ROLE OF HUMAN AGENCY IN ECOLOGICAL TEXT: AN ECOLINGUISTIC ANALYSIS OF PRIMARY ENGLISH TEXTBOOKS OF PAKISTAN

*Salma Aftab

Ph.D. Scholar, Department of Linguistics & Communication
UMT, LAHORE

**Muhammad Sharif

M.Phil (English), Head Teacher,
School Education Department, Pir Mahal, T.T.Singh

***Mahnoor Hameed

Lecturer English (Visiting) University of Education, Lahore

****Prof. Dr. Mubashar Nadeem

Head, Department of English Language & Literature,
Rashid Latif Khan University, Lahore

ABSTRACT

This study aims to explore: (a) the erasure of human agency in the ecological content taught at the primary level in various Pakistani private schools through English textbooks, and (b) students' perceptions of ecolinguistics. Stibbe's perspective on the erasure of human agency in the natural environment and students' responses to understanding ecological texts were utilised to address the objectives mentioned earlier. The content analysis reveals the erasure of human agency through nominalisation and passivisation. The student participants acknowledged that they gained an overall understanding of the ecological texts. The study concludes that the erasure of human agency in an isolated sentence may create a semantic barrier. Still, when that sentence and its words are read within the whole text, meaning is conveyed. The findings challenge the perspective of Stibbe, who claims that the erasure of human agency in ecological texts hinders the meaning-making process. The study suggests linking language and biodiversity to foster awareness about the natural environment.

Keywords: Ecolinguistics, Natural environment, Erasure, Human agency, Ecoliteracy, Ecopedagogy.

Introduction

A conversation inspired this study: 'Why do we need another planet to exist?' and, 'How do we preserve the Earth to make it a better living place?' Living beings on Earth form a closed natural system. The prosperity of one living creature should not be at the expense of any other, and we must treat all life as if each being has intrinsic value (Stibbe, 2015; 2017). Life on Earth faces environmental disasters in all corners of the world. This distress prompts many discussions on how to manage it ecologically, where to initiate action, and what roles individuals and collectives can play in protecting themselves from it (Maley, 2022). This conversation also explores how our choices to live, consume, and impact our planet's entities influence the environment. As human beings, we should prioritise sustainable practices, behaviour, and ways of living.

Pakistan is one of the most vulnerable countries to climate change. Furthermore, Pakistan ranks as the second most polluted country globally, according to The World Air Quality Index

(2023). Recently, The New York Times reported that Wallace-Wells (2022), author of The Uninhabitable Earth, states that Pakistan has suffered as floods, droughts, and heatwaves have killed thousands of people and livestock and damaged infrastructure. There is speculation that Pakistan's future environmental disasters will worsen if global warming continues to rise (Chaudhry, 2017; Serkez, 2021). According to environmental scientists, Pakistan is among the top ten countries most susceptible to climate change (Wallace-Wells, 2022).

There are many actions necessary to address climate issues, and one key step is to make people environmentally informed and proactive. Making this world a better place can only be achieved when we shift our perspective from anthropocentric to ecocentric. It may be more long-term and sustainable if we incorporate this understanding into our textbooks, especially those for younger children. Hunter (2018) quoted that younger minds are more receptive to absorbing information and tend to adopt it as they grow older. This can be achieved through the proper linguistic representation of ecological and environmental issues in texts (Chawla, 2001). Therefore, the language features used in presenting ecological issues are vital in shaping awareness.

Two significant lines of inquiry have been established within the realm of ecolinguistics. The first investigates the relationship between humans and their immediate environment (Nash, 2011), which relates to the impact of ecological damage and the dire conditions of natural habitats for various flora and fauna species. This ultimately threatens human survival, as humans are the profit-makers from natural resources. The second focuses on discourse analysis—examining the language used to present knowledge and understand ecological issues—and how linguistic forms can either raise awareness or divert attention from core problems. Halliday's critical view on the insufficiency of English grammar (2001, p. 194) serves as pioneering research for this second line of enquiry. Although considerable research in ecolinguistics has emerged over the past few decades, the field still struggles to establish a clear definition and position within broader linguistic disciplines. In this context, Stibbe's (2015) environmental philosophy marks a significant turning point by discussing how language influences the creation of ecological stories, which can be either constructive or destructive.

Keeping the study aligned with the United Nations' vision 2030 of the healthy planet and its proposed Sustainable Development Goals (SDGs), the objectives of this research are:

- to explore the lexical and structural features of English language used in presenting the natural environment
- to identify the role of agency in understanding the ecological issues

SDGs mainly addressed through this study are number 1 (Quality Education), 13 (Climate Action), 14 (Life below Water), and 15 (Life on Land).

Research Questions

1. What are the linguistic resources used to describe the ecological content in primary English textbooks of Pakistan?
2. What is the perception of primary level students towards the ecological content with and without the human agency?

Significance

The world has recognised the significance of pedagogy in fostering ecological awareness and safeguarding the environment. Overall, the eco-linguistic field remains relatively underexplored, particularly within the Pakistani context, where it offers considerable

opportunities for research. This specific study seeks to emphasise the importance of ecolinguistics and to encourage further investigation in this domain within Pakistan.

This particular study not only focuses on the theoretical interpretation of the presentation, understanding, and impact of the ecological content but also involves engaging students to gauge their perception of the given ecological text. The findings could be useful for updating ecological texts, marketing, and advertisements from an ecological perspective, and for promoting positive discourses related to the environment.

Literature Review

Ecolinguistics has established its place in textbooks and has been published in many countries worldwide. In this context, the work of Guillemette et al. (2008) is significant as it reflects on pollution in French science textbooks. According to this study, linguistic features should possess cohesion and coherence to create a positive impact; otherwise, they may distort the meaning (Hampton, 2022). Consequently, the aim of integrating environmental content into textbooks could be greatly undermined. Guillemette et al. (2008) highlight the need for more critical environmental thinking skills in textbooks, as they contain limited information on a vast issue (Fashal et al., 2022). In Turkey, for example, Gürsoy (2010) not only discusses the presentation of ecological content in English language teaching materials but also appreciates the Turkish government's efforts to adopt positive measures in this domain. He further argues that children who engage with meaningful second language content develop ecologically conscious and reflective minds (Gürsoy, 2010). There is a necessity to establish discourses that enhance learners' thinking skills to effectively address environmental challenges, as Nkwetisama (2011) reflects on the role of second-language English teachers in imparting ecological education in Cameroun. He contends that teaching English as a foreign language should extend beyond language proficiency, contributing to the development of critical thinking regarding environmental sustainability. Agorram et al. (2013) conducted a comparative analysis of ecological content in Moroccan and Italian textbooks, concluding that environmental education does not align with the goals of ecolinguistics due to the absence of critical thinking discourses (Fashal et al., 2022).

Tao Xiong (2014) examines the immediate physical symptoms of ecological destruction and focuses on surface-level issues rather than underlying ideological concerns about the environment. Five secondary school textbooks reveal the presence of 'Shallow Environmentalism,' which addresses only superficial aspects. According to the study, shallow environmentalism in Chinese secondary English textbooks obscures the human agency involved in environmental destruction, with linear problem-and-solution discourse patterns being overly prominent. Additionally, the study highlights the Chinese government's role, raising questions about the authenticity of current content. Young (2016) stresses the importance of teachers' training to enhance ecological education lesson plans. He supports previous research that students should not only be proficient in language skills but also capable of understanding the interconnectedness between humans and their natural (Cheng, 2022) and non-human environment, as well as with other people, to become active participants in their communities and the wider world.

Focusing on the relationship between humans and nonhumans, Ghiasian and Shirini (2016) studied anthropocentrism in the analysis of linguistic structures of Iranian textbooks. Their study suggests that transitivity and passive structures diminish the reality and contribute to the evasion of human responsibility in worsening the existing ecological and environmental

crises. Destanaee and Poshtvan (2018) introduce a new perspective for many contemporary researchers in Asian countries by following the Ecolinguistics approach introduced by Stibbe (2015). Their study considers life as a whole and uncovers the stories that result from human subjectivity.

Animals possess a prominent role in the lives of children as they psychologically feel a connection with the animals. This is the reason for the presence of animals in almost all the stories written for children. However, the impact and relation created by the story's structures are crucial. Simotwo (2019) identifies the indication of animal discourse in a famous story about Kenyan community members and concludes that educators discourage anthropocentrism and shallow environmentalism and highlight the rights of animal protection through certain language forms such as the presence of agency, active voice construction, rhetorical question, and psychological processes, rightly as pointed by Fill (2001).

To answer questions related to curriculum development based on contemporary issues, Jismulatif and Dahnilsyah (2019) focus on local content development in the Junior High School English curriculum to bridge the gap between curriculum demands and local content. They introduce ecolinguistics into the English curriculum in Central Kalimantan. The study considers not only comprehension passages but also exercises, as meaningful activities related to ecolinguistics can reveal pedagogical aspects of the entire process to enhance the curriculum (Hameed, 2022). In another significant study, Damico et al. (2020) recognise ecolinguistics as an essential part of the curriculum and believe that terms such as climate chaos and climate volatility more accurately highlight euphemisms in ecological content and other linguistic structures.

Ecolinguistics has emerged as a discipline of critical modern importance due to ecological damage and its effects on all living entities. The main aim of this research is to raise environmental awareness and understanding of ecological issues, along with the broader concept of ecojustice literacy (Damico et al., 2020), where humans are not in a position of dominance. Instead, all living entities are equal and interdependent, relying on one another and on natural resources. The linguistic structures and grammatical patterns used in this research are primarily theory-based (Hampton, 2022). However, they do not encourage students to share their perspectives on ecological matters to evaluate the influence of language.

Methodology
Study Design

At the first level, this study adopts the qualitative research paradigm to analyse the ecological content in English Language textbooks, using Stibbe's (2015) perspective on human agency and its removal from ecological texts. Stibbe discusses the impact of human agency on shaping environmental discourses as either ecocentric or anthropocentric (Zahoor & Janjua, 2020). Humans are responsible for engaging in destructive processes that damage the environment within an ecological framework. Through language structures, humans conceal or minimise their involvement through complete or partial erasure. Nominalisation and passive sentences are the main linguistic tools used to reduce the apparent role of humans in environmental harm (Udayana, 2022).

This study adopts a quasi-qualitative approach to analysing the erasure of human agency from discourses and its connection to the meaning-making process (Luardini & Sujyani, 2018). In this context, the students' perceptions after reading specific environmental texts are included in the analysis to discuss the texts' impact on children's minds. Thematic analysis following

Clarke and Braun (2017) is utilised to identify underlying themes in the students' responses (Byrne, 2022). Additionally, a statistical analysis compares the data generated by two groups of students who participated in the study.

Data Collection

This study investigates the ideologies presented in the ecological content through various linguistic resources and how these structures impact young minds. Considering the research objectives and questions, this study selects *Oxford International English (OIE)* by Oxford University Press for the primary-level students of Pakistan. The content related to the environment and ecology is linguistically analyzed to find the discourses that construct the ecological realities in young minds.

The second data source includes primary-level students from several schools in Pakistan who use the books mentioned above. Snowball sampling facilitates this data collection. Responses from the students are also part of this research, providing their perceptions of texts. The 100 students, aged between seven and twelve, participated in the activity. Fifty students shared their views after reading the original text, and another fifty after reading the congruent text. This aims to validate the findings of the textual analysis—whether the discourses construct meaning collectively or if individual structures can shape ideologies and influence their audience's minds.

Ethical Considerations

As the initial stage of research involves analysing published data and lacks data from participants, it does not require approval from any individual or authority to proceed, nor does it raise privacy and identity concerns. At the second stage, the students recorded their responses with the approval of school authorities, and the responses were used solely for this specific research. The respondents were instructed not to include their names in their responses.

Findings and Discussion

Linguistic Resources

The linguistic analysis of the ecological content in the selected Primary-level English textbooks utilises Stibbe's (2015) framework, primarily emphasising the presentation of human agency within environmental discourses that lead to erasure and salience. The analysed section from the Primary English textbooks highlights linguistic structures such as passive sentences, active sentences, and nominalisation used to draw attention to or hide human involvement in ecological narratives.

On page 150 of Oxford International English Book 5, students are asked to undertake a potential activity of writing a formal letter. This letter-writing task concentrates on an environmental issue. In the sample letter to 'the Managing Director' of 'Southern Oil,' the village chief writes: 'The oil wells in Back Bay are still polluting our rivers and killing the fish. Oil (agent) is flooding (process) the palm forests, and the trees (agent) are dying (process) … your company (agent) will be hearing (process) from our lawyer shortly.' Here, 'the oil wells' are depicted as the agents of 'polluting' (process) the rivers (object) and 'killing' (process) the fish (object). Although 'company' primarily means a business entity, it will be hearing.

The same grammatical structure appears in the poem "Blue Planet's Blue" on page 148. The poem's title relates to the attributive relational process: Blue Planet's (Carrier + Process) Blue (Attribute). Here, Blue signifies a state of sadness or depression, which is the attribute assigned to a non-living carrier, 'Blue Planet.' The entire poem conveys a mood of melancholy about the Earth and how it is being harmed. The first line of each couplet reflects sadness and

fatigue but does not specify who experiences this mood. The verbs in the first line of each couplet indicate the process, mainly imperative. The agent performing the command or order and the object are absent but implied within the discourse. Implicitly, the understanding remains: one human directs the other to display these moods, as the Blue Planet is sad.

The second verse of every couplet of the poem is an example of nominalization and noun-like verbs, process nouns, or nonliving doers. 'Rhinos for sale,' 'Forests will die,' 'Sea levels rise,' 'Wildlife on the line,' 'Climate is changing, and 'Habitat gone' do not show the human responsibility in damaging the forests, increasing global warming to raise the sea level, death of wildlife, climatic changes,' and ultimately, the lack of equilibrium in ecosystems, which is the very crucial issue in the sustainability of the environment. The human being is kept hidden in selling the rhinos. The identifying relational process is analyzed in 'Rhinos (are) for sale.' Sale is the nominalized form of 'agent/actor + selling (process verb) + goal.' It would be: 'Humans are selling the rhinos.', which is a material process. Thompson (1996) asserts that this kind of nominal grammar eradicates the agent's role in the actual cause and is connected to the same shift of anthropocentric view, promoting the negative discourse (Stibbe, 2017).

Social relations, objects, time and place, language, and so on – are brought together by social events. The text can be analysed from a representational perspective. This includes the elements of events that are either included or excluded. The included elements have prominence or salience, whereas the excluded ones are erased from the text (Maley, 2022). The truth can be established by comparing different representations of the same or similar events (Dastenaee & Poshtvan, 2018). As in the first two examples, human agency is largely hidden through the nominalisation of environmental processes. In both discourses, the presence of the genuine agent – a human being in both cases – who destroys the environment in one way or another is erased in most instances (Zhang, et al., 2022). Only a hint of the agent responsible for the action appears in the examples above. Fairclough (2013) states that nominalisation is a linguistic form used in narratives about ecological issues.

Similar language appears in the OIE Book 2 under the topic "Animals in Danger," where human agency is avoided to highlight environmental damage. However, the focus is on how humans are trying to improve the situation. 'Many of the world's animals are under threat of extinction. Let us look at two animals that people are trying to save.' Here, 'threat of extinction' is an attribute assigned to the animals (the carrier), and the process is relational. It is a grammatical metaphor that conceals the agent of the material process 'to threaten.' Extinction is a noun derived from the adjective 'extinct.' The subsequent sentence shows human involvement in mitigation: 'people (actor) are trying (material process) to save (phenomena).' Another notable example of nominalisation is in the heading for the leopard picture: 'ENDANGERED!'. It functions as an adjective indicating that the leopards are endangered. The environmental factor endangering (verb) the leopard is omitted from the text, thus hiding the agent. Further information about the Amur leopards reveals some traces of human agency: 'Hunters are killing them for their fur.' This active sentence places the actor (hunter) and the material process (killing) clearly. However, there is little indication of human impact in destroying the leopard's habitat. The use of passive sentences and nominalisation further obscures human agency; for example, 'The forests where they live are being cut down.' Here, the doer of the action (to cut down) is omitted through passivisation, highlighting the affected (the forests). This also reflects how the social entity 'the forests' — specifically the habitat of the Amur leopards — is represented, rather than all forests in general.

Erasure refers to the linguistic patterns that fail to accurately or distort the representation of specific aspects of life (Stibbe, 2015). In ecolinguistics, erasure involves the absence of certain phenomena through language, which creates or widens the gap between human and nonhuman worlds. According to Stibbe (2014), erasure can encompass minor stories related to any area of life that are deemed unworthy of consideration. An analysis of primary English textbooks in Pakistan reveals the erasure of human agency within ecological texts. This form of erasure falls under 'The Void' – a type of erasure that deals with something significant that exists in reality but is completely absent from discourse (Stibbe, 2015), described as the 'Suppression' of actors (Fairclough, 2013). In contrast, 'backgrounding' (Fairclough, 2013) is akin to 'the trace' (Stibbe, 2015), where the actor is mentioned somewhere in the text but must be inferred elsewhere. The earlier examples exemplify this latter form of erasure or exclusion. Environmental actors or agents are present implicitly at times and explicitly only rarely (Hampton, 2022). This influences the meanings and ideologies conveyed by the discourse. However, a different pattern emerges when describing how they receive assistance. Unlike previous cases, human agency in environmentally friendly activities is often suppressed through the passive voice, such as in the sentences: 'In one area, 20,000 Korean pine trees have been planted.' and 'In another area, a new national park has been created, called

In OIE Book 2, the topic "Turtles in Danger" demonstrates erasure by using nominalisation and passive sentence structures to conceal human agency in endangering turtle lives. However, at the same time, active sentences in many parts highlight human involvement. The opening sentence of the description states, 'Leatherback turtles are in danger because people collect their eggs to eat.' In the first clause, the relational process is employed, with 'Leatherback turtles' identified (token) by the term 'in danger' (value). Here, one entity, 'danger,' is used to identify the other, 'turtles,' with 'are' functioning as a copular verb. The dependent clause explains why human agency is mentioned through the active verb: people (actors) collect (process) their eggs (affected) to eat (phenomenon). This process is material and involves a transitive verb ('collect'), with 'eggs' as the affected object. In the next sentence, the human responsible for harming the turtle community is omitted: 'Some turtles also get caught in fishing nets, and others die when they eat plastic bags, thinking they are jellyfish.' It suggests that fishing nets are destroying the turtle community, or turtles are responsible for their own endangerment by getting caught in nets. The explanation blames humans for endangering turtles through fishing activities and environmental harm. These sentences can foster belief in the 'logic of appearances' (Fairclough, 2013), which is not consistent with an eco-centric worldview, nor does it provide an explanatory rationale (Stibbe, 2015).

Passive structures conceal reality and facilitate the avoidance of human responsibility in worsening the current ecological and environmental crises. In this case, nominalised entities like 'fishing nets' and 'plastic bags' are the resources used by humans, with no mention of the user. Destanaee and Poshtvan (2018) expand the perspective of many contemporary researchers in Asian countries by adopting ecolinguistics, as introduced by Stibbe (2015). Eliminating active sentence structures results in hiding the subject, which effectively erases the agent; in ecological studies, stories often reflect human subjectivity. Avoiding passive voice can help reveal both the negative and positive human actions (Stojanova, et al., 2023). This approach can transform destructive narratives into constructive ones in line with particular ecosophies. Humans are responsible for the spread of plastic waste on beaches, yet they are typically absent from the narrative (Stibbe, 2015; 2012). While plastic bags are directly linked to turtle deaths, the

perpetrator remains unmentioned. Nominalisations enable the hiding of human agents. Simotwo (2019) discusses how nominalisations widen the disconnect between humans and the non-human world, fostering destructive and harmful discourses, thus promoting an anthropocentric view of ecological narratives. This growing divide between humans and non-humans exacerbates ecological problems by undermining respect for nature in pursuit of economic and industrial objectives (Fashal, 2022).

Another form of nominalisation involves depicting phenomena in an imaginary or dream-like manner that conceals the agent behind a curtain or mask—an act of erasure (Stibbe, 2015). "Dreamer" on page 46 of OIE, Book 5, exemplifies this type of nominalisation. The human agency responsible for destroying the Earth and its entities is obscured by terms like 'nobody' or 'no one.' A dreamer imagined being granted various natural resources and rejected unnatural or unethical treatment, as shown by the wishes perceived by a particular sensor. The ocean does not wish to be polluted; the air does not wish to be blackened; the stream does not want to be poisoned; and the rainforest does not want to be cut down, but the agent is masked through metaphorical expressions such as 'no one' and 'nobody.' In explanatory grammar, humans harm the environment by polluting the oceans, poisoning streams, and cutting down rainforest trees. The phrase 'I dreamt' at the start of each couplet indicates a mental process. 'I' is a conscious participant, while what is sensed is a phenomenon. The pattern of relational and material processes is used respectively within the phenomenon: [Token + Relational Process + Identifier + Conjunction + Actor + Material Process + Goal]. The actor is obscured with undefined agents—'no one,' 'nothing,' or 'nobody.' For instance, 'I (token) was (relational process) an elephant (identifier) and (conjunction) nobody (actor) stole (material process) my ivory (goal).' Another couplet states, 'I (token) was (relational process) the air (identifier) and (conjunction) nothing (actor) blackened (material process) me (goal).'

Moreover, 'I (token) was (relational process) a rainforest (identifier) and (conjunction) no one (actor) cut down (material process) my trees (goal).' 'no one,' 'nothing,' and 'nobody' can be seen as hypernyms, and the erasure of human agency occurs through such expressions. These expressions also depict generic types of social actors. This also reflects a more abstract level, where the participants of social events are partially included – nothing, no one, nobody.

Fairclough (1995) argues that every text classifies phenomena globally and explicitly or implicitly expresses an ideology. The text also positions its reader socially by taking an attitude towards what it discusses through language. This supports the idea that thinking of language as existing in isolation without content, context, or social interaction is a myth (Zahoor & Janjua, 2020). As semantic and grammatical relations characterise discourse, the generic and specific forms of actors or agents are important in highlighting certain phenomena or in erasing others. It is also crucial to consider how actions or processes are represented, which can obscure or eliminate agency (Brown, 2022). Zhang et al. (2022) assert that such representations broadly depend on social ideologies and realities, and on what is socio-economically, socio-politically, or ecologically chosen in terms of power relations. Ultimately, this influences the way language is used to shape ideologies. Halliday (2001, p. 185) states, "language does not correspond; it construes." There is a need to establish discourses that can enhance learners' thinking skills to effectively respond to environmental issues, as Nkwetisama (2011) asserts that teaching language should not only focus on language proficiency but also play a role in enabling students to develop critical thinking about environmental sustainability.

Students' Perception of Ecological Text

The previous section discusses the role of language in meaning-making and ideological construction. This section explores the eco-thinking of primary level students. Braun and Clarke's (2006) model is used for thematic analysis of the students' responses. Themes identified include human agency, uncertainty, misinformation, and distrust of experts. Sub-themes for human agency include hunting, poaching, causing deforestation, and destroying natural habitats. It is clear that expressions like 'I think,' 'may be,' and 'I am not sure' connect to feelings of uncertainty and vagueness. Misinformation is associated with deviations from the original content, vocabulary changes, and presenting unelaborated points. Similarly, students analyse distrust of experts through their use of modal verbs like 'might,' 'may,' and 'should.' The students express the view that humans are responsible for environmental destruction and that they have the power to improve the situation.

Statistical analysis of the variables shows that 56 percent of students in group A and 50 percent in group B are considered ecologically conscious, as they demonstrate an understanding of humans as agents and related subthemes such as hunting, poaching, deforestation, and habitats. In group A, 76 percent discussed hunting, 34 percent poaching, 40 percent habitat and shelter, and 38 percent deforestation. In group B, 72 percent focused on hunting, 30 percent poaching, 42 percent on habitat, and 38 percent on deforestation. Contrary to theoretical expectations that dismiss human agency as irrelevant, students in group A displayed greater ecological awareness than those in group B. Specifically, 28 out of 50 students in group A explicitly acknowledged human responsibility in environmental destruction, compared to 25 out of 50 students in group B. Figure 1 illustrates this point.

Figure 1

Distribution of Themes in Group A and Group B

	Human Agency	Uncertainty	Misinformation	Distrust of Experts
Group A	28	6	2	6
Group B	25	9	3	6
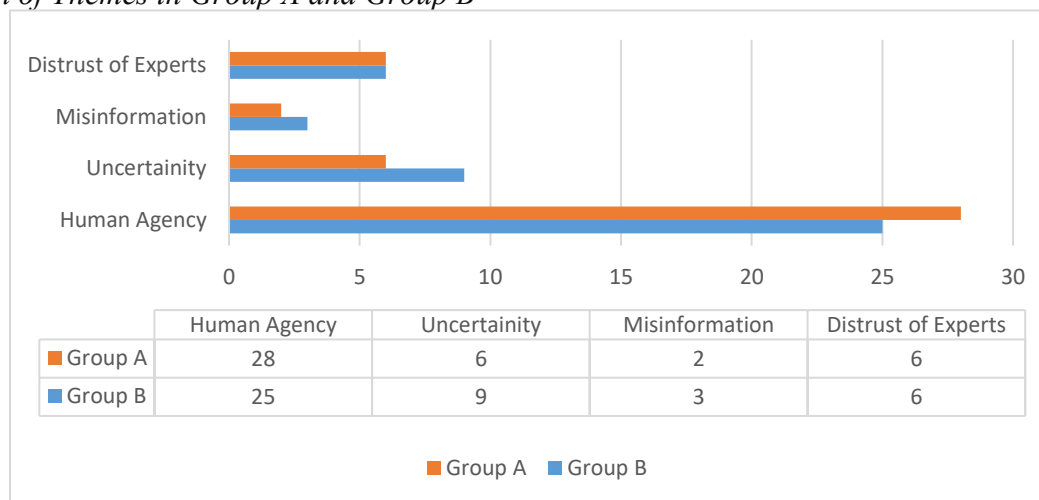
Group A received the original text, while Group B reflected on the corresponding text, which mentioned human agency and was not supported by grammatical structures to conceal the agent. Even then, members of Group A appeared more active in expressing their views on the ecological text, as the uncertainty in quantification and misinformation indicates that Group B exhibits higher levels of these themes. Several reasons could explain this, such as the repeated mention of humans as agents having varied effects. For instance, it might have distorted the original message by introducing ambiguity through the removal of nominalisation. For example,

the original text states: 'The mighty Black Bear is under threat due to deforestation and hunting.' The corresponding text might be: 'The human beings threaten the existence of the mighty Black Bear because humans cut down the forests where they live. Humans also hunt the mighty Black Bear.' In the original, presuppositions carry much information.

In another context, 'hunting,' 'poaching,' and 'human activity' are used as nominalised nouns instead of describing the processes, concealing human involvement in various ways. A clearer version might be, 'Humans hunt and poach the national animal of Pakistan, the Markhor, and thus make it endangered.' Another example could be, 'Humans have reduced the habitat of the Indus River Dolphin by building dams on the Indus River to irrigate land. Moreover, humans pollute the river and catch fish, harming the dolphin's habitat.' As discussed in section 3.1, the argument of one school of thought that avoids repeated focus and vocabulary is relevant here because repeated mention of human agency can make the text ambiguous and shift attention away from the core issue. It may also cause students to develop negative perceptions of both the text and humans.

When nominalisation is used in sentences, it brings presupposition. For example, the sentence 'A conservationist is a person who promotes or acts for the protection and preservation of the environment and wildlife' presupposes that the conservationist protects and preserves the environment. 'The mighty Black Bear is under the threat of deforestation and hunting.' presupposes that humans are cutting the trees and hunting the animals. Therefore, the agency remains in the text even if the nominalisation and passive structures represent the phenomena.

Figure 2 illustrates ecological consciousness based on gender and age. As discussed earlier in this section, the eco-conscious individual is a student who perceives the actual problem highlighted in the text and infers the cause and effect of that problem. This eco-consciousness is not evenly distributed across genders and various age groups.

Figure 2
Gender-based Comparison of Eco-Perception

	Female	Male
Group A	53%	46%
Group B	64%	36%
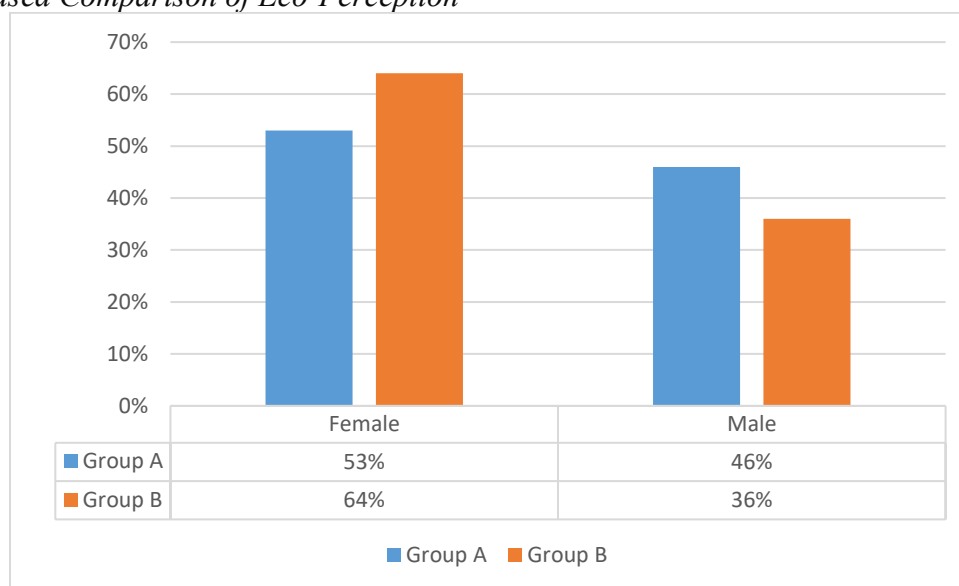
Among the eco-conscious students of group A, 53 percent are female students, and 46 percent are male students. In group B, 64 percent are female students with an ecological

perception, and males account for 36 percent. In both cases, the percentage of female eco-conscious students is higher than that of male students. Several factors could explain this. One is that females tend to be more precise, and their ability to read between the lines for comprehension is higher than that of males (Carr & Pauwels, 2006, p. 145). This does not question the intelligence or aptitude levels of male students at all, but it pertains to their attitude, especially in an online classroom setting (Raczaszek–Leonardi, et al., 2022). In group A, this difference between male and female respondents is only seven percent, whereas in group B, it rises to 28 percent. This may be due to the ambiguity and negativity created by the repetitive nature of the text. The recurring mention of humans being responsible for creating environmental catastrophe can lead to overlooking the entity that is mentioned so often (Huang, et al., 2022). It also causes ambiguity in the structural representation of language, as discussed earlier in this section.

Figure 3

Age-based Comparison of Ecological Perception

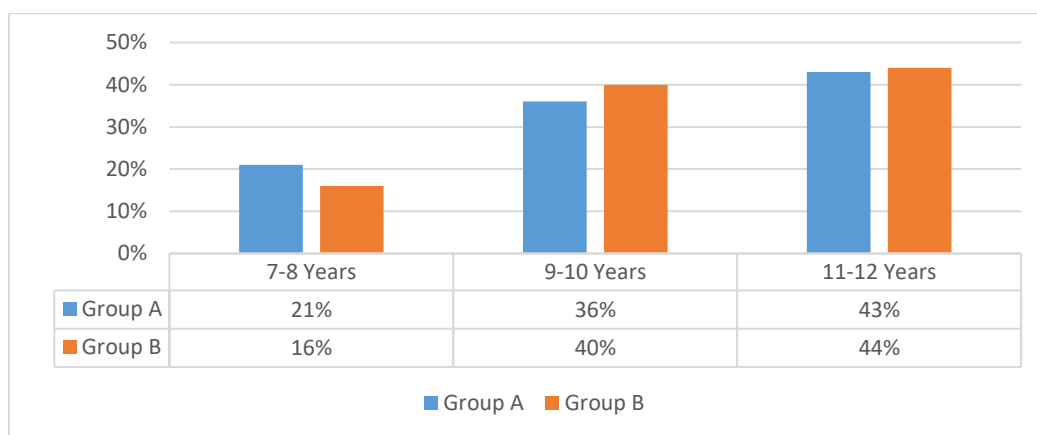|	7-8 Years	9-10 Years	11-12 Years
Group A	21%	36%	43%
Group B	16%	40%	44%

Figure 3 illustrates the relationship between age and understanding of an ecological text. Twenty-one percent of students in group A are aged 7-8 years, 36 percent are 9-10 years, and 43 percent are 11-12 years. There is a gradual increase in percentages with age—similarly, for students in group B, with 16 percent in the first category, 40 percent in the second, and 44 percent in the last. The following graph displays the change or growth in ecological understanding across different ages.

Students must engage in meaningful activities – texts, writing tasks, and discussions of eco-discourse – that provide an experience; undoubtedly, language plays a vital role in this context. Sokół (2022) asserts that the collective effort gives students experience, enables them to learn, and allows practice of new aspects of the meaning-making process and the formation of ideologies. These shared experiences of eco-literacy and eco-awareness can help young learners identify themselves with sustainable attitudes and ecological practices (Merskin, 2022). Students may start at a much earlier age to become part of the 'green' community but will grow to be eco-conscious individuals who respect the nonhuman world just as they respect humans (Zhang, et al., 2022).

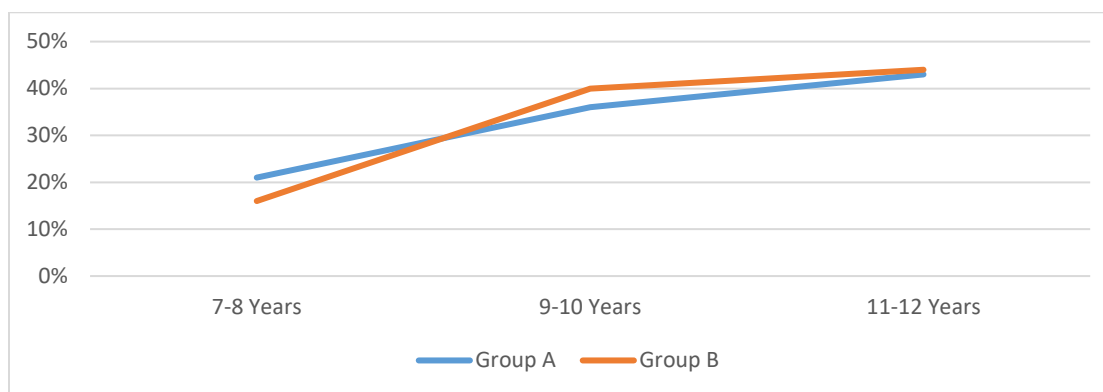*Figure 4*

Increase in Ecological Understanding with Age

Figure 4 shows that the age variables in group A nearly form a straight line, indicating a steady increase in students' ecological understanding. This increase is also observed in group B, but it is much sharper from the first to the second category. According to Zhang, et al. (2022), this case also demonstrates that understanding of ecological sustainability and environmental concerns will make students eco-conscious as they grow older. However, there is a need to teach them a balanced mix of theoretical and practical content. In this regard, the role of textbook designers, teachers, and facilitators becomes crucial. If they are not adequately trained to address this social and global issue, they cannot fully achieve the purpose of the curriculum (Damico et al., 2020).

In light of the above analysis, a school is a place and many other social settings where humans organise themselves into social groups. These social groups share certain ideologies, beliefs, perspectives, and actions. Wenger (1999, p. 57) categorises these social groups as 'communities of practice,' which shape themselves and nurture within the schools, either naturally or intentionally. However, this is not confined to school communities; other aspects of life are also crucial in developing communities of practice. Intentional nurturing is based on educational policies and strategies.

The role of the first language in interpreting a second language text is also crucial and important (Titone, et al., 2022). The major languages spoken in Pakistan belong to the Indo-Iranian language family (Kulikov, 2017). These languages take a different stance on agency compared to English (Rafi & Fox, 2024). To help students resist unsustainable dominant approaches to interacting with the biosphere, the immediate environment, and the non-human world, educational settings must provide communities of practice that facilitate the formation and negotiation of meaning and identity in ways that are critical, compassionate, creative, and empowering.

Conclusion

This study investigates the potentially constructive or destructive linguistic patterns and their role in deriving meaning from the text. To reach the first objective, the focus was on human agency in performing anthropocentric or eco-centric actions. The discourse analysis of environmental content also reveals certain traits of erasure, mainly generalisations and abstractions that can obscure agency. Semantic and grammatical relations coexist in a text, but meaning is inferred through context and discourse.

To address the second objective, the analysis of responses concludes that the original text helps students understand ecological issues better than the version with human agency. The coherence devices in the original text convey a lot of information, allowing students to infer the

implied meaning. The congruent text creates a cacophony of language and overburdens readers with the agency of human beings.

This study contributes to the existing body of research by not only relying on theoretical and structural assumptions but also engaging with the text and its readers to attain a clear understanding of the discourse. It emphasises its focus on language, as well as on discourse within critical research. The findings challenge the stance of Stibbe (2015) regarding the representation of agency in discourse and how it shapes ideologies and beliefs. These results may be useful in revising the theory, and perceptions of human agency in ecological discourses might vary across different societies and cultures.

A multidisciplinary study – encompassing linguistics, ecology, and psychology – may be conducted to examine students' eco-consciousness using quantitative data to support the findings.

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