

Fostering Sustainability through Experiential Green Social Entrepreneurship: A Conceptual Approach Using Kolb's Learning Theory

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Abstract: This conceptual paper explores the intersection of sustainability education and social entrepreneurship through an experiential learning lens. While environmental challenges continue to escalate globally, there remains a significant gap in pedagogical approaches that effectively integrate hands-on sustainability education with entrepreneurial thinking, especially among younger learners. This study addresses this gap by proposing a framework grounded in Kolb's Experiential Learning Theory, focusing on how immersive, community-based environmental activities can cultivate sustainable values, social responsibility, and entrepreneurial skills among youth. The framework is modeled on a structured one-day environmental engagement program involving real-world activities aligned with four stages of Kolb's learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation. The program design is further mapped to relevant Sustainable Development Goals (SDGs) — particularly SDG 4 (Quality Education), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals). The paper finds that such experiential interventions have strong potential in shaping responsible, action-oriented learners and offers a replicable model for integrating green social entrepreneurship into sustainability education. The proposed framework contributes to the growing body of literature by offering a structured pedagogical model that blends environmental stewardship, community engagement, and entrepreneurial learning for youth development.

Keywords: *Experiential Learning, Kolb, Sustainability, Social Entrepreneurship, Youth, Green Education, SDG, Community Engagement.*

1. Introduction and Background

Environmental education is essential for fostering awareness and a sense of responsibility among youth regarding sustainability issues. Despite the rise of environmental education in school curricula, it remains predominantly theoretical, lacking practical and experiential components. Educational activities (Tilbury, 2011). In Malaysia, young learners possess minimal exposure to the entrepreneurial dimensions of sustainability, despite the crucial role of community engagement in tackling environmental issues (Ahmad et al., 2020). Although social entrepreneurship is extensively examined at the university level, it is hardly associated with environmental action at the school level (Hockerts, 2015). This indicates a distinct disparity in educational methodologies that incorporate practical learning, environmental stewardship and entrepreneurship.

Despite increasing acknowledgement of the importance of sustainability education, several current educational frameworks do not effectively implement environmental knowledge. Students often encounter sustainability in a passive classroom environment, lacking the opportunity to explore its entrepreneurial aspects or interact with community-based solutions. This discrepancy not only limits their comprehension but also hinders their capacity to function as proactive change agents. Moreover, there is inadequate integration of academic knowledge and practical application, especially in the conjunction of environmental literacy with business and innovation. This underscores the essential requirement for an educational system that emphasises experiential learning alongside the integration of social entrepreneurship and sustainability principles.

A one-day environmental outreach program was executed as a school-based intervention involving a substantial number of secondary school students. The program offered a comprehensive platform that integrated environmental education with entrepreneurial practice through interactive Explorace modules, Trash2Treasure idea challenges, and sustainability-focused company booths. This conceptual paper presents a scalable methodology for linking experiential sustainability education with social entrepreneurship, grounded in Kolb's Experiential Learning Theory (1984), which encompasses experience, reflective observation, abstract conceptualisation, and active experimentation. The research provides a framework for cultivating dynamic and accountable teenagers who can spearhead community-oriented environmental transformation by situating this model within Malaysia and aligning it with Sustainable Development Goals (SDGs 4, 12, 13, and 17).

2. Literature Review

Environmental education is regarded as a crucial element in cultivating pro-environmental attitudes and behaviors among youth. Nonetheless, conventional pedagogical methods remain predominantly theoretical, constraining their enduring efficacy (Tilbury, 2011; Ahmad et al., 2020). This disparity is particularly evident in school-based programs, since students often lack the opportunity to implement sustainability concepts in real-world contexts. Recent research (Arslan & Şeker, 2021; Zainudin et al., 2022) indicates that experiential learning is crucial for students to assimilate durable values and convert knowledge into significant action.

Experiential learning has surfaced as a potent instructional methodology, allowing students to immerse themselves in real-world challenges while cultivating critical thinking and leadership abilities (Kolb, 2015; Merriam & Bierema, 2018). Kolb's Experiential Learning Theory is fundamental in this domain, presenting a cyclical learning model with four stages: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. The notion has been extensively utilized in educational innovation and sustainability, where experiential learning fosters behavioral change and enhances engagement (Hedin, 2020; Ko & Chiu, 2022).

Researchers have recently highlighted the efficacy of experiential methods in sustainability teaching. Programs enabling student engagement in simulations, community initiatives, or sustainable innovation projects have shown beneficial effects on environmental knowledge, action competence, and eco-literacy (Wiek et al., 2019; Barth & Rieckmann, 2020). Green education, which combines environmental consciousness with values-based instruction, inspires learners to contemplate their responsibilities as global citizens and agents of change (Sterling, 2021). These programs transcend cognitive knowledge, emphasizing the cultivation of emotional connection, ethical reasoning, and interactive learning (Zamzuri et al., 2023).

Simultaneously, social entrepreneurship education has garnered interest for its capacity to tackle environmental and social issues through innovation and community-oriented solutions. Students involved in social entrepreneurship are urged to recognize issues, gather resources, and execute sustainable ideas, all while fostering empathy and leadership (Sassmannshausen & Volkmann, 2018; Kummitha & Majumdar, 2021). Nevertheless, the majority of programs are focused on the postsecondary level and frequently lack environmental integration. A limited number of frameworks integrate entrepreneurial education with environmental aims, particularly at the school level.

Community-based experiential learning bridges this gap by grounding educational interventions within the learners' local context. Community engagement supports social learning, civic participation, and real-time feedback, making sustainability education more relevant and impactful (Falk & Harrison, 2018; Rowe & Gentile, 2020). Studies have shown that when students work with their communities on environmental or social innovation projects, their learning outcomes improve across multiple domains: cognitive, affective, and behavioral (Sharma et al., 2021; Wahab et al., 2023).

Despite this, there remains a research gap in integrating Kolb's experiential framework with green social entrepreneurship in Malaysian secondary school settings. The literature is still sparse in examining how school-aged learners can benefit from immersive environmental entrepreneurship education that blends sustainability, social impact, and hands-on learning. Most existing studies focus on either higher education

(Hockerts, 2015; Norazah et al., 2022) or singular domains such as recycling awareness or business skills, without exploring how a combined framework can foster holistic youth development. This paper addresses that gap by proposing a model based on a one-day environmental engagement program that operationalizes Kolb's theory while aligning with the Sustainable Development Goals (SDGs 4, 12, 13, and 17).

3. Research Methodology

This conceptual study adopts a qualitative and reflective research approach aimed at addressing the existing gap in environmental education, particularly the lack of experiential and entrepreneurial integration at the school level. Guided by Kolb's Experiential Learning Theory (1984), the study seeks to explore how experiential learning can enhance environmental awareness and social entrepreneurial mindset among youth, while contributing to the development of a theoretically grounded and practically replicable educational framework.

The following research questions guide this inquiry:

- In what ways can experiential learning activities grounded in Kolb's Experiential Learning Theory enhance environmental awareness and social entrepreneurial mindset among school students?
- What are the key elements of a green social entrepreneurship programme that can be conceptually mapped to form a reproducible experiential framework for environmental education?

To address these questions, the study utilizes a conceptual synthesis method, drawing from both an extensive review of recent scholarly literature and practitioner-based reflections. The reflections are based on a one-day environmental outreach initiative involving secondary school students and university student facilitators. Although the study does not involve empirical data collection or hypothesis testing, it systematically analyses non-numerical insights to construct a theoretically informed model of experiential green social entrepreneurship education.

Data for this conceptual mapping were derived from the following qualitative sources:

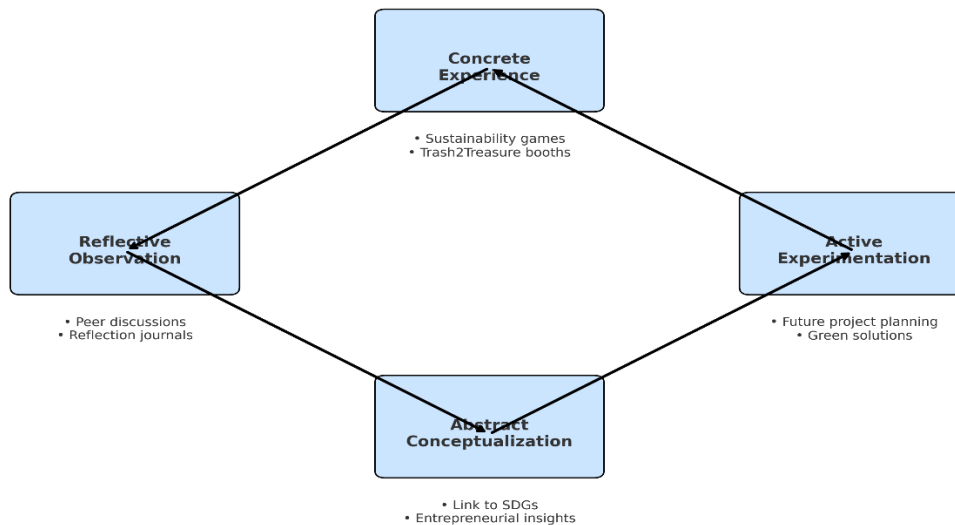
- Programme documentation and planning reports,
- Reflective journals maintained by student facilitators,
- Field notes and observational records collected during the programme,
- Informal feedback and verbal responses from student participants and teachers.

These qualitative data were subsequently aligned with the four stages of Kolb's Experiential Learning Cycle:

- Concrete Experience – Direct involvement in sustainability activities such as eco-themed Explorace, innovation competitions, and green entrepreneurship booths.
- Reflective Observation – Personal and group reflection sessions where facilitators and participants critically examined their actions and outcomes.
- Abstract Conceptualization – The process through which students derived broader environmental and entrepreneurial principles from their experiences.
- Active Experimentation – Application of acquired insights to propose new sustainability initiatives or improvements for future programmes.

Figure 1: Conceptual Framework of Experiential Green Social Entrepreneurship Based on Kolb's Learning Cycle

**Figure 1: Experiential Green Social Entrepreneurship Framework
(Mapped to Kolb's Learning Cycle)**



The overall process is illustrated in Figure 1, which presents the conceptual framework derived from the analysis. This framework exemplifies how youth-centered, community-engaged programmes can be theoretically structured to cultivate environmental consciousness, social responsibility, and entrepreneurial competencies. The methodology employed in this study aligns with conceptual research standards, offering a practice-informed model with potential for replication in other educational settings.

4. Findings and Discussions

Reflective Discussion

This conceptual study provides reflective observations from the Hunt4Green program, which yield useful insights into how experiential learning can enhance environmental awareness and entrepreneurial skills among school-aged students. This study illustrates how structured, participatory learning experiences in genuine situations can be transformative by aligning real-world activities with Kolb's Experiential Learning Cycle (1984). These findings bolster the accumulating data about the significance of experiential pedagogies in sustainability education (Barth & Rieckmann, 2020; Sterling, 2021).

Concrete Experience

Over 700 secondary school students engaged in immersive environmental activities during the Hunt4Green event, which featured an Explorace and the Trash2Treasure green invention challenge. These activities functioned as contextual learning environments where students encountered authentic ecological issues such as recycling, waste segregation, and upcycling. The veracity of these encounters enhanced emotional involvement, cognitive stimulation, and comprehension of environmental challenges (Ko & Chiu, 2022; Zamzuri et al., 2023). Research indicates that experiential learning promotes enhanced ecological literacy and cultivates more robust pro-environmental behaviours (Balsiger et al., 2022).

Reflective Observation

Reflection after the exercise was conducted via journal writing, informal discussions, and structured debriefing sessions with both student facilitators and school participants. These reflection exercises allowed participants to express lessons learnt, assess their roles in group dynamics, and enhance self-awareness concerning environmental responsibility. This aligns with Kolb & Kolb's (2017) assertion that metacognitive reflection augments the profundity of learning and the construction of meaning. Recent research indicates that organised reflection improves environmental identity and fosters enduring eco-conscious behaviour (Barros & Pinheiro,

2021).

Abstract Conceptualization

The third stage was seen as students commenced synthesising experiential insights with theoretical concepts from the classroom. Facilitated talks allowed them to link sustainable methods with responsible consumption, social business models, and environmental ethics. This phase signified the assimilation of practical experience into conceptual knowledge, thereby connecting theoretical education with practical comprehension (Wiek et al., 2019). Furthermore, participants exhibited an increasing recognition of the use of entrepreneurial thinking as a means to tackle environmental concerns, consistent with the findings of Kummitha & Majumdar (2021).

Active Experimentation

Encouragingly, the final stage of the learning cycle was evident when both school and university participants proposed follow-up initiatives. These included starting recycling clubs, hosting green campaigns, and exploring social business models related to sustainability. Such outcomes indicate a successful transition from learning to application—a key marker of experiential learning (Kolb & Kolb, 2017). They also reflect the broader value of youth-driven innovation in promoting eco-social change (Sharma et al., 2021; Rowe & Gentile, 2020).

Broader Implications

This conceptual study highlights the transformative potential of experiential, community-engaged programs in fostering sustainability-oriented knowledge, values, and skills in kids. The Hunt4Green program operated as a dynamic "living lab," providing students with opportunities to actively experiment with environmental and entrepreneurial themes in a real-world context. This practical immersion enhanced cognitive and emotional involvement, placing learners as active agents of change rather than mere users of knowledge.

The collaborative design of the program, which integrates tertiary-level facilitators with secondary school participants, underscores the significant impact of intergenerational relationships in educational innovation. This partnership improves the learning process by establishing mutual environments of mentorship, empowerment, and peer learning. This underscores the relevance of Kolb's Experiential Learning Cycle (1984) as a comprehensive framework for executing sustainability education that is both pedagogically effective and socially significant (Kolb & Kolb, 2017; Rowe & Gentile, 2020).

5. Conclusion

This article proposed a conceptual framework for experiential environmental education and social entrepreneurship, guided by Kolb's Experiential Learning Theory (Kolb, 1984; Kolb & Kolb, 2017). Hunt4Green has shown that systematically structured experiential activities can serve as an effective teaching approach to instill environmental values and entrepreneurial abilities in young learners (Tilbury, 2011; Yuen, 2021).

The study introduces a repeatable model for use by policymakers and educators, which may be adapted for the development of school-based sustainability programs. It underscores intergenerational collaboration, community involvement, and experiential learning as pivotal components of effective environmental education (Ahmad, Abu Bakar, & Ahmad, 2020; Hockerts, 2015).

Implications for Practice

In practice, this study highlights several strategic paths for the stakeholders in the education system. Firstly, schools are encouraged to integrate more project-based learning approaches that are sensitive to both environmental and entrepreneurial objectives, thereby allowing students to implement theoretical concepts in real-life situations and build meaningful civic engagement (Yuen, 2021).

Second, universities might also serve as mentoring partners by involving their students in outreach and community work, thereby also serving as a bridge between academic higher learning and social practice. Intergenerational collaboration encourages Kolb's model of experiential learning by constructing ongoing loops of action and reflection (Kolb & Kolb, 2017).

Finally, policymakers are urged to sponsor the integration of experiential learning models into national environmental education strategies to enable systemic change that favors environmentally aware and socially entrepreneurial young people (Tilbury, 2011).

Limitations and Future Research

As a conceptual paper, this study does not empirically test the framework. Future research should employ mixed methods to evaluate the impact of such programs on participants' environmental attitudes, entrepreneurial intention, and long-term behavior change of participants (Ahmad et al., 2020). Comparative studies between different school contexts and age groups may also enrich the framework's applicability and generalizability.

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