JMKSP (Jurnal Manajemen, Kepemimpinan, dan Supervisi Pendidikan)
Volume 11 (1) 2026, 1-8
E-ISSN 2614-8021, P-ISSN 2548-7094

Effectiveness of Ecotourism-Based Entrepreneurship Education as Seen from Students' Perception

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Article History: Received on January 24, 2026, Revised on January 29 2026, Published on January 30, 2026

Abstract: The global climate crisis demands a radical transformation in the higher education sector, particularly in entrepreneurship curricula. Students, as agents of change, no longer view business solely as an instrument of capital accumulation, but rather as a means of conservation. Ecotourism has emerged as an ideal laboratory for testing the synergy between profitability and environmental preservation. However, the effectiveness of this education depends heavily on how students perceive the relevance of the material to the realities of the field. Understanding their perspectives is crucial to evaluating whether current learning models are capable of producing competent ecopreneurs or merely providing theoretical insights without any real impact on ecosystem sustainability and the well-being of local communities.

Keywords: Entrepreneurship Education, Ecotourism, Student Perceptions, Ecopreneurship, Sustainable Development

A. Introduction

In the last decade, the world has witnessed a fundamental shift in the global economic landscape, as conventional profit-driven business models are increasingly abandoned in favor of more sustainable practices (Robertson, 2025). The escalating climate crisis, massive environmental degradation, and persistent social inequalities demand a new paradigm within the business community (Baccarani et al., 2021). Higher education, acting as an intellectual incubator, bears a significant responsibility to respond to these challenges by reforming entrepreneurship curricula. One of the sectors with the greatest potential to bridge economic interests and environmental conservation is ecotourism (Isaacs, 2024). Ecotourism-based entrepreneurship education has emerged as a strategic solution to produce a generation of ecopreneurs who are not only market-competitive but also ethically conscious of their environmental footprint (Huang et al., 2023).

As a nation endowed with extraordinary biodiversity, Indonesia possesses a unique comparative advantage in ecotourism development (Wartini et al., 2022). However, this potential is often hindered by a shortage of human resources capable of balancing commercialization with conservation (Waluyo & Guritno, 2023). Consequently, the effectiveness of entrepreneurship education in higher education institutions has

become a critical variable (Olanrewaju, 2024). This effectiveness cannot be measured solely by academic grades; it must be examined through a comprehensive analysis of student perceptions. In this study, student perception is operationalized through three distinct dimensions: the cognitive dimension, regarding the mastery of green entrepreneurship concepts; the affective dimension, involving the internalization of sustainability values and shifts in environmental attitudes; and the psychomotor dimension, focusing on practical readiness and self-efficacy in implementing ecotourism business ideas in real-world scenarios (Man Seong et al., 2025).

Despite its potential, significant challenges loom over the implementation of such education. A disconnect often exists between management theories taught in the classroom and the complex social and ecological realities on the ground (Daly et al., 2022). Students frequently perceive a gap between conservation ideals and the practicalities of financial gain (Toomey, 2023). Without a thorough understanding of these differentiated perceptual indicators, educational institutions risk producing graduates who are theoretically knowledgeable but fail to internalize environmental ethics or lack the technical readiness to navigate the dynamic sustainable tourism industry (Al-Romeedy, 2025).

This article aims to explore the effectiveness of ecotourism-based entrepreneurship education by placing students at the center of the evaluation process (Adi et al., 2025). By examining how they perceive the relevance of the curriculum, teaching methods, and institutional support through these cognitive, affective, and psychomotor lenses, this research seeks to provide a framework for developing entrepreneurship education that is more responsive to environmental issues (Cui, 2021). Through an integration of academic literature and structured perceptual analysis, this study addresses the challenges of creating a regenerative business ecosystem for Indonesia's future (Pratiwi, 2025).

B. Methods

This study uses a descriptive qualitative approach to explore the effectiveness of ecotourism-based entrepreneurship education through student perspectives (Rahmawati et al., 2023). Data were collected through in-depth interviews, participant observation, and curriculum document review with final-year students who had taken related courses. Data analysis was conducted using the Miles and Huberman model, encompassing data reduction, presentation, and conclusion drawing. The evaluation focused on indicators of conceptual understanding, changes in attitudes toward the environment, and practical readiness to design sustainable businesses (Fatimah et al., 2025). The validity of the findings was ensured through triangulation of sources and techniques to ensure that student perceptions accurately reflect the reality of learning quality and challenges in the field (Meydan & Akkaş, 2024).

C. Results and Discussion

Results

This section presents research findings synthesized from field data regarding

students' perceptions of the effectiveness of ecotourism-based entrepreneurship education. To ensure the reliability of these findings, data were gathered from 15 key informants, consisting of 10 final-year students (60% female, 40% male) specializing in sustainable tourism, 3 entrepreneurship lecturers, and 2 ecotourism industry practitioners. This specific composition allows for a triangulation of perspectives, though it is noted that as a qualitative study, these results provide a deep contextual understanding rather than a statistical generalization for all university curricula. 1) Cognitive Transformation: Triple Bottom Line vs. Conventional Profit-Centric Models Based on interviews, students perceived that this education successfully shifted their understanding of business functions. In contrast to conventional entrepreneurship models which students previously associated almost exclusively with profit maximization and market share the integration of ecotourism forced a shift toward the Triple Bottom Line (People, Planet, Profit).

Students report being able to identify opportunities that do not harm the ecosystem. For example, while conventional business students might focus on maximizing room occupancy, these students calculate **environmental carrying** capacity to prevent site degradation. This effectiveness is evident in their ability to link biodiversity conservation directly to a destination's value proposition, building a theoretical foundation for the circular economy that is often absent in traditional business education. Internalization of Ecotourism Values and Affective Change Perceptions indicate signifaicant affective changes, fostering a sense of moral responsibility where students see themselves as "guardians" of heritage. However, FGDs revealed a conflict between idealism and economic reality (Akyıldız & Ahmed, 2021).

Students expressed doubts about whether businesses adhering to strict conservation can compete with low-price mass tourism. Compared to conventional models that provide clear financial benchmarks for success, this ecotourism approach currently lacks robust comparative financial simulations, leaving a gap in convincing students of the financial viability of ecologically rigorous models.The following table summarizes students' perceptions regarding the effectiveness of various learning methods. Practical Readiness and Comparative Learning Methods In terms of psychomotor skills, experiential learning was deemed most effective. The following table summarizes these perceptions, including a comparison with conventional lecture-heavy approaches:

Learning Method	Effectiveness Level	Primary Reason	Comparison to Conventional Models
Theoretical Lectures	Moderate	Provides legal and cor concepts.	Similar to conventional models; often perceived as monotonous.
Case Studies	High	Analyzes real-world success/failure.	Focuses on regenerative cases rather than just high-growth startups.
Field Project	Very High	Hands-on social/environmental solving.	Offers higher complexity than standard business simulations.
Practitioner Mentorship	Very High	Provides market trend and networks.	Connects students to "impac investors" rather than just

traditional VCs.

Analysis of Factors Inhibiting Effectiveness: The Green Technology Gap While conceptual understanding is high, students highlighted a lack of specific digital-green literacy. Discussion of green technology remains largely conceptual; students felt they lacked technical skills in:Digital Waste Management: Using IoT-based tracking systems for resort waste.

Carbon Auditing: Practical skills in using digital carbon footprint calculators for tour operations. Renewable Energy Integration: Technical basics of off-grid solar or micro-hydro setups for remote ecotourism sites. Without these specific skills, students feel they are "conceptually ready but technically limited" in supporting sustainable ecopreneurship.

Synthesis: Toward a Regenerative Education Model The effectiveness of this model stems from a synergy between participatory teaching and a supportive ecosystem. However, its relative superiority over conventional models lies in its ability to internalize environmental "externalities" that traditional education often ignores. Students believe the future of Indonesian entrepreneurship depends on transforming natural beauty into economic value without sacrificing the future (Tauro et al., 2021).

Discussion

Cognitive Transformation: From Profit-Centric Models to the Triple Bottom Line Interview data indicate that ecotourism-based entrepreneurship education is perceived as effective in transforming students' understanding of business functions. Prior to engaging with this learning approach, students largely conceptualized entrepreneurship through a conventional framework emphasizing **profit maximization** and market expansion. However, integrating ecotourism principles encouraged a paradigm shift toward the **Triple Bottom Line** approach, which balances **People, Planet, and Profit** (Mayer & Schwemmle, 2023).

Students no longer interpret entrepreneurial opportunities solely as strategies to increase occupancy rates or revenue generation. Instead, they increasingly incorporate environmental considerations such as **ecological carrying capacity**, ensuring that tourism activities do not accelerate ecosystem degradation. These findings demonstrate that the learning model fosters theoretical awareness of the **circular economy**, in which biodiversity conservation is positioned as an integral component of a destination's value proposition. Thus, the effectiveness of this model lies in its ability to integrate environmental externalities that are often neglected in traditional business and entrepreneurship education.

Internalization of Ecotourism Values and Students' Affective Development. Beyond cognitive transformation, the study also reveals significant affective changes among students. Participants reported a growing sense of moral responsibility toward environmental protection and cultural heritage preservation. They increasingly perceive themselves as "**guardians of heritage**" rather than merely business actors.

Nevertheless, focus group discussions (FGDs) highlighted tensions between

conservation idealism and economic realities within competitive tourism markets (Akyıldız & Ahmed, 2021). Students expressed concerns about whether businesses adhering strictly to ecological conservation principles can remain competitive against low-cost mass tourism models.

While conventional entrepreneurship frameworks provide clear financial benchmarks and measurable indicators of success, the ecotourism-based approach is perceived as lacking robust comparative financial simulations. This gap may reduce students' confidence in the economic feasibility of ecologically rigorous business models. Therefore, strengthening evidence of financial viability remains essential to reinforce student commitment to sustainable ecopreneurship.

Practical Readiness and the Effectiveness of Learning Methods. From a psychomotor and applied-skills perspective, students perceived **experiential learning approaches** as the most effective component of the program. The findings suggest that: a) **Theoretical lectures** were moderately effective in delivering foundational concepts and regulatory knowledge, yet were still perceived as monotonous, similar to conventional lecture-based models. b) **Case study learning** was considered highly effective, as students could critically analyze real-world entrepreneurial successes and failures, particularly within regenerative tourism contexts rather than solely high-growth startup narratives. c) **Field-based projects** received the highest effectiveness ratings because they enabled direct engagement with complex socio-environmental problem-solving beyond standard classroom simulations. d) **Practitioner mentorship** was also viewed as highly valuable, providing access to industry networks, market insights, and connections with impact-oriented investors rather than traditional venture capital ecosystems. Overall, ecotourism-based entrepreneurship education is perceived as superior to conventional lecture-heavy approaches because it offers greater contextual complexity and authentic learning experiences.

Barriers to Effectiveness: The Green Technology Gap. Although students demonstrated strong conceptual understanding, the study identified a key limitation in the form of insufficient **digital-green literacy**. Students felt they lacked the technical competencies necessary to operationalize sustainable ecopreneurship in contemporary tourism industries. Several skill areas were reported as underdeveloped, including: a) **Digital waste management**, such as the application of IoT-based systems for monitoring resort waste streams. b) **Carbon auditing**, including practical competence in using digital carbon footprint calculators for tourism operations. c) **Renewable energy integration**, particularly basic knowledge of off-grid solar systems or micro-hydro solutions for remote ecotourism destinations.

This gap contributes to students feeling "conceptually prepared but technically constrained" (Berman, 2021). Therefore, the effectiveness of ecotourism entrepreneurship education would be significantly enhanced by embedding applied green technology training within the curriculum.

Synthesis: Toward a Regenerative Entrepreneurship Education Model. Overall, the findings confirm that the effectiveness of ecotourism-based entrepreneurship

education emerges from the synergy between participatory pedagogy, experiential learning, and supportive industry ecosystems. Its primary advantage over conventional entrepreneurship education lies in its capacity to internalize sustainability and conservation as fundamental elements of business logic rather than peripheral concerns. Students believe that the future of Indonesian entrepreneurship depends on transforming natural beauty into economic value without compromising ecological integrity for future generations (Shafwatullah & Arquisola, 2024). Consequently, ecotourism-based entrepreneurship education may be positioned as a pathway toward a **regenerative education model** one that not only produces entrepreneurs but also cultivates agents of socio-ecological restoration.

Research Implications Based on the discussion above, this study recommends: 1) Strengthening financial feasibility simulations for ecotourism ventures to enhance student confidence in conservation-based business competitiveness. 2) Integrating applied green technology and digital sustainability training into entrepreneurship curricula. 3) Expanding collaboration with industry practitioners to provide mentorship opportunities and facilitate access to impact investment networks.

D. Conclusions

Ecotourism-based entrepreneurship education has proven effective in transforming students' paradigms toward sustainable values. Findings indicate that integrating conservation principles into the curriculum successfully increases students' self-efficacy and intention to become ecopreneurs. The highest effectiveness is achieved through experiential learning methods that connect theory with field reality. However, challenges such as limited access to networks and green technology literacy remain major obstacles. Therefore, universities need to strengthen cross-disciplinary collaboration and provide green business incubators. The success of this educational model is crucial for producing a generation of entrepreneurs capable of balancing economic profitability with ecosystem preservation in the future.

E. Acknowledgement

The author expresses his deepest gratitude to all parties who have contributed to the completion of this research. Thank you to the relevant higher education institutions for providing data access and administrative support throughout the study. Sincere appreciation goes to the participating students who shared their valuable perspectives and experiences regarding ecotourism-based entrepreneurship education. The author also thanks the supervising lecturers and green industry practitioners for their critical discussions and guidance. Finally, thank you to my family and colleagues for their moral and technical support, enabling the completion of this article for the advancement of sustainability education in Indonesia.

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