

A TRANSITIVITY-BASED ECO-LINGUISTIC ANALYSIS OF “GREEN” CONTENT IN SENIOR HIGH SCHOOL ENGLISH TEXTBOOKS IN CHINA

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ABSTRACT

Linguistic practices significantly influence humanity's relationship with the natural environment and play a crucial role in addressing ecological crises. Consequently, English language teaching should not only enhance learners' linguistic competence but also cultivate ecological awareness, guiding students to engage with global issues and participate in environmental governance. As a primary vehicle for second/foreign language education, English textbooks are instrumental in fostering learners' ecological consciousness. This study employs Yu and Wang's (2020) transitivity analysis framework to evaluate the ecological orientations of clauses within two reading texts from Unit 6 (Earth First) in senior high school English textbook (Compulsory Book 2) published by Foreign Language Teaching and Research Press (FLTRP). The analysis examines how these texts construct representations of nature and human-nature relationships. Findings reveal that both texts partly reflect anthropocentric perspectives, which may hinder students from developing egalitarian views toward nature. Teachers are thus advised to critically analyze implicit ecological ideologies in teaching materials and design instructional activities that reframe textual representations of nature, thereby enhancing students' ecological awareness and fostering proactive environmental behaviors.

Keywords: Ecological Discourse Analysis, Transitivity Analysis, Pedagogical Discourse, Green Content.

1. INTRODUCTION

In recent years, creating a harmonious and sustainable ecological environment has become a global focus. A growing number of scholars have begun to emphasize the interaction between language and ecology, giving rise to the interdisciplinary field of ecolinguistics. The role of ecolinguistics is to reveal how discourse reflects human attitudes toward the natural world and how it shapes people's interactions with nature, thereby either promoting or hindering the healthy development of ecosystems (Akcesme, 2013; Stibbe, 2015).

Given the significant role language plays in environmental protection, language teaching, particularly English as a global lingua franca, should not only enhance learners' linguistic competence but also foster their ecological awareness. This involves guiding learners to engage with global issues such as environmental pollution and climate change, thereby encouraging their participation in global environmental governance (Zahoor & Janjua, 2020). As a fundamental medium in second and foreign language education, English textbooks play a crucial role in cultivating learners' ecological consciousness (Goatly, 2000; Haig, 2003; Jacobs & Goatly, 2000; Stibbe, 2004; Xiong, 2014). It is therefore essential to examine the ecological discourse embedded

in textbooks and explore how textual content constructs images of nature and shapes human-nature relationships.

Against this backdrop, this study adopts an ecolinguistic perspective and employs the transitivity system within the ideational metafunction of systemic functional linguistics to analyze selected texts from Unit 6 (*Earth First*) in senior high school English textbook (*Compulsory Book 2*) published by FLTRP. The aim is to investigate the ecological ideologies reflected in the textbook discourse and to offer insights for fostering ecological awareness through second language teaching and informing future textbook development.

2. LITERATURE REVIEW

Ecolinguistics, also referred to as the ecology of language, is an emerging subfield of linguistics formed through the integration of ecology and linguistics. Its primary objective is to reveal the interactions between language and the environment through examining the ecological factors of language (Han, 2013). It is generally acknowledged that ecolinguistics encompasses two widely recognized research models, referring to the “Haugen model” and the “Halliday model” (Huang, 2016a). The “Haugen model”, also known as the ecology of language, posits that language exists within its own ecological environment. The vitality of a language is shaped by the society in which it is used and the attitudes of its speakers (Han, 2013). This model primarily focuses on issues such as language diversity, language contact, and endangered languages. In contrast, the “Halliday model” emphasizes the impact of language on the broader environment of human survival. It highlights the significant role of language in addressing environmental issues and underscores the social responsibility of linguists (Huang, 2016a). In essence, the former treats language itself as an ecosystem, while the latter focuses more on how language use influences the environment (Xin & Huang, 2013).

Ecologically-oriented discourse analysis, also known as Ecological Discourse Analysis (EDA), has become one of the primary research approaches in ecolinguistics (Alexander & Stibbe, 2014). Since the publication of Halliday’s work—*New Ways of Meaning: The Challenge to Applied Linguistics*, numerous scholars have employed various discourse analysis paradigms to conduct ecological discourse research. These include Critical Discourse Analysis (CDA), Positive Discourse Analysis (PDA), Harmonious Discourse Analysis, and corpus-based approaches (He & Wei, 2018; Wang, 2020; Yu & Wang, 2020).

The main goal of Critical Discourse Analysis is to reveal the power dynamics and ideologies embedded in linguistic strategies through the analysis of lexicogrammatical features, thereby exposing and critiquing social injustices (Bloor & Bloor, 2007). It is an analytical approach characterized by a critical stance. In ecological discourse analysis, researchers (e.g., Carvalho, 2005; Stamou & Paraskevopoulos, 2008) adopt a critical perspective to examine ecology-related texts, revealing the relationship between language and ecology as well as related issues. They also critique ideological practices and linguistic representations that are ecologically harmful, such as the use of passive structures, nominalizations, and deictic expressions to obscure the agents of environmental damage.

However, discourse analysis should not focus solely on negative social phenomena but should also consider linguistic representations that reflect positive social change (Breeze, 2011). This approach, which analyzes discourse from a constructive and affirmative perspective, is known as Positive Discourse Analysis (Martin, 1999). Ecological discourse analysis from a PDA perspective primarily highlights the discursive strategies employed in ecologically beneficial texts, such as the

use of personification and ergative verbs (Yu & Wang, 2020). For instance, Goatly (2000) compared the linguistic representations of nature in William Wordsworth's poetry and *The Times* from a PDA perspective, finding that the former emphasizes the agentive role of nature more strongly than the latter. Additionally, Alexander (2003) analyzed the speeches of environmental activist Vandana Shiva with PDA, concluding that her oratory serves as an effective model of positive discourse. These studies demonstrate the feasibility of PDA for analyzing ecological discourse and its potential to enhance ecological awareness and promote environmental protection.

Nevertheless, both CDA and PDA primarily focus on power relations among humans within society rather than on relationships among all participants within the broader ecosystem. As such, they are not entirely suitable as frameworks for discourse analysis that concerns the entire ecological system (Huang, 2017), necessitating further exploration by researchers. In recent years, some Chinese scholars have proposed Harmonious Discourse Analysis, adapted to the Chinese context, which aims to promote harmony among humans, between humans and other species, between humans and nature, and between language and ecology (Huang, 2016b, 2018; Huang & Zhao, 2017). Given that the aforementioned approaches often emphasize qualitative analysis of specific ecological texts and have been criticized for excessive subjectivity, a growing number of researchers have begun integrating corpus-assisted methods into ecological discourse analysis. This combination allows for more objective and in-depth research, offering clearer insights into the linguistic features of environmental discourse (Baker et al., 2008; Grundmann & Krishnamurthy, 2010; Liu & Li, 2017; Wang & Zainal, 2024).

In addition to the perspectives mentioned above, Systemic Functional Linguistics (SFL), as an applicable linguistics, provides specific analytical categories for ecological discourse analysis. It seeks to explain how particular linguistic choices in a text enable it to perform specific functions within socio-ecological practices. Consequently, SFL has been widely applied to guide ecological discourse research within the Halliday model (Miao & Lei, 2019). Commonly used analytical categories in ecological discourse research include nominalization, clausal transitivity analysis, and ergative analysis (Wang, 2020). Among these, nominalization can obscure the agent of an action, allowing them to evade ecological responsibility. Transitivity and ergative analyses, on the other hand, can reveal relationships within discourse, such as whether non-human animals are represented as actors or, like other environmental elements such as land, water, and minerals, are often positioned as passive recipients of actions in clauses (Goatly, 2002). These analyses help explore how texts construct images of nature.

3. TEXTBOOK-BASED EDA RESEARCH

In early studies examining the ecological dimension of language teaching materials, researchers predominantly employed content analysis to investigate environmental themes and related instructional activities, without conducting detailed discourse analysis of the texts (e.g., Jacobs & Goatly, 2000; Kirova & Veselinovska, 2004). As awareness grew regarding the power dynamics embedded in discourse and its significant role in constructing images of nature and shaping the relationship between human society and the natural world, some scholars began to explore ecological discourse in English textbooks from a critical discourse analysis (CDA) perspective. By analyzing lexical and grammatical choices at the clause level, studies revealed that ecological texts in textbooks often use passive voice to portray nature as subordinate to human society, while employing active voice to depict nature as a ruthless and destructive force when describing its impact on human life and property. Such representations reinforce a dichotomy between humans

and nature, which is not conducive to fostering learners' ecological awareness (Amalsaleh et al., 2010; Stibbe, 2004).

In recent years, with the continuous development of ecolinguistics, some researchers have begun to incorporate ecological discourse analysis into the framework of evaluating ecological texts in textbooks, delving deeper into the representations of nature portrayed in these materials. For example, Akcesme (2013) employed Critical Discourse Analysis and Halliday's transitivity system to analyze seven internationally used English textbook series. The study revealed that nature and animals are often depicted as objects of scientific research, sources of aesthetic enjoyment that serve human sensory experiences, wilderness separated from human society, enemies of humanity in the form of natural disasters, environments urgently requiring human protection, ecosystems in crisis with humans portrayed as heroic figures capable of saving nature, and anthropomorphized non-human entities that being liked or disliked by people. Such representations of nature are clearly detrimental to fostering learners' empathy toward the natural world and, consequently, to enhancing their environmental awareness. Similarly, Zahoor and Janjua (2020) adopted both ecolinguistic and eco-pedagogical perspectives to meticulously examine how choices within the transitivity system in textbook discourses influence the portrayal of nature, the relationship between humans and nature, and the roles humans play in environmental protection. Their research demonstrated that the texts remain heavily influenced by anthropocentric ideologies, which are unfavorable for cultivating students' ecological awareness.

Existing research on ecological discourse in language teaching materials has yet to establish a unified analytical framework, and transitivity analysis of clauses in ecological texts often remains oversimplified. This limitation obstructs a deeper understanding of the effects and intentions behind language users' strategic choices. Given the crucial role textbooks play in nurturing learners' ecological consciousness and educating a "green" generation, it is essential to develop more robust analytical frameworks for conducting detailed and systematic evaluations of ecological discourse in educational materials.

4. RESEARCH METHODOLOGY

This study adopts an ecolinguistic perspective and employs the transitivity system within the ideational metafunction of systemic functional linguistics to conduct an ecological discourse analysis of selected texts from Unit 6 (*Earth First*) in senior high school English textbook (*Compulsory Book 2*) published by FLTRP. The aim is to investigate the ecological ideologies reflected in the textbook discourse.

4.1 Research Questions

To better examine how the textbook discourse constructs images of nature and shapes the relationship between human society and the natural world, this study addresses the following research questions:

- 1) How do transitivity patterns in environmental discourses of English textbooks contribute to the construction of images of nature?
- 2) How do transitivity patterns in environmental discourses of English textbooks shape the representation of the relationship between humans and nature?

4.2 Transitivity System in Systemic Functional Grammar

According to Halliday (2014), the functions of language can be abstracted into three highly generalized metafunctions, including the ideational function, the interpersonal function, and the textual function. The ideational function, which serves to represent both the inner and outer realities, can be further subdivided into the experiential function and the logical function (Liu, 2013). From the perspective of the ideational function, language consists of a set of resources for referring to entities in the world and to the relations among them (Thompson, 2008). It is used to express people's social experiences or inner feelings. Therefore, the way language users semantically represent experience can, to some extent, reflect their understanding of nature and the relationship between humans and nature.

The experiential function is primarily realized linguistically through the transitivity system. The clausal transitivity system encompasses two semantic models, the transitive model and the ergative model. The transitive model is mainly used to represent conscious actions and activities of animate subjects, reflecting how humans construe different types of events. The ergative model, on the other hand, is often employed to express the occurrence of events and the causal relationships between things or events—that is, whether an action occurs spontaneously or is caused by an external factor (Liang, 2015; Wang & Zhou, 2020).

4.2.1 The Transitive Model

Transitivity is a semantic system that categorizes people's perceptions and experiences in the real world into different types of processes. It grammaticalizes experience by specifying the participants and circumstances associated with each process (Hu, Zhu & Zhang, 2008). Based on extensive corpus analysis, Halliday identified six primary process types within the transitivity system: material, mental, relational, verbal, behavioral, and existential processes, providing detailed criteria for their classification.

The material process involves actors, the process itself, goals, and circumstances. It refers to processes of doing or happening, emphasizing actions that bring about tangible changes in entities. The mental process describes experiences of the inner world that do not affect external objects. It can be further divided into emotion, cognition, and perception, typically involving a senser, the process, and a phenomenon. The senser refers to a conscious being, such as human, animal, or personified object that is capable of feeling, perceiving, or thinking, while the phenomenon is what is felt, perceived, or thought. Relational processes serve to describe relationships between two concepts and are categorized into attribution and identification. Attribution involves assigning an attribute to a carrier or classifying it into a type, with participants including carrier and attribute. Identification involves one entity being defined or recognized by another, with participants labeled as identifier and identified.

Comparatively, the latter three processes occur less frequently in English discourse but remain crucial for meaning construction. Verbal processes lie between mental and material processes since speaking is a physical act yet reflects mental activity. Participants include the sayer, receiver, and verbiage. Behavioral processes refer to actions performed by a behavior in response to physiological or psychological impulses, distinguishing purely mental acts (e.g., see, hear) from those with physical manifestations (e.g., look, listen). Existential processes represent that something exists or happens, involving only one participant—the existent. Regarding the function of existential processes, Halliday notes that “there” in such constructions carries no experiential meaning. Its role is to introduce key participants and prepare the listener or reader for upcoming information.

Different participant roles correspond to different types of events and entail distinct attributes. The senser in mental processes is endowed with cognitive ability, the behavior in behavioral processes possesses consciousness and perception, and the sayer in verbal processes can communicate ideas through language. Thus, these three roles are attributed mental capacities and vitality (Yu & Wang, 2020). Furthermore, since the transitive model expresses semantic patterns of “process plus extension”, with its core being “actor + action,” it can be argued that the actor exhibits stronger agency compared to the goal.

4.2.2 The Ergative Model

The ergative model reflects the semantic feature of “causation of a process.” The core semantic components of this model are the process and the medium (Wang & Zhou, 2020). Additionally, each clause process may involve another participant that indicates an external cause of the event; this optional participant is referred to as the “agent.” A key variable in ergative analysis is whether the process occurs spontaneously or is caused by an external force. In the case of a spontaneous process, such as “The glass broke”, the semantic structure of the clause is medium ^ process. This pattern suggests that nature can supply its own energy and possesses an inherent tendency to initiate change, rather than merely functioning as a passive recipient of human actions (Wang, 2005). If the process is externally caused, as in “The cat broke the glass”, the semantic structure becomes causer ^ process ^ medium. Thus, ergative analysis can reveal the external causes behind actions and uncover how texts construct causal relationships (Yu & Wang, 2020).

In summary, integrating both the transitive model and the ergative model into the analytical framework can effectively compensate for the limitations of the transitive approach. This allows for a more comprehensive analysis of clause representations in ecological discourse, thereby exposing the underlying ideologies and ecological stances embedded in language.

4.3 Analytical Framework

This study adopts the transitivity analysis framework proposed by Yu and Wang (2020) to evaluate the ecological orientation of clauses in textbook texts, thereby examining how these texts construct images of nature and shape the relationship between humans and the natural world. Furthermore, the study will explore the applicability of this framework for ecological discourse analysis in educational materials. The framework is presented in Table 1.

Table 1: Semantic Classification of Clause Processes and Their Ecological Orientation

Clause Type	Participant Role	Process Verb Semantics	Image of Nature Constructed	Ecological Orientation
Material	Actor/ Medium	Life activities	Independent, self-sustaining, acting free from external influence	Beneficial
		Ecological degradation	Deteriorating spontaneously without external cause	Destructive
	Actor / Agent	Life activities	Influencing itself or the external world through natural life processes	Beneficial
		Threat / Destruction	Threatening or damaging human life and property	Destructive
	Goal / Medium	Protection	Being cherished and protected	Beneficial
		Utilization	Treated as a tool or resource	Destructive
		Threat / Destruction	Suffering damage as a sacrifice to human survival and development	
Mental	Senser	Cognition / Sensation	Possessing thought, feeling, and consciousness similar to humans	Beneficial
Behavioral	Behaver	Physiological activities		
Verbal	Sayer	Information exchange		
Relational	Carrier / Identified	Relation	Ambiguous	Unclear
Existential	Existent	Existence		

4.4 Research Objects

This study conducts an ecological discourse analysis of selected texts from Unit 6, *Earth First*, in the Compulsory Book 2 of the new FLTRP senior high school English textbook series. The aim is to investigate how this unit constructs images of nature and shapes the relationship between humans and the natural world, thereby evaluating whether its ecological discourse contributes to building a harmonious ecological relationship and fostering students' ecological awareness. Detailed information about the selected texts is provided in Table 2.

Table 2: Analyzed Texts and Their Overview

Article Title	Main Content	Page	Code
Sharks: Dangerous or Endangered?	Explains long-standing public misconceptions about great white sharks and raises awareness of the need for their protection	62-63	Text 1
What's really green?	Introduces four suggestions related to green living	68-69	Text 2

5. RESULTS AND DISCUSSION

5.1 Beneficial Ecological Discourse

Analysis shows that the ecologically beneficial discourse in this unit's texts mainly exhibits the following two linguistic features:

(1) Natural participants serve as Goals/Mediums. Although endowed with relatively weak power, the semantic expressions associated with them convey care and protection toward nature, reflecting positive human intervention to safeguard the environment. For example:

[1] From that day on, he fought to protect sharks. (Text 1)

In this clause, "sharks" function as the Goal in the material process "protect", portrayed as vulnerable and in need of human protection. This reflects a growing awareness among some people of the severe consequences of massive shark hunting and the taking of practical actions to change the status quo, which helps raise readers' ecological consciousness.

[2] Most of us are aware that we must take care of the environment, and the majority of us take steps to save energy and reduce waste and pollution. (Text 2)

In both clauses above, "the environment" and "energy" serve as Goals in the material processes "take care of" and "save" respectively. These constructions depict nature as something requiring protection and encourage learners to consciously join in environmental conservation efforts.

(2) Natural participants act as Sensors in mental processes. These participants are endowed with human-like attributes such as cognition and perception, helping learners recognize the equality between humans and other beings in nature and understand that we hold no privileged position in the ecosystem.

[3] Experts have proved that sharks do not see people as food. (Text 1)

This clause uses the mental process verb "see", portraying the great white shark as an intelligent entity. Such representation helps cultivate learners' empathy and fosters an understanding that all living beings sharing the planet with humans deserve equal respect.

5.2 Destructive Ecological Discourse

The following linguistic features characterize ecologically destructive discourse in the texts of this unit:

(1) Natural participants serve as Actors/Mediums with spontaneous and autonomous attributes, combined with semantics of ecological degradation. This portrays ecological decline as a natural occurrence unrelated to human activities, obscuring the root causes of environmental destruction and hindering students' motivation to actively protect the ecosystem. For example:

[4] After 1975, the number of large sharks around America fell quickly. (Text 1)

The word “fell” describes the sharp decline in the shark population without explaining that the true reason was extensive human hunting.

[5] The sharks are thrown back into the sea where they die slowly and painfully. (Text 1)

The process “die” implies that the death of sharks occurs through natural processes, thereby concealing the reality that these animals are often subjected to brutal finning by fishermen before being discarded into the ocean.

(2) Natural participants act as Actors/Agents in clauses and are endowed with higher power. At this point, if linguistic representations frame nature as destructive to human lives and property, it places nature in opposition to humanity, which is detrimental to the construction of a harmonious ecological relationship.

[6] It tells the story of a great white shark that attacks and kills swimmers. (Text 1)

This clause summarizes the plot of the movie *Jaws*. The shark, as Actor, performs the actions “attacks” and “kills” on human Goals (“swimmers”), reinforcing its image as a instinctive predator and intensifying fear toward the species.

[7] Experts have proved that sharks do not see people as food, and they attack us by mistake. (Text 1)

Although this clause explains that sharks do not intentionally prey on humans, the use of the aggressive verb “attack” still strengthens negative stereotypes.

(3) In passive clauses where natural participants serve as Goals/Mediums (without an explicit Agent), the original Agent is demoted to an adjunct or omitted entirely. This obscures responsibility for ecological damage and masks the true causes of environmental destruction, preventing a proper understanding of human accountability and necessary behavioral change.

[8] Finning is a type of fishing where sharks are caught and their fins cut off. (Text 1)

In these clauses, “sharks” and “their fins” serve as Mediums in the material processes “caught” and “cut off”, depicting sharks as passive victims of human cruelty. The omission of the Agent (humans) evades accountability.

[9] The fins are used in shark fin soup. (Text 1)

The passive voice avoids mentioning the Agent (“humans”) of the material process “used”. The adjunct “in shark fin soup” highlights the motivation behind shark hunting, that is to satisfy human desires.

(4) When natural participants serve as Goals/Mediums (with an explicit Agent), an external Agent exerts influence over nature, assigning it a weaker role. If the semantics convey exploitation or destruction, nature is represented as a sacrifice for human benefit.

[10] Finning kills millions of sharks a year. (Text 1)

Here, “sharks” serve as the Goal in the material process “kills”, placed in a powerless position. The Agent (humans) is concealed through nominalization (“finning”), diluting the sense of responsibility and reducing urgency for behavioral change.

[11] However, making a paper bag uses four times as much energy as making a plastic bag and up to three times the amount of water. (Text 2)

In this clause, natural resources, “energy” and “water” function as Goals in the material process “uses,” framed as instruments of human interest. The nominalized phrase “making a paper bag” also obscures the human actors behind production, reflecting an ecologically destructive perspective.

5.3 The Construction of Nature Images and Human-Nature Relationships in the Discourse

Based on the above analysis, it can be observed that in the two reading texts of this unit, when nature, such as great white sharks and natural resources acts as the Actor/Medium in material processes, the frequency of ecologically destructive discourse notably exceeds that of beneficial discourse.

In the first text, *Sharks: Dangerous or Endangered?* the great white shark is initially constructed as a cruel and merciless “killer” that actively attacks humans, posing a threat to human safety. This representation helps explain the long-standing stereotype and fear associated with sharks. Subsequently, the great white shark is portrayed as both an instrument and a sacrifice for the fulfillment of human interests. To satisfy their culinary desires, humans engage in extensive shark hunting, mercilessly removing their fins and producing shark fin soup for commercial purposes. Finally, the shark is portrayed as vulnerable and in need of human protection, reflecting some people’s growing awareness of the severe consequences of overhunting and the beginning of conservation efforts. However, to some extent, all three representations are not conducive to enabling readers to accurately understand the great white shark, comprehend their behavioral ecology, or foster a concept of egalitarian coexistence between humans and nature.

In the second text, *what’s really green?* the natural environment is depicted as vulnerable and requiring human protection, while natural resources are instrumentalized to meet human production and consumption needs. Such portrayals are likewise detrimental to helping students form a sound understanding of the relationship between themselves and nature, or to effectively enhancing their ecological awareness.

Overall, the two selected reading texts still reflect certain anthropocentric tendencies, constructing images of nature and human-nature relationships primarily from a human-centered perspective. Given the important role textbooks play in cultivating students’ ecological awareness, compilers should exercise greater caution in selecting texts that align more closely with a “harmonious coexistence” ecological worldview. Furthermore, when teaching such materials, instructors should conduct detailed discourse analysis to explore how linguistic choices shape representations of nature, and guide students to critically engage with these constructions, thereby fostering deeper ecological consciousness.

6. CONCLUSION

This study examines green discourse in Chinese high school English textbooks through an ecolinguistic lens, identifying how textbook discourse constructs images of nature and the relationship between humans and the natural world. The study reveals that the representations of nature constructed in both reading texts fail to adequately help students develop an accurate understanding of the natural world or foster a notion of equal and symbiotic coexistence between humans and nature. The ecological educational value of the instructional texts remains insufficient. It is therefore necessary for teachers to deeply examine the ecological perspectives embedded within the language of the texts before conducting teaching activities. By designing well-structured instructional tasks, educators can guide students to critically engage with the portrayals of nature presented in the discourse, enhance their ecological awareness, and encourage active participation in ecological conservation practices.

While the transitivity analysis effectively exposes anthropocentric language patterns in the selected passages, there are certain limitations in this study that must be considered. First of all, the analysis is constrained by its limited sample since only two texts from a single publisher are

included, raising questions about the representativeness of findings across China's diverse EFL materials. Furthermore, though the study critiques problematic representations of nature, it lacks empirical evidence on how these linguistic constructs actually influence students' ecological consciousness or behaviors, leaving a critical gap in understanding real-world pedagogical impact. To advance this field, future research should conduct comparative studies across regions and textbook series to identify culturally responsive eco-pedagogies. Additionally, longitudinal and mixed-methods designs could illuminate how ecological discourses in textbooks translate into classroom practices and learner attitudes.

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