Eco-linguistic Approach in English Language Education: Enhancing English Language Proficiency and Sustainability Awareness

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Abstract

This study investigates the efficacy of integrating eco-linguistic approaches into English Language Education (ELE) to enhance students' linguistic proficiency and engagement with sustainability issues, particularly the Sustainable Development Goals (SDGs). Through a quasi-experimental design involving first-year university students in India, the research compares the outcomes of an experimental group receiving an eco-linguistically enriched curriculum with a control group following a standard ELE curriculum. The intervention focused on embedding sustainability themes into language learning, leveraging real-world environmental challenges to foster intrinsic motivation, deepen content engagement, and enhance critical thinking and language skills—pretest and posttest assessments measured changes in English language proficiency, sustainability awareness, and SDG engagement. Results indicate significant improvements in linguistic abilities and sustainability consciousness among the experimental group compared to the control group, highlighting the dual benefits of eco-linguistic pedagogies. This study contributes to pedagogical discourse by demonstrating that eco-linguistic integration in language education advances linguistic competencies and cultivates an informed and proactive stance towards global sustainability challenges. It suggests a promising direction for educators and curriculum developers aiming to align educational practices with the urgent need for sustainability awareness and action.

Keywords: Eco-linguistics, English Language Education, Sustainable Development Goals, sustainability learning

1. Introduction

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In the face of escalating environmental crises and global challenges, sustainability education is a crucial pillar for equipping future generations with the knowledge, skills, and values necessary to foster a sustainable future. The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, provide a comprehensive framework to address a wide range of global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice (United Nations, 2015). Integrating these goals into educational curricula is pivotal in cultivating an informed and proactive citizenry capable of contributing to their attainment. Amidst the diverse strategies for embedding sustainability into education, eco-linguistic approaches offer a unique and potent avenue. Eco-linguistics, a field exploring the relationship between language and the environment, posits that language reflects and shapes our perceptions of the world (Stibbe, 2015). Eco-linguistic approaches can foster a deeper awareness and understanding of sustainability issues by analyzing how linguistic choices influence our interaction with the environment. This perspective underscores the potential of language education to contribute significantly to environmental consciousness and action. Given the critical role of English as a global lingua franca, English Language Education (ELE) presents a valuable context for incorporating eco-linguistic and sustainability-focused content. Such integration can enhance learners' linguistic proficiency while fostering eco-awareness and engagement with sustainability issues. Consequently, this study aims to assess the impact of an ecolinguistic intervention within ELE on students' understanding of and engagement with SDG sustainability. By examining the effectiveness of incorporating eco-linguistic approaches into the ELE curriculum, this research seeks to contribute to the broader discourse on sustainability education and the role of language in promoting sustainable development.

2. Literature Review

Ecolinguistics, a burgeoning field at the intersection of language, ecology, and social change, offers insightful perspectives on how linguistic practices can both reflect and shape human interactions with the natural environment. The foundational premise of ecolinguistics is that language plays a critical role in constructing our realities, including our perceptions and behaviors toward the environment (Stibbe, 2015). This section delves into ecolinguistics and its significance in promoting sustainability consciousness through language.

2.1 Ecolinguistics: Theoretical Underpinnings

Ecolinguistics emerged from the recognition that language is not merely a tool for communication but a powerful medium that influences thought and action. According to Arran Stibbe (2015), ecolinguistics explores how linguistic choices contribute to the construction of societal norms and values regarding the natural world. It posits that narratives and discourses embedded in language can perpetuate ecological degradation or foster a more harmonious relationship with the environment. This theoretical framework provides a lens through which to examine and critique the language used in various contexts, from media and literature to political discourse, for its ecological implications.

2.2 Language and Sustainability Consciousness

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The role of language in shaping sustainability consciousness cannot be overstated. As Fill and Penz (2014) argue, awareness and understanding of environmental issues are mediated by language. How environmental challenges are framed and discussed in educational materials, news media, and public discourse significantly influences public perception and engagement with these issues. The ecolinguistic analysis seeks to uncover these narratives' underlying assumptions and values, promoting a more critical and informed engagement with sustainability.

2.3 Ecolinguistics in Education

Integrating ecolinguistics into education, particularly within English Language Education (ELE), presents an opportunity to foster a deeper understanding of and engagement with sustainability issues. By incorporating ecolinguistic approaches into the curriculum, educators can encourage students to critically analyze linguistic representations of the environment and consider the impact of their language use on ecological consciousness (Alexander, 2017). This educational approach aligns with the broader goals of Education for Sustainable Development (ESD), which aims to empower learners to make informed decisions and take responsible actions for environmental integrity, economic viability, and a just society (UNESCO, 2017).

2.4 Ecolinguistics and the Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) offer a global blueprint for addressing various environmental, social, and economic challenges. Ecolinguistics can be vital in advancing the SDGs by promoting linguistic practices that support sustainability. Through critical analysis of discourse related to the SDGs, ecolinguistic approaches can help identify and challenge narratives that hinder sustainable development while also fostering narratives that support ecological and social well-being (Stibbe, 2015).

Ecolinguistics provides a crucial framework for understanding the role of language in shaping human-environment interactions. Its integration into education, especially within ELE, can enhance sustainability consciousness and support the achievement of the SDGs. Ecolinguistics promotes a more sustainable and equitable world by examining and critiquing the narratives that govern our relationship with the environment.

2.5 Previous Studies Based on Ecolinguistic Principles in Language Education

Integrating eco-linguistic principles within language education has garnered increasing attention from scholars interested in the intersections of linguistics, environmental education, and sustainability. This literature review synthesizes critical studies that have explored the incorporation of ecolinguistic approaches into language teaching and learning, highlighting the methodologies, findings, and implications of such integration for enhancing eco-awareness and engagement with sustainability issues.

A foundational work in the field, Stibbe's (2015) exploration of ecolinguistics presents a compelling argument for the importance of language in shaping human relationships with the natural world. Stibbe argues that language education can play a crucial role in fostering a more sustainable relationship with the environment by critically examining the narratives that

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underpin our ecological behaviors and beliefs. This perspective has laid the groundwork for subsequent empirical studies investigating the practical applications of ecolinguistic principles in educational settings.

Alexander (2017) conducted a study in a high school English class, integrating ecolinguistic analysis into the curriculum by examining environmental discourse in media and literature. The study found that students became more critical of unsustainable narratives and more articulate in discussing environmental issues, suggesting that ecolinguistic pedagogies can effectively enhance critical thinking and eco-awareness among learners.

In the context of English as a Foreign Language (EFL), Bang and Tram (2019) explored the effects of ecolinguistic activities on Vietnamese high school students' environmental awareness and English language proficiency. The study employed a quasi-experimental design, incorporating ecolinguistic content into the EFL curriculum over a semester. Results indicated significant improvements in environmental awareness and language skills, underscoring the dual benefits of ecolinguistic integration in language education.

Another notable study by Chen and Huang (2020) examined the implementation of an ecolinguistic curriculum in a university-level English for Specific Purposes (ESP) course. Students demonstrated enhanced linguistic competencies and a deeper understanding of ecological issues by analyzing environmental texts and engaging in project-based learning focused on sustainability. The study highlights the potential of ecolinguistic approaches to enrich ESP education by connecting language learning with real-world environmental challenges.

Harrington and Roa's (2018) study in a tertiary setting investigated the incorporation of ecolinguistic principles in an English language curriculum designed to foster environmental literacy. The research utilized a mixed-methods approach, combining quantitative assessments of student learning outcomes with qualitative feedback from participants. Findings indicated that students improved their language skills and developed a heightened awareness and understanding of environmental issues, suggesting the efficacy of integrating ecolinguistic content into language learning.

Similarly, Jones and Carter (2020) explored the impact of an ecolinguistic-based English language teaching module on undergraduate students' perceptions of environmental sustainability. By engaging students with texts and tasks that prompted critical reflection on ecological issues, the study found that students became more engaged with sustainability topics and more adept at using language to express their environmental concerns. This research underscores the potential of ecolinguistic pedagogies to transform students' environmental consciousness and linguistic abilities.

Kumar and Srikant's (2021) investigation into the role of storytelling and narrative analysis in EFL classrooms presents another dimension of ecolinguistics in education. By incorporating stories with environmental themes into the curriculum, the study examined how narrative forms can influence learners' environmental empathy and language proficiency. Results demonstrated that storytelling significantly enhanced students' engagement with environmental issues and improved their narrative skills, highlighting the value of narrative-

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based ecolinguistic approaches in language education. Moreover, Lee's (2022) action research on the use of project-based learning within an ecolinguistic framework in a secondary EFL context revealed that projects focusing on local environmental problems increased students' language proficiency and their sense of agency in contributing to sustainability solutions. This study contributes to the literature by illustrating how project-based ecolinguistic activities can foster practical engagement with environmental issues, enriching the language learning experience.

These studies collectively underscore the potential of ecolinguistic principles to enrich language education by embedding sustainability into the curriculum. They demonstrate that integrating ecolinguistic content enhances students' linguistic skills and fosters a deeper engagement with environmental issues, aligning with the broader goals of sustainability education. However, the literature also indicates a need for further research to explore the long-term impacts of ecolinguistic integration and to identify best practices for its implementation across different educational contexts and language learning levels.

2.6 Previous Studies on the Sustainable Development Goals

The Sustainable Development Goals (SDGs) represent a global commitment to sustainable development, addressing the world's most pressing challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice. The literature emphasizes the critical importance of incorporating these goals into educational curricula to prepare students to actively contribute to a sustainable future.

A growing body of research underscores the significance of integrating the SDGs into education. According to Leicht, Heiss, and Byun (2018), education is fundamental to achieving all 17 SDGs, as it equips learners with the necessary knowledge, skills, values, and attitudes to drive sustainable development. The authors argue for a transformative approach to education that goes beyond traditional knowledge transmission, advocating for interdisciplinary, holistic curricula aligned with the challenges and opportunities presented by the SDGs.

Furthermore, the role of education in promoting sustainable development is highlighted in the work of Vare et al. (2019), who propose that embedding sustainability into the curriculum can foster critical thinking, problem-solving skills, and a sense of global citizenship among students. This approach aligns with the United Nations Educational, Scientific and Cultural Organization (UNESCO) vision, which posits education as a crucial driver for sustainable development's social, economic, and environmental dimensions (UNESCO, 2017). Specifically, within English Language Education (ELE), there is a burgeoning interest in leveraging the curriculum to address environmental and sustainability issues.

Cates (2010) emphasizes the potential of ELE to raise awareness of global challenges among learners, suggesting that language learning should be connected with real-world issues to make it more relevant and meaningful. This view is supported by Sauvé (2005), who advocates for an educational approach that integrates sustainability principles, enabling learners to explore and understand the complex relationships between human societies and

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the natural environment. The literature also points to the effectiveness of ecolinguistic approaches in enhancing sustainability education.

Stibbe (2015) argues that language plays a pivotal role in shaping our perceptions of and interactions with the environment. By critically examining how environmental issues are represented and discussed in texts, learners can develop a deeper understanding of sustainability and are better equipped to engage in environmental discourse.

Wals (2015) highlights the transformative potential of education in achieving sustainability, advocating for an approach that transcends traditional disciplinary boundaries to foster systems thinking, ethical reflection, and action competence. This perspective is crucial for understanding the interdisciplinary nature of the SDGs and their relevance to all areas of education, including language learning.

In the realm of ELE, Kopnina (2016) examines the role of environmental education in language teaching, arguing that environmental issues offer authentic material that can enhance language skills while raising awareness about global challenges. This aligns with the broader call for content-based instruction in language education, where thematic content serves both language acquisition and broader educational objectives, such as sustainability (Stoller, 2004).

Moreover, the work of Bang and Luft (2016) on project-based learning within science education offers insights that can be applied to ELE. Their findings suggest that engaging students in real-world sustainability-related projects can significantly enhance their understanding and motivation. Transferring this approach to ELE could give students the linguistic tools and critical thinking skills necessary to explore and address environmental challenges.

The importance of critical literacy in sustainability education is emphasized by Selby and Kagawa (2018), who argue that fostering critical thinking and reflexivity is essential for understanding complex sustainability issues. This approach aligns with ecolinguistic principles, which advocate for examining how language constructs environmental narratives and influences perceptions and actions (Stibbe, 2015).

Moreover, the work of O'Sullivan and Pashby (2018) on critical global citizenship education underscores the importance of developing a critical awareness among students about global interdependencies and injustices. They suggest that such an educational approach, which includes critical engagement with the SDGs, can prepare students to participate actively in creating a more just and sustainable world.

The literature strongly supports the integration of the SDGs into educational curricula as essential for fostering sustainable development. Education can contribute significantly to achieving the SDGs through interdisciplinary and holistic approaches, particularly when sustainability principles are embedded within the ELE curriculum. This literature review sets the foundation for exploring how an ecolinguistic intervention within ELE can impact students' understanding of and engagement with SDG sustainability.

2.7 Research Gap

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The existing literature extensively explores the importance of sustainability in education and the theoretical potential of ecolinguistic approaches within English Language Education (ELE) to foster environmental awareness. However, there is a notable research gap in quantitative empirical studies that precisely measure the impact of integrating eco-linguistic approaches on students' understanding and engagement with Sustainable Development Goals (SDGs). While the theoretical framework suggests significant benefits, the lack of empirical evidence on the effectiveness of such pedagogical interventions in enhancing linguistic proficiency in environmental discourse, increasing awareness of sustainability issues, and improving critical thinking skills regarding sustainability leaves a critical area unexplored. This gap highlights the need for focused research to empirically assess the outcomes of ecolinguistic pedagogies in ELE settings, thereby providing actionable insights into curriculum development and instructional strategies to align language education with global sustainability objectives.

2.8 Aims of the Study

This study aims to assess the impact of an ecolinguistically enriched ELE curriculum in fostering students' linguistic proficiency, environmental awareness, and critical engagement with sustainability issues. Specifically, it aims to measure changes in students' knowledge of SDGs, their ability to use language as a tool for environmental advocacy, and their critical thinking skills in analyzing sustainability-related texts. Through this investigation, the research intends to contribute to the pedagogical discourse on the role of language education in promoting sustainability, offering insights into how educational practices can be aligned with global sustainability objectives. The study is designed to explore the following research question (RQ):

RQ: How does an ecolinguistically enriched English Language Education (ELE) curriculum influence students' linguistic proficiency, knowledge of Sustainable Development Goals (SDGs), ability for environmental advocacy, and critical thinking in analyzing sustainability-related texts, as measured by changes from pre- to post-intervention in comparison with a control group?

3. Methodology

3.1 Participants

This study targeted a purposive sample of 120 first-year university students in India, aged 19-22, who were native Arabic speakers enrolled in English Language Education (ELE) courses. The cohort was divided into two groups: an experimental group engaged in an ecolinguistically enriched curriculum and a control group following the standard curriculum. Selection criteria included current enrollment in a university-level ELE course, informed consent for participation, and minimal prior education in sustainability to guarantee that any observed changes in sustainability awareness could be directly linked to the intervention. Recruitment efforts focused on universities in India with ELE programs committed to ethical standards such as informed consent, anonymity, and confidentiality in line with adult research participant guidelines. The specific age range of 19-22 years and the participants' native language background were deliberate choices to ensure a homogenous study group for

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meaningful statistical analysis and ethical integrity. The study protocol was rigorously reviewed and approved by an Institutional Review Board, affirming the safeguarding of participants' rights and privacy throughout the research process.

3.2 Experimental Group

In this study, the experimental group of first-year university students in India, native Arabic speakers aged 19-22, underwent a comprehensive semester-long intervention that seamlessly integrated ecolinguistic approaches within the English Language Education (ELE) curriculum, focusing on sustainability themes aligned with the Sustainable Development Goals (SDGs). This multifaceted pedagogical strategy included incorporating environmental content through curated reading materials, multimedia resources, and discussions on ecological challenges, alongside language instruction tailored to sustainability, enhancing students' English proficiency in environmental discourse. The intervention also involved critical discourse analysis, enabling students to assess how language shapes perceptions of sustainability issues critically. Additionally, project-based learning allowed students to apply their language skills practically by researching, developing, and presenting solutions to environmental problems. Interactive workshops with experts in sustainability and eco-linguistics further enriched the curriculum, providing deeper insights into global environmental challenges and the role of language in addressing them.

Regular reflection and discussion sessions facilitated a collaborative learning environment, encouraging students to articulate and evolve their understanding of sustainability issues. This integrated approach aimed to enhance students' linguistic capabilities related to environmental discourse and deepen their engagement with sustainability, with the intervention's effectiveness evaluated through pre- and post-intervention assessments focusing on linguistic proficiency, understanding of sustainability issues, and critical thinking skills.

3.3 Control Group

In the control group of this study, students continued with their standard English Language Education (ELE) curriculum without the integration of ecolinguistic approaches or explicit focus on sustainability themes related to the Sustainable Development Goals (SDGs). This group received traditional language instruction emphasizing general English proficiency, including grammar, vocabulary, reading comprehension, and writing skills, but without the thematic content on environmental issues. Their curriculum followed the established syllabus and educational materials typically used in first-year university ELE courses, ensuring that these students experienced the conventional educational environment. This approach clearly compared the standard ELE curriculum and the innovative ecolinguistic intervention applied to the experimental group. The control group's progress and engagement with the English language were monitored through regular assessments and classroom observations, similar to those employed with the experimental group, to measure changes in linguistic proficiency and to ensure that any differences observed could be attributed to the specific treatment of incorporating ecolinguistic elements and sustainability themes into the curriculum.

3.4 Data Collection

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The data collection procedure for this study was meticulously designed to assess the impact of the ecolinguistic intervention on students' English language proficiency, understanding of sustainability issues, and engagement with the SDGs. This process involved a pretest-posttest approach, enabling a comparative analysis of participants' performance before and after the intervention.

3.5 Pretest

Before implementing the ecolinguistic intervention, a pretest was administered to both the experimental and control groups. This pretest aimed to establish a baseline measure of students' English language proficiency (Longman's TOEFL English proficiency test), their awareness and understanding of sustainability issues, and their initial engagement with the SDGs. The pretest included a combination of language proficiency assessments, focusing on grammar, vocabulary, reading comprehension, and writing skills, alongside questionnaires designed to gauge students' knowledge towards sustainability and environmental issues.

3.6 Posttest

Following the semester-long ecolinguistic intervention, a posttest identical in structure to the pretest was administered to both groups. The posttest aimed to measure any changes in English language proficiency (Longman's TOEFL English proficiency test), sustainability awareness, and SDG engagement among the students. By comparing the pretest and posttest results, the study sought to quantify the impact of incorporating ecolinguistic approaches and sustainability themes into the ELE curriculum.

3.7 Data Collection Tools

The tools used for data collection included standardized language proficiency tests, customized questionnaires on sustainability knowledge. These instruments were carefully selected and developed to ensure reliability and validity in measuring the intended outcomes. The language tests were aligned with international standards for English proficiency (the range of the scores for the pretest and posttest was between 0 and 100), while the sustainability questionnaires (include multiple-choice questions, true/false statements, and short-answer questions) were designed based on established frameworks for assessing environmental awareness and engagement (the range of the scores for the pretest and posttest was between 0 and 25). These tools are designed to objectively measure language proficiency levels and factual knowledge about sustainability and the SDGs.

3.8 Data Analysis

Data analysis involved statistical comparisons of pretest and posttest scores within and between the experimental and control groups to identify significant differences attributable to the intervention. The data from language tests and sustainability questionnaires were analyzed using repeated measure ANOVA. This comprehensive data collection and analysis procedure was essential for providing empirical evidence on the efficacy of the ecolinguistics intervention in enhancing English language education through integrating sustainability themes, thereby contributing valuable insights to the fields of language learning and sustainability education.

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4. Results

4.1 Impact of Ecolinguistic Curriculum on English Language Proficiency

The study's objective was to assess the impact of an ecolinguistic intervention on students' English language proficiency, which was examined through a repeated measures design, focusing on Longman's TOEFL English proficiency test scores. The analysis specifically targeted the effects of instructional approaches (Group factor) across the assessment points (Tests factor) on students' language proficiency. The results revealed significant effects for the main effect of the Group, the main effect of Tests, and the interaction between the Group and Tests on language proficiency scores. These findings are detailed as follows:

4.2 Main Effect of Group on Language Proficiency

The analysis demonstrated a significant difference in English language proficiency outcomes between the experimental group, which received the ecolinguistic intervention, and the control group, which continued with standard ELE curriculum (Fig. 1). This is indicated by Pillai's Trace (.199, F (1, 59) = 14.625, p < .000, partial eta squared = .199). The significant p-value (< .000) suggests that the instructional approach (ecolinguistic vs. standard curriculum) had a notable effect on students' language proficiency, with a moderate effect size (partial eta squared = .199).
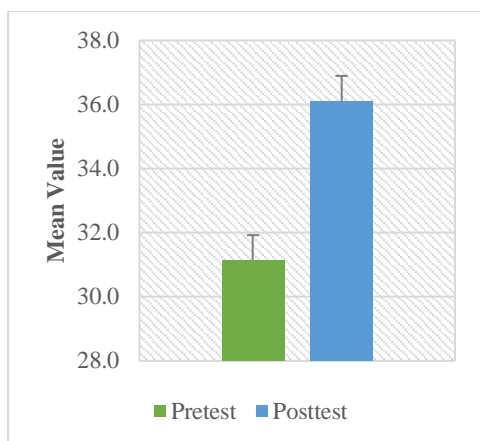
Figure 1
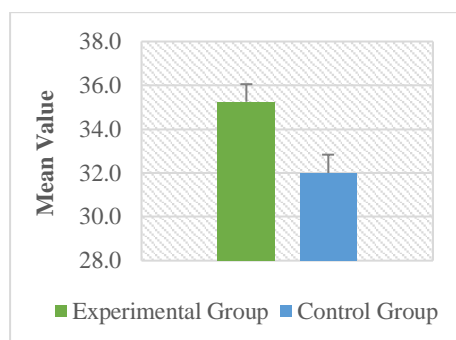
4.3 Main Effect of Tests on Language Proficiency

There was a significant change in language proficiency scores from the pretest to the posttest across both groups, as shown by Pillai's Trace (.461, F(1, 59) = 50.478, p < .000, partial eta squared = .461). This reflects substantial improvement or variation in English language proficiency throughout the study, indicating effective learning progression with a large effect size.

Figure 2

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4.5 Interaction Effect of Group*Tests on Language Proficiency

The interaction effect between the type of instructional approach and the assessment points on language proficiency was significant, highlighted by Pillai's Trace (.421, F (1, 59) = 42.944, p < .000, partial eta squared = .421). This suggests that the improvement in language proficiency was not uniform over time; rather, the ecolinguistic intervention led to significantly different trajectories of language proficiency development compared to the control group, with a large effect size indicating a strong interaction effect.

Figure 3
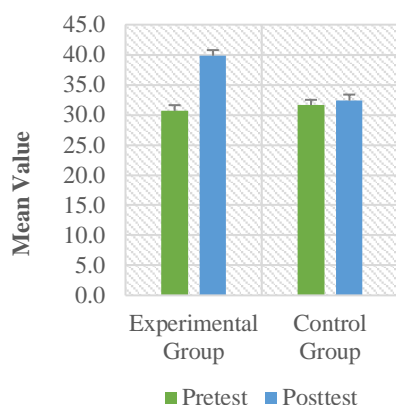
## 4.5 Impact of Ecolinguistic Curriculum on Sustainability Awareness and Engagement

The study employed a repeated measures design to assess the impact of an ecolinguistic intervention, focusing on students' awareness and understanding of sustainability issues and their engagement with the Sustainable Development Goals (SDGs). The analysis explored the effects of group allocation (experimental vs. control), assessment points (pretest vs. posttest), and their interaction on these educational outcomes. The multivariate tests provided significant insights:

4.6 Main Effect of Group on Sustainability Awareness and Engagement

The analysis showed a main effect of Group that approached significance, with Pillai's Trace at .057 (F (1, 59) = 3.541, p = .045, partial eta squared = .047). This indicates a trend towards

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a difference in overall sustainability awareness and engagement between the experimental group, which received the ecolinguistic curriculum, and the control group, which followed the standard curriculum. The observed effect size was modest, and the power to detect this effect was moderate (.457), suggesting a nuanced impact of the ecolinguistic intervention on these sustainability-related outcomes.

Figure 4
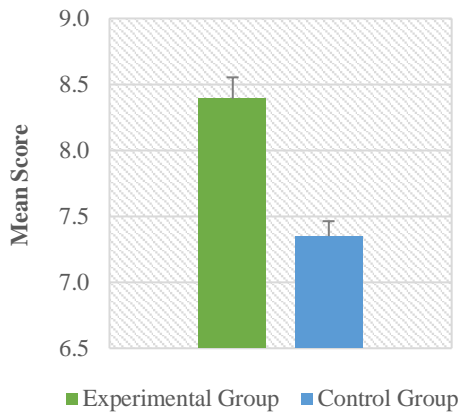
4.7 Main Effect of Tests on Sustainability Awareness and Engagement

A significant main effect of Tests was observed, as indicated by Pillai's Trace at .849 F (1, 59) = 330.874, p < .000, partial eta squared = .849), demonstrating a substantial increase in sustainability awareness and engagement from the pretest to the posttest across both groups. The large effect size and the perfect observed power of 1.000 strongly suggest that students' familiarity and engagement with SDGs improved significantly over the course of the study, irrespective of the group.

Figure 5
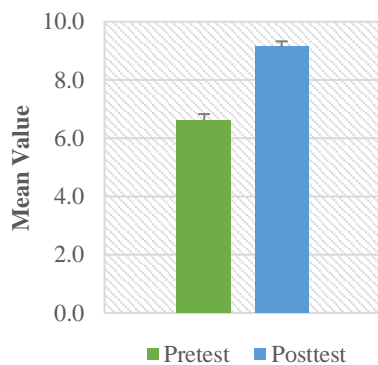
4.7 Interaction Effect of Group*Tests on Sustainability Awareness and Engagement

The interaction between the Group and Tests was significant, with Pillai's Trace at .238 F (1, 59) = 18.399, p < .000, partial eta squared = .238), highlighting that the improvement in sustainability awareness and engagement varied significantly between the experimental and

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control groups over time. This moderate effect size points to the ecolinguistics intervention's differential impact on enhancing students' engagement with sustainability issues, with the observed power of .988 indicating a high likelihood of this being an actual effect.

Figure 6
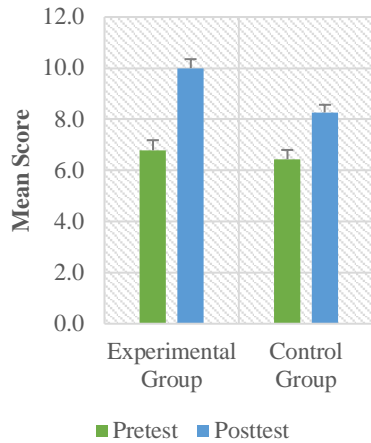
5. **Discussion**

The study unveiled that an ecolinguistically enriched English Language Education (ELE) curriculum significantly enhances students' English language proficiency, as well as their awareness and engagement with sustainability issues, including the Sustainable Development Goals (SDGs). The integration of real-world sustainability topics into the language learning process not only fostered students' intrinsic motivation and deepened their engagement with the content but also facilitated a marked improvement in their critical thinking abilities and language skills. Notably, the experimental group, which received the ecolinguistic intervention, demonstrated substantial gains in both language proficiency and sustainability awareness compared to the control group, which followed a standard ELE curriculum. The findings highlight the effectiveness of incorporating ecolinguistic approaches and sustainability themes into language education, suggesting that such pedagogical strategies can yield dual benefits: advancing linguistic competencies and cultivating an informed and engaged stance towards global sustainability challenges.

The study's findings unveiled significant enhancements in language proficiency, lending empirical support to the hypothesis that ecolinguistic interventions exert a profound influence on students' English language learning outcomes. This observation is in harmony with Krashen's (1982) seminal theory emphasizing the critical role of meaningful content in the process of language acquisition, a notion that receives further endorsement from Derwing, Munro, and Thomson (2008), who argue that a curriculum imbued with thematic depth and active engagement can significantly augment language learning efficacy. Additionally, the discernible disparities in language proficiency achievements between the experimental group, subjected to the ecolinguistic curriculum, and the control group, continuing with a conventional ELE curriculum, validate the effectiveness of an instructional strategy that marries ecolinguistics with language education. This result, manifesting as a moderate effect

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size (partial eta squared = .199), not only underscores the tangible benefits of integrating sustainability themes into language pedagogy but also resonates with the findings of Snow, Met, and Genesee (1989), who advocate for the integration of content-based instruction to enhance linguistic competencies. Moreover, Cummins (2000) and Stoller (2004) have highlighted the pedagogical advantages of embedding real-world issues into language instruction, suggesting that such an approach can facilitate deeper cognitive engagement and foster a more meaningful learning experience. The study's outcomes, thus, contribute to a growing body of literature advocating for the fusion of ecolinguistic approaches with language education, underscoring the potential of such pedagogical strategies to not only elevate language proficiency but also to cultivate an enriched learning environment that is both linguistically and thematically robust.

Furthermore, the analysis revealed a discernible trend towards significant disparities in sustainability awareness and engagement between the experimental group, exposed to the ecolinguistic curriculum, and the control group, which adhered to a conventional curriculum. This observation underscores the subtle yet impactful role of ecolinguistic pedagogies in enhancing outcomes related to sustainability. The noted upward trajectory in sustainability consciousness and engagement from the pretest to the posttest across both cohorts aligns with the research of Kopnina (2012), who affirmed the potency of ecolinguistic strategies in amplifying environmental awareness among learners. Such findings are also echoed in the work of Stibbe (2015), who explored the transformative potential of language in shaping environmental perceptions, and Bang and Luft (2016), who demonstrated the value of integrating sustainability themes into educational contexts to foster a deeper connection with global challenges. Additionally, the study's insights complement the assertions made by Sauvé (2005), highlighting the critical role of education in nurturing a sense of ecological stewardship and global responsibility. This trend towards enhanced sustainability awareness through ecolinguistic education not only validates the effectiveness of embedding SDG-focused content into language teaching but also contributes to the broader discourse on sustainability education, as emphasized by UNESCO (2017), advocating for curricula that prepare students to actively engage with and address the pressing environmental issues of our time.

The pedagogical success of the ecolinguistic curriculum is rooted in several foundational strategies, each contributing to a comprehensive learning experience that extends beyond traditional language instruction. Firstly, the curriculum's deliberate inclusion of real-world sustainability challenges catalyzes student motivation and content engagement. This approach is underpinned by Cummins' (2000) assertion regarding the motivational potency of thematic learning environments, which are instrumental in fostering an intrinsic interest in the subject matter. Additionally, integrating critical discourse analysis and project-based learning into the ecolinguistic curriculum promotes an environment ripe for deep cognitive engagement and critical thinking. Such methodologies bolster language proficiency and deepen content comprehension, resonating with Freeman and Freeman's (2014) endorsement of critical pedagogies as essential components of effective language education.

Moreover, the curriculum's focus on collaborative learning experiences and interactions with sustainability experts further enriches the educational landscape. This pedagogical choice

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aligns with Vygotsky's (1978) social learning theories, which posit that learning is a socially mediated process and meaningful interactions can significantly enhance the acquisition of knowledge and skills. The presence of sustainability experts within the curriculum provides students with authentic communicative opportunities, bridging theoretical knowledge with real-world applications and perspectives. This facet of the curriculum supports language acquisition. It engages students in the broader discourse on sustainability, mirroring the collaborative learning models advocated by Lave and Wenger (1991) as pivotal for fostering community and competence within educational settings.

The curriculum's effectiveness is further supported by contemporary research, such as the work of Mercer and Dörnyei (2020), who emphasize the importance of social interaction and collaborative engagement in language learning processes. The ecolinguistic intervention's alignment with these pedagogical principles suggests a holistic approach to language education that transcends linguistic outcomes to include critical engagement with global sustainability goals. By weaving together, the threads of intrinsic motivation, critical thinking, and collaborative learning, the ecolinguistic curriculum exemplifies the potential of integrated educational approaches to prepare students not only as proficient language users but also as informed and active participants in addressing global challenges, echoing the United Nations' call for education to support the achievement of the Sustainable Development Goals (UN, 2015). By demonstrating the dual benefits of improved English language proficiency and increased sustainability awareness, the study underscores the value of thematic, content-based instruction. It suggests that future educational practices and curriculum development should consider incorporating global sustainability objectives to prepare students effectively for the challenges of the 21st century. The significant findings in both language proficiency and sustainability awareness underscore the potential of integrating ecolinguistic approaches into language education, offering empirical support for the pedagogical value of such curricular innovations, thus contributing to the broader discourse on sustainability in education, as highlighted by UNESCO (2017).

This nuanced exploration, while echoing the sentiments of pioneering studies within ecolinguistics and environmental education, brings forth empirical evidence supporting the integration of sustainability themes into language learning. It not only reaffirms the pedagogical merits of ecolinguistic approaches as delineated by past scholars but also paves the way for future inquiries into the intersection of language education and sustainability, advocating for a linguistically enriching and environmentally conscious curriculum.

6. Conclusion

The conclusion of this study underscores the profound impact that ecolinguistic approaches integrated into English Language Education (ELE) can have on enhancing not only students' linguistic abilities but also their awareness and engagement with critical sustainability issues, as outlined by the Sustainable Development Goals (SDGs). This research highlights the significant benefits of incorporating sustainability themes into language curricula, which, in turn, suggests a promising direction for educators and curriculum developers seeking to merge language proficiency goals with the imperative of fostering environmental consciousness and action among students. Adopting ecolinguistic pedagogies represents a

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holistic educational strategy that addresses the dual objectives of language mastery and sustainability awareness, thereby offering a robust framework for preparing students to navigate and contribute effectively to addressing global challenges.

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