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Corpus-Based Language Learning Among EFL Learners in an Environmental Context

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Abstract

Background:
This research presents a case study on the valuable contribution of corpus linguistics to English instruction with an environmental focus, aiming to raise environmental awareness among students. The study explores the role of corpus linguistics as an effective tool for teaching English in the context of comprehending and discussing environmental issues.

Methodology:
To achieve this, the research utilizes the News on the Web (NOW) corpus to identify common vocabulary in environmental texts. The study was conducted with a group of 13 students in a Specialized Listening and Speaking class, with an intermediate level of English proficiency. The research was conducted over three terms. Initially, students were provided with 75 words from the News on the Web (NOW) corpus, complete with definitions and example sentences. Subsequently, they were tasked with writing three sentences for each word and memorizing their usage within an environmental context. Finally, the students were tested by having to provide talks on 15 randomly selected words.

Findings:
The research findings indicate that 10 students were able to proficiently use 60.51% of the environmental words, while three students encountered difficulties in using these terms within the environmental context. Seven students demonstrated their ability to connect sentences coherently, utilizing proper grammar and pronunciation.

Conclusion:
This research suggests that most students successfully integrated environmental lexical items into their speaking, showcasing proficiency in grammar and pronunciation. However, most of the students (11 out of 13) require further support in structuring their speech cohesively. Rather than constructing a coherent narrative, they often employ words in isolation.

Originality:
This underscores the importance of using corpus-based methods to provide relevant vocabulary and fostering the skills necessary for constructing well-structured and cohesive speeches.

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1. INTRODUCTION

Language learning today not only focuses on improving linguistic skills but also incorporates rich content that adds value to the learning process—such as environment-related topics that promote understanding and awareness of environmental issues (Albuquerque Junior et al., 2021; Jacobs, 1998; Nkwetisama, 2011). Integrating environmental themes into language learning enables students to gain a deeper understanding of the impact of human activities on the natural world and the significance of sustainability (Petkutė, 2012). Moreover, this interdisciplinary approach fosters critical thinking, strengthens global awareness, and empowers learners to engage actively in efforts to protect the environment (Petkutė, 2012; Smyth, 2006).

For the past 20 years, the environment has been a major topic of conversation, with a focus on global warming, deforestation, and other important issues (Tolba & El-Kholy, 1992). These problems are especially hard to deal with because they cross borders and require scientific input to shape policy and lessen long-term effects (Batley & Wenning, 2007). More and more people are becoming aware of global climate change (Redclift, 2009), which makes it even more important to deal with these problems right away. The discourse on environmental issues has intensified, centering on how human behaviour is destroying ecosystems and endangering the natural world (Adam et al., 2000).

Integrating environmental themes into English language instruction is a vital component of contemporary education as it encourages students to engage with and respond to complex environmental problems (Stevenson & Dillon, 2010). When it includes local environmental issues and knowledge development, as well as active participation, this approach can work really well (Reddy, 2021). As a result, incorporating environmental themes into English language instruction has grown in significance in modern pedagogy. In addition to raising students' awareness of environmental issues, this kind of content instills a sense of accountability and motivates them to actively participate in environmental protection initiatives.

There have been several studies dealing with English teaching on environmental issues, and evidence has shown that it positively contributes to developing an awareness of such concerns (Arikan, 2009; Gürsoy, 2010; Guslyakova et al., 2021; Paradewari et al., 2018; Veselinovska & Kirova, 2013). Yet the application of corpora in teaching English for the environment is still quite limited. The paucity, availability, and accessibility of corpora that are dedicated to environmental-related vocabulary is one factor.

This paper explores the combination of corpus linguistics and environmental English teaching and highlights the effectiveness of the News on the Web (NOW) corpus, which is available online https://www.english-corpora.org/now/. Although the NOW corpus has been widely utilized by many researchers (Davies & Bouldin, 1979; Ha, 2022; Sujatna et al., 2022), its application in English language teaching remains underexplored and limited. Furthermore, there is still a lack of studies that focus on integrating environmental language learning in this framework, especially in speaking.

Speaking tasks, particularly those involving spontaneous speech, offer an authentic and effective means to evaluate learners' use of environment-related vocabulary and grammatical structures (Guo & East, 2024; Uchihara & Clenton, 2022). These tasks provide insights into learners' real-time language use, making them valuable for both formative and summative assessments in language learning contexts (Bergmann, 2015).

This study aims to investigate the effectiveness of corpus-based methods in enhancing language instruction within the environmental context. To achieve the objective, the current research focuses on the following research questions:

1. How effectively do the participants use environment-related vocabulary in appropriate and meaningful contexts during speaking tasks?
2. How well do the participants demonstrate grammatical accuracy, pronunciation quality, and the ability to elaborate environment-related vocabulary into connected and coherent ideas during spoken responses?

By exploring corpus linguistics as a pedagogical tool, this research aims to provide insights into innovative approaches for teaching English that bridge the gap between language learning and environmental awareness. Corpus linguistics supports this process by supplying learners with authentic language data drawn from real environmental texts, enabling them to observe how such vocabulary and structures are naturally used. This combined approach empowers learners to internalize patterns of environmental discourse, apply them in speech, and develop both linguistic proficiency and environmental awareness simultaneously.

This study holds significant importance in the academic field as it has the potential to provide valuable insights into the development of instructional strategies and curriculums that can effectively enhance students' speaking skills in articulating their environmental concerns. By utilizing the NOW corpus, the result of the study will provide a more contextualized and immersive learning experience that bridges the gap between classroom learning and practical application. The study also emphasizes the importance of nurturing students' proficiency in

communicating their environmental perspectives, which not only contributes to creating a more environmentally conscious generation but also empowers them to advocate for sustainable practices with confidence and clarity.

2. METHODOLOGY

Corpus Preparation

The NOW corpus 20 is one of the largest collections of modern linguistic data, as it includes 18.2 billion words in web-based newspapers and magazines from 2010 up to now. The corpus is a vital tool in current corpus linguistics due to the transitioning and ever-changing discourse within environmental language; it continues to grow at around 180-200 million words per month. The NOW corpus is a balanced corpus that has been appearing online since 2010, and it is now available to researchers who are interested in exploring how the language we use changes as a function of genre or time. This corpus is available at https://www.english-corpora.org/now/. To build the corpus, a virtual subcorpus was created on the basis of one chosen topic – here, the environment. This can be seen in Figure 1 that shows how subcorpus was created using NOW Corpus. Then, a list of words for this subcorpus was retrieved, considering three grammatical categories: nouns, verbs, and adjectives, as shown in Figure 2. The 25 most common words from that list are used for the current study (and not the top 25 words of both categories, which were analysed in detail previously). Each word was written on a separate card, and as part of the speaking test, students were told to draw out 5 cards from each category by chance, making for a total of 15 words per student. These words were used as cues for the speaking task.

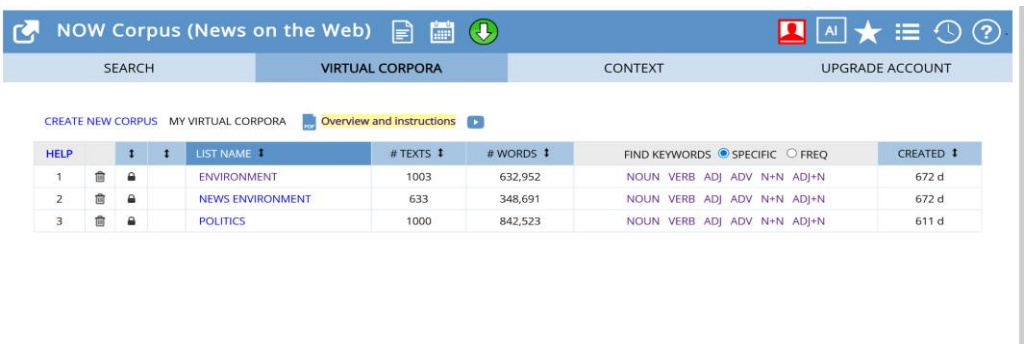
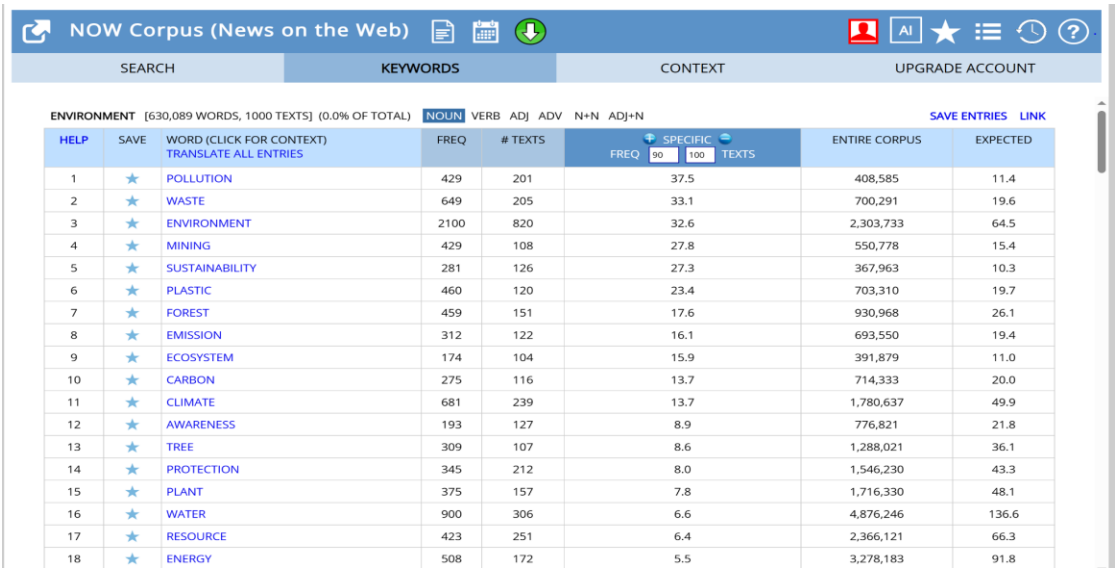


Figure 1. Creating Virtual Corpora using the term "Environment"



NOW Corpus (News on the Web)

SEARCH | KEYWORDS | CONTEXT | UPGRADE ACCOUNT

ENVIRONMENT [630,089 WORDS, 1000 TEXTS] (0.0% OF TOTAL) NOUN VERB ADJ ADV N+N ADJ+N SAVE ENTRIES LINK

HELP	SAVE	WORD (CLICK FOR CONTEXT) TRANSLATE ALL ENTRIES	FREQ	# TEXTS	SPECIFIC FREQ 90 100 TEXTS	ENTIRE CORPUS	EXPECTED
1	★	POLLUTION	429	201	37.5	408,585	11.4
2	★	WASTE	649	205	33.1	700,291	19.6
3	★	ENVIRONMENT	2100	820	32.6	2,303,733	64.5
4	★	MINING	429	108	27.8	550,778	15.4
5	★	SUSTAINABILITY	281	126	27.3	367,963	10.3
6	★	PLASTIC	460	120	23.4	703,310	19.7
7	★	FOREST	459	151	17.6	930,968	26.1
8	★	EMISSION	312	122	16.1	693,550	19.4
9	★	ECOSYSTEM	174	104	15.9	391,879	11.0
10	★	CARBON	275	116	13.7	714,333	20.0
11	★	CLIMATE	681	239	13.7	1,780,637	49.9
12	★	AWARENESS	193	127	8.9	776,821	21.8
13	★	TREE	309	107	8.6	1,288,021	36.1
14	★	PROTECTION	345	212	8.0	1,546,230	43.3
15	★	PLANT	375	157	7.8	1,716,330	48.1
16	★	WATER	900	306	6.6	4,876,246	136.6
17	★	RESOURCE	423	251	6.4	2,366,121	66.3
18	★	ENERGY	508	172	5.5	3,278,183	91.8

Figure 2. Noun listed in the subcorpora "Environment"

Participants

The research was carried out based on a purposive sample, involving 13 students taking the Specialized Listening and Speaking course at the English Department of Universitas Andalas. They were found to be mid-level in terms of their English proficiency and were thus well-placed to benefit from linguistic input and communicative practice.

Data Collection

The data collection process involved a comprehensive assessment of participants' ability to use environmental lexical items effectively. In an instructional setting, learners were exposed to 75 NOW-corpus items—25 nouns, 25 verbs, and 25 adjectives—each accompanied by a salient definition and example. This controlled input acted as a scaffold to environmental discussion and ensured participants had met real targets of high-frequency lexis prior to the spoken tasks.

To reinforce learning, subjects created three new sentences for each target word. This production measure tapped into comprehension and pragmatically appropriate contextual usage from recognition to selective and malleable, meaning-laden application of the vocabulary across varied contexts among students. Written production also provided evidence on the tendency for lexical integration in an environmental context.

In the assessment part, students took a speaking test with 15 randomly selected words to display spoken fluency and accuracy about environmental lexis within time constraints. The performances were audiorecorded, transcribed, and used as data for both qualitative and quantitative analysis. These transcripts facilitated analysis of lexical selection, grammatical

control, pronunciation accuracy and range, and global speech effectiveness over extended discourse.

Triangulating exposure (learning), production (writing), and assessment (speaking) phases seemed to give a comprehensive indication of the proficiency level reached by students. This systematic approach has allowed the study to measure the effect of corpus-informed instruction on environmental English-speaking abilities, as well as specific areas (e.g., cohesion and expanded discourse) where more help may be required.

Data analysis procedures

To obtain a comprehensive understanding of students' performance, this study employed both quantitative and qualitative methods for data analysis. The quantitative approach was used to evaluate students' outcomes in the speaking test, with a specific focus on their ability to use environment-related vocabulary accurately and appropriately. This mixed-methods study combined quantitative scoring of a speaking test with qualitative analysis of students' responses. Quantitatively, three four-point rubrics were used:

1. Environmental vocabulary use—1: cannot use the word; 2: cannot use it in an environmental context; 3: can use it in context with limited grammar; 4: uses it appropriately in context with accurate grammar.
2. Grammar & pronunciation—1: poor grammar and pronunciation; 2: good grammar but limited pronunciation; 3: good grammar and proper pronunciation; 4: wide grammatical range with good pronunciation.
3. Discourse coherence—1: words used in isolation; 2: attempts to link ideas with limited cohesion; 3: connected sentences; 4: coherent, well-connected ideas with appropriate cohesive devices.

These scales provided clear numeric profiles of oral performance and vocabulary mastery in environmental contexts, which then informed a qualitative analysis exploring students' perceptions and attitudes toward the environment, yielding a more nuanced understanding of their proficiency. The results from this quantitative analysis served as a foundation for further qualitative interpretation of students' language use. The qualitative approach is used to delve deeper into students' perceptions and viewpoints related to the environment by describing their responses in words. This combination of methods allows us to obtain a more nuanced and detailed understanding of the students' performance and their attitudes towards the environment.

4. FINDINGS

Quantitative Analysis

Use of Environment-Related Vocabulary in Contextual Communication

An examination of students' speaking performance using environmentally related vocabulary revealed positive outcomes for both accuracy and contextual communication. 15 randomly chosen words from a list of 75 words sampled from the NOW corpus were used to evaluate each participant on a 4-point scale. Afterwards, the points of each individual student were summed up; scores could range from 15 to 60. Based on these totals, participants were categorized into four proficiency levels: (1–15): Unable to understand or use the vocabulary; (16–30): Limited ability to use vocabulary in the appropriate context; (31–45): Able to use vocabulary with limited grammatical structure; (46–60): Able to use vocabulary accurately in a well-structured and coherent context.

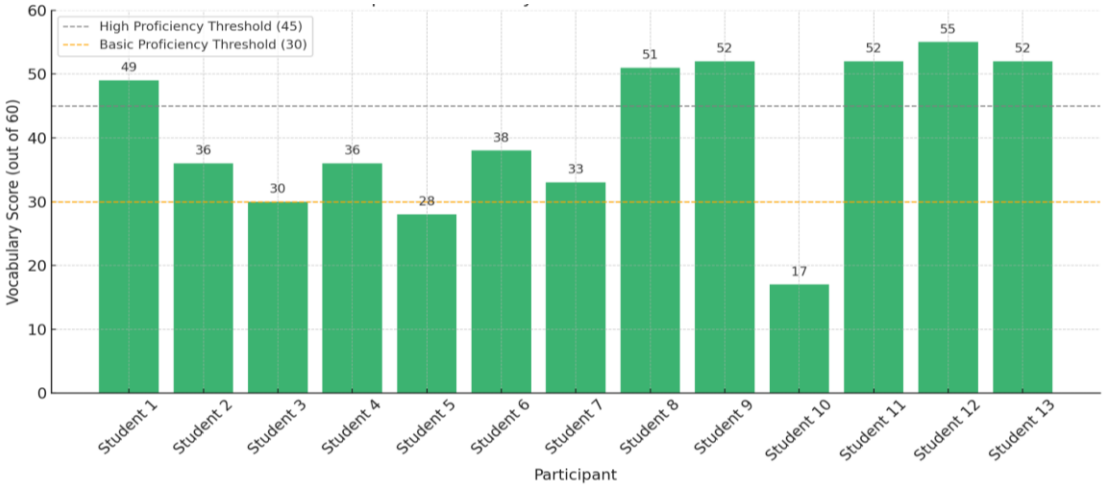


Figure 3. Participants' scores of environment-related vocabulary mastery

Figure 3 shows the speaking test vocabulary scores of all the participants, which measure their ability to use words related to the environment in meaningful situations. Participants were rated on their understanding as well as overall contextual application (fluency) of the target vocabulary from the NOW corpus.

As we see from Figure 3, most of the respondents had a score between 31 and 60. In particular, 5 subjects fitted in the extremely highest range (46-60), a strong ability to use environmental vocabulary with regard not only to form but also to context. A further 6 other participants fell into the intermediate ability level (31–45), which demonstrated the capability to use the words in environmental contexts but had some constraints or limits on their grammatical range and fluency. Only two participants scored below 31 points, which indicates that these participants had difficulty dissolving the vocabulary in an appropriate and contextually appropriate speech.

This result indicates that the instructional intervention was reasonably successful in bringing most participants to at least moderate mastery of the environmental vocabulary. The outcome corroborates the hypothesis that corpus-based instruction using the NOW corpus may afford authentic linguistic input that can further develop both vocabulary learning and communicative competence (Davies & Bouldin, 1979; Sujatna et al., 2022). The participants' ability to use the words meaningfully in their spoken responses confirms the pedagogical value of combining context-rich corpora with productive language tasks.

Accuracy, Pronunciation, and Discourse Competence in Spoken Responses

Furthermore, the study results reveal that the participants' language proficiency was multifaceted, with some demonstrating strengths in grammar and pronunciation, while others struggled with discourse coherence and structural organization. Although most participants showed commendable proficiency in grammar and pronunciation, a significant portion faced difficulties in connecting ideas and structuring cohesive speeches, as shown in Figures 4 and 5.

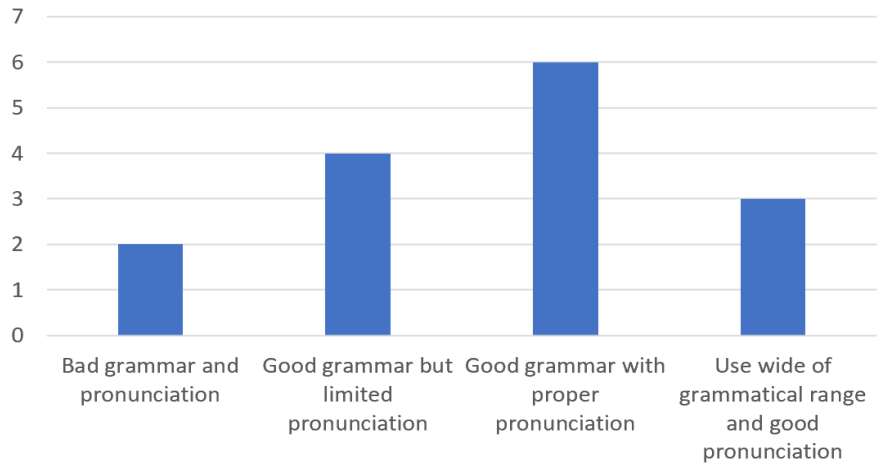


Figure 4. Grammar and Pronunciation Skills

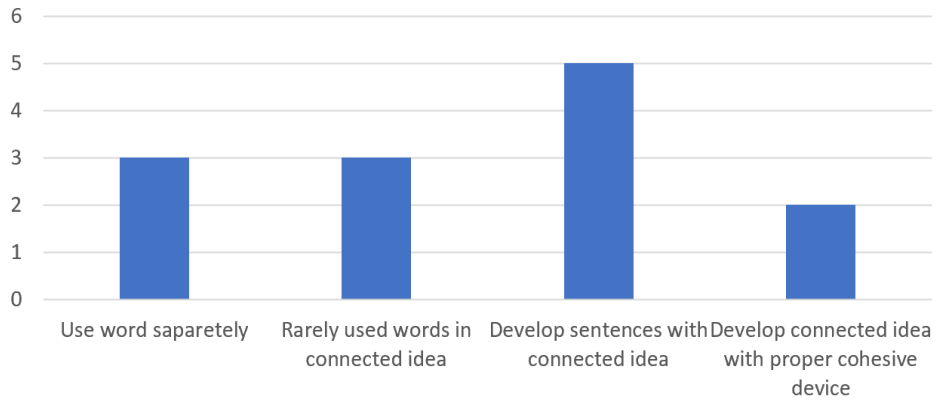


Figure 5. Discursive competence

As depicted in Figure 4, the participants' grammar and pronunciation skills have significantly improved, which demonstrates the effectiveness of the instructional interventions in developing fundamental language skills. The majority of the participants have demonstrated an ability to navigate grammatical structures and articulate sounds accurately, which indicates a strong foundation in language mechanics, thanks to corpus-based instructional strategies. This level of proficiency is crucial for effective communication and lays the groundwork for linguistic competence in various contexts.

As reflected in Figure 5, upon examination of the speeches given by the participants, several challenges were identified in connecting ideas and structuring coherent speeches. These challenges point towards a need for additional support in higher-order language skills, particularly in discourse coherence and organization. It was observed that eleven out of thirteen participants were unable to effectively structure their speeches, indicating a gap in their ability to organize their thoughts coherently and present them in a logical sequence. This deficiency could impede effective communication and hinder the conveyance of complex ideas and arguments, making it difficult for the audience to understand the speaker's intended message.

To overcome the challenges in effective communication, it is important to provide specific interventions that can improve the way participants organize and present their ideas. This can be done by teaching them about rhetorical structures, discourse markers and cohesive devices, which will help them construct speeches that are well-organized and logically connected. Furthermore, providing opportunities for guided practice and peer collaboration can help participants synthesize ideas and communicate them fluently and effectively.

Using corpus linguistics to analyze authentic speech samples and identifying patterns of discourse organization within environmental contexts can provide valuable insights for instructional design. By providing instruction based on real-world language use cases extracted from the NOW corpus, educators can customize instructional materials and activities to address the specific challenges encountered by learners in structuring cohesive speeches

Qualitative analysis

To illustrate group differences, we present short case analyses from three contrasting profiles (P2 high, P13 medium, and P12 low). Taken together, these threads add up to a triangulated view of uptake, accuracy, and cohesion in students' environmental talk. Participants 2, 12, and 13 were selected deliberately for description to illustrate different patterns of performance in the speaking test. The other participant, P2, illustrated the best case of the results: correct use of lexical items in the environment with fluency and context,

grammar, and pronunciation, besides pretty good coherence in discourse. Participant 12 was also a lower performing case, with restricted vocabulary integration, grammatical errors, and poor cohesion—it has therefore mirrored typical learner difficulties and pedagogical demands. Those in the middle range reflected participant 13, who appeared to overall control target lexis successfully but occasionally revealed awkward structure or fluency as discourse competence emerged. In combination, these high–middle–low profiles provide a representative range for assessing the potential of the corpus-based approach and identifying areas where it requires improvement.

Participant 12's Response

Wordlist

Noun	Verb	Adjective
Biodiversity	Protect	**Sustainability**
Environment	**Promote**	Clean
Warming	**Highlight**	**Marine**
Climate	Encourage	**Future**
Nature	**Achieve**	**Better**

"We can take a small action to protect our **biodiversity**, such as **promote** the act to the social media about raising **awareness**, **climate** change, global **warming**, and **sustainability** for the **better future** of our generation. We can **highlight** the **marine biodiversity**, *like* we can clean the trash on **marine** area and to **achieve** the **better nature** for our **environment**." (Participant 12)

Participant 12's response showcases a commendable ability to integrate environmental vocabulary into speech with effective expression, indicating a strong grasp of the lexical items provided. The utilization of first-person pronouns such as "we" and "our" suggests a personal engagement with the topic, fostering a sense of shared responsibility and collective action in addressing environmental concerns.

Furthermore, Participant 12 demonstrates proficiency in developing a logical structure for her speech, organizing ideas coherently to convey her message. However, the absence of proper conjunctions to indicate cohesive discourse represents a notable deficiency in discourse coherence. Conjunctions play a crucial role in signaling relationships between ideas and facilitating smooth transitions between sentences and paragraphs. The lack of cohesive markers may hinder the flow of discourse and impede the clarity of communication.

To enhance Participant 12's speaking skills, targeted instruction on the use of cohesive devices such as conjunctions, transitional phrases, and discourse markers is warranted. By explicitly teaching the function and usage of these linguistic tools, educators can empower Participant 12 to structure her speech more effectively and convey ideas with greater clarity and coherence.

Additionally, providing opportunities for guided practice and feedback can facilitate Participant 12's acquisition and mastery of cohesive discourse strategies. Engaging in collaborative activities such as peer discussions, role-plays, and presentations can offer valuable opportunities for Participant 12 to apply newly acquired skills in authentic communicative contexts, thereby consolidating learning and fostering continuous improvement.

Overall, while Participant 12 demonstrates proficiency in vocabulary usage and logical structuring of ideas, the identified deficiency in the use of proper conjunctions highlights an area for targeted intervention and skill development. Through targeted instruction and guided practice, Participant 12 can enhance her ability to construct cohesive and coherent speeches, thereby strengthening her overall speaking proficiency in environmental English discourse.

Participant 13's Respnse

Wordlist

Noun	Verb	Adjective
Pollution	Celebrate	Clear
Planet	Adopt	Natural
Emission	**Encourage**	**Various**
Nature	**Save**	Large
Awareness	Host	Social

"The **pollution** of the **planet** make us need to keep away the **nature** from the gas **emission** itself and increase our **awareness** to **save** our nature and our earth, by **encouraging** us to use public transportation rather than our transportation, like our motorcycle, our car. There are a lot of things that we can do instead of that, like *choosing* the trash, put some plastic on it and try to recycle on. Some deforestation are here, *we need to do it more not really kind into it*, we need stop doing deforestation and try to make the forest *more greener* than before. There *is* a lot of things that we need to clean on the ocean such as, the trash on the sea, on the water. It help us to **save** the creature in the sea. There is **various** things that impact to us, **natural** disaster, like flood, foggy things caused by deforestation. By cleaning all of them, it makes our planet *more safe* and *more cleaner*." (Participant 13)

Participant 13's response demonstrates a commendable ability to utilize environmental vocabulary effectively within the context of environmental issues, indicating a strong command of the lexical items provided. The participant's proficiency in integrating these words into speech suggests a solid understanding of environmental concepts and terminology, contributing to the clarity and depth of expression.

Moreover, Participant 13 exhibits proficiency in developing a well-structured speech, characterized by coherent organization of ideas and adherence to grammatical conventions. The participant's ability to articulate thoughts fluently with good grammar and pronunciation reflects a robust foundation in language proficiency. However, the identification of some grammar errors (*italics*) suggests areas for refinement and improvement, warranting attention to ensure linguistic accuracy and precision.

While Participant 13 demonstrates competence in structuring speech logically, the limited use of proper sentence conjunctions to indicate cohesive discourse represents a noteworthy deficiency in discourse coherence. Conjunctions serve as crucial markers of relationships between ideas, facilitating smooth transitions and enhancing the flow of discourse. The infrequent use of cohesive devices may impede the clarity and coherence of Participant 13's speech, hindering the effective conveyance of ideas.

To address this gap, targeted instruction on the usage of sentence conjunctions and discourse markers is warranted. By explicitly teaching the function and application of these linguistic tools, educators can empower Participant 13 to enhance the coherence and cohesion of his speech. Additionally, providing opportunities for guided practice and feedback can further reinforce the acquisition and mastery of cohesive discourse strategies.

Overall, while Participant 13 demonstrates proficiency in vocabulary usage, speech structuring, and grammatical accuracy, the identified deficiency in the use of proper sentence conjunctions highlights an area for improvement. Through targeted instruction and guided practice, Participant 13 can enhance the coherence and cohesion of his speech, thereby elevating the overall effectiveness of his communication in environmental English discourse.

Participant 2's Response

Wordlist

Noun	Verb	Adjective
Recycling	**Preserve**	**Natural**
Ecosystem	**Reduce**	**Human**
Emission	**Generate**	**Future**
Climate	**Contribute**	**Local**
Nature	**Save**	**Public**

"**Recycling** system in our country is quite good this day. I love to learn everything about **ecosystem**. Carbon **emission** is such a big problem for us. **Climate** change is a hot topic in social media. We have to **save** our **nature**. We have to **preserve** endanger animal. We have to **reduce** the amount of carbon emission. We can **generate** new technology for our **future**. We can **contribute** in many social event. We have to **save** endanger animal. She has **natural** beauty. Sometimes animal are more **human** than us. I hope we have a bright **future**. We have to preserve the **local** production. **Public** relation is a topic in politics". (Participant 2)

Participant's response reflects a strong command of environmental vocabulary, as evidenced by the ability to utilize all the given words. However, while the participant demonstrates proficiency in vocabulary acquisition, there are notable shortcomings in contextual usage, with some words not employed in the appropriate environmental context. This suggests a need for further development in understanding the nuanced application of environmental terminology within relevant contexts.

Furthermore, the participant exhibits commendable pronunciation and grammar, indicating a solid foundation in language proficiency. The ability to articulate thoughts fluently and accurately underscores linguistic competence, contributing to the clarity and effectiveness of communication. However, despite the proficiency in individual language skills, there is a deficiency in developing logical relations between sentences, resulting in disconnected discourse. This lack of coherence impedes the flow of communication and diminishes the clarity of the participant's message.

Moreover, the absence of cohesive devices further exacerbates the coherence issue, as the participant fails to employ linguistic markers to establish connections between ideas and facilitate smooth transitions between sentences and paragraphs. Cohesive devices play a crucial role in signaling relationships between concepts and enhancing the overall coherence of discourse. The participant's failure to utilize these devices underscores a need for focused instruction and practice in employing cohesive strategies to enhance the cohesion and coherence of speech.

To address these deficiencies, targeted interventions aimed at enhancing contextual understanding of environmental vocabulary and fostering the use of cohesive devices are warranted. Incorporating explicit instruction on contextual usage and providing opportunities for guided practice in integrating vocabulary within relevant environmental contexts can deepen the participant's understanding and application of environmental terminology. Additionally, instruction on the effective use of cohesive devices can help improve the organization and coherence of the participant's speech, facilitating clearer and more effective communication.

4. DISCUSSION

The results of this study have promising implications for the role that corpus-based instruction plays, specifically with the NOW corpus, can play in developing learners' figurative environment-related vocabulary use in more contextually and grammatically appropriate ways. Most of the students could successfully utilise the vocabulary in their execution to converse, as demonstrated by taking a speaking test, where 11 out of the 13 pupils scored more than 30, showing that the terms learnt were put into practice. These results reinforce the pedagogical claim that authentic language input from corpora promotes vocabulary retention and contextual awareness, consistent with findings by Frankenberg-Garcia (2014), Kennedy and Miceli (2017), and Liu (2011), who argue that exposure to real linguistic data fosters more natural and accurate language use.

Beyond the vocabulary mastery, the research also focused on students' grammatical precision, pronunciation, and discursive competence. Although most subjects fared well regarding grammatical correctness and pronunciation, a significant obstacle could be observed in terms of discourse cohesion. As shown in Figures 4 and 5, despite making use of the target words appropriately, throughout the final task, participants faced problems when trying to form coherent speech based on the previously given prompts. This is consistent with the studies of Huang (2011) and Keck (2012), who claim that, while corpus tools facilitate vocabulary awareness, they need to be combined with teaching approaches for developing higher-level skills, such as rhetorical organization and cohesive discourse.

This study contributes significantly to the existing research by placing the environmental language in a corpus-based perspective, which is a new area of work of this nature. Although prior research has established the merit of incorporating topics on the environment in EFL classes (Arikan, 2009; Paradewari et al., 2018), few have examined this through a corpus linguistic approach from the News on the Web (NOW) corpus perspective. The present findings thus fill an important gap by illustrating how corpus-informed environmental language instruction can simultaneously cultivate linguistic competence and environmental awareness (Rudenko, 2023; Wijitsopon, 2025). Theoretically, the results resonate with cognitive linguistic and constructivist paradigms, which highlight contextualized input, authentic data exposure, and meaning-making through situated use (Al-Barakat et al., 2025; Lytvynko et al., 2025). Selecting authentic, contemporary environmental texts from the NOW corpus exemplifies these principles by immersing learners in real-world discourse patterns that mirror ecological concerns and sustainability narratives.

From a pedagogical perspective, the findings hold several implications. They suggest that corpus-based materials can be integrated effectively into English curricula to enhance environmental literacy, vocabulary recall, and communicative fluency (Akpinar et al., 2015; Rodríguez-Fuentes & Swatek, 2021; Rudneva, 2021). Teachers can adapt subcorpora such as the NOW corpus to design topic-specific vocabulary lessons that are meaningful and motivating while accounting for learners' proficiency levels. Moreover, incorporating explicit instruction on cohesive devices alongside corpus exploration can strengthen learners' ability to organize ideas coherently in speech, thereby expanding the benefits of corpus-aided pedagogy beyond vocabulary learning to broader discourse competence.

Despite the promising results, there are some limitations that must be considered. First, the number of patients (n=13) was low, and the results are not generalizable. Second, the study

took place in one institution for a limited duration (three terms), which may not incorporate long-term lexical retention and transfer to other language uses. Another limitation is that the present study targeted speaking only; future research could add a writing task to investigate whether vocabulary and cohesion strategies are transferred across modes.

It is suggested that future studies further investigate the long-term effects of corpus-based instruction on language retention and fluency, including other skills such as writing and reading. It would also be beneficial to compare corpus-based environmental vocabulary instruction with the traditional textbook-based approaches. Further studies can also consider using learner-generated corpora or localized subcorpora with environmental issues related to students' local areas, which could serve to provide increased relevance and interest.

5. CONCLUSION

The results of this study emphasized the students' proficiency in vocabulary mastery and pronunciation, as well as in using words correctly in context related to environmental language learning. But despite these abilities, students need help in generating and linking ideas to form coherent speech. Though competent in their language skills, the obstacle is to integrate and express ideas coherently. This highlights the importance of providing ongoing support and instructional guidance to nurture students' ability to organize thoughts and communicate effectively. In the future, instructors are advised to put efforts into developing students' discourse coherence by explicit instruction of rhetorical structures and cohesive devices, as well as guided practice and feedback. By addressing these areas of improvement, teachers can help students not only acquire language skills but also accomplish meaningful, coherent communication and promote environmental awareness. Future research should therefore adopt longitudinal and comparative designs to examine sustained effects of corpus-based instruction, including its influence on fluency and cross-modal transfer. Investigating learner-generated or localized subcorpora that feature environmental issues relevant to students' immediate contexts could also enhance engagement, contextual relevance, and ecological responsibility.

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