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DECODING 'ENVIRONMENTAL' DISCOURSE: A LINGUISTIC APPROACH TO IMPROVING EDUCATION FOR SUSTAINABLE DEVELOPMENT

ROZSZYFROWYWANIE DYSKURSU „EKOLOGICZNEGO". LINGWISTYCZNE PODEJŚCIE DO DOSKONALENIA EDUKACJI NA RZECZ ZRÓWNOWAŻONEGO ROZWOJU

Streszczenie: W obliczu postępującej degradacji środowiska naturalnego oraz w ramach inter-dyscyplinarnych dążeń do podniesienia jakości edukacji na rzecz zrównoważonego rozwoju (EZR) zwracamy uwagę, że dziedzina ta powinna ewoluować nie tylko pod względem treści, ale również języka. Niniejszy artykuł analizuje hipotezę, zgodnie z którą zjawiska lingwistyczne – w szczególności prozodia semantyczna – w znaczący sposób kształtują świadomość i działania na rzecz środowiska. Czerpiąc z językoznawstwa kognitywnego i analizy dyskursu, w pierwszej kolejności przedstawiamy teoretyczne podstawy twierdzenia, że język wpływa na percepcję społeczną i intencje behawioralne w sferze ochrony środowiska. Następnie dokonujemy przeglądu zastosowań prozodii semantycznej w badaniach nad dyskursem ekologicznym, począwszy od analizy terminu *GREEN FUNDAMENTALIST* autorstwa Partingtona (1998), który ujawnia, jak częste negatywne kolokacje mogą naznaczyć nawet ideologicznie neutralne pojęcia, a skończywszy na badaniu leksemu *SUSTAINABILITY* przeprowadzonym przez Hardiman i Nuraniwati (2023), które ukazuje jego pozytywną aurę semantyczną we współczesnym dyskursie informacyjnym. Te prace stanowią punkt wyjścia dla naszej autorskiej

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analizy terminu *ENVIRONMENTAL* przy użyciu narzędzia WebCorp. Nasze badanie korpusowe ujawnia dwojaki wzorzec lingwistyczny: przymiotnik *ENVIRONMENTAL* wykazuje negatywną prozodię semantyczną, kolokując z terminami oznaczającymi szkodę i ryzyko, a jednocześnie jest osadzony w neutralnym, technokratycznym dyskursie zarządzania i nauki. Takie otoczenie semantyczne może przyczyniać się do dystansu emocjonalnego, braku zaangażowania lub technokratycznego postrzegania kryzysu ekologicznego. Twierdzimy, że wzorce te mają bezpośrednie implikacje dla edukacji na rzecz zrównoważonego rozwoju: jeśli edukacja ta ma krzewić nadzieję, poczucie sprawczości i działanie, musi zwracać uwagę nie tylko na to, *czego* naucza, ale również na to, *w jaki sposób* jest to kodowane językowo. Prozodia semantyczna oferuje edukatorom efektywne narzędzie do przekształcania dyskursu ekologicznego i klimatycznego w sposób, który rezonuje z adresatami przekazu na płaszczyźnie emocjonalnej i etycznej.

Słowa kluczowe: dyskurs ekologiczny, prozodia semantyczna, edukacja ekologiczna, edukacja na rzecz zrównoważonego rozwoju (EZR), lingwistyka korpusowa

Abstract: In the face of accelerating ecological degradation, and in line with interdisciplinary efforts to enhance the quality of Education for Sustainable Development (ESD), we propose that this field ought to evolve not only in content but also in language. This article explores the hypothesis that linguistic framing—specifically semantic prosody—significantly shapes environmental awareness and action. Drawing on cognitive linguistics and discourse analysis, we first establish the theoretical basis for the claim that language influences public perception and behavioral intent in the environmental domain. We then review how semantic prosody has been applied in ecological discourse studies, beginning with Partington's (1998) analysis of the term *GREEN FUNDAMENTALIST*, which exposes how frequent negative collocates can taint even ideologically neutral concepts, and continuing through Hardiman & Nuraniwati's (2023) corpus-based study of the lexical item *SUSTAINABILITY*, which demonstrates the term's positive semantic aura within contemporary news discourse. These foundational works set the stage for our original analysis of the term *ENVIRONMENTAL* using the WebCorp tool. Our corpus inquiry reveals a dual linguistic pattern: *ENVIRONMENTAL* exhibits a negative semantic prosody, collocating with terms of harm and risk, while simultaneously being framed within a neutral, technocratic discourse of governance and science. This semantic environment may contribute to emotional distancing, disengagement, or a technocratic framing of ecological crises. We argue that such patterns have direct implications for environmental education: if ESD is to foster hope, empowerment, and action, it must attend not only to *what* is taught, but *how* it is linguistically encoded. Semantic prosody offers educators and communicators a powerful lens for reshaping ecological and climate discourse in ways that resonate emotionally and ethically with learners.

Keywords: environmental discourse, semantic prosody, environmental education, Education for Sustainable Development (ESD), corpus linguistics

Introduction: Language as a Mediating Factor in Environmental, Climate Action and Education

The necessity for environmental and climate action presents a dual challenge to the global community: a physical challenge of mitigating ecological degradation and a pedagogical challenge of fostering a generation capable of enacting sustainable change. Education for Sustainable Development (ESD) is the primary international response to this pedagogical imperative, aiming to equip learners with the knowledge, skills, and values necessary for building a more just and sustainable world (UNESCO, 2020). While the content of ESD curricula—the scientific data, the technological solutions, the policy frameworks—is of undeniable importance, its efficacy is mediated by a factor that is often treated as transparent or secondary: the language used to frame the issues.

This article proceeds from the premise that language is not a neutral conduit for information but a constitutive force that actively shapes cognition, perception, and behavioral intent (Fairclough, 1992). The linguistic choices made in classrooms, media, and policy documents construct the very reality of the ecological crisis, including climate change, for learners, priming them for either engagement or apathy. This paper argues that the default public discourse surrounding environmental issues is characterized by linguistic patterns that are frequently counter-productive to the stated goals of ESD. Consequently, it posits that educators must become conscious linguistic architects, capable of analyzing and reshaping discourse to build a more empowering and effective pedagogy.

To substantiate this argument, this article undertakes a systematic linguistic analysis of the dominant environmental discourse. It rests on two foundational theoretical principles. The first is *Framing Theory*, which demonstrates how specific linguistic choices activate cognitive frameworks that influence comprehension and judgment (Lakoff, 2010). The second is the psychological phenomenon of *cognitive dissonance*, which, in an educational context, can lead to disengagement when learners are confronted with overwhelming threat narratives that lack pathways for meaningful action (Kagawa, 2007; Ojala, 2012).[3]

Given that language frames reality and that certain frames can lead to educational failure, a critical linguistic analysis of environmental discourse becomes

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3   Although the authors of this study focus on the issue of cognitive dissonance, they emphasize the validity of extending the analysis beyond its classical picture, introducing the perspective of ecological stress and coping mechanisms. The emotions associated with environmental threats can determine motivation to act. On one hand they can lead to pessimism and withdrawal, while on the other hand, through constructive hope and a sense of efficacy, they can mobilize towards specific behaviors. These processes are strongly modulated by the educational, narrative, and linguistic context used in curricula. Cognitive dissonance remains a significant, though not sole explanation, whose influences can be limited by appropriately designed educational interventions.

a pedagogical necessity. This paper will apply the empirical tools of corpus linguistics to uncover the subliminal evaluative meanings encoded in environmental language. We will first review prior applications of this methodology in ecological discourse, then present an original corpus-assisted study of the keyword *ENVIRONMENTAL*, and finally, draw concrete, evidence-based conclusions for the practice of ESD.

Theoretical Framework: The Constitutive Role of Language in Environmental Perception

To argue that the linguistic environment of a word has tangible effects, it is necessary to establish a theoretical framework that connects language to cognition and behavior. This section integrates insights from cognitive linguistics, educational psychology, and corpus linguistics.

The way we speak and write about the environment is not merely descriptive; it is fundamentally constitutive. This concept is robustly supported by Framing Theory, most notably articulated by George Lakoff (2010). A frame is a cognitive structure, an unconscious mental model, that organizes our knowledge and shapes our perception of reality. When language invokes a particular frame, it brings with it a set of roles, relationships, and moral evaluations. For example, describing a government policy as *TAX RELIEF* frames taxation as an affliction and its reduction as a positive liberation. Describing the same policy as a *CUT TO PUBLIC SERVICES* frames it as a loss that harms the community. The linguistic choice is not stylistic; it is a strategic activation of competing cognitive models.

This principle is directly applicable to environmental discourse. The shift from *GLOBAL WARMING*, with its connotations of gradual and perhaps benign temperature increase, to the more technical-sounding *CLIMATE CHANGE* was identified by political strategists as a means to reduce public alarm (Luntz, 2003). Conversely, the adoption of *CLIMATE CRISIS* or *CLIMATE EMERGENCY* by activists and some media outlets is a conscious effort to re-frame the issue with the urgency they argue it warrants. As Stibbe (2015) argues in his work on ecolinguistics, shifting ecological behavior requires a fundamental rethinking of the dominant "stories we live by," which are encoded and perpetuated through such linguistic frames.

The second crucial theoretical pillar comes from educational psychology. The goal of ESD is not simply to inform but to motivate action. However, communication that focuses exclusively on catastrophic outcomes can be counter-productive. Kagawa (2007) identified a significant dissonance in students' understanding of sustainability, where their concern for environmental issues was not matched by a deep understanding or a belief in their capacity for meaningful, systemic action. Her findings are often cited to argue that educational approaches focused on overwhelming "doom and gloom" scenarios, without providing clear avenues for action, can lead to disengagement or limited, superficial responses rather

than genuine engagement. This psychological discomfort, arising from holding the two conflicting cognitions ("the world is in peril" and "I am powerless to act"), frequently leads to defensive avoidance, fatalism, or disengagement as a means of protecting one's own mental well-being (De Graaf, Bal, de Wit, Stok, 2024).

Further research by Ojala (2012) elaborates on this by exploring the role of hope. Ojala distinguishes between optimistic denial and "constructive hope"—a form of hope grounded in an awareness of the challenges but coupled with a sense of agency and a belief that one's actions matter. For education to be effective, it must cultivate this constructive hope. This requires a language that, while acknowledging the severity of the situation, simultaneously builds a sense of individual and collective efficacy. A discourse that is relentlessly negative or exclusively focused on distant, technical problems is unlikely to foster such an emotional and motivational state. Research in climate change communication has increasingly recognized that fear-based appeals, unless carefully paired with efficacy-building messages, can backfire, leading to denial or apathy (Moser & Dilling, 2007; Bilfinger, Brummernhenrich, & Jucks, 2024).

Language is not a neutral medium; it actively frames our perception of reality. If certain frames—such as those centered on "doom and gloom"—are pedagogically ineffective, an empirical method is required to diagnose the dominant frames present in public discourse. Corpus linguistics provides this methodology. By analyzing massive databases of authentic text (corpora), researchers can move beyond intuition to identify statistically significant linguistic patterns that reveal underlying social meanings. To analyze these frames effectively, it is crucial to first disambiguate a hierarchy of key concepts: collocation, semantic preference, and semantic prosody.

At the most fundamental level there is *collocation*, which refers to the habitual co-occurrence of specific words. It is the statistical tendency of words to appear together, such as *STRONG* with *COFFEE* or *MAKE* with *NOISE*. This is a relationship between individual lexical items.

Moving to a higher level of abstraction is *semantic preference*. This describes the relationship not between individual words, but between a word and a set of semantically related words (Stubbs, 2001). A word shows a semantic preference for a particular meaning group. For instance, the verb *LARGE* has a semantic preference for words describing "quantities and sizes", e.g. numbers. This concept captures a word's tendency to co-occur with a specific semantic domain, but it does not, by itself, describe the attitudinal or evaluative nature of that association. Finally, *semantic prosody* is the attitudinal and pragmatic "aura" of meaning that a word acquires from its consistent collocational environments (Louw, 1993). This evaluative coloring is best understood as operating "on the pragmatic side of the semantics/pragmatics continuum" (Sinclair, 1996), arising from a word's patterns of collocation and semantic preference. In his 2001 work, Stubbs attempts at underlining the attitudinal nature of semantic prosody (for which he adopts

a new term—discourse prosody) claiming that it "express(es) speaker attitude". Crucially, however, these patterns are not monolithic. Semantic prosody has been shown to be a highly genre- and register-dependent phenomenon (Cheng, 2006). Early claims that a prosody was a general feature of a word have been superseded by evidence that its evaluative load can shift dramatically across different contexts. A word may establish a "local prosody" (Tribble, 2000) specific to one genre that is absent in another. The verb *TO CAUSE* serves as a prime example. While it exhibits a strong negative prosody in general and journalistic corpora, research confirms this negativity is significantly "smoothed" or diluted in academic prose, where it collocates more frequently with neutral terms like *CHANGE* and *PRESSURE*. This context-driven variation is fundamental; failure to recognize it leads to an incomplete and potentially misleading analysis.

Analyzing semantic prosody allows us to uncover the subliminal, evaluative meanings that shape public discourse. It provides a powerful, evidence-based tool for identifying whether ecological terms are being framed through a lens of hope and empowerment or one of danger and restriction.

A Review of Semantic Prosody and Evaluative Framing in Ecological Discourse

The utility of semantic prosody and related corpus-linguistic methods as diagnostic tools for ecological discourse is demonstrated by a growing body of empirical work. This research moves beyond intuition to provide evidence of how language patterns construct particular views of the natural world, environmental activism, and proposed solutions. A review of this literature reveals three key areas of investigation: the framing of environmentalism and contested issues, the evaluation of core ecological concepts, and the complex prosodies of solution-oriented terms.

Much of the foundational work in this area has focused on how language is used to frame environmentalism and contested ecological issues in a negative light, a tradition rooted in Critical Discourse Analysis. The seminal study remains that of Alan Partington (1998) on the collocation patterns of *GREEN* and *FUNDAMENTALIST*. He provided empirical evidence that these terms were frequently collocated in political and media discourse with words carrying a strong negative prosody, such as *MILITANT* or *EXTREMIST*. This exposes a "prosodic contamination," transferring the negative associations of irrationality and fanaticism onto the environmental cause, thereby discrediting it without engaging its scientific arguments.

Researchers have also applied similar methods to understand how fundamental ecological concepts are framed in general discourse. Andrew Goatly (2007), in his influential work on the word *NATURE*, used corpus analysis to examine its collocates in the idiomatic expressions of English in his own corpus "Metalude". He found that *NATURE* frequently co-occurs with verbs that position it as

a passive entity or a resource for human use (e.g., *CONTROL OF NATURE*, *LAWS OF NATURE*, *NATURE PROVIDES*). Furthermore, he noted the prevalence of the phrase *HUMAN NATURE*, which often serves to justify environmentally destructive behaviors as being innate and unchangeable. This analysis reveals a deep-seated anthropocentrism in language, where the non-human world is linguistically subordinated to human interests and control. The semantic environment of *NATURE* itself, therefore, typically encodes a worldview that is at odds with ecological principles of intrinsic value and interconnectedness.

A third strand of research investigates the language used to frame solutions, revealing that even positive-sounding terms can have complex and sometimes problematic rhetorical functions. The study by Hardiman & Nuraniwati (2023) on the word *SUSTAINABILITY* is a key example. Their analysis of the NOW (News on the Web) Corpus revealed a predominantly positive semantic prosody, with the term frequently collocating with aspirational words like *DEVELOPMENT*, *COMMUNITY*, *FUTURE*, *INVESTMENT*, *EQUITABLE*, and *INCLUSIVE*. This reflects the successful mainstreaming of *sustainability* as a positive goal within corporate and governmental discourse.

However, other scholars urge caution. A key concept of "greenwashing" suggests that a positive prosody can be strategically employed to signal virtue and deflect criticism without substantive action (Stibbe, 2015). This is further complicated by the analysis of related terms like *RESILIENCE*. David Alexander (2013), while not using a strictly prosodic methodology, critiques the discourse of *RESILIENCE*, arguing that its popular usage often shifts the burden of responsibility. By emphasizing a community's ability to "bounce back" from climate-related disasters, the term can divert attention from the root causes of the disaster and the responsibility of institutions to prevent it in the first place. This suggests that the positive prosody of solution-oriented terms like *SUSTAINABILITY* and *RESILIENCE* can be ambivalent, functioning both as genuine markers of progress and as rhetorical tools that obscure deeper systemic issues.

This expanded review demonstrates that corpus-assisted analysis is a mature tool for investigating ecological discourse. The research shows that: (1) negative frames are empirically identifiable and used to discredit environmental activism and technologies; (2) core concepts like *nature* are typically framed in anthropocentric terms; and (3) seemingly positive solution terms like *SUSTAINABILITY* carry a complex prosody that can be both aspirational and rhetorically co-opted.

While these studies have illuminated the prosodies of specific activist labels (*GREEN*), and solution-oriented nouns (*SUSTAINABILITY*, *NATURE*), a systematic analysis of one of the most frequent and foundational adjective in the entire domain—*ENVIRONMENTAL*—remains a crucial gap. This word functions as the primary modifier for a vast range of nouns (*DAMAGE, POLICY, SCIENCE, CRISIS*). Understanding its own semantic prosody and preferences is therefore

essential for diagnosing the default, overarching framing of the entire ecological domain in public discourse. This study aims to fill that gap.

Methodology: A Snapshot of ENVIRONMENTAL on the World Wide Web

Building on this tradition, this study sought to answer the following research question: What is the current semantic prosody and semantic preference of the word *ENVIRONMENTAL* in public discourse?

To investigate this, we conducted a real-time analysis of the World Wide Web, treating it as a vast, dynamic corpus of contemporary, non-specialized language. The analysis was performed using WebCorp Live, a tool designed to extract linguistic data from the web in real-time by using a commercial search engine as its back-end. For this study, the Bing search engine was used. The keyword *ENVIRONMENTAL* was queried (case-insensitive). This approach was chosen to capture a broad snapshot of public-facing discourse as it appears in news articles, institutional websites, blogs, and commercial pages, rather than being limited to a specific genre like academic papers or parliamentary debates.

We analyzed the top 50 collocates occurring within a span of four words to the left and four words to the right (L4-R4) of the keyword. This span was selected to capture the word's most immediate and therefore most influential linguistic environment. The analysis proceeded in three stages:

1. Generation of a collocate list: WebCorp Live automatically generated a frequency-ranked list of all words appearing in the specified span.
2. Categorization for Semantic Prosody: The collocates were categorized as having a negative, positive, or neutral valence to determine the overall semantic prosody of the keyword.
3. Grouping for Semantic Preference: The collocates were grouped into thematic semantic fields (e.g., a field of damage, a field of governance) to identify the word's semantic preference—its tendency to co-occur with words from particular meaning groups.

Results and Analysis: The Troubling Discourse Surrounding ENVIRONMENTAL

After the exclusion of stopwords (e.g., *THE, OF, AND*, …), the analysis revealed a clear and consistent linguistic pattern. The discourse surrounding the word *ENVIRONMENTAL* in this corpus is predominantly negative, technocratic, and emotionally detached.

The most striking finding is the powerful negative semantic prosody of *ENVIRONMENTAL*. The combined frequency of explicitly negative collocates is extremely high. These include *DAMAGE* (41 instances), *HARM* (20), *PROBLEMS* (9), *POLLUTION* (8), *NEGATIVE* (7), *ISSUES* (7) and *SERIOUS* (6). Together, these words create a consistent semantic environment of adversity, risk, and crisis around the keyword. Their combined frequency amount to 91 occurrences, and they account for 14% of the unique lemmas.

Word	L4	L3	L2	L1	R1	R2	R3	R4	Total
damage	0	2	1	0	36	1	0	1	41
principles	0	0	3	1	24	0	1	1	30
protection	0	0	0	1	20	0	0	2	23
policy	3	4	0	0	3	3	1	6	20
harm	1	0	1	0	17	0	0	1	20
favourites	0	1	0	18	0	0	0	0	19
Add	0	18	0	0	0	0	0	0	18
effects	3	1	0	1	13	0	0	0	18
environmental	4	3	1	0	0	0	4	4	16
Science	0	1	0	0	15	0	0	0	16
Environmental	3	1	3	0	0	4	0	3	14
Improvement	0	0	2	0	11	0	0	0	13
prevent	2	1	0	9	0	0	0	0	12
change	1	2	2	1	5	0	0	1	12
earth	0	0	0	0	0	12	0	0	12
principle	1	1	4	0	0	0	2	4	12
sciences	0	0	0	0	0	0	12	0	12
potential	0	0	1	9	0	0	2	0	12
Protection	1	2	0	0	8	0	0	0	11
Office	0	0	8	0	0	2	1	0	11
Plan	0	0	0	1	0	10	0	0	11
Environment	2	4	0	1	0	1	2	1	11

Word	L4	L3	L2	L1	R1	R2	R3	R4	Total
2025	2	0	1	0	0	0	2	4	9
opportunities	2	4	1	0	0	0	2	0	9
biggest	0	1	0	8	0	0	0	0	9
problems	0	0	0	0	9	0	0	0	9
pollution	3	1	0	1	2	0	0	1	8
2023	1	0	0	0	0	0	4	3	8
effect	0	0	1	0	6	0	0	1	8
Change	0	1	0	0	7	0	0	0	8
University	0	0	0	0	0	2	2	3	7
law	0	0	0	0	6	0	0	1	7
negative	0	0	0	5	0	0	0	2	7
issues	0	0	0	0	6	0	1	0	7
Year	0	0	0	0	0	0	1	5	6
serious	0	4	0	1	0	0	1	0	6
source	1	2	0	1	0	0	0	2	6
enhancement	0	0	0	0	1	0	3	2	6
professionals	0	0	0	0	5	0	1	0	6
Management	0	0	0	0	1	1	4	0	6
Power	1	0	0	0	0	4	0	0	5
List	0	1	0	0	0	0	4	0	5
Home	4	0	1	0	0	0	0	0	5
OEP	0	1	0	0	0	2	2	0	5
government	0	2	0	1	0	0	1	1	5
Sciences	0	0	0	1	4	0	0	0	5
Study	0	2	0	0	0	3	0	0	5
new	0	2	0	1	0	0	2	0	5
MSc	0	0	5	0	0	0	0	0	5
prevention	0	1	0	0	0	0	2	1	4

Fig. 1. Top 50 collocates of the word *ENVIRONMENTAL* **on the World Wide Web elicited by WebCorp using Bing**

In stark contrast, words with a clearly positive prosody are far less frequent. *FAVOURITES* (19), *IMPROVEMENT* (13), *ENHANCEMENT* (6), and *OPPORTUNITIES* (9) have a combined total of only 47 instances, less than a half of the negative load. However, the further investigation of the most common positive term (*FAVOURITES*) has shown that it was not a context-dependent co-occurence, rather than a perchance co-occurrence, since the search engine (Bing) paired together titles of the articles (e.g., "Environmental sustainability and climate change") with unrelated buttons ("Add to favourites") and the section names ("Favourites"). Therefore, we decided to move it to the neutral category, leaving the positive collocates at 28 accumulated instances and 6% of unique words occurrence.

The majority of collocates constituted the neutral words, which are primarily descriptive, functional, or topical. They name concepts, entities, fields of study, or plans of action without carrying an inherent positive or negative value. We decided to include in this category also the defensive terms such as *PROTECTION* and

PREVENTION, which, while responding to a negative situation, describe a process or goal rather than an inherently positive outcome. Their accumulated frequency accounted for 378 of the instances of collocations with *ENVIRONMENTAL* and that amounts to 80% of co-occurrences. Crucially, these terms are not merely evaluative noise to be disregarded; their dominance is a key finding that reveals the fundamentally technocratic and bureaucratic nature of the discourse. These words, primarily belonging to the semantic fields of governance (*POLICY*, *PROTECTION*, or *LAW*) and science (*SCIENCE*, or *STUDY*), frame environmental issues as depersonalized problems requiring expert management, thereby reinforcing the emotional distance suggested by the negative prosody.

The analysis conducted in this study suggests a negative semantic prosody of the term *ENVIRONMENTAL* on the World Wide Web.

Tab 1. Negative, neutral and positive percentage and accumulated frequency of the collocates of the word *Environmental*

	Environmental
NEGATIVE %	14%
NEGATIVE frequency (accumulated)	91
NEUTRAL %	80%
NEUTRAL frequency (accumulated)	378
POSITIVE %	6%
POSITIVE frequency (accumulated)	28

When the collocates are grouped into semantic fields, three dominant preferences emerge, painting a clear picture of the typical *ENVIROMENTAL* discourse:

1. Consequences. This is the strongest preference, including the collocates listed above (*DAMAGE, HARM, PROBLEMS, POLLUTION, EFFECTS, RISK*). This indicates that the primary function of the word *ENVIRONMENTAL* is to specify a type of problem.
2. Governance. The second preference is for words related to formal systems of control. This field includes *PROTECTION, POLICY, MANAGEMENT, GOVERNMENT, LAW,* and *PRINCIPLES*. This frames the response to environmental issues as a bureaucratic and legalistic process.
3. Academia The third preference is for words from the domain of expert knowledge, such as *SCIENCE, STUDY,* and *RESEARCH*.

The combination of these three fields constructs a highly specific and limited narrative: environmental discourse is filled with problems (Field 1) that are to be managed by experts (Field 3) through formal, top-down systems (Field 2).

Discussion and Implications for Sustainable Development Education (ESD)

The linguistic environment of the word *ENVIRONMENTAL* presents a significant challenge to educators. The default public discourse—problem-saturated, expert-driven, and emotionally sterile—is a recipe for the very cognitive dissonance and fatalism that Kagawa (2007) and Ojala (2012) warn against. If ESD passively absorbs and reproduces this language, it risks perpetuating a sense of powerlessness, where the environment is seen as a distant, damaged object to be managed by faraway authorities, disconnected from students' own lives, communities, and emotions.

To counter this, educators must become agents of conscious linguistic re-framing. Based on our findings, we propose four key pedagogical strategies:

1. Re-framing from Problems to Solutions. While acknowledging the reality of environmental problems, educators must actively shift the discursive focus. This involves moving beyond a simple description of damage and pollution to an exploration of solutions. By having students study and share stories of successful environmental projects, community actions, and policy innovations, they can build a linguistic and cognitive repertoire of possibility.

2. Supplement the Discourse by Introducing Absent Semantic Fields. Educators could intentionally weave in the missing semantic fields. We identified: social justice (e.g., *JUSTICE, EQUITY, COMMUNITY, PEOPLE,* etc.), economic activity (e.g., *BUSINESS, INDUSTRY, INVESTMENT, ECONOMY,* etc.), and affect (e.g., *HOPE, FEAR, BEAUTY, CARE,* etc.) as absent from semantic preference of the word *ENVIRONMENTAL*. This means intentionally and explicitly connecting environmental issues to concepts as social justice (e.g., Who is most affected by pollution and climate change?), community (e.g., How do local food systems or community gardens contribute to sustainability?), and emotion (e.g., creating space to discuss feelings of climate anxiety and hope, and fostering a connection with the beauty of nature).

3. Promote Linguistic Awareness as a Core Skill. Students should be taught to be "discourse detectives." They can be equipped with the basic tools of analysis to examine news headlines, corporate advertisements, and political speeches to identify framing, semantic prosody, and metaphor. This not only enhances critical media literacy but also empowers them by revealing that the dominant discourse is a social construction that can be challenged, resisted, and changed.

Conclusion

Language is the medium through which we construct our understanding of the world and our place within it. This study has provided empirical evidence

that the dominant public discourse surrounding the word *ENVIRONMENTAL* is laden with negative, disempowering, and detached associations.

For Education for Sustainable Development (EDS) to fulfill its transformative potential, there should be efforts undertaken aimed at improving the linguistic frame. In combination with the field of ecolinguistics, there ought to exist a site of intentional re-framing, where educators and students together build a new vocabulary—one that connects problems to agency, science to social justice, and crisis to constructive hope.

By understanding the power of language, we can better design an education that does not just inform students about the world, but empowers them to change it.

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