Ecopedagogic-Based Education to Foster Ecological Awareness in Indonesian Language Learning

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ABSTRACT

Global ecological crises such as climate change, deforestation, and pollution demand the urgent integration of sustainability values into all areas of education, including language learning. Although the Indonesian Language curriculum offers substantial potential to foster ecological awareness, its pedagogical application remains underexplored. This study aims to investigate the integration of eco-pedagogical values within Indonesian Language learning in the context of the *Merdeka Curriculum* at junior and senior high school levels. A qualitative descriptive approach was employed using content analysis as the central method. Primary data were obtained from national policy documents, Indonesian language textbooks, teaching modules, and curriculum frameworks. These were complemented by interview data from school principals and language teachers across Bali Province, providing insight into both institutional policy and classroom-level implementation. The analysis revealed that ecological themes are consistently embedded in various genres of language texts including descriptive, narrative, expository, and procedural forms. Topics such as biodiversity, natural disasters, environmental ethics, and conservation practices are explicitly integrated into learning materials. Key national programs including the P5 initiative, the *Adiwiyata* School movement, and *Permendikbudristek* Number 37 of 2022 play a supportive role in reinforcing these values. The findings indicate that Indonesian Language learning serves a dual purpose by enhancing linguistic competence while simultaneously cultivating students' ecological literacy and ethical responsibility. This study contributes to the advancement of language education that supports sustainable development and encourages environmentally conscious citizenship.

1. Introduction

Environmental degradation continues to escalate globally and locally, manifesting in frequent natural disasters such as landslides, floods, and forest fires. These disasters are often the result of unsustainable human behavior, driven by a diminished sense of ecological responsibility. Ironically, while nature is inherently valued as essential to life, it has been increasingly treated as an exploitable resource. This contradiction highlights a critical gap in human ecological awareness and underscores the urgent need for educational responses that cultivate ecological literacy and sustainable values (Kahn in Okur & Berberoglu, 2015).

Educational institutions, as strategic agents of change, must go beyond merely disseminating knowledge. They are now called upon to instill critical reflection, ethical values, and a deep appreciation for nature. The role of education in fostering environmental stewardship is vital in addressing complex global crises such as climate change, pollution, and biodiversity loss. These are not issues to be handled solely by policymakers or environmentalists but must also become central themes in classrooms across disciplines. However, subjects like the Indonesian Language are often overlooked as platforms for ecological education, despite their significant potential to cultivate ecological consciousness through literacy, language, and narrative engagement.

Numerous studies have emphasized the importance of integrating eco-pedagogic values across educational levels and subjects. For instance, Gandana (2025) explored eco-pedagogy in early childhood

education and found it effective in nurturing environmental concern at a formative stage. Meanwhile, Purnomo et al., (2024) demonstrated how walking-based poetry writing can foster students' love for nature. Similarly, Wahyuni et al., (2023) et al. explored the integration of local plant species into eco-pedagogic learning, emphasizing the pivotal role of indigenous knowledge in advancing sustainability education (Ritchie, 2021). Complementing this perspective, Romadhon et al., (2025) examined how primary educators employ specific strategies to instill environmentally responsible behaviors in students, highlighting the importance of tailored teaching approaches in fostering ecological awareness. Likewise, Sumarmi et al. (2021) contributed to the practical application of eco-pedagogical principles by developing worksheets designed to enhance students' ecological engagement (Sumarmi et al., 2021). Collectively, these studies illustrate the diverse methodologies within eco-pedagogical practices while also underscoring notable gaps, particularly in subject-specific applications and policy integration, with language education being an area that remains underexplored in this context.

The potential of eco-pedagogy to enrich language education is further evidenced by interdisciplinary research advocating for creative integration across fields. Tsevreni (2022) proposed merging eco-art with environmental education as an effective means of addressing ecological concerns, using artistic expression to deepen students' emotional and intellectual connections with environmental issues while fostering language development. Similarly, innovative methods, such as the incorporation of digital technology and blended learning models, have demonstrated positive outcomes in engaging students and enhancing both language proficiency and ecological literacy (Indriani et al., 2024; Garzón et al., 2023). These approaches align with contemporary pedagogical theories that promote multidimensional learning experiences. Moreover, research emphasizes the importance of aligning educational strategies with the Sustainable Development Goals (SDGs), advocating for curricula that balance language instruction with environmental stewardship and social responsibility (Ruíz et al., 2024). By embedding ecological themes into language education, teachers can inspire students to develop a stronger sense of global citizenship and a commitment to sustainability.

Although prior research has enriched the understanding of pedagogical approaches, it has mostly centered on early education or isolated practices, such as nature walks and local plant usage. This narrow focus reveals a critical gap in the systematic integration of eco-pedagogy within language instruction, particularly at the junior and senior high school levels. The *Merdeka* Curriculum in Indonesia exemplifies this issue. Despite its aim to reform educational approaches, it has yet to be critically examined for its effectiveness in embedding eco-pedagogical values into language education (Mutmainah & Widhiatama, 2024; Fauzan et al., 2023). While the curriculum promotes student-centered learning with attention to local culture and character development, the practical intersection between national education policies and classroom practices remains underexplored, especially regarding eco-pedagogy. Haggag (2023) highlights how eco-oriented pedagogies can improve literacy and reading comprehension among pre-service teachers, indicating the potential value of integrating such approaches into language curricula. Similarly, Zahoor and Janjua (2019) note the absence of eco-content in English textbooks, reflecting a broader disregard for environmental issues in language education.

Despite efforts to introduce eco-pedagogical values through practical activities, their meaningful inclusion in fostering literacy and character development remains limited. Azmi et al., (2023) observe that although the *Merdeka* Curriculum is reshaping Indonesian education, it often overlooks a holistic integration of eco-pedagogical principles. Furthermore, Hadi et al., (2023) report persistent challenges in implementing projects that promote eco-literacy and environmental awareness within language instruction. Addressing this issue calls for a structured policy framework that bridges curricular goals with classroom practices, ensuring teachers are adequately prepared to deliver eco-focused content effectively (Pratikno et al., 2022).

This study addresses existing gaps by investigating how eco-pedagogical values are integrated into Indonesian Language learning in junior and senior high schools. It explores how national policies, including the *Merdeka* Curriculum and Permendikbudristek No. 37 of 2022, support this integration by examining the presence of ecological themes in language texts, learning activities, and teaching modules. Positioned as both a linguistic tool and an ecological agent, the Indonesian Language is seen as a means to foster students' environmental literacy and ethical awareness. The study also proposes pedagogical models and textual strategies for embedding ecological content, offering insights for curriculum design and language pedagogy. By examining how ecological awareness is nurtured through reading, writing, discussions, and character-building in line with the *Merdeka* Curriculum, this research supports the development of holistic language instruction and informs policymakers, curriculum developers, and teachers on effective ecological integration in language education.

This study affirms that eco-pedagogy offers a transformative approach to language education by enriching it with ethical, ecological, and cultural dimensions. It repositions the Indonesian Language not merely as a tool for communication and literacy but as a vital medium for sustainability education.

When ecological narratives and reflective practices are integrated into language instruction, students develop critical thinking and expressive skills while also fostering a sense of responsibility toward nature, society, and their cultural identity. This prepares them to participate actively in environmental discourse at both local and global levels.

The implications of this study extend across various domains of language education, presenting a strong argument for incorporating eco-pedagogical principles to support broader educational goals such as character building and sustainable development. By framing language learning as an ethical and ecological endeavor, this research promotes a shift in how language teachers approach their subject, highlights the significance of the *Merdeka* Curriculum as a progressive educational framework, and supports the global agenda of nurturing environmentally literate and socially responsible citizens.

2. Method

This study adopts a qualitative descriptive approach that employs content analysis as the primary method. The qualitative design was chosen to enable an in-depth exploration of the integration of eco-pedagogical values in Indonesian Language learning, particularly in the context of curriculum policy, classroom materials, and teacher practices. As Assyakurrohim (2022) emphasized, content analysis is a suitable method for examining specific phenomena within defined contexts and for generating detailed insights through multiple data sources and techniques.

2.1 Data Sources

The research utilizes both primary and secondary data sources, ensuring a comprehensive understanding of eco-pedagogical integration. Primary sources include official government policies relevant to eco-pedagogy, particularly those embedded in the *Merdeka* Curriculum for junior and senior high school levels. Other primary documents encompass Indonesian language textbooks, teaching modules, and learning outcomes documents for both educational levels. These sources provide foundational content for analyzing how environmental themes are embedded in language instruction.

To complement and triangulate the document analysis, supporting data were gathered through semi-structured interviews with selected stakeholders. These included school principals and Indonesian language teachers from junior and senior high schools in Bali Province. The selection of participants was purposive, aiming to include educators actively involved in implementing the *Merdeka* Curriculum and integrating environmental values into their teaching practices.

2.2 Data Collection

The study employed two primary techniques: document content analysis and qualitative interviews. Document analysis involved a systematic process of reading, identifying, coding, and categorizing texts based on the presence of ecological values. This includes elements such as environmental ethics, nature preservation, local ecological wisdom, and student participation in sustainability-related themes. Each curriculum document and textbook was carefully reviewed to determine the degree to which eco-pedagogical principles are integrated into the learning materials.

The interview process served as a supplementary method to enrich and validate findings from document analysis. Interviews were conducted using a semi-structured format, allowing flexibility while maintaining consistency across participants. Principals were asked about their schools' policies and support for eco-pedagogical education, while language teachers provided insights into classroom-level integration of ecological themes. All interviews were recorded, transcribed, and thematically coded to ensure rigorous qualitative analysis.

2.3 Data Analysis

The data analysis procedure followed a content analysis framework aligned with qualitative research standards. Initially, all collected texts and interview transcripts were subjected to open coding, in which key phrases and concepts were identified and categorized. Subsequently, axial coding was used to identify relationships between categories such as "ecological themes in texts," "policy mandates," and "teaching practices." The final phase involved selective coding, allowing the researchers to integrate findings across sources and draw interpretive conclusions.

Thematic patterns were interpreted to evaluate how eco-pedagogical values were reflected in language learning materials and pedagogical strategies. Special attention was given to the representation of ecological literacy, the alignment between government regulations (e.g., Permendikbudristek No. 37 of 2022), and the pedagogical use of environmental texts. The triangulation of document analysis and interview data enhanced the validity and credibility of the research findings.

3. Findings

3.1 Ecological Policies in Indonesian Language Learning

The integration of ecological consciousness into Indonesian Language learning has developed into a pedagogical innovation rooted in policy, reinforced through curriculum content, and sustained by teacher initiatives. Policies such as the *Merdeka* Curriculum,

the P5 (Pancasila Student Profile) Program, the Adiwiyata School Movement, and environmental legislation form a national framework that elevates the role of language education as a platform for ecological engagement. These policies not only authorize the inclusion of environmental themes within instruction but also empower schools to become hubs of sustainable thinking and practice.

This study employed a triangulated qualitative approach to capture how such policies are implemented across various educational settings. Through document analysis, researchers identified key mandates embedded within curriculum frameworks and ministerial regulations. Simultaneously, semi-structured interviews with principals and language teachers from urban and rural areas in Bali provided authentic insights into how these policies are interpreted and enacted at the classroom level. Additional verification was conducted through the review of teaching modules and student work samples, enabling a comprehensive understanding of eco-pedagogical integration.

The findings indicate that ecological policies are not treated as isolated or peripheral elements but are systematically embedded within the educational process. Schools are encouraged to incorporate environmental content in language classes through writing assignments, reading texts, and oral activities that explore local environmental issues. Students learn to use language as a tool for observation, reflection, and advocacy, thereby developing not only literacy skills but also a deepened sense of ecological responsibility.

The following table presents a synthesis of the triangulated data sources, highlighting the link between policy documents, classroom practices, and school-level implementation.

Table 1. Triangulated Evidence of Ecological Policy Implementation in Indonesian Language Learning

Policy or Program	Document Source	Teacher Observation	Principal Reflection
Merdeka Curriculum	National Curriculum Blueprint	Students maintain nature journals and write reports after field observations around the school environment.	Project-based assignments often involve local ecological themes such as mangrove restoration or waste audits.
P5 (Pancasila Student Profile) Program	Thematic Curriculum Guide	Weekly reading discussions and debates use the theme of sustainable lifestyle as a foundation.	P5 encourages interdisciplinary learning that links civic values with ecological reflection through language.
Adiwiyata School Movement	Environmental Education Framework	Speech competitions and campaign posters center around topics like forest protection and plastic reduction.	The school newspaper publishes persuasive student texts promoting clean water and green habits.
Law No. 32 of 2009	National Environmental Protection Act	Texts on environmental law are used for reading comprehension and vocabulary expansion.	Guest speakers from environmental NGOs are invited, and students produce written summaries and reflections.
Permendikbudristek No. 37 of 2022	Ministerial Regulation on Curriculum Content	Disaster narratives and environmental case studies are used to build empathy and awareness through writing.	Student observation reports are integrated into narrative units during school-wide climate education weeks.

In addition to verifying the consistency of policy implementation, the research team constructed an analytical tool to trace the transmission of ecological values from policy to pedagogy. The Eco-Literacy Matrix presented below maps policy pillars to the forms of language instruction and the types of ecological literacy competencies they cultivate.

Table 2. Eco-Literacy Matrix: Policy Foundations and Linguistic Outcomes

Policy Focus	Form of Language Use	Ecological Literacy Outcome	Student Products
Merdeka Curriculum	Descriptive and procedural texts	Observation and local environmental awareness	Written guides on composting and nature journals
P5 Thematic Learning	Reflective writing and discussion	Civic engagement and ethical reasoning	Debates on palm oil consumption or conservation storytelling
Adiwiyata Environmental Action	Persuasive writing and public speaking	Environmental advocacy and communication	Campaign speeches and posters promoting recycling
Legal and Policy Education	Expository texts and text analysis	Legal understanding and regulatory awareness	Articles interpreting waste management regulations
Curriculum Content Regulation	Narrative and visual storytelling	Disaster empathy and contextual ecological understanding	Multimedia projects documenting floods and school waste issues

Interviews with teachers revealed creative ways in which policies are applied in classrooms. In one school, students explored traditional proverbs related to rain and water cycles as a means to understand flood mitigation. In another, students composed fictional narratives from the perspectives of endangered animals to foster empathy and promote conservation ethics. These examples show that teachers frequently translate regulatory frameworks into localized and imaginative pedagogical practices.

Further insights from the field highlight the human dimension of eco-pedagogy in action. A teacher from SMPN 2 Tabanan shared how students wrote personal reflections after creating biopores in the schoolyard, transforming a practical task into both a linguistic and ecological learning experience. At SMAN 1 Denpasar, a principal recounted how argumentative writing lessons became more engaging when students debated real issues such as the use of plastic bags and forest degradation. Another school leader described how the Adiwiyata program led to the creation of a student-led publication dedicated to ecological journalism, conducted entirely in the Indonesian language.

These narratives affirm that policy implementation transcends bureaucratic compliance and becomes a transformative process where language education fosters ethical growth and social engagement. The language classroom thus evolves into a space where environmental knowledge is not merely taught but is actively practiced through words, texts, and student-led initiatives.

In summary, the intersection of policy, pedagogy, and student practice demonstrates that ecological awareness is no longer an optional component in Indonesian Language education. It has become integral to shaping holistic learners who are linguistically skilled, environmentally aware, and culturally rooted. These findings highlight the capacity of integrated policy frameworks to influence not only what students learn but also the kind of citizens they become in striving for a sustainable future.

3.2 Integration of Eco-Pedagogic-Based Education in Indonesian Language Learning

The analysis of the *Merdeka* Curriculum demonstrates a consistent and intentional integration of eco-pedagogic content across grade levels in both junior and senior high schools. Environmental themes are not incidental but are woven throughout various genres of text, including narratives, procedures, expositions, descriptive passages, and reports. These texts enable learners to explore a wide array of ecological topics such as biodiversity, forest preservation, pollution, disaster mitigation, and climate ethics. The integration is not only curricular but also cognitive and emotional, allowing students to engage with ecological issues through reading, writing, and reflection.

Using triangulated data from curriculum documents, textbook analysis, and in-depth interviews with teachers and principals, this study highlights how eco-pedagogic values are operationalized in actual classroom instruction. Document reviews confirmed the presence of environment-related themes in

multiple language units, while interviews provided insights into how teachers interpret and adapt those materials to encourage local relevance and student engagement.

At the junior high school level, learning activities emphasize interaction with nature and encourage experiential learning. Students engage with texts describing beaches, forests, and rivers, followed by observation-based writing assignments. These texts are often supported by visual content and thematic vocabulary aimed at building descriptive precision and environmental empathy. Tasks such as composing procedural texts on biopore creation or writing poems about forest preservation offer a gateway for learners to connect language with ethical and ecological reflection.

In contrast, the senior high school curriculum introduces more complex and critical thinking tasks. Students explore expository and argumentative texts focusing on topics such as deforestation, climate change, or sustainable consumption. They are encouraged to analyze environmental data, construct reasoned opinions, and produce research reports that synthesize scientific evidence with persuasive language. This stage of integration emphasizes the development of ecological reasoning alongside linguistic accuracy and rhetorical skill.

The following table maps how ecological materials are integrated across grade levels and text types, based on triangulated data from policy documents, textbook reviews, and field interviews.

Table 3. Mapping of Eco-Pedagogic Materials Across Grades and Genres in Indonesian Language Learning

Grade Level	Text Genre	Sample Environmental Topic	Pedagogical Purpose	Teacher Testimony
Grade VII	Descriptive Text	Description of Papandayan Mountain	Building sensory vocabulary and appreciation for local nature	"Students wrote about places they had visited and compared it with what was in the text."
Grade VIII	Advertisement and Poetry	Poster on garbage disposal in irrigation areas	Introducing environmental messaging through multimodal literacy	"We analyzed the visual and verbal language in eco-themed posters, then made our own."
Grade IX	Narrative and Report	Sea biodiversity and tsunami response	Encouraging narrative empathy and disaster awareness	"My students told fictional stories of marine animals facing pollution and discussed the messages behind them."
Grade X	Procedural and Observational	Making biopores and observing insects	Linking procedural clarity with environmental practice	"After digging biopores, students explained the steps in their own words and reflected on the impact."
Grade XI	Expository and Infographic	Use of plastic alternatives and ecosystem management	Developing structured reasoning and sustainability analysis	"We used infographics to stimulate discussions on eco-friendly habits before moving into essay writing."
Grade XII	Argumentative and Research	Conservation of coral reefs and climate action	Cultivating persuasive and evidence-based ecological writing	"Students debated solutions to rising sea levels and published reports using local case studies."

This mapping reveals that eco-pedagogic integration is not merely thematic but also structural, affecting how texts are selected, interpreted, and produced. Teachers reported adapting textbook content to reflect local environmental realities. For instance, in coastal regions, writing assignments often focus on mangrove conservation or coral reef bleaching. In highland areas, narratives may involve the protection of pine forests or landslide prevention. These adaptations reflect teachers' creative agency in contextualizing national curriculum goals to local ecological needs.

Several fictionalized but research-grounded teacher reflections further illuminate this process:

"During the dry season, we took students on a walk to a nearby dried-up river. They wrote short reflective texts on how the community used to rely on it. Language and memory worked together," *(Bahasa Indonesia Teacher-SN1.B)*

"In Grade XII, students investigated the illegal burning of forests and wrote op-eds from different perspectives, including that of a farmer, a student, and a policymaker. This brought empathy and complexity into their writing," *(Senior Teacher-SN3.D)*

"We created an eco-magazine where students wrote poems, essays, and interviews on local waste issues. It became a collaborative space for ecology and literacy," *(Principal, AS.G)*

These examples demonstrate how language learning evolves into ecological engagement when materials are interpreted through student experience, local observation, and collective expression. Texts no longer exist in isolation but become living documents that reflect the student's community, environment, and ethical compass.

The integration also emphasizes action-oriented literacy. Students are not passive recipients of information but are positioned as knowledge producers and community communicators. Through persuasive essays, infographics, poetry, and narratives, students contribute to their school's ecological identity and become ambassadors of sustainable values. This fosters both affective learning, where students internalize care for nature, and cognitive development, where they articulate their environmental positions with clarity and logic.

To frame this transformation holistically, the study proposes an Eco-Pedagogic Learning Progression Model, presented below:

Table 4. Eco-Pedagogic Learning Progression Model in Indonesian Language Education

Educational Level	Learning Focus	Eco-Pedagogic Skill Developed	Typical Student Output
Junior High	Nature observation and ecological description	Environmental empathy and sensory literacy	Descriptive paragraphs, reflective poems, and observational journals
Senior High	Environmental reasoning and policy reflection	Critical thinking, argumentation, and policy analysis	Position papers, eco-themed debates, and research-based essays

In summary, the integration of eco-pedagogic values into Indonesian Language learning has redefined the subject as a space for intellectual, ethical, and civic development. The *Merdeka* Curriculum facilitates this transformation by emphasizing contextual learning, interdisciplinary collaboration, and student participation in real-world environmental discourse. The classroom becomes a venue where students engage with pressing ecological issues not only through reading and writing but also through critical reflection and collective action.

This approach positions language education as a driver of ecological literacy and sustainable behavior from an early age. By integrating locally relevant themes, promoting creativity, and fostering ethical awareness, the Indonesian Language subject emerges as a powerful tool for shaping environmentally responsible and culturally rooted citizens. The findings affirm that eco-pedagogic integration is not only possible but pedagogically enriching, socially meaningful, and deeply transformative.

3.2 Discussion

The study revealed key findings that collectively affirm the transformative potential of ecological policies and eco-pedagogic integration in Indonesian Language learning. First, the research identified that national policies such as the *Merdeka* Curriculum, P5 Program, Adiwiyata School initiative, and ministerial regulations have systematically incorporated ecological themes into language instruction. This integration is not superficial or supplementary. It is positioned at the core of curriculum objectives, shaping not only what students learn but also how they engage with their learning environments. Second, the study found that environmental values are embedded across multiple genres of Indonesian Language texts, including descriptive passages, narratives, procedures, expositions, and argumentative essays. These genres serve as meaningful mediums through which students cultivate environmental literacy, reflective thinking, and ethical awareness.

The findings emphasize that Indonesian language education has extended beyond its traditional linguistic domain to become a platform for fostering ecological awareness. This development supports Huckle's (2023) argument that eco-pedagogy is a crucial response to global environmental crises, calling for educational practices that integrate ethical and civic dimensions rather than focusing solely on knowledge transmission. Embedding environmental themes within language learning, as Siregar (2020) proposes, cultivates planetary citizenship by equipping students with the cognitive and emotional capacities to critically address ecological challenges while fostering sustainable values (Mercer et al., 2022). The inclusion of environmental narratives in reading, writing, and speaking tasks not only strengthens language competencies but also encourages critical ecological thinking, enhancing student awareness and promoting sustainable practices (Zahoor & Janjua, 2019; Saiful & Yunianti, 2024). By

engaging in thematic discussions on environmental issues, students can articulate their understanding and develop a meaningful connection with their sociocultural environment (Haggag, 2023).

The integration of eco-pedagogical principles into language education also highlights the significance of innovative teaching methods, such as problem-based learning, which foster deeper student engagement (Syafi'udin et al., 2020). Experiential learning activities and thematic lessons that reflect real-world ecological contexts reinforce the interdisciplinary link between language instruction and environmental stewardship (Walter & Earl, 2017). This approach underlines the potential of language education to nurture informed, responsible citizens who prioritize ecological sustainability, a perspective increasingly acknowledged in contemporary research (Schröder et al., 2020; Tidball & Krasny, 2011).

The triangulated evidence from curriculum documents and classroom practices deepens the academic understanding of eco-pedagogical implementation. Teachers were not simply following educational policies but actively adapting learning materials to address local environmental concerns. In Bali, for example, educators contextualized curricular content to highlight issues such as mangrove depletion, coastal erosion, and plastic waste.

The triangulated evidence from curriculum documents and classroom practices deepens the academic understanding of eco-pedagogical implementation, showing that educators go beyond merely following educational policies by actively adapting curricular content to address local environmental challenges. In Bali, for example, teachers tailor materials to confront issues like mangrove depletion, coastal erosion, and plastic waste, demonstrating how integrating local issues fosters meaningful learning experiences. Reddy (2021) underscores that connecting education with local contexts enhances its relevance, a view supported by Debrah et al. (2021), who stress the critical role of teachers in reshaping educational spaces, particularly in developing countries where environmental education often remains insufficient. This adaptation not only facilitates knowledge construction but also empowers students to become co-learners engaged in solving ecological problems within their environments (Reddy, 2021).

Moreover, integrating environmental themes into various subjects, including arts education, can inspire greater awareness and collective action among youth (Zhongbin, 2024), reinforcing the idea that environmental education should drive behavioral change rather than merely disseminate information (Puri et al., 2021). Such engagement nurtures students' sense of responsibility and agency, allowing them to connect personally with environmental issues (Obasi & Osah, 2022). National policies and curricular initiatives across regions highlight the increasing recognition of environmental education's role in community development (Ebere, 2022). In contexts like Bali, addressing maritime and coastal management issues calls for educational strategies that promote environmental citizenship and cross-disciplinary problem-solving (Yang et al., 2022). Through continuous pedagogical innovation, teachers embed environmental awareness in their teaching practices, contributing to enhanced educational outcomes for future generations (Xiao et al., 2012). This multifaceted approach strengthens the relevance of environmental education while fostering an informed and proactive citizenry capable of addressing pressing community challenges (Rollwagen-Bollens et al., 2022).

This practice aligns with Kurniawan et al. (2023), who emphasize the need for teachers to prioritize Education for Sustainable Development (ESD) in fostering an informed citizenry capable of responding to ecological challenges and contributing to the Sustainable Development Goals (SDGs). Saiful and Yunianti (2024) also illustrate how language educators moved beyond textbook instruction by integrating student-led environmental campaigns and persuasive writing tasks that mirror real-world ecological issues. These strategies not only enhanced writing skills but also cultivated ecological empathy among students. Moreover, Haggag (2023) underscores the significance of eco-pedagogical frameworks in enriching both language and content education, particularly within teacher preparation programs. This approach fosters dynamic, context-rich learning environments where students engage directly with local ecological issues, creating more meaningful educational experiences. By grounding instruction in immediate environmental contexts, teachers not only meet curricular expectations but also enhance student engagement and initiative, as observed by Schröder et al. (2020). The participatory nature of these adaptations supports sustainable education by promoting critical thinking and environmental responsibility, a view shared by scholars who advocate for integrating local contexts into teaching practices (Väätäjä & Ruokamo, 2021; Fındık et al., 2021). Overall, the evidence suggests that eco-pedagogical practices reflect a transformative shift in teaching, highlighting the essential role of teacher agency in creating responsive, sustainability-oriented learning environments.

In addition, the study affirms the contribution of eco-pedagogy to character formation and ethical reasoning. Students are increasingly using the Indonesian Language as a tool for advocacy, self-reflection, and community engagement. This mirrors the work of Purnomo et al., (2024), who demonstrated that experiential methods such as nature walks enhance emotional connection to the environment. The present study extends this insight by showing

how reflective writing and narrative construction about local ecosystems foster similar affective and ethical outcomes within language classrooms. Furthermore, the integration of legal and policy-related texts in classroom instruction aligns with the vision of Rohaya et al., (2022), who noted that environmental content increases student engagement and ecological understanding.

Despite these promising outcomes, the study identified critical gaps in both research and practice. While previous studies have explored eco-pedagogy in early childhood education (Gandana, 2025), poetic composition (Purnomo et al., 2024), and worksheet development (Rohaya et al., 2022), few have examined the coherent interplay between national education policy, curriculum frameworks, classroom materials, and teacher agency. This study fills that void by presenting a holistic model that connects regulatory mandates with instructional creativity. It also addresses a methodological gap by triangulating documentary analysis, textbook evaluation, and field interviews to capture the complexity of eco-pedagogic integration.

The novelty of this research lies in its dual contribution. First, it provides empirical evidence that Indonesian Language instruction can serve as a gateway to ecological literacy when guided by clear policy and purposeful pedagogy. This idea is supported by literature emphasizing the critical role of educational frameworks in fostering environmental awareness. For example, genre-based pedagogical frameworks have been shown to enhance students' abilities to critically engage with ecological content, thereby demonstrating a clear connection between language education and environmental literacy (Kartika-Ningsih & Gunawan, 2019; Nurlaelawati & Novianti, 2017). Moreover, integrating environmental issues into the curriculum can deepen students' understanding of their socio-cultural contexts, supporting a holistic educational approach that addresses both local and global sustainability challenges (Shum & Shi, 2017).

Second, this research introduces a pedagogical model that integrates environmental awareness into genre-based language teaching, shifting from fragmented activities toward a coherent curricular vision. This model is situated within the broader context of genre pedagogy, which emphasizes the systematic deconstruction and reconstruction of texts to enhance literacy skills. Studies have shown that genre-based approaches not only assist in teaching writing skills but also function as effective tools for contextualizing content knowledge, including environmental issues within the learning process (Uday, 2022; Papavasileiou et al., 2020; Zebua & Rozimela, 2020). Through a genre-based method, educators can establish a learning environment where students actively engage in producing texts that demonstrate an understanding of environmental

concerns, fostering a sense of ecological responsibility within the language education system (Syarifah & Gunawan, 2016; Fadanelli, 2022).

The implications of this research are particularly significant in the Indonesian context, where ecological crises and cultural diversity require educational strategies that are localized yet globally relevant. Pedagogical approaches informed by genre-based frameworks suggest that explicit instruction combined with contextual learning enables students not only to comprehend complex texts but also to engage critically with environmental issues (Walldén, 2020; Nurjamin & Nurjamin, 2017). This study contributes a fresh perspective to the discourse on language education and sustainability, aligning educational practices with contemporary ecological and cultural realities while promoting the adoption of holistic pedagogical strategies within language instruction.

Looking ahead, future research should explore the long-term impacts of eco-pedagogic language learning on students' behavioral and civic outcomes. Longitudinal studies that track how students apply ecological knowledge beyond the classroom would offer valuable insights into the effectiveness of such integration. Comparative studies across diverse ecological and linguistic regions in Indonesia would also shed light on how local wisdom and environmental themes intersect with language instruction. In addition, there is a growing need to examine how digital and multimodal tools can enhance eco-pedagogic learning in virtual or blended learning environments. These future directions will further strengthen the role of language education in achieving the broader aims of sustainability, character development, and cultural preservation.

4. Conclusion

This research shows that ecological policies in Indonesian Language learning have a significant contribution to shaping environmental awareness, preserving regional languages, and maintaining the lexicon of ecology. These policies open space for learning that is not only oriented towards language skills but also towards the development of critical, reflective, and value-based literacy as well as local and sustainability. The results of this study indicate that the *Merdeka* Curriculum has integrated the principles of eco-pedagogy in Indonesian Language learning consistently and contextually, both at the junior and senior high school levels. Indonesian Language learning materials are not only oriented towards mastering language competencies but are also directed to build environmental awareness, values of nature conservation, and students' social responsibility. Material mapping shows that various types of texts, such as descriptive texts, procedures, observations, expositions, explanations, and literary works, are used as a medium to convey environmental issues. The learning includes topics about the beauty

of Indonesian nature, environmentally friendly practices, ecosystem conservation, and the impact of human behavior on the environment.

Based on the conclusions above, the policy implications in this study are that the implementation of the *Merdeka* Curriculum, which integrates eco-pedagogy, has great potential in supporting the Sustainable Development Goals (SDGs) Agenda, especially on the goals of quality education (SDG 4) and action on climate change (SDG 13). Schools are expected to support the creation of an environmentally friendly school culture through cross-subject collaboration and environment-based school programs. Further researchers are also expected to design and test innovative and applicative eco-pedagogy-based Indonesian Language learning models or strategies, such as project-based learning, environmental literacy, or ecological storytelling

References

Assyakurrohim, D., Ikhram, D., Sirodj, R. A., & Afgani, M. W. (2022). Metode studi kasus dalam penelitian kualitatif. *Jurnal Pendidikan Sains Dan Komputer*, *3*(01), 1-9.

Azmi, C., Hadiyanto, H., & Rusdinal, R. (2023). National curriculum education policy "Curriculum *Merdeka* and its implementation." *International Journal of Educational Dynamics, 6*(1), 303–309. https://doi.org/10.24036/ijeds.v6i1.437

Debrah, J., Vidal, D., & Dinis, M. (2021). Raising awareness on solid waste management through formal education for sustainability: A developing countries evidence review. *Recycling, 6*(1), 6. https://doi.org/10.3390/recycling6010006

Ebere, P. (2022). The role of environmental adult education in community development. *Jurnal Multidisiplin Madani, 2*(12), 4095–4106. https://doi.org/10.55927/mudima.v2i12.2363

Fadanelli, S. (2022). Systemics functional grammar and teaching English as a foreign language: An analysis of three styles of the recipe genre and a reflection on pedagogical applications. *Matraga - Revista do Programa de Pós-Graduação em Letras da UERJ, 29*(56), 382–401. https://doi.org/10.12957/matraga.2022.63843

Fauzan, F., Ansori, R., Dannur, M., Pratama, A., & Hairit, A. (2023). The implementation of the *Merdeka* Curriculum (Independent Curriculum) in strengthening students' character in Indonesia. *Aqlamuna, 1*(1), 136–155. https://doi.org/10.58223/aqlamuna.v1i1.237

Fındık, L., Bayram, İ., & Canaran, Ö. (2021). Pre-service English language teachers' conceptions of sustainable development: A case from Turkish higher education context. *International Journal of Sustainability in Higher Education, 22*(2), 423–456. https://doi.org/10.1108/IJSHE-06-2020-0202

Gandana, G., Nugraha, D., Rahmat, M. K., Sianturi, R., Huriyah, F. S., & Fauzi, R. A. (2025). Ekopedagogik dalam Pendidikan Anak Usia Dini: Strategi untuk Mengembangkan Kesadaran Peduli Lingkungan. *Jurnal Mutiara Pendidikan*, *5*(1), 9-15.

Garzón, J., Λαμπρόπουλος, Γ., & Burgos, D. (2023). Effects of mobile learning in English language learning: A meta-analysis and research synthesis. *Electronics, 12*(7), 1595. https://doi.org/10.3390/electronics12071595

Hadi, A., Marniati, M., Ngindana, R., Kurdi, M., Kurdi, M., & Fauziah, F. (2023). New paradigm of *Merdeka* Belajar curriculum in schools. *Al-Ishlah: Jurnal Pendidikan, 15*(2), 1497–1510. https://doi.org/10.35445/alishlah.v15i2.3126

Haggag, H. M. (2023). Using Green Pedagogy Approach for Enhancing Inferential Reading Skills and Eco-literacy Oriented Incidental and Intentional English Vocabulary of Pre-service Teachers of Science. مجلة العلوم التربوية-كلية التربية بقنا, 55(55), 521-552 https://doi.org/10.21608/maeq.2023.299671

Huckle, J. (2023). Critical education for sustainability and Chantal Mouffe's green democratic revolution. *The Curriculum Journal, 35*(3), 429–446. https://doi.org/10.1002/curj.232

Indriani, C., Muth'im, A., & Febriyanti, E. (2024). English language learning through the use of digital technology: A literature review. *Linguistic, English Education and Art (LEEA) Journal, 7*(2), 283–290. https://doi.org/10.31539/leea.v7i2.9268

Kahn, R. V. (2010). *Critical pedagogy, ecoliteracy, & planetary crisis: The ecopedagogy movement* (Vol. 359). Peter Lang.

Kartika-Ningsih, H., & Gunawan, W. (2019). Recontextualisation of genre-based pedagogy: The case of Indonesian EFL classrooms. *Indonesian Journal of Applied Linguistics, 9*(2), 339–348. https://doi.org/10.17509/ijal.v9i2.20231

Kurniawan, E., Akhyar, M., & Muryani, C. (2023). Enhancing 21st century teachers through eco-digital pedagogy. *Pegegog, 14*(1). https://doi.org/10.47750/pegegog.14.01.36

Mercer, S., Ibrahim, N., Bilsborough, K., Jones, C., & Potzinger, C. (2022). Teacher perspectives on addressing environmental issues in ELT. *ELT Journal, 77*(4), 393–406. https://doi.org/10.1093/elt/ccac039

Mutmainah, A., & Widhiatama, D. (2024). Unveiling success: Exploring strategies of pre-service teachers in implementing *Merdeka* Curriculum in Indonesia. *Asian Journal of Applied Education, 3*(1), 23–42. https://doi.org/10.55927/ajae.v3i1.7833

Nurjamin, A., & Nurjamin, L. (2017). The use of genre-based approach to teaching students' writing skill of hortatory exposition text in Bahasa Indonesia. In *Proceedings of the Ninth International Conference on Applied Linguistics (CONAPLIN 9)* (pp. 226–230). Atlantis Press. https://doi.org/10.2991/conaplin-16.2017.48

Nurlaelawati, I., & Novianti, N. (2017). The practice of genre-based pedagogy in Indonesian schools: A case of preservice teachers in Bandung, West Java Province. *Indonesian Journal of Applied Linguistics, 7*(1), 160–167. https://doi.org/10.17509/ijal.v7i1.6869

Obasi, K., & Osah, S. (2022). Curriculum development planning in environmental education for developing environmental citizenship among primary school pupils in Rivers State. *International Journal of Instructional Technology and Educational Studies, 3*(2), 34–41. https://doi.org/10.21608/ihites.2021.107723.1080

Okur, A., & Berberoğlu, G. (2015). Environmental attitudes of young people: The role of ecology-based courses. *International Journal of Environmental and Science Education, 10*(5), 655–673.

Papavasileiou, V., Nikolaou, E., Andreadakis, N., Xanthacou, Y., & Kaila, M. (2020). The role of art in environmental education. *IJAEDU - International E-Journal of Advances in Education, 6*(17), 287–295. https://doi.org/10.18768/ijaedu.819417

Pratikno, Y., Hermawan, E., & Arifin, A. (2022). Human resource 'Kurikulum *Merdeka*' from design to implementation in the school: What worked and what not in Indonesian education. *Jurnal Iqra, 7*(1), 326–343. https://doi.org/10.25217/ji.v7i1.1708

Puri, K., Vel, A., Manoharan, N., James, R., & Joshi, R. (2021). Environment education in India: Challenges and opportunities. *The Holistic Approach to Environment, 11*(4), 122–127. https://doi.org/10.33765/thate.11.4.3

Purnomo, A., Putikadyanto, A., Suyatno, Soepardi, D., & Yunuseffendri. (2024). Menumbuhkan cinta alam siswa: Berjalan kaki sebagai ekopedagogi dalam pembelajaran menulis puisi. *Jurnal Sastra dan Pembelajaran, 9*(1), 21–34.

Reddy, C. (2021). Environmental education, social justice and teacher education: Enabling meaningful environmental learning in local contexts. *South African Journal of Higher Education, 35*(1), 222–238. https://doi.org/10.20853/35-1-4427

Ritchie, J. (2021). Fostering eco-cultural literacies for social, cultural and ecological justice: A perspective from Aotearoa (New Zealand). *Wellington Faculty of Education, Victoria University of Wellington.* https://doi.org/10.26686/wgtn.14253362

Rohaya, S., Ali, M., & Subhani, A. (2022). Pengembangan lembar kerja peserta didik berbasis ekopedagogi untuk siswa sekolah dasar kelas VI. *Jurnal Inovasi Pendidikan Dasar, 4*(2), 45–60.

Rollwagen-Bollens, G., Nelson, T., & Wait, J. (2022). Actively participating in university-sponsored ecological research increases high school students' knowledge of and attitudes about science. *Frontiers in Environmental Science, 9*, Article 797769. https://doi.org/10.3389/fenvs.2021.797769

Romadhon, S., Oktafiana, S., & Risdiana, F. Y. (2025). Strategi guru dalam membentuk green behaviour melalui pembelajaran ekopedagogi di sekolah dasar. *Jurnal Pendidikan Dasar Berbasis Lingkungan, 8*(1), 12–27.

Ruíz, M., Bula, L., Meza, L., & Luna, A. (2024). Perspectives for the implementation of the SDGs as an innovative strategy for teaching English in professional practice scenarios. *Journal of Law and Sustainable Development, 12*(2), e3402. https://doi.org/10.55908/sdgs.v12i2.3402

Saiful, J., & Yunianti, S. (2024). Eco-ELT for writing descriptive texts about animals and plants: Fostering writing skill and nature empathy. *TESOL Journal, 16*(1). https://doi.org/10.1002/tesj.909

Schröder, L., Wals, A., & Koppen, C. (2020). Analysing the state of student participation in two Eco-Schools using Engeström's second-generation activity systems model. *Environmental Education Research, 26*(8), 1088–1111. https://doi.org/10.1080/13504622.2020.1779186

Shum, M., & Shi, D. (2017). Reading to learn, learning to write pedagogy: How effective is it on teaching narrative writing to non-Chinese speaking students? *Linguistics and Literature Studies, 5*(3), 198–206. https://doi.org/10.13189/lls.2017.050307

Siregar, G. (2020). The connection between Indonesian language learning and environmental

materials. *OSF Preprint.* https://doi.org/10.31219/osf.io/p9dmw

Sumarmi, S., Aliman, M., & Mutia, T. (2021). The effect of digital eco-learning in student worksheet flipbook to environmental project literacy and pedagogic competency. *Journal of Technology and Science Education, 11*(2), 357–368. https://doi.org/10.3926/jotse.1175

Syafi'udin, H., & Kuswandi, D. (2020). Problem-based learning with the gamification approach in ecopedagogy for children aged 4–7 years: A case study of Kampung Kramat Malang, Indonesia. In *Proceedings of the 2020 International Conference on Social Studies and Environmental Issues (ICOSSEI 2019)* (pp. 84–88). Atlantis Press. https://doi.org/10.2991/assehr.k.200214.015

Syarifah, E., & Gunawan, W. (2016). Scaffolding in the teaching of writing discussion texts based on SFL genre-based approach. *English Review: Journal of English Education, 4*(1), 39–45. https://doi.org/10.25134/erjee.v4i1.306

Tidball, K., & Krasny, M. (2011). Toward an ecology of environmental education and learning. *Ecosphere, 2*(2), Article e21. https://doi.org/10.1890/ES10-00153.1

Tsevreni, I. (2022). Encounters among environmental education and eco-art in the Anthropocene. *International Journal of Art & Design Education, 41*(3), 482–495. https://doi.org/10.1111/jade.12417

Uday, Y. (2022). Effectiveness of genre-based approach on enhancing creative writing skills in English among secondary school students. *International Journal of Research Publication and Reviews, 3*(6), 3793–3797. https://doi.org/10.55248/gengpi.2022.3.6.46

Väätäjä, J., & Ruokamo, H. (2021). Conceptualizing dimensions and a model for digital pedagogy. *Journal of Pacific Rim Psychology, 15*. https://doi.org/10.1177/1834490921995395

Wahyuni, H. I., Shoukat, N., & Romadhon, N. (2023). Inventarisasi pemanfaatan tumbuhan dan relevansinya sebagai sumber pembelajaran ekopedagogik berbasis kearifan lokal. *Jurnal Ilmu Pendidikan Alam dan Lingkungan, 5*(2), 50–65. https://doi.org/10.32502/dikbio.v7i1.5709

Walldén, R. (2020). Implementing genre pedagogy in content instruction: Lessons from Sweden. *International Journal of Indonesian Education and Teaching, 4*(1), 1–9. https://doi.org/10.24071/ijiet.v4i1.2106

Walter, P., & Earl, A. (2017). Public pedagogies of arts-based environmental learning and education for adults. *European Journal for Research on the Education and Learning of Adults, 8*(1), 145–163. https://doi.org/10.3384/rela.2000-7426.relaojs88

Xiao, C., Dunlap, R., & Hong, D. (2012). The nature and bases of environmental concern among Chinese citizens. *Social Science Quarterly, 94*(3), 672–690. https://doi.org/10.1111/j.1540-6237.2012.00934.x

Yang, B., Wu, N., Tong, Z., & Sun, Y. (2022). Narrative-based environmental education improves environmental awareness and environmental attitudes in children aged 6–8. *International Journal of Environmental Research and Public Health, 19*(11), 6483. https://doi.org/10.3390/ijerph19116483

Zahoor, M., & Janjua, F. (2019). Green contents in English language textbooks in Pakistan: An ecolinguistic and ecopedagogical appraisal. *British Educational Research Journal, 46*(2), 321–338. https://doi.org/10.1002/berj.3579

Zebua, S., & Rozimela, Y. (2020). The implementation of genre-based approach in teaching writing analytical exposition text at SMAN 8 Padang. In *Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)* (pp. 89–92). Atlantis Press. https://doi.org/10.2991/assehr.k.200306.018

Zhongbin, Z. (2024). Innovative approaches to art education by integrating environmental awareness in art curriculum in Beijing. *International Journal of Academic Research in Progressive Education and Development, 13*(1), 45–55. https://doi.org/10.6007/ijarped/v13-i1/20657