Enhancing EFL Students' Environmental Awareness and Motivation through a Faith-Based Green ELT Curriculum

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Abstract

Integrating sustainable education into English as a Foreign Language (EFL) has become increasingly important in response to global environmental challenges. This study evaluates the effectiveness of a localised Green ELT curriculum developed and implemented at a private Christian university in Tomohon, Indonesia. Guided by a Design-Based Research (DBR) methodology, the curriculum was designed to integrate ecological content with Christian values and English language learning objectives. The study involved 50 purposively selected EFL students and was conducted over three months (March–May 2025) through three phases: curriculum design, classroom implementation, and evaluation. Data were collected using pre- and post-questionnaires, classroom observations, and Focus Group Discussions (FGDs). Quantitative data were analysed with paired t-tests, while qualitative data were thematically analysed. The findings revealed statistically significant improvements in both environmental awareness ($t = -13.62$, $p < 0.001$) and motivation to learn English ($t = -6.60$, $p < 0.001$). Qualitative insights further confirmed that faith-based discussions and contextualised activities deepened student engagement, linking language learning to sustainability issues. These results demonstrate that Green ELT can foster linguistic skills while enhancing students' sense of environmental responsibility when localised and aligned with cultural and religious values. The study highlights the potential of Green ELT in faith-based contexts and recommends further adaptation across diverse educational settings to promote sustainable language education.

Keywords: Green ELT; sustainable education; EFL; environmental awareness; motivation; faith-based education; localised curriculum; Design-Based Research (DBR).

INTRODUCTION

The accelerating pace of global environmental degradation has heightened the urgency for education systems to promote sustainability actively. Climate change, biodiversity loss, deforestation, and pollution are no longer abstract issues but immediate

challenges with tangible consequences for societies worldwide (Nkwetisama, 2011; Afrin & Saha, 2023; Suwaed, 2022). In response, the United Nations launched the Education for Sustainable Development (ESD) initiative, positioning education as a critical driver in fostering the knowledge, values, and skills necessary to address ecological crises (UNESCO, 2014; Rieckmann, 2018; Laurie et al., 2016). Within this framework, language education, and particularly English as a Foreign Language (EFL), holds untapped potential to connect learners with global discourses on sustainability while simultaneously building linguistic competence (Arslan & Curle, 2024; Jayantini et al., 2024; Astawa et al., 2024; Wu & Shafait, 2024; Jung & Santos, 2022). As Hauschild (2012) emphasises, such integration extends the function of language learning beyond grammar and vocabulary acquisition to cultivating environmental citizenship and global responsibility.

Green English Language Teaching (Green ELT) has emerged as a promising pedagogical approach in line with the global call for sustainability-oriented education. Green ELT systematically integrates ecological themes and sustainability issues into language learning activities, linking linguistic objectives with environmental consciousness (Raphael & Nandanan, 2024; Saiful, 2023; Alter, 2015; Zahoor & Janjua, 2019). As Arslan and Curle (2024) emphasised, this approach recognises that English, as a global lingua franca, provides learners access to international conversations about climate change, environmental justice, and sustainable development. Prior studies also suggest that learners exposed to environmentally themed language instruction develop not only greater linguistic proficiency but also heightened ecological awareness and personal responsibility toward sustainability (Nkwetisama, 2011; Kazazoglu, 2025; Kuusalu et al., 2023; Jung & Santos, 2022). Within this discourse, faith-based education provides a distinctive platform for advancing sustainability in ways that integrate ethical, spiritual, and cultural dimensions of learning. In Christian higher education, the principle of stewardship—the belief that humans are entrusted with the care of creation—is a robust ethical foundation for environmental responsibility (Tang, 2021; Eom & Ng, 2023). In the context of English language teaching, this integration creates opportunities for students to connect ecological issues with their spiritual worldview, making language learning not only intellectually stimulating but also personally meaningful (Goulah, 2011; Wong & Mahboob, 2018; Nirwana & Darmadali, 2021).

Within the field of English language education, motivation has long been recognised as a decisive factor in determining learners' success, as theories of second language acquisition consistently emphasise that motivated learners demonstrate greater persistence, deeper engagement, and higher achievement compared to their less motivated peers (Dörnyei & Ushioda, 2021; Li & Xue, 2023). At the same time, research in sustainability education highlights that environmental awareness—understood as students' knowledge, attitudes, and sense of responsibility toward ecological issues—can strongly influence engagement when integrated into instructional content (Zsóka et al., 2013). From an ecolinguistic perspective, how texts and classroom discourse represent nature and human–nature relationships shape learners' worldviews and, consequently, their motivation to engage with environmental issues through language (Zahoor & Janjua, 2019). In faith-based settings, these pedagogical choices acquire more profound significance, as values such as stewardship, care for creation, and moral responsibility provide students with a spiritual framework that strengthens their environmental awareness and motivation to learn (Kazazoglu, 2025; Eom & Ng, 2023). This integration of ecolinguistics, environmental

pedagogy, and faith-based values positions Green ELT as a vehicle for language acquisition and a transformative practice that simultaneously nurtures personal development, ecological responsibility, and spiritual growth.

Studies on Green English Language Teaching (Green ELT) show that while environmental content has been incorporated into ELT textbooks, it often remains superficial and framed within an anthropocentric worldview that limits its ecopedagogical value (Zahoor & Janjua, 2019). Recent analyses emphasise the need for deeper integration of ecological themes into language education, with research demonstrating both the potential benefits and the challenges of embedding environmental awareness in EFL classrooms and materials (Raphael & Nandanan, 2024). Conceptual work further argues that Eco-ELT should extend beyond narrow ecocriticism to encompass broader philosophical and pedagogical frameworks that position ELT as an active contributor to global sustainability (Saiful, 2023). At the same time, scholarship highlights the role of spirituality and faith in language learning, showing that integrating spiritual perspectives can foster dialogue, reflection, and richer engagement (Lin, 2015; Mambu, 2016). Religious traditions, such as Islamic teachings on stewardship and environmental care, also demonstrate that faith-based values can provide long-standing ethical foundations for ecological responsibility (Sultan, 2023), a perspective that aligns closely with the Christian principle of stewardship.

While Green ELT has increasingly incorporated environmental content into teaching materials, much of this inclusion remains superficial and anthropocentric, offering limited ecopedagogical value. Conceptual discussions have expanded Eco-ELT into broader philosophical and pedagogical frameworks, yet empirical investigations remain scarce, especially in contexts where spiritual and cultural values shape education. At the same time, scholarship has underscored the potential of faith and spirituality to enrich language learning. However, there is little evidence of how these dimensions can be systematically combined with Green ELT to promote linguistic development, ecological responsibility, and learner motivation simultaneously. Addressing this gap, the present study introduces a novel contribution by bridging ecolinguistics, environmental pedagogy, and faith-based values by developing and implementing a localised Green ELT curriculum in a private Christian university in Tomohon, Indonesia. The study aims to demonstrate how such a faith-informed, context-sensitive model can provide sustainable language education that enhances environmental awareness and strengthens students' motivation to learn English in ways that resonate with their cultural and spiritual realities.

METHOD

This study was conducted over three months, from March to May 2025, providing sufficient time for the iterative design, implementation, and evaluation processes characteristic of a Design-Based Research (DBR) approach (Anderson & Shattuck, 2012; Reeves, 2006). The research procedure was divided into several phases. The first was the Curriculum Design Phase, which took place during the first two weeks, where the Green ELT curriculum was developed with input from subject matter experts and EFL instructors. Second, the Implementation Phase lasted for six weeks during the second and third months, during which the curriculum was applied in the classroom with weekly sessions focused on integrating environmental awareness and language learning through faith-based discussions and activities. Third, the Evaluation Phase occurred during the last two weeks of

May, where pre- and post-questionnaires were administered to assess the impact of the curriculum on students, alongside Focus Group Discussions (FGDs) conducted to evaluate students' experiences with the curriculum. The population for this study consisted of all students at a private Christian university in Tomohon, with the sample drawn from 50 students enrolled in English language courses as part of the EFL program. The sample was selected using purposive sampling, which allows researchers to select participants who can provide rich, relevant, and diverse insights into the phenomenon being studied (Etikan et al., 2016).

The primary instruments used in this study included the Green ELT curriculum design document, which incorporates ecological content, Christian values, and language learning objectives. Additionally, pre- and post-questionnaires were utilised to measure changes in students' environmental awareness and motivation to learn English, employing a Likert scale as a widely used tool to capture attitudes and perceptions (Joshi et al., 2015). Focus Group Discussions (FGDs) were conducted at the conclusion of the implementation phase to gather qualitative data regarding students' experiences and perceptions of the curriculum, as FGDs are effective for eliciting collective views and exploring participants' meaning-making (Krueger & Casey, 2015). An observation checklist was also used to monitor student engagement in the classroom during the curriculum's implementation, aligning with classroom-based inquiry practices (Creswell & Creswell, 2018).

Quantitative data from the pre- and post-questionnaires were analysed using descriptive statistics to provide an overview of the response distribution. A paired t-test was used to assess differences in scores before and after the curriculum was implemented, particularly regarding environmental awareness and motivation variables. This test is suitable for comparing data from the same group of participants at two different points in time (Field, 2018). Qualitative data obtained from FGDs and classroom observations were analysed thematically, allowing for the identification of key themes related to students' experiences with the Green ELT curriculum. Thematic analysis was chosen for its flexibility and rigour in identifying patterns of meaning across data (Braun & Clarke, 2006).

Several measures were implemented to ensure the validity and reliability of this study. Content validity was maintained by soliciting feedback from subject matter experts, EFL instructors, and environmental specialists to evaluate the alignment of the curriculum and instruments with the study's objectives (Cohen et al., 2018). Data triangulation was employed using multiple data sources—questionnaires, FGDs, and observations—to provide a more comprehensive understanding of the curriculum's impact (Denzin, 2012). Inter-rater reliability was ensured by involving two independent researchers in the qualitative data analysis to maintain consistency in theme identification and interpretation (Miles & Huberman, 1994).

This study assumes that the participating students possessed a foundational understanding of environmental issues, as these topics had been introduced in previous courses. Additionally, it is assumed that students' engagement and motivation may have been influenced by personal factors such as interest in environmental issues and religious beliefs, which could affect their interaction with the Green ELT curriculum. The primary statistical test used was the paired t-test, which compares pre- and post-test scores on the questionnaires to measure changes in environmental awareness and motivation. Statistical

significance was assessed at a p-value of < 0.05, consistent with standard practice in educational research (Cohen et al., 2018).

FINDING AND DISCUSSION

The primary aim of this study was to assess the effectiveness of a localised Green ELT curriculum in enhancing students' environmental awareness and motivation to learn English at a private Christian university in Tomohon. The curriculum provided a unique framework for engaging students in meaningful learning by integrating ecological content with language learning objectives and Christian values. Its impact was evaluated through pre- and post-questionnaires, supported by qualitative insights from Focus Group Discussions (FGDs) and classroom observations. The results revealed significant environmental awareness and motivation improvements, indicating that the curriculum successfully met its dual objectives. Integrating faith-based discussions with environmental education strengthened students' linguistic skills and deepened their connection to local environmental issues, making learning more relevant and personally meaningful. These findings underscore the importance of contextualising curricula to reflect students' cultural and religious values, fostering higher engagement and responsibility toward sustainability.
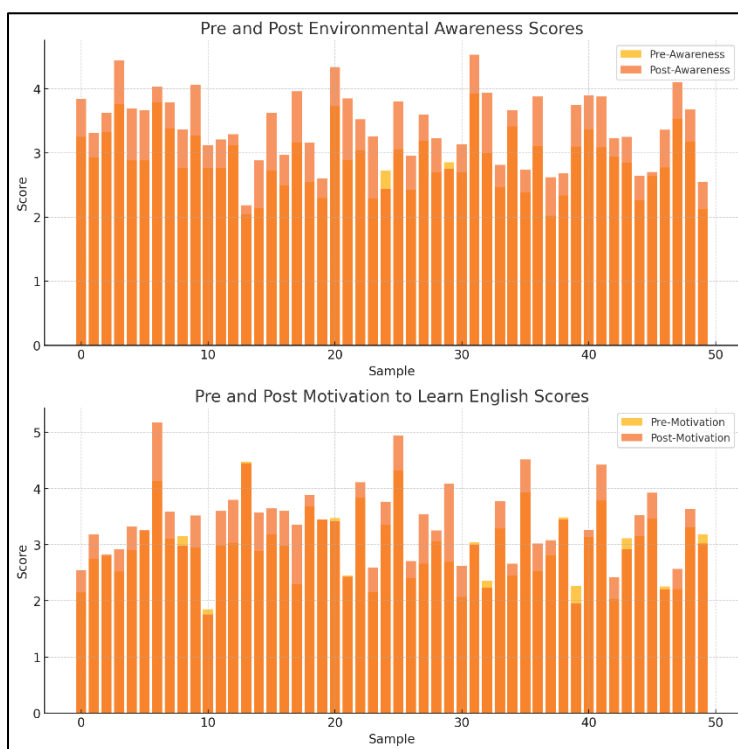

Figure 1. Pre and post environmental awareness scores

The bar charts illustrate the impact of the localised, faith-based Green ELT curriculum on students' environmental awareness and motivation to learn English. In the first chart, which compares pre-test and post-test scores of environmental awareness, it is evident that almost all participants showed improvement after the intervention. The post-test scores consistently exceed the pre-test scores across the sample, indicating that the curriculum effectively enhanced students' knowledge, attitudes, and responsibility toward ecological issues. The pattern is uniform, suggesting that the curriculum's integration of ecological

content and Christian values provided a strong and consistent foundation for fostering environmental awareness. In contrast, the second chart, which presents pre-test and post-test motivation to learn English, also reveals an overall upward trend, though with greater variation among students. While many participants experienced notable gains, others demonstrated more modest improvements, reflecting the diverse ways in which students internalised the link between language learning, sustainability, and faith-based discussions. Despite this variation, the general increase in scores underscores that embedding ecological and spiritual themes into EFL instruction can enhance learners' intrinsic and extrinsic motivation. The two charts demonstrate that the Green ELT curriculum achieved its dual objectives: it significantly raised students' environmental awareness. It positively influenced their motivation to learn English, offering evidence of the value of contextualised, faith-informed approaches to sustainable language education.

Table 1. Results of Paired t-Tests

Variable	t(49)	p	Interpretation
Environmental Awareness	-13.62	< .001	Highly significant improvement
Motivation to Learn English	-6.60	< .001	Highly significant improvement

The results of the paired t-tests indicated statistically significant improvements following the intervention. The difference between pre- and post-test scores was significant for environmental awareness, $t(49) = -13.62$, $p < .001$. Similarly, motivation to learn English significantly increased, $t(49) = -6.60$, $p < .001$. These findings demonstrate that the localised Green ELT curriculum effectively enhanced students' environmental awareness and motivation, supporting its role as a meaningful approach to integrating sustainability into language education.

The findings of this study demonstrate that a localised, faith-based Green ELT curriculum can significantly enhance both environmental awareness and motivation to learn English among EFL students in a private Christian university in Tomohon. The consistent improvement in environmental awareness observed in the post-test scores confirms that integrating ecological themes into language instruction creates meaningful opportunities for learners to engage with sustainability issues. This outcome aligns with previous studies showing the potential of ELT to foster environmental consciousness but also addresses critiques that textbook treatments often remain superficial and anthropocentric (Zahoor & Janjua, 2019; Afrin & Saha, 2023). This study provides evidence that Green ELT can move beyond symbolic inclusion toward practical and transformative pedagogy by embedding ecological content within a structured curriculum that explicitly integrates Christian values.

Equally significant is the improvement in students' motivation to learn English, underscoring the synergy between environmental awareness and learner engagement. Motivation is widely recognised as a decisive factor in language learning success (Dörnyei & Ushioda, 2021; Li & Xue, 2023), and the results suggest that contextualising English learning within sustainability themes can enhance its relevance and appeal. This finding resonates with research highlighting that socially meaningful and problem-based content encourages deeper cognitive and affective investment (Jung & Santos, 2022; Suwaed, 2022). Students in this study not only developed linguistic skills but also experienced shifts in attitudes toward environmental issues, indicating that learning infused with ecological and social content can

increase both engagement and responsibility (Boca & Saraçlı, 2019; Jones & Davison, 2021; Li & Zhang, 2023)

A distinctive contribution of this study lies in demonstrating how Christian values, particularly stewardship and care for creation, can reinforce Green ELT's effectiveness. While scholarship has underscored the role of faith in shaping ecological responsibility (Tang, 2021; Eom & Ng, 2023; Sultan, 2023), few empirical studies have operationalised this connection in ELT. The results suggest that situating sustainability within a faith-based ethical framework made language learning personally meaningful, as students connected their academic work with their spiritual worldview. This aligns with research arguing that when educational content resonates with learners' cultural and religious identities, engagement and depth of reflection are significantly enhanced (Mambu, 2016; Wong & Mahboob, 2018). Therefore, the present study adds novelty by showing how ecolinguistics, sustainability pedagogy, and faith-based education can intersect to foster ecological responsibility and linguistic competence.

These findings also expand the literature on Green ELT beyond well-resourced and urban contexts. Much existing research has demonstrated the effectiveness of incorporating environmental themes in developed settings with abundant educational resources (Fahey, 2012; Monroe et al., 2017; Tasdemir & Gazo, 2020). In contrast, this study illustrates that Green ELT can be successfully localised in a faith-based institution within a developing context, where success depends less on resources and more on cultural and ethical alignment. By showing that students at a private Christian university could meaningfully connect ecological themes with their beliefs, this research highlights the potential for Green ELT to thrive in smaller, resource-limited institutions (Mambu, 2016; Nirwana & Darmadali, 2021; Wong & Mahboob, 2018). This evidence demonstrates that environmental education in ELT does not have to be confined to privileged settings but can be adapted to diverse contexts where cultural and spiritual values are central to learning.

CONCLUSION

This study examined the implementation of a localised, faith-based Green ELT curriculum at a private Christian university in Tomohon and found measurable improvements in environmental awareness and motivation to learn English among participating students. Integrating ecological themes with Christian values provided students with opportunities to connect language learning with sustainability issues and personal belief, contributing to their engagement with the curriculum. These results indicate that, within this context, Green ELT can offer a helpful approach to linking language learning with broader social and environmental concerns.

The study, however, has several limitations. It was conducted with a relatively small sample in a single institution, which limits the extent to which the findings can be generalised. The focus was also on short-term outcomes, without assessing whether gains in awareness and motivation are sustained over time or reflected in behavioural changes beyond the classroom. In addition, the curriculum was designed for a specific faith-based setting, and its transferability to other cultural or institutional contexts remains uncertain. Future research could build on these findings by examining Green ELT in various institutions, including secular and multi-faith settings, to explore how different values intersect with ecological education in language learning. Longitudinal studies would be

valuable for determining the durability of the observed changes, while comparative studies could shed light on how context-specific adaptations influence outcomes. Such work would help clarify the potential and the limitations of Green ELT as a framework for connecting language education with sustainability goals.

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