CREATING ENVIRONMENTAL EDUCATION MATERIALS FOR LANGUAGE LEARNING: TEN TIPS

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Resumo: Este artigo tem como objetivo propor dez dicas práticas para integrar a educação ambiental (EA) em materiais de aprendizagem de línguas. Ele enfatiza como a linguagem molda as perspectivas ambientais e incentiva a incorporação de vozes tradicionais, indígenas e ecocêntricas. As dicas incluem oferecer exemplos positivos, valorizar ações individuais e coletivas, abordar o impacto da produção de alimentos e verificar se os elementos ambientais não são apagados. Ele destaca a importância da Teoria das Inteligências Múltiplas, conexões locais, pensamento crítico e colaboração com indivíduos com ideias semelhantes. Espera-se que, ao aplicar essas estratégias, os educadores possam criar materiais de linguagem mais significativos que aprimorem a educação ambiental e inspirem ações sustentáveis.

Palavras-chave: Ecocêntrico; Educação ambiental; Aprendizagem de língua; Desenvolviento de materiais; Análise do discurso positiva.

Abstract: This article aims to provide ten practical tips for integrating environmental education (EE) into language learning materials. It emphasizes how language shapes environmental perspectives, and it encourages incorporating traditional, indigenous, and ecocentric voices. The tips include offering positive examples, valuing individual and collective actions, addressing food production's impact, and checking that environmental elements are not erased. It highlights the

importance of Multiple Intelligences Theory, local connections, critical thinking, and collaboration with like-minded individuals. It is expected that by applying these strategies, educators can create more meaningful language materials that enhance environmental education and inspire sustainable actions.

Keywords: Ecocentric; Environmental education: Language learning; Materials development; Positive discourse analysis.

1. Introduction

Since the emergence of environmental education (EE) following the Tbilisi Intergovernmental Conference in 1977 (UNESCO, 1977), there has been a growing emphasis on fostering environmentally responsible citizenship through education (HUNGERFORD & VOLK, 1990; MEYER, 2015; PALMER, 1998; SRISATHAN et al., 2024). In language education, EE offers a powerful opportunity to cultivate ecological awareness, as its integration in language learning not only facilitates communication but also shapes perceptions of the environment and influences attitudes, values, and actions (DAVARI et al., 2025). By integrating EE into language learning materials, educators can enhance both linguistic proficiency and environmental action, equipping students with the tools to engage and actively participate in discussions on climate change, biodiversity, and sustainability (ESA, 2010; JACOBS & GOATLY, 2000; JUNG & DOS SANTOS, 2022; NKWETISAMA, 2011; SETYOWATI ET AL., 2022; STEVENSON, 2007; VER STEEG JR., 2019). However, the effective integration of EE into language learning materials requires careful consideration so that environmental themes are presented meaningfully and constructively.

The development of instructional materials plays a crucial role in shaping students' learning experiences. Well-designed materials not only enhance knowledge and skills but can also bridge classroom learning with real-world applications. Despite the increasing recognition of EE in language education, previous research highlights persistent challenges in its implementation. Studies reveal that while environmental themes are included in language learning materials, they often reinforce an anthropocentric perspective and fail to encourage critical engagement with environmental issues (XIONG, 2014; ZAHOOR & JANJUA, 2019). Other studies further emphasize the limited representation of EE objectives, particularly in encouraging students to

evaluate and participate in environmental solutions (CURDT-CHRISTIANSEN, 2020; FARAMARZI & JANFESHAN, 2021; GAVILAN TATIN ET AL., 2024; HAMED, 2021).

Given these challenges, this article aims to provide practical guidance for educators and material developers engaged in the crucial task of integrating EE into language education materials. In alignment with the broader discourse on sustainable education, this article encourages critical reflection on teaching materials and methodologies, advocating for a pedagogical approach that merges language learning with ecological responsibility. By doing so, this article seeks to inspire dialogue, reflection, and collaboration among educators to cultivate environmentally conscious learners and teachers capable of addressing contemporary environmental challenges.

The following sections present ten tips for embedding EE in language education materials, which can be outlined as follows:

- Tip 1 - Be Aware That Language Carries Messages: Acknowledge that language carries implicit messages about the environment and can shape learners' perspectives on sustainability.
- Tip 2 - Include indigenous, traditional, and emerging ecocentric narratives: Integrate traditional, indigenous, and contemporary green narratives to provide a broad and inclusive environmental outlook.
- Tip 3 - Find Positive Examples: Highlight positive environmental actions. Offer examples of successful environmental initiatives to inspire proactive engagement rather than defeatism.
- Tip 4 - Include Society-Wide Changes Not Only Individual Actions: Balance individual and societal responsibility. Encourage both personal eco-friendly actions and actions toward broader systemic changes for environmental sustainability.
- Tip 5 - Appreciate the Impactful Role of Food: Address the environmental impact of food production. Explore food-related environmental issues such as sustainable agriculture, food waste, and ethical consumption.
- Tip 6 - Avoid Erasure: Beware that learning resources do not exclude or diminish marginalized people and other species.
- Tip 7 - Tap Multiple Intelligences: Design learning activities that cater to different intelligences, such as visual, kinesthetic, and interpersonal.

- Tip 8 - Localize: Promote localized learning and community engagement. Encourage learners to connect with local environmental initiatives and cultural perspectives.
- Tip 9 - Include Critical Thinking: Foster critical thinking on environmental issues. Develop activities that challenge students to analyze and reflect on environmental challenges and solutions.
- Tip 10 - Find Allies: Encourage collaboration with environmental advocates. Support partnerships with individuals and organizations dedicated to environmental education and advocacy.

2. Ten tips

Tip 1 - Be Aware That Language Carries Messages

The vocabulary and grammar choices made in creating EE language learning materials carry with them ecocentric (nature centered) or anthropocentric (human centered) messages. The relative pronoun *who* is an example (CHAU & JACOBS, 2022; GILQUIN & JACOBS, 2006). If the EE materials only use *who* with humans or maybe humans' companion animals, and materials refer to other animals with *that* or *which*, the materials writers are grouping most other-than-human animals with objects, such as tables or bicycle tires, that lack sentience (the ability to think and to experience feelings and sensations). In addition to using *who* and *whom*, materials developers might also like to use *she* or *he* when the sex of animals is known. Another possibility is *singular they* (BROWN, 2022), e.g., "Deforestation by the palm oil company cost the colugo *their* tree."

The above language issue can be classified as using nonspeciesist language. Speciesist language, similar to racist or sexist language, promotes discrimination, in this case discrimination against species other than homo sapiens. Table 1 (adapted from JACOBS, 2004) provides examples of both speciesist and nonspeciesist language.

Table 1. Examples of speciesist and nonspeciesist language use, including grammar, with examples (based on DUNAYER, 2001). NHA = Nonhuman animal.

Speciesist Vocabulary (with explanation)	**Vegetarian Vocabulary (with explanation)**	**Examples**
Anything (nonhuman animals are seen as things)	*Anyone, anybody* (nonhuman animals are sentient beings)	There are many crows and other birds in that tree. If a bullet is fired into the tree, anything could be hit and die. There are many crows and other birds in that tree. If a bullet is fired into the tree, anyone/anybody could be hit and die.
It (nonhuman animals are sexless things)	*She, he, they, he* or *she* (NHAs have sexual characteristics, just like humans)	When an animal is ill, take it to a veterinarian. When a nonhuman animal is ill, take them/her or him to a veterinarian.
Which (*which* is used for NHAs, plants, and objects)	*Who* (*who* is used with sentient beings)	The monkeys which live near the temple are a gregarious lot. The monkeys who live near the temple are a gregarious lot.
Idioms that trivialize violence against NHAs (make violence against NHAs seem acceptable)	Non-speciesist idioms (promote language use that promotes respect for all animals)	Always remember that "there's more than one way to skin a cat." Always remember that "there's more than one way to eat a mango."
Use of passive voice to avoid mention of humans' role in environmental destruction	The hunters paid $50,000 to shoot the lions.	The lions were shot.

Tip 2 - Include indigenous, traditional, and emerging ecocentric narratives

Stibbe (2023) called for attention to be focused on indigenous and traditional texts (both words and images), as well as on emerging ecocentric narratives that present humans as part of nature, rather than as dominating and exploiting nature. For instance, Xiangzhan (2023) described how ancient Chinese paintings offered ecocentric messages by depicting nature, such as mountains and trees, as very large and humans as very small. As an example of ecocentric word use, Stibbe (2021)

explained various traditional Japanese terms, such as *itadakimasu* to express gratitude to nature for one's food and *mottainai*, expressing regret for waste. Furthermore, creation stories of indigenous peoples in Australia and the Western Hemisphere depict humans as just a part of nature.

A recent, emerging phenomenon is fiction offering a hopeful view in which, rather than the climate crisis leading to apocalyptic destruction - which can lead to defeatism - people collaborate to establish eco-friendly practices that enable our species to survive as we live in concert with the rest of nature. This fiction goes by such names as HopePunk, SolarPunk, and Climate Optimism (HULL, 2019; RÖMHILD & WEIK VON MOSSNER, 2024; WILLIS & LEE, 2024). For instance, *Fairhaven: A Novel of Climate Optimism* (WILLIS & LEE, 2024), set in the near future, tells of how a team of scientists and climate activists use their brains, daring, and teamwork to overcome a host of obstacles and establish structures that hold out hope for allowing humans to live in some form of harmony with the rest of nature.

What could all this mean for the development of EE materials for language learning? Two ideas come to mind. One, tap on indigenous and traditional voices. This need not refer only to voices from hundreds or thousands of years ago. Ecocentric values and practices that embody these voices are alive today. For instance, Lie et al., (in preparation) devote a lesson to those who are known in Indonesia as "rag and bone" people who go through the garbage to find items that can be reused and recycled.

Two, be on the lookout for new stories with ecocentric messages. Many of these may be beyond the current proficiency levels of our language learners, but the exciting, 21st-century stories can be summarized for second language learners. Students and teachers will enjoy a change from the typical doom-and-gloom fare found so commonly in written literature and films.

Tip 3 - Find Positive Examples

With all the environmental and other human-induced problems confronting the Earth's inhabitants in the Anthropocene (the geologic age in which humans are the main force impacting the environment), students and others can easily adopt very cynical views toward the members of our species. Such views make people less likely to attempt action on behalf of the environment, because why bother if you and your friends' efforts will be rejected by most other people? Thus, EE language learning materials need to include examples of people taking effective action on

behalf of the environment. Fortunately, such examples can easily be found. Environmental organizations present a good place to start the search, whether they act on behalf of farmed animals by starting a sanctuary or they campaign for greater use of alternative energy.

In addition to the content of EE materials for language learning are the methods students use to help themselves learn. A great deal of research suggests that students can learn more and also enjoy gains in affective variables when they sometimes study together (KYNDT et al., 2013) instead of always studying alone. Such positive experiences increase students' belief in the ability of our species to cooperate to achieve common goals.

Bregman (2021) devoted an entire book to evidence for human's predilection to cooperate and to counter supposed evidence to the contrary. For instance, a frequently cited example of our species' alleged self-centered, selfish cruelty comes from the famous novel *Lord of the Flies* (GOLDING, 1954). The book tells the fictional tale of a group of teenage boys who, after being stranded on an island, set up a society based on barbarism. In contrast, Bregman recounted the true story of a real group of teenage boys, also stranded on an island, who set up a society based on cooperation and mutual aid. Hope, optimism, and other positive emotions can also be found in a trend in discourse analysis called Positive Discourse Analysis (MARTIN, 1999).

Tip 4 - Include Society-Wide Changes Not Only Individual Actions

Individual actions on behalf of the environment include turning off lights, recycling drink cans, walking or taking public transport, and mending old clothes rather than throwing them away. An example of society-wide action would be encouraging governments, companies, and other organizations to support alternative energy. If people's lights are powered by, for example, solar energy, that is so much more powerful than people being meticulous about switching off lights. Table 2 contrasts individual green actions with society-wide green changes.

Table 2. Examples of Individual Actions and Society-Wide Changes.

Individual Actions	Society-Wide Changes
Saving electricity by turning off lights or playing sports instead of video games	Electricity providers (individual companies, governments, or institutions) switching to alternative energy
Moving away from cars by walking, bike/scooter-riding, or taking public transportation	Establishing more bicycle paths; further taxing the purchase and use of cars; expanding public transport and subsidizing its cost
People deciding to eat more plant-based foods. Eateries adding more plant-based items to their menus. Scientists joining companies that are developing and mass-producing alternative protein foods.	Schools subsidizing the price of fruit and vegetables; governments switching subsidies to encourage farms to grow vegetables, grains, and mushrooms; governments and universities funding research on meat alternatives.
People bringing containers with them to carry away leftover food from eateries and bringing their own drink containers to avoid single use drink containers.	Governments and eateries, such as school canteens, working together to incentivize people to reduce waste and single-use containers. For example, in Chile efforts are underway to reduce use of single-use containers, but McDonald's and other companies are resisting.
People looking for places to repair damaged goods instead of buying new ones.	Governments running low-cost courses on how to repair goods and incentivizing the establishment of shops where trainees can work.
Families having no or fewer children, and avoiding unwanted pregnancies.	Education programs helping people understand contraception better and, should people choose, providing contraception, as well as family counselling services

Fisher (2024) argued that individual actions, while important, are insufficient. According to Fisher's research in Norway (paragraph 8):

> "Our findings highlight two important facts. First, without government intervention, it is very hard to change individual behaviors. Second, although individual behavioral change can be an important tool in efforts to reduce carbon emissions, changes to the political and economic systems are needed to stop the climate crisis."

Nevertheless, most educational materials seem to highlight individual actions. This might be for two reasons. One, individual actions are easier to do, the results can be seen immediately,

and the actions are often uncontroversial, e.g., students can easily see how they are saving water by turning off the tap while brushing their teeth, and who would object to such an action? Two, students acting for society-wide changes may be controversial, and results may take years to be seen, e.g., encouraging the building of wind power farms will be opposed by various interest groups.

Tip 5 - Appreciate the Impactful Role of Food

Food can play a major role in reducing humans' impact on the planet, in at least three ways, all of which can be depicted in EE language learning materials. First, the largest way that we can eat green is by reducing our consumption of animal-based foods (GODFRAY, 2018). Why? Feeding animals to feed people results in inefficient use of food, because we need to feed many kgs of plants to these tens of billions of land animals - for example, people eat 40+ billion chickens annually. Just like human children - and we slaughter the animals whom we grow for meat before reaching adulthood - the cows, pigs, chickens, etc. do not gain one kg of weight for every kg they eat. To produce this unnecessary plant food, we need to cut down more forests and use more water and energy. Additionally, the waste these animals produce fouls the air and bodies of water, while also containing two greenhouse gases, methane and nitrous oxide, which are more powerful than carbon dioxide (WYNES & NICOLAS, 2017).

Second, we can go green by reducing the huge amount of wasted food. Third, we can change the way food is packaged, such as the disposable containers that food comes in at the supermarket, and we can move away from the use of disposables for eating our food, e.g., plastic plates, cups, bowls, and cutlery contribute to mountains of plastic waste. Finally, it should be clearly stated that the food issues highlighted in this section of the article do not apply to the hundreds of millions of humans who suffer from debilitating shortages of food.

Tip 6 - Avoid Erasure

Ecolinguistics looks at how language impacts and reflects our views and actions in regard to the environment, including all the planet's inhabitants (do Couto, 2017; International Ecolinguistics Association, 2025). Stibbe (2021) developed nine categories of what he called "stories," that can be used to analyze texts of any kind. Among these stories is erasure, which means that beings or

parts of nature, such as trees or rivers, are seen as not important and, therefore, are not included in texts.

Examples of erasure might include that when hotel companies cut down forests, destroy people's homes, and set up polluting waste disposal systems in order to build a five-star resort, none of this deforestation, home destruction, and pollution feature in the tourism brochures or on the resort's website. They are erased. Another example comes from the meat industry. Bolotnikova (2022) cited a pork industry publication as advising, "The breeding sow should be thought of, and treated as, a valuable piece of machinery whose function is to pump out baby pigs like a sausage machine." The mistreatment of pigs, who are sentient beings, as objects is erased (GOLDIE, 2024).

Thus, the concept of erasure cautions materials developers that we need to look not only at what appears in our materials but also at what does not appear. The concept of ecojustice comes into play here (SILVHIANY et al., 2023). Ecojustice refers to people in poor and marginalized communities receiving a high share of environmental harms and a small share of environmental benefits. Are these people and their situations represented in the EE language materials we create?

Tip 7 - Tap Multiple Intelligences

Multiple Intelligences Theory (GARDNER, 2011) posits that different people thrive in different learning environments. Of particular relevance to the current paper on the creation of EE materials for language learning is Visual/Spatial intelligence, the ability and preference for learning via visuals, such as videos, drawings, and graphic organizers. While few teachers would disagree with this concept, most educational materials, including those materials used for assessment, rely heavily on words.

Students offer one solution to this lack of visual-based learning resources. They can generate visuals for themselves, classmates, teachers, and teachers' future students. Many students enjoy drawing and other arts, and internet tools offer so many ways to find and create audiovisuals. Ribosa & Duran (2022) conducted a scoping review of 280 articles on the use of student-generated learning materials. The types of materials were categorized into four groups: questions, audiovisual materials, games, and texts. Rationales for the use of student-generated learning materials included greater levels of motivation, as engagement can increase when students teach

each other and their teachers. Furthermore, learning can increase as students spend more time on tasks and go deeper into topics as they create materials and use them to teach peers.

Gardner's current model of Multiple Intelligences highlights eight intelligences. In addition to visual-spatial intelligence, two others that merit special attention are intrapersonal intelligence and naturalist intelligence. Intrapersonal intelligence involves students in thinking about themselves: their strengths and weaknesses, likes and dislikes, past experiences and future plans, beliefs, and actions. One way to operationalize this intelligence in EE lessons can be for students to spend time reflecting on what they have studied, thought, felt, and done, as well as what they might do next. These reflections can be shared with classmates.

The intelligence that would seem to most obviously link to EE is naturalist intelligence. This intelligence can perhaps best be seen in two parts. The first involves interest in and concern about the natural world. The second part of naturalist intelligence involves the skills that naturalists use in their work, skills such as careful observation and the ability to categorize living beings, objects, and phenomena. These skills have value anywhere, including in the human-made world, such as in understanding language. Thus, students can use and develop their naturalist intelligence while engaged in noticing activities (CASTILLO GALLARDO, 2023) to boost their grammar awareness.

Returning to the first part of naturalist intelligence, enjoyment of the natural world, this seems to be sorely lacking in the case of many students, even though research suggests an association between time in nature and mental health (LI et al., 2021). One is reminded at the famous maxim from the EE literature attributed to Baba Dioum, a Senegalese forestry engineer in a 1968 speech to the General Assembly of the International Union for Conservation of Nature (IUCN), "We only save the things we love, and we only love the things we know." Thus, EE materials of all types should encourage students to indulge and develop their love of nature both to spend less time sitting around gazing at screens as well as to increase the urgency of environmental protection.

Tip 8 - Localize

Localizing EE materials for language learning means students and teachers taking the knowledge, attitudes, and skills from EE and applying them in their local area (HART, 2014). Localizing provides a way to achieve the sixth UN EE objective: participation. Without participation, the

other five objectives are for naught, as what is the use of awareness, knowledge, skills, attitudes, and evaluation ability if they are not applied in the real world? As local situations will differ, materials developers can only offer examples that teachers and students will need to adapt to their own situation.

Citizen science (KLOETZER et al., 2021) offers one way of localizing. Citizen science involves the public in doing scientific research tasks related to the environment in collaboration with working scientists. Many of these citizens are students from primary school and above. Examples of citizen science tasks include monitoring wildlife, testing air and water quality, measuring precipitation, and building butterfly trails with plants that particular butterfly species need to propagate. Citizen science opens the door for cross-curricular activities (KIELY et al., 2021), merging science, language, social studies, and perhaps other subjects.

Students and teachers can also be involved in advocacy. This fits with Dewey's (1897) emphasis on learning not principally to build one's own career and, thereby, provide only for one's family. Instead, the goal lies in learning for the greater good. For example, students can apply their language skills to influence companies, governments, organizations (including schools), and individuals to act in more environmentally-friendly ways. Writing for the Planet (LISE, n.d.) is one such effort. Using a writers' workshop format, students choose to whom they will write, the topic, and the tone. As to the tone, students may choose to praise the recipients of their communications for their green activities, rather than using criticism or urging recipients to change course as to their actions, such as shifting from fossil fuels to alternative energy.

Tip 9 - Include Critical Thinking

Curriculum documents in many countries highlight the importance of critical thinking. Fajari (2021, p. 163) offered two related definitions of critical thinking: (1) "a skilled activity that demands interpretation and evaluation of observation, communication, and sources of information and is guided by intellectual standards in the form of clarity, relevance, adequacy, and coherence"; and (2) "analyzing and evaluating thinking to improve it; in other words, independent thinking, self discipline, self-monitoring, and self-correction."

Critical thinking relates closely to Objective #5 in the original United Nations list of EE objectives: evaluation ability. Indeed, as with so many other issues humans face toward improving

life for ourselves and the Earth's other creatures, environmental issues are complex with multiple solutions being supported. People who care deeply about the environment will sometimes disagree. Examples include whether nuclear power should be used as an alternative to fossil fuels and whether meat should be taxed to encourage consumption of plant-based foods. On an individual level, an example of a valid debate is what if students have family members who live far away: should they fly to see them or should they reduce their carbon footprint by only visiting with them via technology, such as Zoom.

Another source of contradictory opinions on environmental issues involves what is known as greenwashing (SANTOS et al., 2024). Greenwashing can be defined as intentional deception to make an organization or a practice that harms the environment seem to be green, i.e., environmentally friendly. For example, Fisher (2024) claimed that fossil fuel companies have long known about the link between fossil fuels and climate change, but they hide this knowledge from the public. Furthermore, they campaign to make the concept of carbon footprint into an individual duty, absolving themselves of any blame (WESTERVELT, 2021). This links back to this article's earlier point about individual actions and society-wide changes, with the fossil fuel companies trying to make saving the environment all about individual actions, such as using little or no air conditioning, rather than society-wide changes, such as moving toward powering air conditioning with alternative energy.

In terms of what critical thinking means for developing EE materials for language learning, here are three suggestions. One, include different opinions, even opinions with which the materials developers might disagree. Encourage open discussion in safe spaces (ARAO & CLEMENS, 2023), but it must be reasoned discussion supported by evidence. Cooperative debates (JACOBS et al., 2023) offer one means of facilitating such discussions. Two, students need to develop their greenwashing detectors, for their own understanding and then to share that understanding with others. Three, as has been highlighted in many other parts of this article, actions speak louder than words, i.e., critical thinking needs to go beyond classroom discussions. Actions - whether individual green behaviors or advocacy for society-wide changes - sustain and demonstrate students' commitment and provide a testing ground for students' developing thinking.

Tip 10 - Find Allies

Many of the tips discussed already as to how to create EE materials for language learning involve students and teachers looking outside the classroom, whether they are enjoying time in nature as part of naturalist intelligence (Tip 7), participating in local activities (Tip 8), or engaging in critical thinking (Tip 9), these can more easily be promoted when teachers and students have allies with whom they can collaborate. Allies can take many forms. Allies of teachers can be other teachers in other schools in the same area, elsewhere in the same country, or on the other side of the world. For instance, teachers' organizations have special interest groups that work on areas such as EE. Furthermore, many NGOs create materials and organize activities especially for students. The Jane Goodall Institute, founded by the famous primatologist, is just one of many such organizations. Its Roots and Shoots program works with students of many ages.

Sharing is a two-way path. Many EE materials are available online, as well as from fellow teachers, and via governments and NGOs. These materials can often be adapted for language learners, using internet tools or the old-fashioned way with teachers rewriting these found materials to take into account students' background knowledge, interests, and language proficiency.

The other direction for sharing EE materials involves materials developers making available the materials they have created. This relates to the issue of abundance vs scarcity, an issue with great relevance in many areas of life including sustainable development. Feelings of abundance encourage sharing, because feelings of abundance encourage people to believe that they have enough and, thus, they need not fear sharing. In contrast, when people experience feelings of scarcity, they worry that they need to hoard whatever they have.

Related to feelings of abundance is a principle from the literature on cooperation: positive interdependence (DEUTSCH, 1949; JOHNSON; JOHNSON, 2009). (Cooperation is highlighted in Tip 3). Positive interdependence can be defined as the feeling that one's own interests positively correlate with those of others. These others can be the members of the same group of four students learning together or they could be people - as well as members of other species - on the other side of the world. Therefore, in line with the theme of the current Tip, everyone is an ally. In so many ways, EE brings positive interdependence into clear view. For example, when trees fall in the Amazon rainforest to make way for land to graze cattle, everyone the world over suffers, as global warming worsens. More positively, when a solar panel farm starts up in China, everyone the world

over can celebrate a reduction in greenhouse gas emissions. Thus, EE is so much more than a school subject for students to do well on in order to boost their GPA.

3. Conclusion

To state the obvious, views expressed in this paper are limited by the authors' own background in environmental protection and education. The hope is to stimulate discussion and encourage readers to think about the EE materials they create and implement, whether people create entire textbooks or an activity to supplement an existing lesson. Furthermore, readers should share their thoughts and practices with others, including their students. Indeed, students understanding why they study what they study and how they study it is axiomatic to student-centered learning (HOIDN; KLEMENČIČ, 2021).

A key point we hope readers will take away from this article is the need for a wide-angle, big-picture view of our role as educators. For example, yes, grammar and vocabulary are vital to language learning, but EE urges us to consider more, to consider that language, as highlighted in Tip 1, is a tool for understanding and impacting the world. Maley (2017, p. iii) highlighted this quite forcefully in the following poem:

Teacher

What do you do?
I'm a teacher.
What do you teach?
People.
What do you teach them?
English.
You mean grammar, verbs, nouns, pronunciation, conjugation, articles and particles, negatives and interrogatives …?
That too.
What do you mean, 'that too'?
Well, I also try to teach them how to think, and feel – show them inspiration, aspiration, cooperation, participation, consolation, innovation, … help them think about globalization,

exploitation, confrontation, incarceration, discrimination, degradation, subjugation, …how inequality brings poverty, how intolerance brings violence, how need is denied by greed, how –isms become prisons, how thinking and feeling can bring about healing.

Well I don't know about that. Maybe you should stick to language, forget about anguish. You can't change the world.

But if I did that, I'd be a cheater, not a teacher.

References

Arao, B., & Clemens, K. (2013). From safe spaces to brave spaces: A new way to frame dialogue around diversity and social justice. In L. M. Landreman (Ed.), *The art of effective facilitation* (pp. 135-150). Routledge.

Bolotnikova, M. (2022). "Forget they are an animal." *Current Affairs Inc*. https://www.currentaffairs.org/news/2022/08/forget-they-are-an-animal

Bregman, R. (2021). *Humankind: A hopeful history.* Bloomsbury.

Brown, M. H. (2022). English pronouns and human exceptionalism: A corpus-based study of singular "they" usage for nonhuman animals. Language & Ecology. http://ecolinguistics-association.org/journal

Castillo Gallardo, J. L. (2023). Mexican high school students' perceptions regarding inductive and deductive grammar teaching. *Open Journal for Studies in Linguistics, 6*(1). https://doi.org/10.32591/coas.ojsl.0601.02011c

Chau, M. H., & Jacobs, G. M. (2021). Applied Linguistics, language guidelines, and

inclusive practices: The case for the use of *who* with nonhuman animals. *International Journal of Applied Linguistics, 31*(2), 301–303. https://doi.org/10.1111/ijal.12357

Curdt-Christiansen, X. L. (2020). Environmental literacy: Raising awareness through Chinese primary education textbooks. *Language, Culture and Curriculum, 34*(2), 147–162. https://doi.org/10.1080/07908318.2020.1797078

Davari, H., Hassani, G., Iranmehr, A., & Ghorbanpour, A. (2025). Environmental communication through language education: Iranian teachers' perceptions on integrating environmental communication pedagogy into English language teaching. *Environmental Communication,* 1–17. https://doi.org/10.1080/17524032.2025.2464171

Deutsch, M. (1949). A theory of co-operation and competition. *Human Relations, 2*(2), 129-52. https://doi.org/10.1177/001872674900200204

Dewey, J. (1897). *My pedagogical creed*. E. L. Kellogg & Co.

do Couto, H. H. (2017). Ecosystemic linguistics. In A. Fill & H. Penz (Eds.), *The Routledge handbook of ecolinguistics* (pp. 149-161). Routledge.

Dunayer, J. (2001). *Animal equality: Language and liberation*. Ryce Publishing.

Esa, N. (2010). Environmental knowledge, attitude and practices of student teachers. *International Research in Geographical and Environmental Education, 19*(1), 39–50. https://doi.org/10.1080/10382040903545534

Fajari, L. E. W. (2021). Critical thinking skills and their impacts on elementary school students. *Malaysian Journal of Learning and Instruction, 18*(2), 161-187. https://doi.org/10.32890/mjli2021.18.2.6

Faramarzi, A., & Janfeshan, K. (2021). An Investigation into Ecolinguistics Representation in Iranian High School English Textbooks. *Ars Artium: An International Refereed Research Journal of English Studies and Culture, 9,* 70–85.

Fisher, D. R. (2024). Taking power as individuals (and why individual climate action can't save us). *The Brookings Institution.* www.brookings.edu/articles/taking-power-as-individuals-and-why-individual-climate-action-cant-save-us

Gardner, H. E. (2011). *Frames of mind: The theory of multiple intelligences*. Basic Books.

Gavilan Tatin, I. A., Triyono, S., Jacobs, G. M., Trett, S., Soeta Bangsa, A. A., & Zhu, C. (2024). An Analysis of Environmental Education in Indonesian EFL Elementary School Textbooks. *International Journal of Education and Literacy Studies, 12*(3), 3-16. http://dx.doi.org/10.7575/aiac.ijels.v.12n.3p.3

Gilquin, G., & Jacobs, G. M. (2006). Elephants who marry mice are very unusual: The use of the relative pronoun who with nonhuman animals. *Society & Animals, 14*(1), 79-105. https://www.animalsandsociety.org/wp-content/uploads/2016/04/gilquin.pdf

Godfray, H. C. J., Aveyard, P., Garnett, T., Hall, J. W., Key, T. J. Lorimer, J., Pierrehumbert, R. T, Scarborough, P, & Sprimann, M. (2018). *Meat consumption, health, and the environment. Science, 361* (6399). 10.1126/science.aam5324

Goldie, K. (2024). *The affective geographies of human-pig relationships* (Doctoral dissertation, University of Southampton). https://eprints.soton.ac.uk/491431

Golding, W. (1954). *Lord of the flies*. Faber and Faber.

Hamed, M. S. E. M. (2021). Environmental Discourse in EFL Textbooks in Egypt: A Critical Ecolinguistics Case Study. *CDELT Occasional Papers in the Development of English Education, 74*(1), 281–328. https://doi.org/10.21608/opde.2021.195338

Hart, R. A. (2013). *Children's participation: The theory and practice of involving young citizens in community development and environmental care*. Routledge.

Hoidn, S., & Klemenčič, M. (2021). *The Routledge international handbook of student-centered learning and teaching in higher education*. Routledge.

Hull, A. (2019) Hopepunk and solarpunk: On climate narratives that go beyond the apocalypse. *Literary Hub.* https://lithub.com/hopepunk-and-solarpunk-on-climate-narratives-that-go-beyond-the-apocalypse

Hungerford, H. R., & Volk, T. L. (1990). Changing Learner Behavior Through Environmental Education. *The Journal of Environmental Education, 21*(3), 8–21. https://doi.org/10.1080/00958964.1990.10753743

International Ecolinguistics Association. (2025). https://www.ecolinguistics-association.org/

Jacobs, G. M., & Goatly, A. (2000). The treatment of ecological issues in ELT coursebooks. *ELT Journal, 54*(3), 256–264. https://doi.org/10.1093/elt/54.3.256

Jacobs, G. M. (2004). Speaking vegetarian: Toward nonspeciesist language [lecture]. 36th *World Vegetarian Congres.*

://www.humiliationstudies.org/documents/JacobsNonspeciasistLanguage.pdf

Jacobs, G. M., Zhu, C., Chau, M. H., Guo, Q., & Roe, J. (2023). Using cooperative learning to teach the Sustainable Development Goals. *Autonomy and Responsibility Journal of Educational Sciences, 8*(1), 39-52. https://doi.org/10.15170/AR.2023.8.1.3.

Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher, 38*(5), 365-379. https://doi.org/10.3102/0013189x09339057

Jung, C. D., & Dos Santos, L. M. (2022). Incorporating environmentally-responsive EFL pedagogy in English-as-a-foreign language classrooms: Paving the way for global impact. *IOP Conference Series: Earth and Environmental Science, 987*(1). https://doi.org/10.1088/1755-1315/987/1/012017

Kiely, L., Parajuly, K., Green, J. A., & Fitzpatrick, C. (2021). Education for UN Sustainable Development Goal 12: a cross-curricular program for secondary level students. *Frontiers in Sustainability, 2,* 638294. https://doi.org/10.3389/frsus.2021.638294

Kloetzer, L., Lorke, J., Roche, J., Golumbic, Y., Winter, S., Jõgeva, A., & Vohland, K. (2021). Learning in citizen science. In K. Vohland, A. Land-Zandstra, L. Ceccaroni, R. Lemmens, J. Perelló, M. Ponti, R. Samson, & K. Wagenknecht (Eds.), *The science of citizen science* (pp. 283-298). Springer. https://doi.org/10.1007/978-3-030-58278-4_15

Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E., & Dochy, F. (2013). A meta-analysis of the effects of face-to-face cooperative learning. *Educational Research Review, 10*, 133–149. https://doi.org/10.1016/j.edurev.2013.02.002

Li, D., Menotti, T., Ding, Y., & Wells, N. M. (2021). Life course nature exposure and mental health outcomes: A systematic review and future directions. *International Journal of Environmental Research and Public Health, 18*(10), 5146. 10.3390/ijerph18105146

Lie, A., Jacobs, G. M., & Lise, M. (Eds.). (in preparation). *English via environmental education* (2nd ed.). Peachey Publications.

Lise, M. (n.d.). Writing for the planet. https://www.theenglishcurve.com/the-eco-chapter-projects

Maley, A. (2017). Teacher. In A. Maley & N. Peachey (Eds.), *Integrating global issues in the creative English language classroom* (p. iii). British Council.

Meyer, A. (2015). Does education increase pro-environmental behavior? Evidence from Europe. *Ecological Economics, 116*, 108–121. https://doi.org/10.1016/j.ecolecon.2015.04.018

Martin, J. R. (1999). Grace: The logogenesis of freedom. *Discourse Studies 1*(1), 29–56. https://doi.org/10.1177/1461445699001001003

Nkwetisama, C. M. (2011). EFL/ESL and Environmental Education: Towards an Eco-Applied Linguistic Awareness in Cameroon. *World Journal of Education, 1*(1), Article 1. https://doi.org/10.5430/wje.v1n1p110

Palmer, J. (1998). *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise* (1st ed.). Routledge. https://doi.org/10.4324/9780203012659

Ribosa, J., & Duran, D. (2022). Student-generated teaching materials: a scoping review mapping the research field. *Education in the Knowledge Society (EKS), 23*, 27443. https://doi.org/10.14201/eks.27443

Römhild, R., & Weik von Mossner, A. (2024). The case for hope in language education: Exploring solarpunk for the English language classroom. *World Futures*, 1–19. https://doi.org/10.1080/02604027.2024.2417042

Santos, C., Coelho, A., & Marques, A. (2024). A systematic literature review on greenwashing and its relationship to stakeholders: State of art and future research agenda. *Management Review Quarterly, 74*, 1397–1421. https://doi.org/10.1007/s11301-023-00337-5

Setyowati, L., Karmina, S., Sujiatmoko, A., & Ariani, N. (2022). Feeling nature in writing: Environmental education in the EFL writing course. *Journal on English as a Foreign Language, 12*, 22–48. https://doi.org/10.23971/jefl.v12i1.3092

Silvhiany, S., Kurniawan, D., & Safrina, S. (2023). Climate change awareness in ELT: Ethnography in connected learning and ecojustice pedagogy. *Journal of English Language Teaching Innovations and Materials, 5*(2), 91-109. https://doi.org/10.26418/jeltim.v5i2.63548

Srisathan, W. A., Malai, K., Narathawaranan, N., Coochampoo, K., & Naruetharadhol, P. (2024). The impact of citizen science on environmental attitudes, environmental knowledge, environmental awareness to pro–environmental citizenship behaviour. *International Journal of Sustainable Engineering, 17*(1), 1–19. https://doi.org/10.1080/19397038.2024.2354269

Stevenson, R. B. (2007). Schooling and environmental/sustainability education: From discourses of policy and practice to discourses of professional learning. *Environmental Education Research, 13*(2), 265–285. https://doi.org/10.1080/13504620701295650

Stibbe, A. (2021). Ecolinguistics as a transdisciplinary movement and a way of life. In A. Burkette & T. Warhol (eds.), *Crossing borders, making connections: Interdisciplinarity in linguistics* (pp. 71-88). Walter de Gruyter.

Stibbe, A. (2023). *Econarrative: Ethics, ecology, and the search for new narratives to live by*. Bloomsbury Publishing.

UNESCO. (1977). Intergovernmental Conference on Environmental Education, Tbilisi, USSR. UNESCO - Digital Library. https://unesdoc.unesco.org/ark:/48223/pf0000032763

Ver Steeg Jr., J. (2019). Education for sustainable development in the EFL classroom: Exploring intersubjectivity. *Conference Proceedings of 7th International Conference on Sustainability, Technology and Education (STE2019)*, 86–94. https://doi.org/10.33965/ste2019_201901L011

Westervelt, A. (2021, May 14). Big Oil is trying to make climate change your problem to solve: Don't let them. *Rolling Stone*. https://www.rollingstone.com/politics/politics-news/climate-change-exxonmobil-harvard-study-1169682

Willis, S., & Lee, J. (2024). *Fairhaven: A novel of climate optimism*. Habitat Press.

Wynes, S., & Nicholas, K. A. (2017). The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environmental Research Letters, 12*(7), 074024. 10.1088/1748-9326/aa7541

Xiangzhan, C. (2023). *Ecoaesthetics and ecosophy in China*. Transnational Press London.

Xiong, T. (2014). Shallow Environmentalism: A Preliminary Eco-Critical Discourse Analysis of Secondary School English as a Foreign Language (EFL) Texts in China. *The Journal of Environmental Education, 45*(4), 232–242. https://doi.org/10.1080/00958964.2014.943686

Zahoor, M., & Janjua, F. (2019). Green contents in English language textbooks in Pakistan: An ecolinguistic and ecopedagogical appraisal. *British Educational Research Journal, 46*(2), 321–338. https://doi.org/10.1002/berj.3579

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