

An Analysis of Environmental Education in Indonesian EFL Elementary School Textbooks

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ABSTRACT

The worsening global environmental crisis highlights the urgency of integrating Environmental Education (EE) throughout the curriculum including in English as a Foreign Language (EFL) curricula. However, challenges exist, such as the development of appropriate curriculum documents and educators' understanding of approaches to EE. This study looked at Indonesian EFL textbooks for elementary schools, focusing mainly on the images and how they can portray environmental themes. These images and some brief texts that accompany the images were examined using tools from ecolinguistics literature, including Stibbe's (2021) nine stories and the United Nations' EE objectives (UNESCO-UNEP, 1975). This study intends to fill a gap in the EE literature by analyzing images in elementary school textbooks in the specific context of Indonesia, generalizing the idea of EE to other contexts. Findings revealed that while some EE efforts were evident, the majority of the material leaned towards an anthropocentric (human centered) perspective, indicating a need for greater incorporation of insights from ecolinguistics to enhance the content. Moreover, in terms of EE objectives, the textbooks provided ecological knowledge but lacked emphasis on developing skills and encouraging student participation in solving environmental problems. Examples demonstrating the ability to evaluate and address environmental issues were also absent. Suggestions are made for future EE content in EFL materials.

Key words: Environmental Education, Ecolinguistics, EFL, Material Development, Textbooks

INTRODUCTION

The United Nations (2023) defines Sustainable Development as a way of life that allows humans to fulfill current needs without jeopardizing the ability of future generations to meet their own needs. In an attempt to build commitment to resolving environmental problems on a global level, the Berlin Declaration on Education for Sustainable Development (UNESCO, 2022) called for Environmental Education (EE) to become a standard component of all national curricula by 2025. English language educators have a role to play in this worldwide effort.

According to Araújo et al. (2022), EE is a tool for empowering people to make informed decisions about how human activity affects the environment. It examines and attempts to change ingrained values and behaviors that are causing the planet's natural systems to deteriorate. However, it's crucial to acknowledge that environmental issues are complex and require a multifaceted approach. Positive Discourse Analysis (Buchtele & Lapka, 2022) offers a promising approach by fostering constructive narratives and ideas, thereby promoting a hopeful perspective on environmental issues, by

applauding and inspiring proactive steps and positive transformations. Unfortunately, Kristalinawati et al. (2019) stated that although EE in Indonesia has been implemented since 1970, the environmental damage caused by human behavior has persisted and even worsened, as is the general case worldwide.

Challenges in Integrating EE into EFL Curricula

Integrating EE into EFL curricula offers students valuable knowledge and skills in sustainability and environmental awareness (Ver Steeg, 2019), as well as the hope that together humans can indeed make a difference in addressing global issues. This approach to integrating second language acquisition with involvement in real-world issues not only boosts language proficiency but also deepens understanding of global environmental challenges, motivating proactive engagement (Nkwetisama, 2011). Additionally, primary school students' early experiences with EE have the potential to shape their lifelong attitudes and actions toward the natural world (Torkar, 2014).

However, the inclusion of EE into EFL curricula encounters various challenges. The implementation of EE faces challenges due to limited emphasis in curriculum documents, resulting in insufficient time and resources (such as multimedia). These challenges are compounded by barriers such as school management's lack of commitment and teachers' inadequate knowledge of effective techniques (Acton & Saxe, 2020; Obasi & Osah, 2022). Additionally, students, educators, and society generally hold views (to be discussed later in the paper) towards the environment and its protection that hamper EE efforts. These factors collectively pose complexities in teaching EE within EFL contexts. Previous studies exploring environmental perspectives in EFL text-books have been conducted across various countries and educational systems. These are compiled in chronological order in Table 1.

Most studies in the field of EE have not focused on Indonesian EFL textbooks used by elementary school students. While the value of EE is undeniable, research on its integration

into Indonesian EFL textbooks, specifically those used in elementary schools, remains scarce. Existing studies have primarily focused on EFL textbooks in other countries (e.g., Faramarzi & Janfeshan, 2021; Hamed, 2021; Majeed et al., 2022; Mliless & Larouz, 2018; Xiong, 2014) or on higher education levels in Indonesia (Triyono et al., 2023; Ekasiwi & Bram, 2023). Furthermore, the analysis of images within textbooks has only been explored in the context of high school textbooks, as evidenced by the work of Triyono et al. (2023). This gap in research is concerning, as elementary school is a crucial time to shape students' lifelong attitudes and actions towards the environment (Torkar, 2014). Textbooks, according to Caravita et al. (2008), play a central role in shaping both content and teaching methods within formal education. They can also be instrumental in achieving socialization goals and driving societal change (Jabeen et al., 2014). However, EFL textbooks often lack real-life context and perpetuate cultural assumptions, potentially hindering students' grasp of authentic language usage (Mamac & Bangsa, 2022).

Table 1. Previous studies on EFL textbooks using EE and ecolinguistics

Author	Country	Textbook Level	Framework	Findings
Jacobs and Goatly (2000)	International	Seventeen randomly selected ELT tertiary-level coursebooks.	United Nations EE objectives. (UNESCO–UNEP, 1975)	Environmental themes present, but lacking participation-related tasks.
Xiong (2014)	China	Secondary Schools	Eco-CDA by Fairclough (1992, 2010), Goatly (2000), and Stibbe (2004)	Focus on awareness, not on promoting active engagement and change.
Mliless and Larouz (2018)	Morocco	High School	Euphemism (Schultz, 2001), agency by Alexander (1996), and passive voice (Lutz, 1988) and Stibbe (2015).	Euphemisms lessen environmental issue impact. Lack of agency obscures meaning. Passive voice hides individual responsibility for environmental harm.
Zahoor and Janjua (2019)	Pakistan	Elementary Schools	Ecopedagogical (Gaard, 2008); Transitivity analysis model (Halliday, 1994)	Promote an anthropocentric worldview, lack ecopedagogical value.
Curd-Christiansen (2020)	China	Elementary Schools (six books for lower primary grades)	Environmental Literacy by Clayton et al. (2019); Language socialization by Curdt-Christiansen (2017)	Ambiguous discourse on consumerism/resource exploitation and love for nature
Faramarzi and Janfeshan (2021)	Iran	Junior and Senior High School	Ecolinguistics by Stibbe (2015)	Inadequate representation of ecolinguistics in addressing environmental problems.
Hamed (2021)	Egypt	2 nd grade Kindergarten, 1 st year Primary, 1 st year Preparatory, 1 st year Secondary.	Eco-CDA (Stibbe, 2014); Anthropocentric representation or values of nature in capitalist discourse (Kahn and Kellert 2002)	Reflect shallow conservationism, consumerism, and anthropocentric reasoning.
Majeed et al. (2022)	Pakistan	Grades 9 and 10	Ecolinguistics by Stibbe (2015)	Erasure, metaphor, and evaluation are crucial for uncovering ecological analysis and ideologies.
Triyono et al. (2023)	Indonesia	High School (level XII)	Eco-CDA (Stibbe, 2014; Cheng, 2022); Principles for visual analysis (Hansen, 2017)	Mostly includes eco-beneficial discourse, with few eco-ambivalent and eco-destructive elements.
Ekasiwi and Bram (2023)	Indonesia	High School (levels X-XI)	Representation of ecolinguistic elements (Stibbe, 2020)	Some textbooks lack ecolinguistic aspects in their content.

LITERATURE REVIEW

Ecolinguistics

Ecolinguistics, a field that has evolved and been defined in various ways since its emergence in the 1970s (Zhou, 2022), encompasses geographical, conceptual, disciplinary, methodological, and practical dimensions. This multidimensional approach enables ecolinguistics to explore a vast array of language and ecology-related topics. Departing from the view of language as static and autonomous, ecolinguistics highlights the interconnectedness between language and the environment (Rasheed, 2023). Ecolinguistics delves into how language influences and is influenced by humans' views and behaviors regarding the environment, using language as a tool for promoting environmental sustainability and justice (International Ecolinguistics Association, 2024; Steffensen & Fill, 2014). Ecolinguistics recognizes that language is not merely a means of communication but also a reflection of and reinforcer of our attitudes, beliefs, and actions concerning the natural world (Supatmiwati et al., 2021).

An integral facet of ecolinguistics is studying the textual and visual language that shapes our perspectives, as language plays a crucial role in shaping our cultural narratives and beliefs about the environment (Stibbe, 2021). By studying the language used in environmental communication, ecolinguists gain insights into how these narratives are constructed and how they can be changed to promote more sustainable practices. One approach within ecolinguistics is Positive Discourse Analysis (PDA), which aims to identify and analyze language use that fosters positive transformation, in contrast to traditional critical discourse analysis that often emphasizes oppressive or problematic discourses (Bartlett, 2012). This transformative approach aligns with ecolinguistics' goal of reshaping narratives to promote sustainability and social justice (Stibbe, 2018). Stibbe (2024) emphasized the importance of critically examining the narratives that underpin our current unsustainable civilization and finding new stories that promote ecological sustainability and social justice. Stibbe labeled these nine forms of stories as ideology, framing, metaphor, evaluation, identities, convictions, erasure, salience, and narratives, as described in Table 2.

These nine types of stories are based on the "spectrum of anthropocentric (human-centered) to ecocentric (centered

on all life, including humans)", as outlined by (Stibbe, 2021, p. 12). For instance, when designing an EFL lesson addressing the story of salience, an anthropocentric approach might focus solely on portraying the positive aspects of tourism, highlighting the human tourists' experience without delving into the environmental consequences of travel. Meanwhile, an ecocentric approach would emphasize responsible tourism practices, discussing the environmental impact of tourism activities on nonhuman species and the ecosystem generally.

Moreover, ecolinguistics acknowledges the importance of language in representing nonhuman animals, for instance, the use of "she" or "he" to refer to them instead of "it" might be an option to avoid the objectivization of these fellow sentient (thinking, feeling) beings. Another consideration might be the use of "who" or "whom" instead of "that" or "which" (Merskin, 2022), to avoid bias toward nonhuman animals and to give them the category of "being-ness" instead of "thing-ness" (Jacobs, 2006, p. 26). In sum, the well-being of animals as the central focus when portraying them in texts is the most important, calling for a deep understanding of the nonhuman animals so their needs can be effectively communicated (Lilley et al., 2018).

Environmental Education

Recognizing the profound influence of language on human perceptions and actions toward the environment (Stibbe, 2021) echoes the objectives of Environmental Education (EE) and its pivotal role in promoting sustainable development and instilling a deep reverence for nature (Zakharova et al., 2021). According to Liu and Guo (2018), the goal of EE is to foster citizens' environmental knowledge and values to change attitudes. It attempts to teach people about the complex relationships between humans, other animals, culture, and the environment, helping them understand these connections better (Liu et al., 2019). Embracing diverse approaches and methodologies, EE focuses on augmenting knowledge, attitudes, connectedness to nature, and actions (Neaman et al., 2018). Mackey (2012) emphasized the collective responsibility of researchers, educators, parents, and policymakers to recognize the role of young children in environmental action and their participation in such endeavors.

Table 2. Nine forms of stories we live by (modified from Stibbe, 2021, p. 16)

Form of Story (cognitive, i.e., in people's minds)	Definition
Ideology	A story of how the world is and should be which is shared by members of a group
Framing	A story that uses a way of seeing one situation to structure how to see another area of life
Metaphor (a type of framing)	A story that imposes a view of a different area of life
Evaluation	A story about whether an area of life is good or bad
Identity	A story about what it means to be a particular kind of individual
Conviction	A story about whether a particular description of the world is true, uncertain, or false
Erasure	A story that an area of life is unimportant or unworthy of consideration
Salience	A story that an area of life is important and worthy of consideration
Narrative	A structure which involves a sequence of logically connected events

Additionally, a meta-analysis assessing the impact of environmental programs on young students highlighted the positive impact of EE on students' environmental behavior, signifying its potential contribution to favorable environmental outcomes (Van De Wetering et al., 2022).

The Belgrade Charter, a framework for EE promulgated by UNESCO-UNEP (United National Environment Programme) in 1975, outlined six objectives. These objectives encompass raising awareness of environmental problems, understanding why the problems occur and the problems' effects, fostering concern for environmental issues, developing skills needed to overcome problems, evaluating proposed solutions, and participating in solving environmental problems.

Hamed (2021) emphasized the pivotal role of EFL teachers and curricula in nurturing ecological citizenship and fostering critical ecological thinking in students. In the same vein, Jacobs et al. (2006, p. 45) stated:

We teachers, whether our subject is English or Engineering, Physical Education or Physics, have a dual role to play. As we seek to help our students develop their content knowledge, skills, and interest in learning, we also model and advocate an appreciation of the rights and responsibilities that each of us, even the youngest students, has as national and global citizens.

By including environmental themes in their lessons, language teachers can actively contribute to environmental protection and become a model of behavior. Suwaed (2022), reporting on the Libyan context, proposed involving students in activities that foster independence and accountability; yet, Suwaed reported that implementing these activities posed challenges due to teacher training gaps, insufficient student motivation, and limited access to educational resources, notably seen in the case of Libya. Similarly in Indonesia, Kristalinawati et al. (2019) found low student participation in EE, highlighting teachers' struggles in their roles as educators and learning designers. In this regard, Paradowari et al. (2018) stressed teachers' pivotal role as facilitators in raising students' environmental awareness through teaching environmental issues, especially utilizing English to communicate experiences effectively. Chau and Shunmugam (2021) and Jung and Dos Santos (2022) also emphasized the role of teachers as agents of change, who have autonomy in curriculum decisions. Teachers must be adaptable, modifying methods to suit diverse learning environments and considering students' needs and social contexts (Darmawan & Dagamac, 2021; Jung & Dos Santos, 2022; Paradowari et al., 2018)

Environmental Education in EFL Instruction

According to Jacobs and Goatly (2000), environmental issues should form an integral part of second language curricula alongside other social concerns. Education must bridge the gap between the classroom and the outside world, as emphasized by Paulo Freire (2000), in his seminal work "Pedagogy of the Oppressed". Freire's concept of critical consciousness, or conscientization, involves developing a

critical understanding of socio-political and environmental issues affecting individuals and communities (Torres & Bosio, 2020). His pedagogical approach encourages educators to engage students in critical dialogue and reflection on environmental challenges, empowering them to take active roles in addressing these issues. By integrating Freire's principles, EE transcends mere information transmission, fostering a grasp of the root causes of environmental problems and the potential for transformative action.

Prihantoro (2015) stressed the importance of integrating environmental issues across disciplines in curriculum development. Similarly, Jung and Dos Santos (2022) emphasized the urgent need to infuse EE into EFL classrooms, citing its role in enhancing students' knowledge, expertise, and awareness of pressing environmental concerns. This integration creates an authentic learning environment, enabling EFL learners to develop English proficiency more comprehensively.

Studies in Indonesia, such as Djuwita and Benyamin's (2019) research, highlighted how nurturing positive attitudes and values toward the environment through knowledge and experiences in nature cultivates deep environmental care among the younger generation. Setyowati et al. (2022) indicated that teaching environmental issues in language classes enhances language learning effectiveness and fosters love and respect for nature. Studies in other countries (e.g., Mete, 2018; Monroe et al., 2008; Turner-Hill et al., 2021) suggested that combining environmental knowledge, sustainability, and English proficiency equips students with the skills to positively impact the environment and society both presently and in the future.

Visual Environmental Communication

Visual environmental communication is a vital means of raising awareness and promoting action on environmental issues, employing various visual tools and techniques to convey complex information to diverse audiences. Bannister et al. (2021) emphasized the significance of incorporating uncertainties (e.g., consumerism, weather forecasting, plant growth process) associated with complex environmental models into visual communication. While data visualization can be a powerful method for improving communication, the authors stressed the need for further research to identify the most effective ways to visually represent uncertainties. This underscores that visual environmental communication should not merely present data but also convey the inherent uncertainties and limitations of the information. Heath and Cotton (2022) also argued that deeper engagement through visual communication can facilitate long-term environmental protection, particularly when addressing uncertainties such as those inherent in ocean plastic waste management. They proposed that visual communication, when combined with legal and policy actions, can effectively raise awareness and drive action to reduce plastic pollution in the oceans. Utilizing visual content, such as infographics, images, and videos, is a persuasive tool to convey complex environmental concepts and highlight environmental challenges (Lazard & Atkinson, 2014).

However, it is crucial to critically analyze the impact of visual representations, as they can significantly shape public perceptions and attitudes towards environmental issues (Remillard, 2011). In sum, visual communication can play an indispensable role in enhancing the efficacy of environmental messaging (Jones et al., 2022).

Research Questions

The current research focused on examining how the instructional materials in Indonesian textbooks for elementary schools depict environmental content and the relationship between this representation and the achievement of EE objectives. Therefore, the purpose of this paper is to respond to the following questions:

1. What environmental content can be recognized in EFL course books for elementary schools in Indonesia?
2. Based on ecolinguistics, what stories can be recognized in the environmental content in EFL course books for elementary schools in Indonesia?
3. To what extent is the identified environmental content in EFL course books for elementary schools in Indonesia in alignment with the objectives of environmental education developed by the United Nations?

This interdisciplinary research has the potential to enrich future EFL material development by exploring questions spanning ecology, linguistics, and education. It aims to provide Indonesia and other nations with a deeper understanding of why and how ecolinguistics influences the incorporation of EE into second language instruction.

METHOD

To achieve the study objectives, a qualitative research approach was adopted, encapsulated by the application of a dynamic methodology for the collection and analysis of data within authentic contexts, with the intent to uncover substantive patterns or themes (Creswell & Poth, 2018). The study specifically focused on examining environmental content presented in Indonesian elementary school textbooks and its correlation with ecolinguistics (Stibbe, 2021), as well as the attainment of the Environmental Education (EE) objectives (UNESCO-UNEP, 1975).

Data Collection

This study examined English textbooks from the Indonesian Ministry of Education available at the online Book Center (Pusat Perbukuan - <https://buku.kemdikbud.go.id/>). These books are part of Indonesia's "Merdeka Curriculum" (also known as "Independent Curriculum" in English), which empowers schools to develop complementary materials or choose existing materials, assessments, and teaching styles more suitable and relevant to their specific contexts. This approach prioritizes local relevance and student-centered learning, allowing teachers to select curricula that best suit the needs of their students and communities.

These English textbooks are designed for elementary school students in Indonesia, spanning levels I to VI, which

typically encompass ages 6 to 12 years old. These books are listed in Table 3.

Data Analysis

The first and third authors collaborated to select images and texts to be excerpted for qualitative analysis. Each of the selected excerpts was assigned a unique identifier such as 'MNW I 01 p. 1'. The assigned identifier for the textbook was coded as 'MNW I' (abbreviation for "My Next Words", Grade 1), the specific order of the identified excerpt was coded as '01', and the page number from which the excerpt was taken from as 'p. 1'.

The identification of environmental content and analysis of data involved a systematic process. First, the authors examined the selected textbooks to identify their significant environmental content, ranging from the anthropocentric to the ecocentric spectrum of the ecosophy; i.e., philosophy concerning the environment (Stibbe, 2021). Building upon the identified contents, the nine forms of stories were utilized to discern the story within the selected content (Stibbe, 2021). Subsequently, the content under-went an analysis aligned with the Environmental Education objectives outlined by UNESCO-UNEP (1975) adapting the content analysis method used by Jacobs and Goatly (2000). Lastly, conclusions were derived from these analyses, providing a synthesized view and actionable insights.

Furthermore, the first and the fifth authors conducted Inter-coder Reliability (ICR) in alignment with the recommendations made by O'Connor and Joffe (2020). Within the context of this study, ICR was conducted at every stage of analysis, ensuring the final dataset's reliance on consensus between coders. This resulted in a 95% agreement, indicating high reliability.

The steps of the data analysis, from step one to step three with examples, are detailed in Table 4.


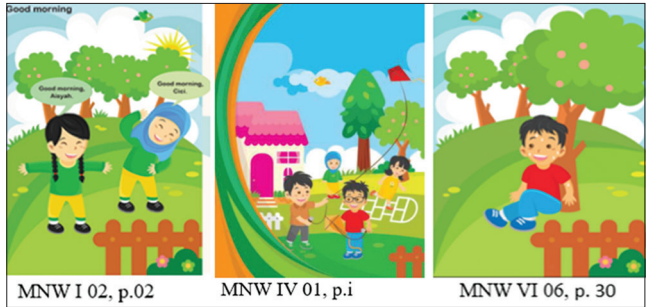

Based on Step 1, the identified environmental content was organized in categories that corresponded to (1) Plastic Pollution, (2) Reusable Objects, (3) Environment and Tourism (4) Nonhuman Animals in Captivity, (6) Appreciation of Nonhuman Animals, (7) Human Agency, (8) Sustainable Diets and (9) Ecological Practices.

For this study, images depicting behaviors such as leisure activities in nature or unrelated to environmental

Table 3. Abbreviations for the titles of the textbooks studied

Abbreviation	Book Details
MNW I	My Next Words Grade 1 - Student's Book for Elementary School (Gemala et al., 2021)
MNW II	My Next Words Grade 2 - Student's Book for Elementary School (EYLC Team, 2022a)
MNW III	My Next Words Grade 3 - Student's Book for Elementary School (EYLC Team, 2022b)
MNW IV	My Next Words Grade 4 Student's Book for Elementary School (Rahmawati et al., 2021)
MNW V	My Next Words Grade 5 Student's Book for Elementary School (EYLC Team, 2021)
MNW VI	My Next Words Grade 6 - Student's Book for Elementary School (EYLC Team, 2022c)

Table 4. Example of the steps involved in the data analysis

Step 1: Content analysis		Identifier: (MNW I: 03, p. 5) Content: Ecological practices, due to the use of a bicycle as an example of sustainable mobility.
Step 2: Identification of the ecolinguistic story present in the content		Content: Ecological practices Ecolinguistic story: Ecocentric Ideology
Step 3: Identification of EE objectives present in the content.		Content: Ecological practices EE Objectives: 1. Awareness ✓ 2. Knowledge ✓ 3. Attitude ✓ 4. Skills ✓ 5. Evaluation - 6. Participation ✓

action were not included, as these behaviors might neither contribute to nor mitigate environmental harm (Van De Wetering et al., 2022). As illustrated in Figure 1, the first image (MNW I 02, p. 2) depicts a social interaction between two girls in an outdoor environment. The second image (MNW IV 01, p. i) portrays a group of children engaged in play within a backyard setting. Finally, the third image (MNW VI 06, p. 30) illustrates a boy in a state of rest, seated beneath a tree.

RESULTS AND DISCUSSION

This section presents and examines the findings from the analyses of the textbook data. It is important to mention that the following excerpts are open to diverse interpretations.

Ecolinguistic Results and Recommendations

Plastic pollution

Ecolinguistic story: Ideology

The images displayed in Figure 2, showcase items such as plastic straws (MNW II 05, p. 113; MNW VI, p. 40), plastic bags (MNW V 02, p. 43), and disposable packaging found in the milk boxes (MNW II 05, p. 113). Through the presentation of these images, the aim of the authors is to draw attention to the widespread use of single-use plastics and the associated environmental impacts. Disposable plastics make up about half of total plastic production and waste (Geyer

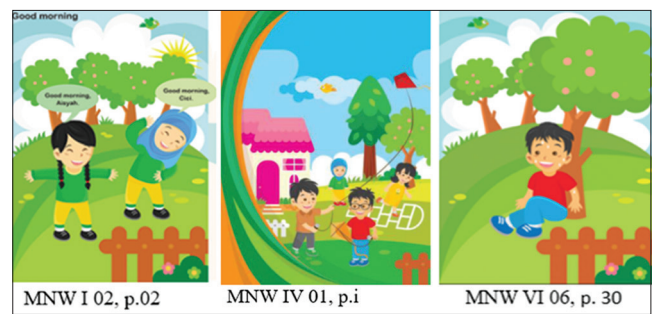


Figure 1. Excerpts of images that were excluded in this study

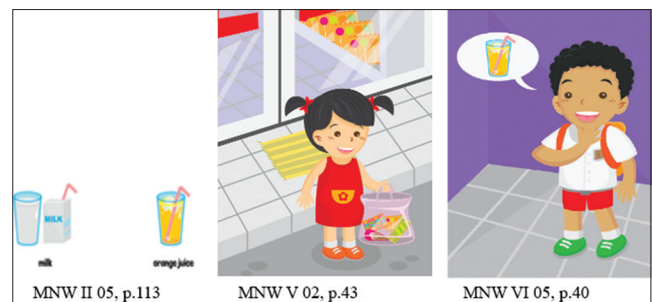


Figure 2. Plastic pollution excerpts

et al., 2017), causing widespread pollution in marine and freshwater ecosystems (Blettler et al., 2018).

Moreover, microplastics, tiny plastic particles, significantly contribute to this crisis, contaminating water bodies and soil (De la Torre et al., 2021; Thushari & Senevirathna, 2020). Addressing plastic pollution is an urgent necessity in our current era, critical for mitigating its extensive environmental and human health implications (De la Torre et al., 2021; Paterson et al., 2021).

Due to the ideology, which is human centered towards the environment, it is considered to be a destructive story that should be resisted (Stibbe, 2021). A method to facilitate this transition is by eliminating the prevalence of plastic and disposable objects from these educational materials and replacing them with more sustainable options. To further enhance this transition, an ecocentric perspective can be integrated into educational materials. For example, narratives can depict young kids as heroes preventing turtles from consuming plastic waste, fostering empathy and responsibility towards all life forms. Additionally, an alternative approach could involve incorporating narratives that depict the choice between disposable and reusable items when addressing the topic of plastic pollution.

Reusable objects

Fortunately, a solution for the previous case (*Plastic Pollution*) has been identified within the same textbooks as demonstrated in this section.

Ecolinguistic story: Ideology

In contrast to the plastic pollution content, Figure 3 presents notable cases advocating for a more ecocentric approach.

They present an alternative narrative through the display of images depicting baskets (MNWI 11, p. 107; MNW VI 12, p. 85) and reusable bottles (MNW III 02, p. 19), symbolizing environmentally conscious practices, and emphasizing sustainability. This is an ideology that should be encouraged as it promotes respect and care for the systems that support life (Stibbe, 2021). Due to its beneficial aspects, this is content that should be included more often in textbooks.

Environment and tourism

Ecolinguistic story: Ideology

In Figure 4, the first and second excerpts related to tourism depict images of Bali (an island in Indonesia known for its tourist attractions) and even use the sentence “I was in Bali last week” (MNW VI 03, p. 28; MNW VI 10, p. 54). Interestingly, while showcasing its natural landscapes, free from any rubbish, the inclusion of images featuring cars also highlights the prevalent use of unsustainable transportation methods in this context (MNW VI 11, p. 63). Tourism development often triggers detrimental environmental impacts such as pollution and habitat destruction (Wang & Wang, 2018). To manage this, Tang (2015) and Shi et al. (2019) emphasized the need for strategies to enable rapid tourism expansion while preserving ecosystems sustainably, such as through ecotourism.

Given the ambivalent nature of this ideology, the recommendation for the content in textbooks is not to remove it entirely but rather to emphasize minimizing environmental impacts while fostering tourism experiences that align with the ethos of “take only pictures, leave only footprints.” To be more ecocentric, textbooks could emphasize eco-friendly transport such as trains instead of cars to reduce air pollution. Encourage visits to less crowded places for a genuine

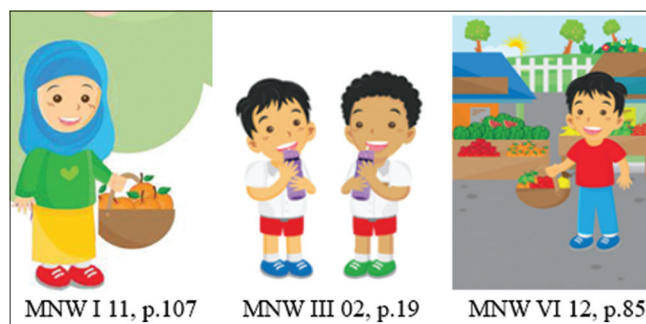


Figure 3. Reusable objects excerpts

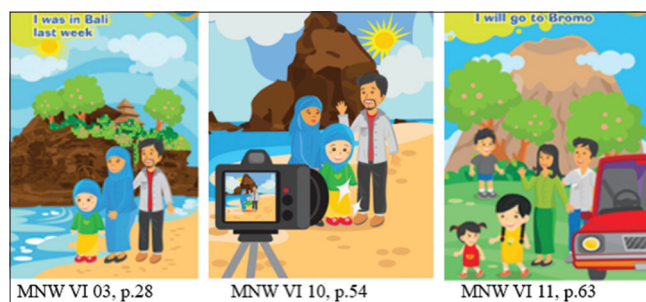


Figure 4. Environment and tourism excerpts

nature experience and to alleviate the effects of “mass tourism”, a type of tourism characterized by large numbers of visitors to popular destinations, often resulting in deleterious environmental impact (Davenport & Davenport, 2006). Highlight responsible waste management and educate about potentially harmful activities such as campfires.

Nonhuman animals in captivity

Ecolinguistic story: Ideology

In this case, it can be observed in Figure 5 that several non-human animals are placed in cages (MNW I 07, p. 78; MNW I 10, p. 103). Furthermore, there is an exercise in which children are tasked with arranging a sentence that becomes: “The rabbit walks to the cage,” (MNW V 04, p. 65) potentially contributing to the normalization of animals being in captivity.

This is an ideology that presents anthropocentrism, as nonhuman animals in captivity may experience stress and injury, both during the process of being captured and transported, as well as in their confined living conditions (Frankham, 2008). Therefore, contributing to that practice would be against the well-being of nonhuman animals. It is suggested to avoid the use of images and texts which uncritically display animals in captivity.

Another example related to nonhuman animals in captivity that includes a more ambivalent story is the zoo:

Ecolinguistic story: Ideology

The excerpts in Figure 6 depict images of nonhuman animals in a zoo setting, alongside scenes of people visiting the place

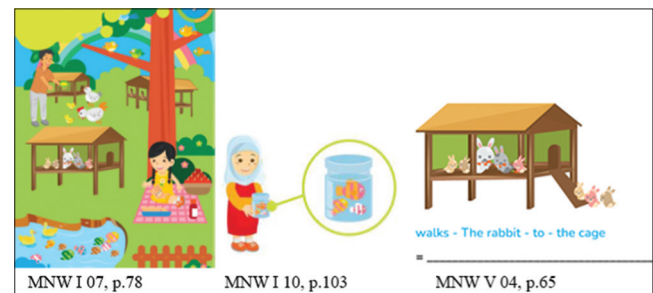


Figure 5. Nonhuman animals in captivity excerpts

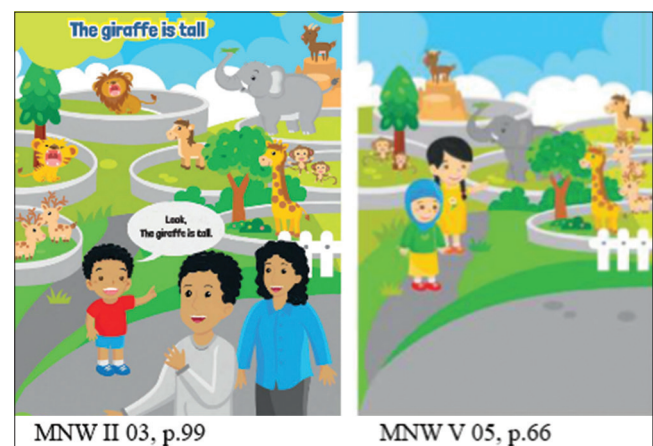


Figure 6. Nonhuman animals in zoo excerpts

(MNW II 03, p. 99; MNW V 05, p. 66). Visits to zoos and similar captive animal facilities (e.g., aquariums) are a well-used resource in textbooks for early-aged students. Nevertheless, in this case, we are in the presence of an ambivalent ideology that places two ideas: the justificatory, highlighting the role of zoos in conservation and education, and the abolitionist, questioning the ethics of animal captivity (Clay & Visseren-Hamakers, 2022). Zoo proponents argue that zoos educate visitors about wildlife conservation (Tafalla, 2017). However, terms such as “captive breeding” exemplify the tension between these discourses. While promoting conservation, such practices also rationalize animal confinement for human purposes (Hua et al., 2015). This content should be carefully evaluated as to whether zoo-related content is the most suitable for teaching about nonhuman animals, seeking alternatives that promote conservation and education without compromising animal welfare (e.g., refer to wildlife sanctuaries, nature reserves, or rehabilitation centers).

Appreciation of nonhuman animals

“Joshua and his father will go to Taman Safari [animal theme park in Indonesia] next Sunday. They want to see a new animal, the Sloth. They want to see a new species from South America, sloths. Sloth [*sic*] moves extremely slowly, but they are very cute.” (MNW VI 15, p. 94).

Ecolinguistic story: Evaluation (“Sloth [*sic*] moves extremely slowly, but they are very cute”)

Ecolinguistic story: Ideology (“endangered species”, Figure 7)

In this excerpt, the sentence “Sloth [*sic*] moves extremely slowly, but they are very cute” (MNW VI 15, p. 94), contrasts two appraisals. The adverbial phrase “*extremely slowly*” negatively assesses a factual characteristic of sloths; moreover, the use of “*extremely*” emphasized that their slow pace may seem inefficient in comparison to human activities, an anthropocentric idea where human norms and ideals of productivity are applied to nonhuman animals. However, the phrase “*very cute*” positively evaluates the nonhuman animal, suggesting that their appearance is likable. This evaluation of cuteness is anthropocentric as well as it is based on human aesthetics and norms rather than intrinsic value or appreciation. Finally, the conjunction “*but*” links these contrasting assessments, emphasizing the dual appraisal of the sloth’s speed and appearance.

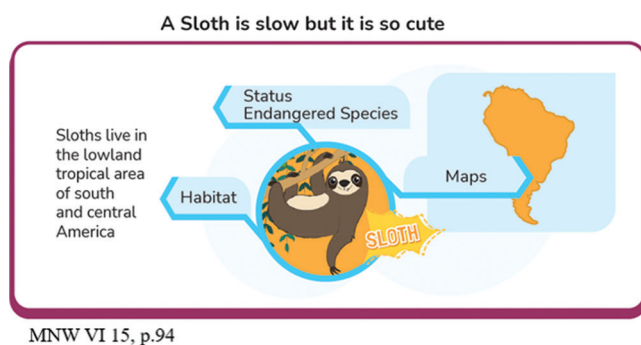


Figure 7. Appreciation of nonhuman animals

Therefore, the identified evaluation story should be avoided. Tafalla (2017) explained that zoos focus on the visual attractiveness of animals, alongside moral and scientific justifications, as a motivator for safeguarding endangered species. This perceived cuteness evokes positive emotions, encouraging fostering social bonding and intense feelings (Steinnes et al., 2019). However, Sherman and Haidt (2011) argued that perceiving animals as cute may lead to their humanization, as they are anthropomorphized or treated as human babies, potentially overlooking their unique needs and well-being.

For the ideology story, even though it is valuable content concerning the conservation of nonhuman animals, it is recommended to consider the cultural aspects and the context in which the textbooks are being used. To enrich the content, rather than discussing animals from the Western Hemisphere, like the sloth (MNW VI 15, p. 94), highlighting local examples is crucial. Textbooks could emphasize well-known endangered species such as the Sumatran tiger, Asian Tapir, dugong, and Binturong, among others, underscoring the need to protect these at-risk animals. The Ministry of Environment and Forestry (KLHK) in Indonesia has compiled a comprehensive list of protected species, encompassing both plants and animals, totaling 919 (KLHK, 2018). This list can be used as a guide to select the appropriate nonhuman animals and include them in Indonesian text-books. Indonesia’s rich biodiversity places it among countries with the highest numbers of endangered nonhuman animals, emphasizing the urgency of conservation efforts in the region.

Human agency

Ecolinguistic story: Erasure

Figure 8 presents a juxtaposition of two images, first the classroom image (MNW III 06, p. 116) suggests collective effort emphasizing human agency or shared responsibility and teamwork. However, it confines children’s environmental responsibility to the classroom, limiting its scope. In contrast, the image of the schoolyard (MNW III 04, p. 77) which only pictures a janitor cleaning up, implies a lack of



Figure 8. Human agency excerpts

collective effort. Linguistically, it erases the involvement of others in causing contamination and in cleanup. Additionally, the image depicts single-use products, major contributors to environmental pollution as previously discussed under the plastic pollution content. In content concerning the environment, recognizing or denying human agency can have significant consequences, as it reflects whether individuals are recognized, involved, accountable, open, and considered legitimate actors in addressing or exacerbating environmental crises (Mliless & Larouz, 2018). The absence of agency may result in “erasure”, a term used when something deserving of attention is disregarded, marginalized, or neglected in a text or discourse (Stibbe, 2021). Therefore, it would be beneficial in these contexts to address human agency in both situations and emphasize that responsibility is shared among individuals and groups.

Sustainable diets

Ecological story: Ideology

When the textbooks in this study discussed food, they typically centered on animal-based products such as chicken (MNW VI 04, p. 30; MNW VI 17, p. 99) and fish (MNW VI 07, p. 31), as display in Figure 9. This narrow ideology, which is anthropocentric, overlooks the possibility of substituting these protein sources with healthier and more ethical alternatives (e.g. tofu, tempeh), highlighting the necessity for a more ecologically conscious approach.

Current meat consumption poses significant threats to both human and planetary health, highlighted in recent studies (Hamilton, 2006). Addressing overconsumption, particularly of resource-intensive foods, which demand substantial water, energy, land, raw materials, and human labor, is crucial for a sustainable food future. Shifting dietary patterns toward more plant-based choices can alleviate pressure on land, water, and the climate (Ranganathan et al., 2016).

To promote reduced meat consumption effectively in the content of textbooks, emphasizing both health and environmental benefits, could drive behavior change (Wolstenholme et al., 2020). Furthermore, sustainable diets extend beyond solely addressing meat consumption, touching upon the transformation of all animal-based foods (e.g., milk, cheese, yogurt) into plant-based alternatives (e.g. soy milk, coconut-based yogurt). This paradigm shift does not necessarily demand an abrupt dietary overhaul. For instance, the VB6 (Vegan Before 6:00) initiative proposed by Bittman (2013)

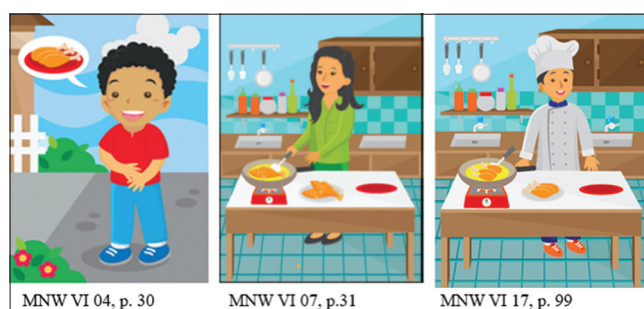


Figure 9. Sustainable diets excerpts

advocates for consuming a plant-based diet before 6:00 PM, allowing for greater dietary flexibility during evening meals.

Ecological practices

Ecological story: Ideology

The textbooks presented content aligned with more ecocentric aspects (Figure 10), as evident in the excerpts where human animals are shown caring for plants through gardening (MNW I 06, p. 54), using sustainable mobility such as bicycles (MNWIV 10, p. 18), and acknowledging the work of farmers with the sentence “I want to be a farmer. I will plant rice in a rice ield” (MNW VI 18, p. 11). These excerpts were analyzed using Positive Discourse Analysis (PDA) as they present a positive view of human interaction with nature and emphasize practices that are eco-friendly and socially responsible.

Ecological practices and Environmental Education

The textbook analysis revealed a limited incorporation of environmental content aligned with the objectives established by UNESCO-UNEP (1975). Out of a total of 567 activities, 76 activities (13%) were related to environmental topics. Figure 11 displays the results of the EE objectives present in the identified environmental content.

Out of the 76 environmental activities identified in the content analysis, all of them aligned with the *Awareness* and *Knowledge* objectives, with some of these also involving other objectives. The *Attitude* objective was present in only 34 instances (45% of the total), while *Skills* and *Attitude* objectives were present in 23 and 22 instances (30% and

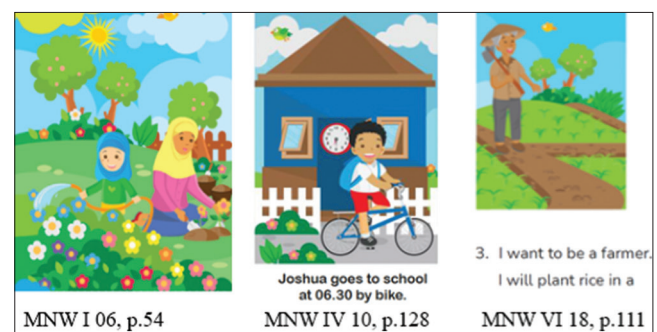


Figure 10. Ecological practices excerpts

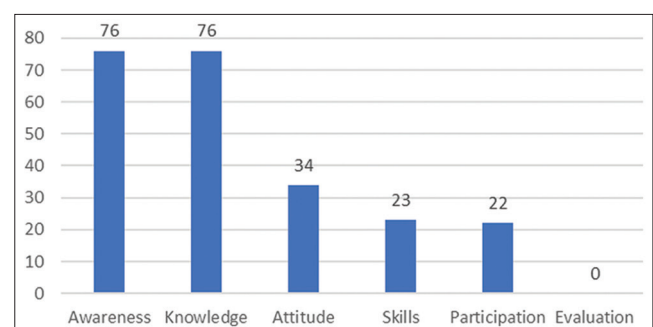


Figure 11. EE objectives present in the environmental content

29% of the total), respectively. Notably, the objective of *Evaluation* (e.g. evaluating measures to solve environmental problems) did not occur in any instances (0%) within the environmental content.

In the content of these textbooks, specific instances show positive inclusions, such as instances portraying reusable bottles or the use of baskets instead of plastic bags, providing information about endangered animals, supporting means of transportation that reduce air pollution, and emphasizing the value of farmers' occupations, including the objectives of *Awareness* and *Knowledge*. Furthermore, the textbook's content effectively demonstrates some instances aligned with EE objectives related to attitude, skill development, and active participation, such as the inclusion of activities such as watering plants, engaging in planting exercises, and advocating for eco-friendly transportation such as bicycles. However, a critical gap exists regarding the evaluation of solutions to environmental challenges within the textbooks, which is absent in all of the content.

These findings indicate that Environmental Education (EE) inclusion is deficient and insufficiently emphasized, particularly regarding its status in Indonesian elementary schools, as demonstrated in this study. This concerned nature of EE was also pointed out in Karanja's (2010) study, arguing that while the integration of EE has shown positive effects on students, leading to increased participation in conservation activities, the evaluation towards the EE inclusion also suggested that there were still limited materials and a proper syllabus to support the EE implementations (Karanja, 2010). Similarly, this implication also aligns with previous research (Faramarzi & Janfeshan, 2021; Xiong, 2014; Zahoor & Janjua, 2019), which suggests that those who design textbooks often overlook the importance of including environmental content, and often still hold the assumption that students lack the necessary skills to engage with these topics effectively (Jacobs & Goatly, 2000).

For this study, ecolinguistics provided a valuable research perspective and analytical framework, particularly with concepts such as 'the stories we live by' (Stibbe, 2021), guiding the examination of this teaching materials (text, images and the overall content). This approach facilitated the identification of sustainability-friendly content in the textbooks and highlight areas for further improvement. Due to the emphasis on the interaction between language and the environment in ecolinguistics, this approach tends to directly incorporate EE objectives into educational content. In contrast, an anthropocentric approach often fails to include EE objectives, such as in the topics of *Plastic Pollution* or *Non-human Animals in Captivity*. Meanwhile the ambivalent ecolinguistic stories identified in the content presented only a few EE objectives. Consequently, the ecolinguistic approach taken in educational materials is closely related to the inclusion of EE objectives.

However, integrating ecolinguistics into educational materials requires teachers to play a vital role in implementing environmental content and fostering approaches such as critical thinking (Freire, 2000). In Indonesia's "Independent Curriculum," teachers have the opportunity to become curriculum developers and adapt or improve their curriculum

to address local environmental issues, making ecolinguistics more relevant in education.

Thus, given the substantial impact of language on decision-making and the execution of environmental protection activities among individuals (Jacobs, 2017), there is a clear necessity to enhance ecolinguistics to help the incorporation of Environmental Education (EE) objectives, as evidenced in the content of these textbooks.

CONCLUSIONS

This study has shed light on the current state of Environmental Education (EE) and ecolinguistic integration within EFL textbooks for primary school students in Indonesia. The study aimed to evaluate the integration of both ecolinguistic and EE objectives within the content of these textbooks. The analysis found some content related to EE, but the majority of content leaned toward an anthropocentric perspective, similar to the findings of Zahoor and Janjua (2019). In some cases, there was also an inadequate use of ecolinguistics to address environmental problems, as also found by Faramarzi and Janfeshan (2021). These findings suggest that the content in these textbooks could be significantly improved to better integrate ecolinguistic and environmental education objectives.

Ecolinguistic stories in environmental content revealed a spectrum of viewpoints, ranging from anthropocentric to ambivalent to ecocentric. This necessitates a multifaceted environmental education curriculum that integrates ecolinguistic perspectives effectively. This can be achieved by strengthening ecocentric content, reducing or eliminating anthropocentric content, clarifying ambiguous content, and incorporating ecolinguistic principles into content that have not been widely considered yet, as in the case of human agency. In regard to the EE objectives, the textbooks primarily focused on ecological *Knowledge* and *Awareness* objectives, influencing students' attitudes toward environmental issues. Yet, there was limited emphasis on skill development and active participation, aligning with findings by Jacobs and Goatly (2000). Notably, examples showcasing the evaluation and solving of environmental problems were lacking.

There is a pressing need for a more comprehensive integration of ecolinguistics and EE objectives in EFL materials. This requires increased inclusion of environmental content and its consistent incorporation throughout the materials. It is crucial to emphasize action-oriented and problem-solving objectives, as these contribute significantly to tangible pro-environmental outcomes. In general, improving the appropriate application of ecolinguistics into EFL material (images and text) will support the achievement of the Environmental Education objectives alongside language learning.

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