that examined environmental awareness without a tourism context were excluded. This ensured that the analysis remained focused on the intersection between tourism and environmental education.

Data Collection

Data collection was conducted through document analysis of the selected literature. Each publication was reviewed systematically to extract relevant information related to research objectives, study context, participant characteristics, educational approaches, and reported outcomes. Particular attention was given to how educational elements were designed and implemented within tourism activities and how these elements influenced environmental awareness among young participants.

The document analysis process emphasized accuracy and consistency in interpreting the findings reported in each study. No additional data were generated, and no reinterpretation beyond the scope of the original findings was conducted.

Data Analysis

Data analysis was carried out using thematic content analysis. This method involved identifying, categorizing, and synthesizing recurring themes across the reviewed studies. The analysis focused on three

primary dimensions of environmental awareness: cognitive aspects, such as environmental knowledge and understanding; affective aspects, including attitudes, values, and emotional engagement with the environment; and behavioral aspects, particularly pro-environmental actions associated with tourism participation.

Thematic patterns related to program design, learning mechanisms, and implementation challenges were also examined. By comparing findings across different tourism contexts, the analysis aimed to identify common mechanisms through which education-based tourism influences environmental awareness, as well as factors that affect program effectiveness.

Research Rigor and Limitations

To enhance the rigor of the review, the study applied consistent inclusion criteria and a systematic analytical framework across all selected publications. The use of peer-reviewed and reputable academic sources helped ensure the reliability of the findings synthesized. However, as a qualitative literature review, this study is limited by the scope and quality of the available literature. Differences in study design, context, and evaluation methods across the reviewed studies may influence the comparability of findings.

Despite these limitations, the qualitative synthesis provides a comprehensive overview of existing empirical evidence and offers valuable insights into the role of education-based tourism in promoting environmental awareness among younger generations.

Results and Discussions

Effects of Education-Based Tourism on Environmental Knowledge

The reviewed literature consistently indicates that education-based tourism contributes positively to the development of environmental knowledge among younger generations. Studies conducted in various tourism contexts, including ecotourism sites, conservation areas, and community-based tourism destinations, report improvements in participants' understanding of ecological processes, biodiversity, and environmental sustainability concepts (Safitri, 2017; Yuan, 2014).

Direct engagement with natural environments enables young participants to contextualize abstract environmental concepts within real-world settings. Experiential learning activities such as guided nature exploration, conservation-based tourism programs, and interpretive tours allow participants to observe ecological interactions firsthand. This contextual exposure strengthens comprehension and facilitates meaningful learning, as environmental knowledge is acquired through observation and participation rather than passive information transfer. Table 1 summarizes the empirical findings related to cognitive outcomes reported in the reviewed studies.

Table 1. Empirical Evidence on Environmental Knowledge Outcomes

Tourism Context	Target Group	Educational Approach	Reported Knowledge Outcomes	Source
Ecotourism sites	Students, youth	Experiential learning	Increased understanding of ecosystems and biodiversity	Safitri (2017)
Nature-based tourism	Young tourists	Field-based activities	Improved ecological literacy	Yuan (2014)
Conservation tourism	Students	Interpretive education	Enhanced awareness of conservation principles	Afifah et al. (2024)

These findings reinforce the role of education-based tourism as an effective informal learning environment that complements formal environmental education.

Development of Environmental Attitudes and Values

Beyond cognitive outcomes, the literature demonstrates that education-based tourism plays a significant role in shaping environmental attitudes and values among young participants. Emotional engagement with natural environments emerges as a critical factor influencing attitude formation. Studies show that immersive experiences in ecotourism and conservation settings foster feelings of appreciation, concern, and responsibility toward environmental protection (King et al., 2024; Yu et al., 2024).

Research conducted in marine and mangrove ecotourism contexts reveals that participants develop stronger affective connections with nature after participating in education-oriented tourism activities (Afifah et al., 2024; Verawati & Idrus, 2023). This emotional involvement supports the internalization of environmental values, which is essential for long-term environmental responsibility.

The reviewed studies indicate that attitude change is more pronounced when educational tourism programs include reflection activities, facilitator guidance, and opportunities for dialogue. These elements encourage participants to critically engage with environmental issues and relate their experiences to broader sustainability concerns.

Influence on Pro-Environmental Behavior

Several studies report that education-based tourism influences not only knowledge and attitudes but also pro-environmental behavior. Behavioral changes observed among participants include increased participation in conservation activities, adoption of responsible travel practices, and heightened awareness of waste management and resource conservation (Wang et al., 2024; Ferreira et al., 2023).

These behavioral outcomes align with experiential learning theory, which suggests that direct experience combined with reflection facilitates the translation of knowledge and attitudes into action. Education-based tourism creates conditions in which participants can immediately apply learned principles, reinforcing environmentally responsible behavior. Table 2 presents a synthesis of behavioral outcomes reported across the reviewed literature.

Table 2. Reported Pro-Environmental Behavioral Outcomes

Type of Behavior	Description	Tourism Context	Source
Conservation participation	Engagement in environmental protection activities	Community-based tourism	Ferreira et al. (2023)
Responsible travel	Environmentally conscious tourist behavior	Educational tourism	Wang et al. (2024)
Waste reduction	Improved waste management practices	Ecotourism	Verawati & Idrus (2023)

Contribution to Sustainable Tourism Development

From a sustainability perspective, education-based tourism contributes to responsible tourism development by fostering environmentally conscious future tourists. Studies in community-based tourism settings emphasize that educational tourism initiatives not only benefit participants but also support local conservation efforts and community engagement (Susanti & Mulyani, 2020; Wearing et al., 2017).

Education-based tourism strengthens the role of local communities as educators and stewards of natural resources. By involving local stakeholders in educational activities, tourism programs enhance mutual understanding between visitors and host communities, reinforcing sustainability-oriented tourism practices.

Implementation Challenges

Despite its positive impacts, the effectiveness of education-based tourism is influenced by several implementation factors. The reviewed studies identify curriculum design, facilitator competence, and

participant engagement as critical determinants of success. Programs lacking clear learning objectives or structured educational frameworks tend to produce weaker outcomes (Judijanto et al., 2024; Utari et al., 2024).

Additionally, limited integration with formal education systems constrains the long-term impact of education-based tourism. Without alignment to school or university curricula, learning outcomes are often not reinforced beyond the tourism experience. Addressing these challenges is essential to maximize the educational and sustainability potential of tourism programs.

Conclusion

This study concludes that education-based tourism plays a significant role in enhancing environmental awareness among younger generations. The synthesis of existing empirical literature demonstrates that tourism activities integrating structured educational components contribute to improvements in environmental knowledge, foster positive environmental attitudes, and encourage pro-environmental behaviors. Through experiential and contextual learning, young participants gain direct exposure to natural environments, which strengthens their understanding of ecological processes and reinforces emotional connections with nature.

The findings indicate that education-based tourism functions as an effective informal learning environment that complements formal environmental education. Programs implemented in ecotourism, conservation tourism, and community-based tourism contexts consistently show positive cognitive, affective, and behavioral outcomes. These outcomes support the broader objective of sustainable tourism development by shaping environmentally responsible future tourists and promoting community engagement in conservation efforts.

However, the effectiveness of education-based tourism is strongly influenced by program design and implementation. Clear educational objectives, age-appropriate learning strategies, competent facilitators, and alignment with formal education systems are critical to ensuring long-term impact. Without these elements, the educational potential of tourism activities may not be fully realized.

Future research should prioritize longitudinal assessments to evaluate the durability of environmental awareness outcomes over time and support the development of standardized evaluation frameworks. Strengthening collaboration between tourism stakeholders and educational institutions is also essential to enhance the sustainability and effectiveness of education-based tourism initiatives.

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