

Theoretical Foundations of Integrating Environmental Issues into English Language Teaching

Editor: Asst. Prof. Dr. Mehmet SARAÇ



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**THEORETICAL FOUNDATIONS OF INTEGRATING ENVIRONMENTAL
ISSUES INTO ENGLISH LANGUAGE TEACHING**

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PREFACE

Environmental sustainability has become one of the defining educational concerns of our time. Climate change, biodiversity loss, environmental degradation, and increasingly complex relationships between societies and the natural world require responses that extend beyond scientific and technological solutions. They also call for changes in how people understand, communicate about, and respond to the world around them. Education plays an important role in this process, not only by increasing knowledge and awareness but also by fostering the critical, communicative, ethical, and participatory capacities required for more sustainable futures.

Language education is particularly relevant in this respect. Language is never merely a system of grammatical forms or a neutral means of transmitting information; it is also a means through which people interpret experience, construct meanings, negotiate perspectives, and participate in social life. English language teaching, therefore, offers significant opportunities to engage learners with environmental and sustainability-related questions while simultaneously pursuing the established goals of language education. When environmental issues become meaningful contexts for communication, learners can develop linguistic competence while also questioning assumptions, considering alternative perspectives, collaborating with others, and articulating possible responses to real-world challenges.

This book is grounded in the view that sustainability should not be treated as an additional topic to be inserted occasionally into the language classroom. Rather, it can become an integral dimension of meaningful language education. Such an understanding requires attention not only to environmental content but also to curriculum, pedagogy, materials, teacher education, learner agency, critical literacy, intercultural communication, and the ways in which educational policies are translated into classroom practice. It also requires sensitivity to the diversity of educational contexts in which English is taught and to the different possibilities and constraints experienced by teachers and learners.

The book brings together perspectives from scholars and educators who share an interest in reconsidering English language teaching in light of contemporary environmental challenges. While their theoretical orientations and pedagogical emphases differ, they converge around a common understanding: language education can contribute to sustainability most meaningfully when ecological awareness and language learning are approached as mutually supportive rather than competing educational aims.

Our hope is that this book will encourage further dialogue among researchers, teacher educators, curriculum developers, materials designers, policymakers, and practicing teachers. More importantly, we hope that it will contribute to a conception of English language education that equips learners not only to communicate effective-

ly, but also to engage thoughtfully and responsibly with the social and environmental realities of the world they inhabit.

As the editor of this book, I would like to express my sincere appreciation to all the authors who contributed their expertise, perspectives, and scholarly commitment to this work. Their contributions reflect the collaborative and interdisciplinary effort required to rethink language education in response to the environmental challenges of the present and the responsibilities of the future.

Asst. Prof. Dr. Mehmet Saraç

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CHAPTER 1.

RETHINKING ENGLISH LANGUAGE TEACHING IN THE AGE OF ECOLOGICAL CRISIS

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1. Introduction

The ecological crisis can no longer be regarded as an issue confined to the domain of environmental science. Climate change, biodiversity loss, pollution, pressure on natural resources, and the degradation of ecosystems have far-reaching implications for economies, public health, patterns of production and consumption, migration, urban life, and social relations. The Intergovernmental Panel on Climate Change has documented extensive anthropogenic changes in the atmosphere, oceans, cryosphere, and biosphere, while also highlighting the growing risks associated with continued global warming (Calvin et al., 2023). These developments have significant educational implications. How societies understand ecological challenges, negotiate questions of responsibility, and prepare younger generations to respond effectively are, therefore, central concerns for education.

This does not imply that schools should merely provide learners with additional environmental information. Although knowledge is essential, it alone constitutes an insufficient educational response. A learner may understand the meaning of climate change, identify major sources of pollution, or describe the benefits of renewable energy without necessarily being able to assess competing claims, connect global issues with local contexts, consider possible courses of action, or communicate environmental information effectively to others. Accordingly, contemporary approaches to Education for Sustainable Development extend beyond the acquisition of factual environmental knowledge. UNESCO emphasizes the development of knowledge, skills, values, critical judgment, participation, and responsible action. A comparable orientation is evident in GreenComp, the European Sustainability Competence Framework, which identifies systems

thinking, critical thinking, futures literacy, collective action, and individual initiative as core competencies associated with sustainability education (M., 2022).

The implications of ecological crisis extend across disciplinary boundaries. Although ecological questions are grounded in the natural sciences, they are also social, cultural, political, economic, ethical, and linguistic in nature. They are articulated through specific forms of language and discourse: scientific findings are translated for public audiences; environmental policies are debated; commercial organizations promote claims about the sustainability of their products; news media frame ecological events; governments define responsibilities; activists develop campaigns; communities negotiate local development; and individuals explain, justify, or reconsider their everyday choices. Environmental problems, therefore, do not reach the public as unmediated facts; rather, they are interpreted and understood through the language used to represent them. Consequently, language education assumes a pivotal role in deconstructing these discourses, enabling students to navigate the complex interplay of values and meaning that define socio-ecological crises (Hoydis et al., 2023).

Language education, therefore, occupies a legitimate position within environmental education (Zygmunt, 2016). This does not mean transforming the English classroom into a substitute for biology, geography, or environmental science, nor does it require English teachers to become specialists in climate science. Rather, the relevant question is what language education already enables learners to do. Students read and interpret texts, examine how meanings are constructed, compare perspectives, discuss complex issues, negotiate with others, formulate arguments, write for diverse audiences, and express positions with increasing precision as their linguistic resources develop. Ecological issues can provide meaningful and intellectually substantive contexts for these activities.

The relationship between language and ecology has a substantial history in applied linguistics. (Halliday, 2001) challenged linguists to examine how linguistic patterns contribute to culturally established ways of thinking about growth, resources, consumption, and the natural world. Ecolinguistics subsequently developed this line of inquiry by investigating the linguistic patterns and narratives through which relationships among humans, other living beings, and ecological systems are represented. Stibbe (2020), for instance, analyses the recurrent stories through which societies make sense of progress, economic growth, consumption, nature, and human identity. This body of work makes a simple but consequential point for language education: learning a language also entails learning how realities are constructed and represented through language.

Environmental concerns have also featured in ELT research for several decades. (Jacobs & Goatly, 2000) examined the treatment of ecological issues in English-language coursebooks and found that the inclusion of environmental content did not necessarily lead to meaningful engagement with environmental questions. (Goulah, 2015) subsequently called for a more substantive response to climate change within TESOL, connecting language and literacy education with the development of eco-ethical consciousness. Similarly, Micalay-Hurtado & Poole, (2022) proposed the concept of eco-critical language awareness to help learners examine how discourse constructs ecological relationships, responsibility, justice, and well-being. Research on English teachers' perspectives further indicates a willingness to address environmental issues, while also identifying practical challenges related to limited curricular time, the availability of appropriate materials, teachers' subject knowledge, and the need to balance environmental objectives with linguistic aims (Mercer et al., 2022).

2. Beyond the Environmental Topic

Environmental themes have long been incorporated into language-teaching materials (Jacobs & Goatly, 2000). Units addressing endangered species, pollution, natural disasters, recycling, energy, and climate change are familiar features of many courses (Tatin et al., 2025). Although the inclusion of such topics is valuable, their thematic presence should not be equated with genuine curricular integration.

A reading passage on global warming may function merely as a vehicle for practicing skimming skills. Similarly, a text on endangered species may be used primarily to introduce vocabulary before the lesson shifts to an unrelated grammar exercise. Students may also complete sentences about recycling without examining an environmental problem, comparing possible alternatives, or communicating ideas that extend beyond the pursuit of a correct answer. In such cases, the environmental topic is largely interchangeable with any other subject, since it does not substantively shape the pedagogical organization of the lesson.

This distinction is important because meaningful integration depends on how content is mobilized through language use. Environmental issues become pedagogically productive when they provide learners with a meaningful purpose for reading, listening, speaking, writing, interaction, or mediation. For example, a lesson on food waste may begin with vocabulary development, but should not be confined to it. Learners might analyze data from several countries, identify relevant patterns, compare these findings with practices in their own community, interview classmates about household habits, determine which causes warrant

particular attention, and formulate recommendations for reducing waste at school. Vocabulary and grammatical structures, therefore, remain important; however, they function as linguistic resources that enable learners to accomplish a meaningful communicative task.

This understanding is consistent with communicative approaches to language competence. Canale & Swain (1980) demonstrated that communicative competence cannot be reduced to formal grammatical knowledge; effective communication requires not only knowledge of linguistic forms but also the ability to select and use those forms appropriately in particular social contexts. Byram (2020)'s account of intercultural communicative competence extended this perspective by emphasizing interpretation, comparison, critical cultural awareness, and the capacity to relate perspectives across cultural contexts. Ecological questions provide productive context for developing both dimensions of competence. Issues relating to consumption, mobility, animals, food, energy, public space, economic development, and responsibility are culturally embedded. Engaging with these issues in English can therefore expose learners to perspectives and ways of thinking that differ from their own, while encouraging them to interpret, compare, and critically evaluate alternative viewpoints.

The CEFR Companion Volume provides a further conceptual foundation for this perspective. Framing language users as social agents places greater emphasis on interaction, collaboration, and mediation (Soproni, 2020). This orientation is particularly pertinent to environmental communication, in which learners may be required to interpret a graph depicting energy consumption, explain an infographic to their peers, summarize the findings of a brief report, reconcile competing proposals during collaborative work, or adapt technical information for a non-specialist audience. Such activities develop linguistic competence while simultaneously engaging learners in forms of mediation.

There is, therefore, little justification for treating linguistic and ecological learning as competing demands on limited classroom time (Mercer et al., 2022). Their relationship is determined by the design of the learning task. A well-designed activity can address language-learning objectives through ecologically meaningful content: the environmental issue provides learners with a substantive purpose for communication, while the language lesson equips them with the linguistic resources needed to engage with it.

This perspective also shifts environmental learning beyond a narrow focus on individual behavior. Recycling, switching off lights, conserving water, and avoiding litter remain valuable points, particularly for younger learners. However, ecological

education becomes conceptually restricted when complex environmental problems are repeatedly reduced to lists of personal habits. Climate change, biodiversity loss, energy transitions, food systems, urban planning, and environmental justice are shaped by institutions, communities, competing interests, and interconnected systems. Although learners' age and language proficiency necessarily influence the degree of complexity that can be addressed, they should not preclude the gradual introduction of diverse perspectives, forms of evidence, and levels of responsibility. By systematically integrating such complex issues into language-learning activities, educators can cultivate environmental citizenship and global responsibility (Scipio et al., 2025).

English can facilitate this progression. At elementary levels, learners may identify local environmental problems, describe observable phenomena, classify environmentally responsible actions, and formulate simple suggestions. At intermediate levels, they can compare possible alternatives, explain causes and consequences, interpret accessible forms of data, and negotiate potential solutions. At more advanced levels, learners can evaluate environmental claims, distinguish evidence-based reasoning from persuasive rhetoric, discuss competing priorities, analyze the ways in which different actors are represented in texts, and construct sustained, well-supported arguments. Accordingly, ecological learning and linguistic development can progress in parallel rather than being confined to separate curricular domains. Furthermore, the implementation of such an integrated curriculum highlights the status of English as a lingua franca, enabling students to critically engage in global environmental discourse and translate local ecological awareness into broader stewardship (Latha, 2026; Mercer et al., 2022). In this context, the classroom serves as a vital space for fostering critical ecological thinking, where language instruction nurtures both the analytical skills necessary for environmental problem-solving and the development of an informed ecological identity (Saiful, 2023), (Tatin et al., 2024). Furthermore, this interdisciplinary approach empowers learners to move beyond passive awareness toward active participation in addressing sustainability challenges (Latha, 2026; Yu et al., 2024). This holistic integration of eco-literacy into language education effectively positions sustainability as an interdisciplinary framework that transcends traditional subject boundaries (Kazazoglu, 2025; Saribaş & Bakanay, 2024). By incorporating environmental literature and inquiry-based tasks, educators can transform the language classroom into a dynamic environment that fosters critical thinking, empathy, and a sense of global citizenship (Mary, 2024; Shawky, 2025). Such pedagogical practices align with the principles of Critical Language Awareness, compelling learners to confront the power dynamics

inherent in ecological discourse and the systemic factors contributing to the climate crisis (Micalay-Hurtado & Poole, 2022). However, translating these pedagogical goals into practice requires addressing persistent challenges, such as the need for specialized teacher training and the alignment of sustainability themes with specific language-learning objectives (Dhanyamol & Sethunarayanan, 2025).

3. The Century of Türkiye Education Model: Curricular Openings for Task-Oriented and Sustainability-Related ELT

Recent curricular reform in Türkiye offers a particularly relevant context for this discussion. The model integrates skills, values, dispositions, and various forms of literacy within a common curricular framework. Sustainability literacy is explicitly identified as one of these domains and is conceptualized as extending beyond basic environmental awareness. It encompasses the ability to distinguish between sustainable and unsustainable processes, examine the interrelationships among social, economic, and environmental dimensions, consider problems from multiple perspectives, interpret evidence, and evaluate possible solutions (Education, 2024). This multidimensional approach is consistent with broader language-education arguments that meaningful, real-world linguistic engagement can foster global citizenship (Çağ, 2026). By embedding such sustainability-oriented competencies into English language instruction, the curriculum provides a robust foundation for adopting Content-Based Instruction that organizes language practice around substantive, real-world challenges (Nalbandyan, 2025).

This has important implications for subject teaching. When sustainability literacy is conceptualized as a cross-curricular competence, environmental education cannot be regarded as the sole responsibility of science, geography, or social studies. Rather, each discipline can contribute through its distinctive epistemological and pedagogical resources (Saribaş & Bakanay, 2024). In English language teaching, these resources are primarily linguistic and communicative. The English classroom can support sustainability education by providing learners with opportunities to comprehend environmental information, discuss relevant issues, compare perspectives, formulate questions, construct spoken and written responses, and communicate their ideas to diverse audiences (Saribaş & Bakanay, 2024; Yu et al., 2024).

The revised English curriculum introduced within the Maarif Model further reinforces this potential. Its approach to foreign-language education prioritizes the development of receptive and productive language skills, positioning vocabulary, grammar, and pronunciation as complementary resources that support listening, reading, speaking, and writing rather than as isolated instructional objectives

(Education, 2025). Across the curriculum, learners are expected to encounter and use the target language in meaningful contexts, while classroom practices emphasize communication, collaboration, responsiveness to learner needs, and the application of language beyond the immediate classroom setting.

These characteristics should not be interpreted as evidence that the Maarif Model constitutes a formally task-based language-teaching syllabus. Task-Based Language Teaching has a distinct theoretical lineage and rests on specific defining criteria; therefore, its presence cannot be inferred solely from the curriculum's use of the term *task*. Moreover, curricular terminology and terminology used in language-teaching research do not necessarily correspond. A more precise interpretation is that the revised English curriculum provides substantial scope for task-oriented practice and incorporates several features that are compatible with task-based pedagogy.

Environmental content is also explicitly incorporated into the curriculum. In Grade 6, for instance, the theme *Life in Nature & Global Problems* addresses activities in nature, environmental problems, and possible solutions. The related learning processes involve reading and interpreting relevant content, preparing spoken and written responses, reorganizing information for communication with others, and producing a short report on an environmental problem and potential solutions (Education, 2025). At subsequent grade levels, nature and global problems continue to feature in the thematic framework, enabling environmental communication to become progressively more demanding in linguistic and cognitive terms as learners' proficiency develops.

Such curricular openings are important because they make possible a progression from environmental vocabulary towards environmental communication. A lesson need not stop after learners recognize words associated with pollution or energy. They may use those words to identify a problem, explain why it matters, compare possible solutions, and communicate a recommendation. The task provides a purpose for the language and a context in which form, meaning, and content meet.

This approach is also consistent with the wider literacy structure of the Maarif Model. Sustainability literacy includes the discussion of unsustainable systems from environmental, social, economic, ethical, and other perspectives. Information and data literacies involve locating, interpreting, questioning, and using information. These processes are highly compatible with language tasks in which students read short texts, interpret visuals, compare information, and present conclusions. ELT can therefore become one of the curricular spaces in which several literacy domains intersect.

The growing prominence of sustainability in education has generated extensive policy discussion, yet its role in English language teaching remains insufficiently defined. Although environmental topics are increasingly present in language classrooms, important questions remain about how ecological thinking relates to the theoretical foundations of language education, how environmental content can inform specific areas of language pedagogy, how curricula enable or constrain such integration, and how these issues are addressed across different educational systems.

This book examines these issues from multiple perspectives rather than advancing a single model of sustainability-oriented ELT. Such an approach is necessary because ecological questions concern how the human subject is conceptualized, how language represents the more-than-human world, which lexical resources learners require to participate in environmental discourse, how motivation and engagement can be fostered, how curricula incorporate sustainability, and what teachers encounter when policy principles are translated into classroom practice.

The chapters consequently move between theory, pedagogy, curriculum, and educational context. By integrating diverse perspectives from leading practitioners and researchers, the book offers practical frameworks for transitioning from fragmented environmental themes to a coherent, embedded approach to ecological literacy.

Chapter 2, “Environmental (Post)humanities: Environmental Posthumanist Thought in English Language Teaching,” offers the book’s most extensive theoretical exploration of the relationship between humans and the environment. Drawing on the environmental humanities, posthumanism, ecocriticism, material ecocriticism, and new materialism, the chapter brings these perspectives into conversation with English language teaching. In particular, it questions anthropocentric views that treat humans as separate from, or superior to, the broader material and ecological world. From this perspective, the chapter explores how language education might be reconsidered in terms of agency, learning processes, classroom relationships, and a more relational understanding of environmental responsibility.

Chapter 3, “Theoretical Principles and Pedagogical Guidelines for Vocabulary Development in Integrating Environmental Issues into Second Language Education,” focuses on lexical competence as a key element of environmental language education. To engage meaningfully with ecological issues, learners need the vocabulary to describe environmental phenomena, make comparisons, express evaluations, and take part in discussions and debates. With

this in mind, the chapter outlines principles for selecting environmentally relevant vocabulary, presenting words in meaningful contexts, revisiting them over time, and drawing attention to word families and collocations. It also considers how learners can gradually move from recognizing and understanding new vocabulary to using it confidently and appropriately. In this way, environmental vocabulary is not approached as a separate set of specialist terms, but as part of the broader development of ecological literacy.

Chapter 4, “Gamification as a Pedagogical Bridge: Engaging Learners in Ecological Themes in English Language Teaching,” turns to the question of learner engagement in environmental language education. Ecological topics can sometimes feel distant, repetitive, or overly informational when they are presented mainly as subject matter to be learned. The chapter, therefore, considers how gamification can create more active and engaging learning experiences through elements such as narrative, challenge, choice, feedback, collaboration, and a clear sense of progress. It also draws an important distinction between meaningful gamification and the simple addition of points, badges, or leaderboards. In doing so, the chapter offers a balanced discussion of both the opportunities and the limitations of using game-based approaches to support environmental learning in the English language classroom.

Chapter 5, “Integrating Sustainability into English Language Teaching: Curriculum Perspectives,” moves the discussion from classroom practice to the broader curriculum level. It considers how sustainability is addressed within international educational frameworks and connects this discussion with established approaches to language education, such as communicative competence, intercultural communication, Content and Language Integrated Learning, ecolinguistics, and the Common European Framework of Reference for Languages. The chapter also compares the curricula of Türkiye, Italy, Spain, and Lithuania to explore how sustainability is reflected in different national contexts. In doing so, it shows the various ways in which a cross-curricular priority can become part of language education, while also drawing attention to cases where this connection remains limited or insufficiently defined.

Chapter 6, “Integrating Sustainability into EFL in Spain: From Curriculum Policy to Practice,” focuses on how sustainability is addressed within the Spanish educational context under the competence-based framework introduced by the LOMLOE. It explores the place of sustainability in primary and secondary education and considers its connections with plurilingual and intercultural competence. The chapter also discusses the potential of mediation, Content and Language Integrated Learning, learning situations, and cross-curricular

approaches for bringing sustainability into EFL teaching. At the same time, it highlights an ongoing issue: while sustainability has a prominent place in broader educational policy, its role within the specific aims and expectations of foreign language education is often less clearly defined.

Chapter 7, “The Case of Italy: Ecological Awareness and Foreign Language Learning,” examines how sustainability and ecological awareness are addressed within the Italian educational context. It considers their connections with Civic Education, ecolinguistics perspectives, communicative language teaching, and sustainability competence, while giving particular attention to teachers’ experiences and the relationship between policy expectations and classroom practice. The chapter shows how project-based work, interdisciplinary activities, authentic materials, digital resources, and action-oriented approaches can bring environmental issues into language learning in meaningful ways. At the same time, it acknowledges practical challenges, including limited time, access to suitable materials, assessment demands, and the need for greater teacher support.

Chapter 8, “The Case of Lithuania: Teacher Perspectives on Sustainability-Integrated Materials in EFL,” Chapter 8, “The Lithuania Case: Teacher Perspectives on Sustainability-Integrated Materials in EFL,” concludes the book with a practice-oriented discussion of how teachers evaluate sustainability-integrated EFL materials. It focuses on issues such as purposeful language use, local relevance, learner agency, interactive and digital activities, scaffolding, assessment, and the practical demands of classroom implementation. The Lithuanian case shows that teachers may be highly supportive of integrating environmental themes into language education while still needing materials that are flexible, adaptable, and realistic for everyday teaching contexts.

Across these chapters, sustainability is approached neither as an additional school subject nor as a new label for familiar environmental vocabulary units. The common concern is how ecological questions can alter the content, purpose, and practice of English language education while maintaining the field’s linguistic integrity.

References

- Alharbi, M. S. (2026). Greening the classroom: Cultivating sustainable futures through English language teaching. *Social Sciences & Humanities Open*, 13, 102491–102491. <https://doi.org/10.1016/j.ssaho.2026.102491>
- Alsalihi, H. D. (2025). Eco-Linguistics in Actions: Using Environmental Themes to Foster English Language Skills Through Contextual Learning in High Schools. *Kufa Journal of Arts*, 1(65), 397–428. <https://doi.org/10.36317/kja/2025/v1.i65.19285>

- Butkevich, Y. I. (2024). Methodological foundations of the formation of environmental awareness in the practice of teaching linguistic disciplines. *Journal of the Belarusian State University Ecology*, 3, 11–16. <https://doi.org/10.46646/2521-683x/2024-3-11-16>
- Byram, M. (2020). Teaching and Assessing Intercultural Communicative Competence. In *Multilingual Matters eBooks*. <https://doi.org/10.21832/byram0244>
- Çağ, H. D. (2026). Sustainability in Turkish Language Teaching: A Conceptual Framework Developed Through an Integrative Literature Review. *Sustainability*, 18(4), 1724–1724. <https://doi.org/10.3390/su18041724>
- Calvin, K., Dasgupta, D., Krinner, G., Mukherji, A., Thorne, P., Trisos, C. H., Romero, J., Aldunce, P., Barrett, K., Blanco, G., Cheung, W. W. L., Connors, S., Denton, F., Diongue-Niang, A., Dodman, D., Garschagen, M., Geden, O., Hayward, B., Jones, C., ... Ha, M. (2023). IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland. In *ANU Open Research (Australian National University)*. Australian National University. <https://doi.org/10.59327/ipcc/ar6-9789291691647>
- Canale, M., & Swain, M. (1980). THEORETICAL BASES OF COMMUNICATIVE APPROACHES TO SECOND LANGUAGE TEACHING AND TESTING. *Applied Linguistics*, 1, 1–47. <https://doi.org/10.1093/applin/i.1.1>
- Demosthenous, M. (2023). Sustainable school: the challenge of future. *Arts & Humanities Open Access Journal*, 5(3), 230–238. <https://doi.org/10.15406/ahoaj.2023.05.00213>
- Dhanyamol, C. T., & Sethunarayanan, N. (2025). A systematic review on integrating environmental sustainability in English Language Teaching: strategies for Sustainable Development Goals. *Frontiers in Education*, 10. <https://doi.org/10.3389/educ.2025.1636623>
- Education, M. of N. (2024). *Türkiye Yüzyılı Maarif Modeli öğretim programları ortak metni*. Republic of Türkiye Ministry of National Education.
- Education, M. of N. (2025). *İngilizce dersi (2–8. sınıflar) öğretim programı*. Republic of Türkiye Ministry of National Education.
- Egbert, J., Crabbe, D., Csikszentmihlyi, M., Egbert, J., Ellis, N., Krashen, S., Xu, F., & Egbert, J. (2020). Engagement, Technology, and Language Tasks: Optimizing Student Learning. *International Journal of TESOL Studies*. <https://doi.org/10.46451/ijts.2020.12.10>
- Ellis, R. (2003). Task-based Language Learning and Teaching. *Asian Journal of English Language Teaching*. <https://doi.org/10.65961/ajelt-2003-1-009>
- Erguvan, I. D. (2024). What difference does one course make? Assessing the impact of content-based instruction on students' sustainability literacy. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03149-4>
- Ghazali, A. R., Flores, O. W., Suryanto, S., & Madjid, Muh. N. (2025). Environmental Awareness in Language Education: A PRISMA-Guided Systematic Review for Sustainability Discourse. *BIO Web of Conferences*, 199, 3010–3010. <https://doi.org/10.1051/bioconf/202519903010>
- Goulah, J. (2015). Climate Change and TESOL: Language, Literacies, and the Creation of Eco-Ethical Consciousness. *TESOL Quarterly*, 51(1), 90–114. <https://doi.org/10.1002/tesq.277>
- Graham, C. (2026). Sustainability in English Language Teaching. In *OAR@UM (University of Malta)*. University of Malta. <https://doi.org/10.69648/casy5825>
- Gunina, N. A., Mordovina, T. V., & Shelenkova, I. (2021). Integrating sustainability issues into English language courses at university. *E3S Web of Conferences*, 295, 5006–5006. <https://doi.org/10.1051/e3sconf/202129505006>

- Halliday, M. A. K. (2001). *New ways of meaning - the challenge to applied linguistics*. 6. <https://www.mendeley.com/catalogue/new-ways-meaning-challenge-applied-linguistics/>
- Hoydis, J., Bartosch, R., & Gurr, J. M. (2023). Climate Change Literacy. In *Cambridge University Press eBooks*. Cambridge University Press. <https://doi.org/10.1017/9781009342032>
- Huot, S., & Em, S. (2025). The integration of English language teaching with environmental sustainability: A comprehensive review of pedagogical strategies and global impacts. *Cambridge Journal of Educational and Social Sciences*, 2(2), 83–95. <https://doi.org/10.69496/cjess.v2i2.68>
- 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>
- Jedi-Sari-Biglar, L., & Kaban, A. L. (2023). Exploring the effect of mobile-assisted task-based learning on vocabulary achievement and student attitude. *Smart Learning Environments*, 10(1). <https://doi.org/10.1186/s40561-023-00270-w>
- Jones, C., Hine, D. W., & Marks, A. D. G. (2016). The Future is Now: Reducing Psychological Distance to Increase Public Engagement with Climate Change. *Risk Analysis*, 37(2), 331–341. <https://doi.org/10.1111/risa.12601>
- Kazazoglu, S. (2025). Environmental Education Through Eco-Literacy: Integrating Sustainability into English Language Teaching. *Sustainability*, 17(5), 2156–2156. <https://doi.org/10.3390/su17052156>
- Kuzu, E., & Çubukçu, F. (2026). Transformative journey of preservice English teachers towards a sustainable society. *Journal of Pedagogical Research*. <https://doi.org/10.33902/jpr.202638496>
- Latha, Dr. R. G. (2026a). English Language Education as a Means of Advancing Environmental Stewardship. *Zenodo (CERN European Organization for Nuclear Research)*. <https://doi.org/10.5281/zenodo.19162973>
- Latha, Dr. R. G. (2026b). English Language Education as a Means of Advancing Environmental Stewardship. *Zenodo (CERN European Organization for Nuclear Research)*. <https://doi.org/10.5281/zenodo.19162972>
- Lee, H.-Y. (2014). Inquiry-based Teaching in Second and Foreign Language Pedagogy. *Journal of Language Teaching and Research*, 5(6). <https://doi.org/10.4304/jltr.5.6.1236-1244>
- Long, M. H. (2014). Second Language Acquisition and Task-Based Language Teaching. *Medical Entomology and Zoology*. <http://catalogimages.wiley.com/images/db/jimages/9780470658932.jpg>
- M., B. (2022). GreenComp The European sustainability competence framework. In *Portuguese National Funding Agency for Science, Research and Technology (RCAAP Project by FCT)*. <https://hdl.handle.net/10216/139375>
- Mamatkulova, N. F. (2026). PROMOTING ENVIRONMENTAL LITERACY AND SUSTAINABILITY IN EFL LESSONS. *INTERNATIONAL JOURNAL OF SCIENCE AND TECHNOLOGY*, 2(1), 31–33. <https://doi.org/10.70728/conf.susta.v02.i01.006>
- Mary, P. (2024). The Eco-English Classroom: Teaching Language through Environmental Literature. *Indian Educational Researcher*, 17(2), 40–47. <https://doi.org/10.34293/0974-2123.v17n2.005>
- Mercer, S., Ibrahim, N., Bilsborough, K., Jones, C., & Potzinger, C. (2022). Teacher perspectives on addressing environmental issues in ELT. *ELT Journal*, 77(4), 393–406. <https://doi.org/10.1093/elt/ccac039>
- Micalay-Hurtado, M. A., & Poole, R. (2022). Eco-critical language awareness for English language teaching (ELT): Promoting justice, wellbeing, and sustainability in the classroom. *Journal of World Languages*, 8(2), 371–390. <https://doi.org/10.1515/jwl-2022-0023>

- Nalbandyan, N. (2025). INTEGRATION OF SUSTAINABLE DEVELOPMENT CONCEPTS INTO UNIVERSITY SERVICE SPECIALTY CURRICULUM: AN ENGLISH LANGUAGE TEACHING PERSPECTIVE. *Education in the 21st Century*, 7(2), 175–183. <https://doi.org/10.46991/educ-21st-century.v7.i2.175>
- Rizal, R. P., & Seli, F. Y. (2025). Ecological Perspectives in Language Education: A Critical Look at ELT Practices in Higher Education. *Jedu Journal of English Education*, 5(2), 100–108. <https://doi.org/10.30998/jedu.v5i2.14572>
- Saiful, J. A. (2023). Eco-ELT for environmental research and praxis in ELT. *Journal on English as a Foreign Language*, 13(2), 373–398. <https://doi.org/10.23971/jefl.v13i2.6335>
- Sarıbaş, D., & Bakanay, Ç. D. (2024). Pre-Service Teachers' Ethical Reasoning about Climate Ethics and Climate Justice. *Buca Eğitim Fakültesi Dergisi (Online)/Buca Eğitim Fakültesi Dergisi*, 60, 1021–1044. <https://doi.org/10.53444/deubefd.1380750>
- Schnur, E., & Rubio, F. (2021). Lexical complexity, writing proficiency and task effects in Spanish Dual Language Immersion. *Language Learning & Technology*, 25(1), 53–72. <https://doi.org/10.64152/10125/73425>
- Scipio, J. E., Mangangue, J., Tumuju, V. N., Suot, R. M., Kalangi, J. S., Lumentah, L., & Lalira, J. E. (2025). Enhancing EFL Students' Environmental Awareness and Motivation through a Faith-Based Green ELT Curriculum. *Voices of English Language Education Society*, 9(2), 413–423. <https://doi.org/10.29408/veles.v9i2.30685>
- Shawky, W. M. (2025). From Grammar to Green: Integrating Sustainability into ELT Through Ecolinguistic Practices. *FMD Transactions on Sustainable Techno Learning*, 3(3), 93–106. <https://doi.org/10.69888/ftstl.2025.000559>
- Silvhiany, S., Nurhaliza, S., Inderawati, R., & Trilestari, K. (2026). Climate change in EFL: Inquiry-based multimodal writing. *Studies in English Language and Education*, 13(1), 171–188. <https://doi.org/10.24815/siele.v13i1.152>
- Soproni, Z. (2020). Common European Framework of Reference for Languages: Learning, Teaching, Assessment, Companion Volume with New Descriptors. *Modern Nyelvoktatás*, 26, 168–170. <http://ojs.elte.hu/modernnyelvok/article/view/1466>
- Stibbe, A. (2020). Ecolinguistics: Language, Ecology and the Stories We Live by (2nd edn.). In *Research Repository (University of Gloucestershire)*. University of Gloucestershire. <https://orcid.org/0000-0002-3854-9854>
- Syahfitri, D., & Siregar, A. (2026). Ecological Agency through Language Learning: An Eco-CLA Assessment of Climate-Focused Activities in Low-Resource Contexts. *Studia Ecologiae et Bioethicae*. <https://doi.org/10.21697/seb.5875>
- Tatin, I. A. G., Ashadi, A., Jacobs, G. M., & Jacobs, G. (2025). Enhancing Environmental Education: An Analysis of EFL Elementary School Coursebooks in Chile and Indonesia. *Teaching English as a Second or Foreign Language--TESL-EJ*, 29(2). <https://doi.org/10.55593/ej.29114a3>
- Tatin, I. A. G., Triyono, S., Jacobs, G. M., Trett, S., Bangsa, A. A. S., & 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. <https://doi.org/10.7575/aiac.ijels.v12n.3p.3>
- Yu, B., Guo, W., & Fu, H. (2024). Sustainability in English Language Teaching: Strategies for Empowering Students to Achieve the Sustainable Development Goals. *Sustainability*, 16(8), 3325–3325. <https://doi.org/10.3390/su16083325>
- Zygmunt, T. (2016). Language Education for Sustainable Development. *Discourse and Communication for Sustainable Education*, 7(1), 112–124. <https://doi.org/10.1515/dcse-2016-0008>

CHAPTER 2.

ENVIRONMENTAL (POST) HUMANITIES: ENVIRONMENTAL POSTHUMANIST THOUGHT IN ENGLISH LANGUAGE TEACHING

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1. Introduction

This chapter introduces environmental (post)humanities within the frameworks of ecocriticism, material ecocriticism, and new materialism, with particular attention to their relevance in English language teaching (ELT). The chapter first delineates the distinctions between humanism and posthumanism, then integrates these concepts with environmental (post)humanism, and finally connects them to ecocriticism, material ecocriticism, and new materialism, emphasizing their implications for ELT. Undeniably, posthumanist approaches provide complementary frameworks for reconceptualizing language education beyond anthropocentric perspectives. For instance, ecocriticism examines the representation of ecological relationships in literary and cultural texts, while ecoliteracy seeks to develop learners' ecological knowledge, systems thinking, and environmental responsibility. Collectively, these approaches promote an understanding of humans as integral participants in complex ecological networks, rather than as separate from or dominant over nature. Additionally, these (post) humanist perspectives resonate within ELT, encompassing a wide range of perspectives. Accordingly, this chapter demonstrates how (post) humanist thoughts can challenge, destabilize, and renew practices in ELT, thereby fostering more interpretive and dynamic learning and teaching systems.

Michael Bonnett defines humanism as a “broad perspective that assigns to human beings a special place in the greater scheme of things, setting their nature and interests at the centre of study and policy” (Bonnett 2003, p. 707). Rooted in Enlightenment values, humanism manifests in “modern, rational and colonial domination, conquest, exploitation and extraction of natural resources, including

indigenous populations and non-human others (Herbrechter, 2023, pp. 213-214). In contrast, posthumanism is defined as “a subjectivity in tune with the self-perception of an individual who learns to embody certain gendered, racial, national, social (...) identities that modern societies ‘construct’ and privilege or set as normative and thus as worth aspiring to” (Herbrechter, 2023, p. 214). However, the liberal humanist subject began to be decentered in the latter half of the twentieth century by both theoretical and philosophical movements such as poststructuralism, postmodernism, and deconstruction. This decentering persists today, in part due to posthumanism and post-anthropocentrism, which have emerged “under radically new technological, ecological, and social conditions and due to the new global challenges like climate change, depletion of natural resources, loss of biodiversity, and extinction threats” (Herbrechter, 2023, p. 214). Recent scholarship acknowledges that humans, like all more-than-human counterparts, “become-with each other, compose and decompose each other, in every scale and register of time and stuff in sympoietic tangling, in ecological evolutionary developmental earthy worlding and unworlding” (Haraway 2016, p. 97).

Since the introduction of the term “Anthropocene” in 2000, which is defined as an epoch characterized by the dominant and irreversible impact of human activity on the planet (Crutzen & Stoermer, 2000), the concept has gained significant prominence across multiple disciplines. Although the precise onset of this epoch remains debated, scholarly discourse has increasingly emphasized human responsibility for environmental degradation. Beginning in the 1990s, posthumanism has challenged the notion that humans are the primary measure of all things on Earth. Posthumanist perspectives argue that anthropocentric value systems are responsible for the contemporary humanitarian catastrophes. As noted, “(...) posthumanism is a post-anthropocentrism that aims at changing human relationships and mitigating the ongoing production of crises and oppressions” (Daigle & Hayler, 20023, p. 3). Anthropocentrism, or human-centeredness, is broadly defined as a worldview that positions humans as *the measure of all things* (Braidotti, 2016). This perspective asserts that humans are the primary entities on the planet due to their superior cognitive abilities, and that all other beings are valuable only insofar as they contribute to human survival and pleasure.

Posthumanism posits that the boundaries between human and nonhuman entities are gradually dissolving, thereby rejecting the notion of human exceptionalism. Within this framework, posthumanism seeks to redefine the concept of “human” by challenging traditional dichotomies, particularly those separating human from nonhuman. This paradigm shift is significant because it ensures that nonhuman entities receive consideration equal to that of humans. By

advocating for ethical responsibility toward nonhuman entities, posthumanism introduces new perspectives on human-nonhuman relationships and undermines the belief in human exceptionalism depicted in science, art, and literature. Furthermore, by opposing anthropocentric perspectives and emphasizing the interconnectedness of living and non-living entities, posthumanism disrupts established hierarchies and boundaries. Consequently, posthumanism encourages the deconstruction of predetermined cultural codes and societal values, prompting a critical reassessment of anthropocentrism in the twenty-first century.

Posthumanism is rooted in analyses developed within theories of culture and language. In *Posthumanism in Practice*, Christine Daigle and Matt Hayler, in the part “Posthumanist Aims”, reveal that Posthumanist approaches, based on “theories of *culture* and *language*, (*italics my emphasis*) of race and gender, feminist theory, postcolonial theory, disability studies, critical animal and plant studies, queer theory, and philosophies of immanence, embodiment, and agency”, postulate that “‘the Human’ of humanist thinking is an exclusionary subject that is far from universal” (2023, p. 2). To these scholars, posthumanist approaches “challenge the accuracy, stability, and ethics of this envisioning of how we ‘should’ be, in which the Human, explicitly or implicitly, tends to be figured as a white, cisgendered, heterosexual, able-bodied man, in control and reliant on no one, and, by virtue of continually being positioned at the top of the hierarchy of beings, typically seen as entitled to oppress and exploit *environments* and their *inhabitants* (*italics my emphasis*)” (2023, p. 2). Therefore, posthumanism demonstrates that language not only shapes cultural understandings of the human but also mediates human relationships with the environment, thereby challenging anthropocentric discourses and enabling more ethical, interconnected forms of coexistence.

Undeniably, the transition from anthropocentrism to posthumanism has prompted scholars to question the *human impact* on Earth. From a posthumanist perspective, Wendy Wheeler argues that addressing the environmental and technological challenges of the twenty-first century demands new approaches to thinking, communication, and engagement with the more-than-human world. She poses two central questions: “[i]n what ways can human beings seize change creatively? In particular, in what ways can human animals respond creatively to the challenges of the early twenty-first century, especially those concerning technology and our own effects on the environment that supports us?” (2017, p. 307). Wheeler emphasizes that these questions are not novel, highlighting that Gregory Bateson (1972) raised similar concerns over 40 years ago. Currently, more than five decades have passed since then; however, these questions still seem to remain unanswered.

Considering the traditional and contemporary approaches, we can say that the transition from environmental humanism to the comparatively new field of environmental posthumanism seems analogous to that from humanism to posthumanism. Indisputably, the environmental humanities and the environmental posthumanities are closely related fields that explore the relationship between humans and the nonhuman. Sometimes both concepts are used interchangeably. However, while environmental posthumanism has emerged as a distinct field, it has not replaced environmental humanism. Rather, these two fields complement each other and work towards a common goal of understanding the complex interactions between *human and nonhuman*.

2. Environmental (post)humanism: Material Ecocriticism

Environmental posthumanism rejects anthropocentrism, human exceptionalism, and hierarchy in humanism just as posthumanism does, instead placing the human in the midst of entangled relations with *biotic* or *abiotic* dynamics. Furthermore, it broadens the scope of ethical values and responsibilities by attributing *agentic capacities* to nonhuman entities whilst, at the same time, situating humans within a complex web of relationships. However, the main distinction between environmental humanities and environmental posthumanities is that the latter may adopt interdisciplinary or transdisciplinary approaches, seeking engagement with non-academic specialists and stakeholders.

Given that environmental posthumanities is a relatively new field, it seems that exploring recent terminology on environmental issues by reconsidering the ontological exceptionality of the human is a must. Environmental posthumanities play a crucial role in providing a perspective distinct from science and offering effective solutions for living in harmony with the environment. This ethical perspective is reflected in Ronald Sandler's argument that the unprecedented scale of human-induced ecological change requires humans to assume responsibility for both past environmental damage and the future of ecological systems. Sandler asserts that human activities are causing ecological changes that endanger many species and emphasizes the need for taking responsibility: "Accelerated rates of ecological change caused by human activities are what endangers so many species and creates the need for more interventionist conservation; and [...] create[s] a responsibility to correct past wrongs as well as provide license for more actively designing the ecological future" (2017, p. 72).

Currently, environmental issues have become a primary concern for politicians, academics, researchers, scientists, and the public. Significant ecological challenges include species extinction, wildfires, deforestation, ozone layer

depletion, climate change, global warming, and biodiversity loss. These issues have highlighted numerous environmental catastrophes worldwide, underscoring the urgent need for immediate action to prevent further harm to the planet. Snaza and Weaver ask an intriguing question on the privilege of the human over nonhuman entities: “What would a world be that did not insist on human superiority or dominance and that did not disavow the human’s ecological entanglements?” (2015, p. 3). Donna Haraway similarly argues that humans and nonhuman beings exist in relationships of mutual dependence rather than hierarchy, emphasizing that everyday interactions with companion species constitute meaningful and ethically significant forms of coexistence. As she states, “We are face-to-face, in the company of significant others, companion species to each other. That is not romantic or idealist, but mundane and consequential in the little things that make lives” (Haraway, 2010, p. 93).

Rosi Braidotti further develops the posthumanist understanding of relational existence by emphasizing that subjectivity is constituted through material interdependence extending across both human and non-human forms of life. Braidotti (2019) proposes the inevitability of a kind of *transversal non-human kinship*, emphasizing “[...] the embodied, embedded and transversal selves that we are, bonded by ontological relationality” (Braidotti, 2019, p. 38). To her, “Embodied and embedded because we are deeply steeped in the material world. Transversal because we connect but also differ from each other. And yet we are structurally related to one another, to the human and non-human world that we live in. We are after all variations on a common matter” (Braidotti, 2019, p. 38). The conception of transversal non-human kinship reframes human existence as fundamentally relational, dissolving rigid ontological boundaries and reinforcing the posthumanist argument that humans and non-humans are mutually constituted through shared materiality and interconnected modes of being.

In the literature review, it is seen that the newly emerging theoretical studies, such as material ecocriticism, become significant in bridging the gap between human language and the physical world, as it treats the “matter” itself not only as a passive, stable, and unchanging thing, but as an active agent in narratives. Material ecocriticism reshapes how we as humans understand environmental realities, focusing on deep ethical connections between human bodies and the earth. Thus, the transition from traditional ecocriticism to material ecocriticism refines the environmental humanities, providing a framework that has grown increasingly vital for understanding the Anthropocene and addressing man-made crises. Equally, new materialism, sometimes considered a branch of posthumanism such as Braidotti (2013) and Taylor and Hughes (2016), or a distinct study such

as DeLanda (2006) and Dolphijn and van der Tuin (2012), advocates challenging human-centered approaches and human privilege. Thus, new materialists such as Rosi Braidotti, Karen Barad, Jane Bennett, and Donna Haraway commonly attempt to “reconceptualize matter as vibrant and agentic actants entangled and embedded within the human-more-than-human networks” (Harwood, 2023, p. 185).

In material ecocriticism, the concepts of *the agency of matter* and *storied matter*, with a focus on *posthuman ethics*, have become the core elements in identifying the *sine qua non* relationship between human and matter (Iovino & Oppermann, 2014). This theoretical framework for material ecocriticism, which conceptualizes the physical world as “storied matter,” proposed by Iovino and Oppermann, or matter that embodies stories, histories, and meanings, highlights that bodies, environments, and objects function as active participants within a deeply interconnected planetary system. Thus, drawing on interdisciplinary, theoretical, and, in some way or another, politically committed inquiry from thinkers such as Karen Barad, Rosi Braidotti, and Jane Bennett, emerging from feminism, philosophy, science studies, and cultural theory, it is significant to comprehend environmental issues as storied matter.

3. Ecocriticism: Posthumanist Thought in English Language Teaching

Ecocriticism, which addresses ecological issues in the (post)humanities, emerges as a response to the growing environmental problems, including climate change, biodiversity loss, water scarcity, deforestation, air pollution, and shifting climate patterns. It encompasses “real-world concerns,” revealing “the entanglement of nature and culture, the interplay between our desires, our concepts, and our perceptions, and possibilities for renewal and vitality within that entanglement” (Costello, 2003, p. 14). Given the significant environmental crises and their harmful effects on humans and nonhumans alike, it’s not unanticipated that demand for a discipline to address these issues has grown substantially over the past five decades.

Oppermann and Iovino argue that an anthropocentric and dualistic perspective is “[a]t the root of all ecological crises” and “the divisive epistemologies that create an illusory sense of an ontological dissociation between the human and the nonhuman realms” (2017, p. 4) are the core of the debate in this millennium. Because of this “dissociative thinking,” global climate change significantly affects both living and non-living entities. These effects include melting glaciers, ocean acidification, extreme heat, droughts, floods, and increased tornado and hurricane activity and intensity (Oppermann & Iovino, 2017, p. 4). This kind of thinking, also

called “hyperseparation”, results from “othering” both humans and nonhumans, treating them as exploitable, as Oppermann and Iovino (2017) reveal.

In the study, *Toward a Posthumanist Education* (Snaza et al., 2014), three issues are identified in which posthumanism can transform educational thought, practice, and research:

First, it forces us to reckon with how resolutely humanist almost all educational philosophy and research is. Second, it allows us to reframe education to focus on how we are always already related to animals, machines, and things within life in schools at the K-12 and university levels. Third, building on and incorporating these first two insights, it enables us to begin exploring new, posthumanist directions in research, curriculum design, and pedagogical practice (Snaza et al. 2014, p. 40).

This reconceptualization of education rests on a broader ontological shift that rejects *human exceptionalism* and recognizes the *active participation* of human and nonhuman entities in the production of *knowledge and experience*. It is precisely at this point that new materialism provides a complementary theoretical framework by further expanding the concept of agency beyond the human. Consequently, *agency* is no longer understood as an attribute possessed by autonomous individuals but as a distributed and relational process that unfolds within dynamic assemblages. The “assemblages” are forms of ontological diversity of agency, re-interrogating the widely common definition of agency as “the ability to act in such a way to produce particular results” (Alaimo, 2017, p.415). Here, education plays a crucial role, specifically in “producing particular results” in the acts of the posthuman learner, who should be educated to take responsibility for all misdeeds of the past and who should take the opportunity for a better planet for the future. Butler (1992, p. 9) reminds us of one’s actions “can no longer be understood as unilinear in direction or predictable in their outcomes” (Butler 1992, p. 10) and “the effects of the [...] action[s] always have the power to proliferate beyond the subject’s control, indeed, to challenge the [...] transparency of that subject’s intentionality” (Butler 1992, p. 10). Thus, it is of great significance to raise children and educate them, making them believe that they are the *environmental stewards* of this planet.

English Language Teaching, similar to other academic disciplines, should increasingly incorporate posthumanist perspectives to take ethical responsibility for the future. Given that English serves as the global lingua franca, it offers a versatile platform for addressing diverse themes, disciplines, and real-world issues. As a result, ELT may present significant opportunities to entrench an environmental posthumanist perspective within the curriculum, thereby

enhancing learners' understanding of the interconnected relationships among humans, nonhuman entities, and their shared environments. It is also significant to note that new materialism contributes to shifting the humanistic focus of ELT research toward a "more-than-human world", which requires reconsideration of how "children are both constituted by, and learn within, this more-than-human world" (Taylor, Blaise, and Giugni 2013, p. 49). Adapting such perspectives may ultimately challenge the aforementioned "dissociative thinking" processes, or else, "hyperseparation" of species.

As educational paradigms continue to evolve in response to posthumanist approaches, English Language Teaching is similarly influenced by these broader shifts, namely the shift from anthropocentric predetermined certainties to postanthropocentric ethical values. The pressing need to move beyond established requirements and to engage in creative, transformative, and politicized practices shows that environmental posthumanities can be a key solution for the posthuman learner to take responsibility in the Anthropocene through learning English. Achieving this objective requires decentralizing English education not merely at the institutional level, but in terms of priorities. Rather than privileging student-centered, content-centered, or teacher-centered models, a no-one-centered approach can ultimately be proposed, centering on the learning setting, collective interaction and participation, and, lastly, the dynamic flow of classroom practices. Such a model may emphasize the interconnection of heterogeneous elements within educational networks, including students, teachers, content, ideas, imagination, symbols, technologies, other species, and the flow of information.

Just like in all other spheres of education, the introduction of concepts primarily derived from Deleuzeoguattarian vocabulary in ELT (such as rhizome, transversality, nomad, becoming, in-betweenness, schizoanalysis, affect, people-yet-to-come) and posthumanist terminology (including anthropocene, anthropocentrism, non-human, more-than-human) seems to be urgently needed and significant for the emerging paradigmatic shifts in ELT. This shift also advocates for "a live curriculum" in place of "a predetermined curriculum" (Wallin, 2010). The adoption of these concepts aims not only to transform educational thought but also to critically decode educational practices in many academic disciplines, including ELT. For instance, the Deleuzoguattarian concept "people-yet-to-come" refers to those whom we want to see in the future, as well as those who are among us already, but who think and behave in a new way (Hroch, 2014; Wallin 2014). From the perspective of the Anthropocene, "people-yet-to-come" are people who know how to change their behavior not only toward human beings, but also toward other species, doing so and understanding how important it is to take responsibility in

this new epoch. Thus, English language teachers can take responsibility to educate children as “people-yet-to-come” in the new millennium. Since “Children are perceived as the future saviours of the damaged planet, whereby their affinity for nature and sense of responsibility to act towards saving the planet is achieved by immersing them in nature” (Harwood, 2023, p. 182), just like any other discipline in education, ELT and its practices either in school settings or in some other areas can also be a prevailing factor in contributing to a “people-yet-to-come” identity.

In ELT, as has already been explained in the introduction part of this study, all the entities, whether human or nonhuman, can also be taken as assemblages, thereby collectively coexisting all the parts, such as content, curriculum, learners, teachers, parents, environment, and other stakeholders on the planet, without *othering* any other parts. However, in the literature review, particularly in ELT, the studies on environmental posthumanities are rather few. For instance, Deniz’s study argues that posthumanism challenges traditional language education theories, thereby offering a promising and innovative vision (Deniz, 2025). Additionally, Siffrinn and Coda’s study (2024) specifically explores posthumanist and new materialist approaches in applied linguistics. While some of the studies are on the analysis of textbooks that decenter the anthropocentric worldview and represent environmental issues in ELT (Eisavi &Yousefi, 2026; Shah & Shah, 2025), some of the others are on the integration of sustainability issues into the classroom settings to increase students’ ecological awareness in ELT (Karthika, 2025; Slamet & Kweldju, 2025). Similarly, some others are on ecocritical language awareness, which promotes justice, wellbeing, and sustainability in English classrooms (Fine & Love-Nichols, 2021; Micalay-Hurtado & Poole, 2022). Additionally, the study carried out by Karthika examines the role of learner agency motivation and the affect of assemblages in developing speaking proficiency of learners of English for Specific Purposes (ESP) (Karthika, 2024a). The same author writes another article on the importance of assemblages, arguing that a posthuman shift in ELT shows that the entanglement of affect, rhizome, and assemblage results in deterritorialization (Karthika, 2024b). Considering the studies carried out, it is seen that the implementation of environmental posthumanities in ELT is rather naïve, thereby offering researchers unexplored study opportunities.

4. Conclusion

We, as academics, researchers, teachers, practitioners, or lawmakers, can ask several questions about what can/should be done in education in a general sense and then specifically, in ELT, to protect the environment. For instance, if posthumanist environmental education requires an active process of ignoring

anthropocentric assumptions, how can teaching practices encourage children to rethink their perceived superiority over the more-than-human world and cultivate relational forms of ecological understanding? Or else, what role can environmental education play in transforming children's learning from the acquisition of ecological facts into a process of forgetting human exceptionalism and embracing posthumanist ethics of relationality and co-existence? These questions resonate with Herbrechter's explanations that directly connect learning, unlearning, human exceptionalism, and posthumanist ethics, as shown in the following lines:

Extending subjectivity beyond the traditional humanist and anthropocentric human exclusivity to non-human others (animals, machines, things, plants, environments, the planet etc.) is not just a new and more inclusive learning process, or a generalized animism (although this may be a good start); it is first and foremost an unlearning process. In other words, the decentring of the human(ist) subject does not 'automatically' lead to a pluralization of 'other' voices and agencies, it must be accompanied and motivated by an active process of deconstruction, of undoing, or of unlearning (Herbrechter, 2023, p. 217).

Only when we, as educators and parents, recognize the "embodied, embedded, relational, and affective positions of the child as a form of situated knowledge" (Braidotti, 2019, p. 16), can we take action to acknowledge the agentic child as an entangled child. Posthumanism, a project that questions what it means to be human by engaging with "ethico-onto-epistemological challenges that arise in contemporary times" (Barad, 2003; 2007), may eventually be effective in (re)considering environmental issues in ELT. As Braidotti (2019) reveals, the transference from a traditional context, namely from the *bios* (life of humans in organized society) to *zoe*, may also be meaningful in understanding ourselves as members of a species, thereby shattering all the teaching/learning practices in the English language. In order to protect our environment by balancing the human/nature/culture relationship, Braidotti attaches attention to the significance of "thinking in posthuman times", emphasizing "[t]hinking is about increasing our relational capacity, so as to enhance our power (potential) for freedom and resistance" (2019, p. 62).

In conclusion, in English Language Teaching, teachers who prioritize ecological practices may enable learners to engage with diverse epistemological and ontological entities. Rosi Braidotti asserts that: "Recognizing the embodied and embedded, relational and affective positions of humans is a form of situated knowledge that enhances the singular and collective capacity for both ethical accountability and alternative ways of producing knowledge," a process she refers

to as “the posthuman convergence” (Braidotti 2019, p. 12). Therefore, English teachers should enhance their understanding of *ethico-onto-epistemological issues*, particularly from posthumanist perspectives. This increased awareness will allow them to select classroom practices, tasks, and activities that foster students’ understanding of social, cultural, psychological, and affective outcomes on environmental posthumanities, paving the way for a more widespread dissemination in the posthuman convergence.

References

- Barad, K. (2003). Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter, *Signs: Journal of Women in Culture and Society*, 28(3), 801–31.
- Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Durham: Duke University Press.
- Bonnett, M. (2003). Retrieving Nature: Education for a Post-Humanist Age, *Journal of Philosophy of Education*, 37(4), 551–730
- Braidotti, R. (2013). *The Posthuman*, Cambridge: Polity Press.
- Braidotti, R. (2019). *Posthuman Knowledge*, Cambridge: Polity Press.
- Butler, J. (1992). Contingent Foundations: Feminism and the Question of “Postmodernism”, In J. Butler and J. Scott (eds), *Feminists Theorize the Political*, 3–21, New York: Routledge.
- Costello, B. (2003). *Shifting Ground: Reinventing Landscape in Modern American Poetry*, Cambridge: Harvard University Press.
- Crutzen, P., & E. Stoermer (2000). The Anthropocene. *Global Change Newsletter*, 41, 17–18.
- DeLanda, M. (2006). *A New Philosophy of Society: Assemblage Theory and Social Complexity*, London: Continuum.
- Deniz, Ş. (2025). A Posthuman Paradigm Shift: Reimagining English Language Learning at the Nexus of Human Consciousness and Intelligent Technologies. *Akademik Tarih ve Düşünce Dergisi*, 12 (Özel Sayı 2025-2), 1-22.
- Dolphijn, R. & Tuin van der, I. (2012). *New Materialism: Interviews & Cartographies*, Open Humanities Press.
- Eisavi F. & Yousefi M.H. (2026). English language teaching and the climate crisis: a framework for sustainable and resilient pedagogy. *English Teaching: Practice & Critique*. <https://doi.org/10.1108/ETPC-04-2025-0070>
- Fine, J. C., & Love-Nichols, J. (2021). Language and climate justice: A research agenda. *Journal of Sociolinguistics*, 25(3), 453–473. <https://doi.org/10.1111/josl.12469>
- Haraway, D. (2010). When Species Meet: Staying with the Trouble. *Environment and Planning D: Society & Space*, 28(1): 53–5. <https://doi.org/10.1068/d2706wsh>
- Haraway, D. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*, Durham: Duke University Press.
- Harwood, D. (2023). Water, ice, and dead ‘tadpoles’: Discovering within undecided boundaries in early childhood education for sustainability research. Daigle, C. & Hayler, M. (Eds.). In *Posthumanism in Practice*. UK: Bloomsbury Academic. pp. 181-198.
- Herbrechter, S. (2023). Unlearning to be human? The pedagogical implications of twenty-first-century post-anthropocentrism. Daigle, C. & Hayler, M. (Eds.). In *Posthumanism in Practice*. UK: Bloomsbury Academic. pp. 212-227.

- Hroch, P. (2014). Deleuze, Guattari, and environmental pedagogy and politic: Ritournelles for a planet-yet-to-come. M. Carlin & J. Wallin (Eds.). In *Deleuze and Guattari, politics and education: For a people-yet-to-come*. Bloomsbury Academic.
- Iovino, S., & Oppermann, S. (2014). Introduction: Stories come to matter. In *Material Ecocriticism*. Indiana University Press. pp. 1-17.
- Karthika, V. K. (2024a). Graphic assemblages for storytelling: A posthuman perspective from an English language classroom. *Journal of Applied Learning and Teaching*, 7(2), 342-354.
- Karthika, V. K. (2024b). The human, non-human affective entanglements: a posthuman perspective of an ESOL classroom. *Higher Education for the Future*, 11(2), 151-167.
- Karthika, V. K. (2025). Climate action in a language classroom: addressing questions of sustainability using borderless pedagogy. *International Journal of Sustainability in Higher Education*.
- Micalay-Hurtado, M. A., & Poole, R. (2022). Eco-critical language awareness for English language teaching (ELT): Promoting justice, wellbeing, and sustainability in the classroom. *Journal of World Languages*, 8(2), 371-390.
- Oppermann, S., & Iovino, S. (2017). The Environmental Humanities and the Challenges of the Anthropocene, Oppermann, S., & Iovino S. (Eds.). In *Environmental humanities: Voices from the Anthropocene*. Rowman & Littlefield. 1-22).
- Sandler, R. (2017). Techno-conversation in the Anthropocene: What does it mean to save a species? In Heise, U. K., Christensen, J., & Niemann, M. (Eds.). *The Routledge companion to the environmental humanities*. New York: Routledge.
- Shah, W. A., & Shah, U. R. (2025). De-centering the anthropocentric worldview in language textbooks: A posthumanist call for discursive reparations for sustainable ELT. *Linguistics and Education*, 86, 101397.
- Siffrinn, N., & Coda, J. (2024). A literature review of posthumanist and new materialist research in applied linguistics. *Critical Inquiry in Language Studies*, 1–12. <https://doi.org/10.1080/15427587.2024.2415619>
- Slamet, J., & Kweldju, S. (2025). Post-humanist pedagogies in e-learning for English language teaching: Insights from Indonesian doctorate students. *Language Related Research*, 16(5), 408.
- Snaza, N. and J.A. Weaver, eds, (2015), *Posthumanism and Educational Research*, London: Routledge.
- Snaza, N. et al. (2014), 'Toward a Posthumanist Education', *Journal of Curriculum Theorizing*, 30(2): 39–55.
- Taylor, A., M. Blaise and M. Giugni (2013), 'Haraway's "Bag Lady Story-Telling": Relocating Childhood and Learning Within a 'Post-Human Landscape'', *Discourse*, 34 (1): 48–62.
- Taylor, C.A. and C. Hughes (2016), *Posthuman Research Practices in Education*, Hampshire: Palgrave Macmillan.
- Wallin, J. J. (2010). *A Deleuzian approach to curriculum. Essay on a pedagogical life*. Palgrave Macmillan.
- Wallin, J. J. (2014). Education needs to get a grip on life. In *Deleuze and Guattari, Politics and Education. For a People-yet-to-Come*. (Eds.) M. Carlin, J. Wallin: Bloomsbury, 117–14.
- Wheeler, W. (2017). How the Earth Speaks Now: The Book of Nature and Biosemiotics as Theoretical Resource for the Environmental Humanities in the Twenty-First Century Oppermann, S., & Iovino S. (Eds.). In *Environmental humanities: Voices from the Anthropocene*. Rowman & Littlefield. (295-312).

CHAPTER 3.

THEORETICAL PRINCIPLES AND PEDAGOGICAL GUIDELINES FOR VOCABULARY DEVELOPMENT IN INTEGRATING ENVIRONMENTAL ISSUES INTO SECOND LANGUAGE EDUCATION

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1. Introduction

Words guide language users into the miraculous world of meaning. Therefore, vocabulary building is considered to be the key pillar of second language (L2)¹ learning and teaching. First of all, words are core elements of verbal communication. According to Wilkins (1972), “Without grammar very little can be conveyed, [but] without vocabulary nothing can be conveyed” (p. 111). Second, a rich vocabulary repertoire is regarded as a valid indicator of overall linguistic proficiency, and lexical competence seems to enhance both receptive and productive language skills. “If an analogy is made between a language and a human body, vocabulary is the heart which pumps blood to all the other vital organs such as reading, writing, listening and speaking” (Sarioğlu, 2014, p. 1). In this respect, word knowledge serves as a critical catalyst for all aspects of second language acquisition (SLA).

Despite the pivotal role of lexical growth in SLA, learners consider the mastery of a wide range of words as one of the greatest obstacles to L2 development. In particular, three inherent challenges facing the vocabulary learners of English as a second and foreign language (ESL and EFL) are as follows: (1) the extensive size of English lexicon, (2) the multiple dimensions and incremental nature of lexical competence, and (3) the multi-faceted aspects of word knowledge. First, the size

¹ The term “second language (L2)” refers to both second and foreign languages throughout this study.

of English vocabulary is conservatively estimated to be nearly one million lexemes, and more inclusive calculations are more likely to double this number (Crystal, 2019). Seeing that only a tiny fraction of this total figure is known and used by even native speakers in daily life, it is hardly possible for ESL or EFL learners to master all these English words in a limited time of formal L2 instruction. Second, lexical competence is multi-dimensional by nature. Apart from the total number of L2 words acquired by a learner (i.e., “*size, breadth, or quantity of vocabulary knowledge*”), there exist other facets of lexical proficiency such as how well each individual word is learned (i.e., “*depth or quality of word knowledge*”), how quickly a target word is retrieved from memory (i.e., “*automaticity of access*”), and how fluently it is used to relay messages in communicative contexts (i.e., “*fluency of use*”). Moreover, the “*receptive knowledge*” of a word (i.e., comprehending its meaning while reading or listening a text) is completely distinct from its “*productive knowledge*” (i.e., using it appropriately in written or spoken contexts). The lexical development in these dimensions and scales seem to occur gradually over time. Thus, it is not easy for L2 learners to cope with these features and degrees of lexical enrichment at once. Third, knowing a word is above and beyond being familiar with its primary meaning(s) (Nation, 2022). The knowledge of each word involves being fully conscious of all aspects of its forms (e.g., pronunciation, spelling, word parts), meanings (e.g., denotative and connotative meanings, concepts and referents, sense relations) and uses (e.g., functions, collocations, constraints on use such as style and register). The full mastery of a target word requires knowing all of these lexical aspects incrementally, which also puts a heavy learning burden on L2 learners.

Given the aforementioned intrinsic challenges of vocabulary learning, L2 teachers are strongly encouraged to provide their ESL and EFL learners with a systematic and well-orchestrated vocabulary development program so that they can deal with these obstacles (Sarioğlu, 2020; 2024). Similar to the facilitating impact of rich vocabulary on overall linguistic proficiency and four main language skills, technical word knowledge is of the greatest importance in building the content knowledge of specific study fields. Particularly, the size and depth of L2 learners’ specialized vocabulary repertoire in the field of ecology are foundational to their understanding of the key concepts of environmental science, thereby fostering their eco-literacy skills and raising their awareness of adopting a more sustainable lifestyle.

The literature has limited amount of research evidence on L2 teachers’ attitudes towards the integration of environmental issues into ELT (e.g., Özcan & Gürsoy, 2026; Glas et al., 2025; Mercer et al., 2023) and the effects of ecological literacy

on the development of writing skills (e.g., Kazazoglu, 2025; Saiful & Yunianti, 2025) and communication skills of ESL or EFL learners (e.g., Karthika, 2026). In addition, the overall strategies and learning outcomes for greening education are reported by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2024a) as well as the quality standards for greening educational institutions (UNESCO, 2024b). However, to date, the relevant literature lacks experimental, empirical or systematic review studies that concentrate on how to enhance L2 learners' lexical proficiency in the key concepts of ecology, climate change and sustainability. Bearing these in mind, this systematic review study aims to give a theoretical and pedagogical account of how specialist words of ecology and environmental science can be integrated into English language teaching (ELT) curricula. It also seeks to address the theoretically-grounded fundamentals and effective instructional strategies to enrich ecological jargon of ESL and EFL learners. The research findings of the current study are presumed to offer some fresh insights into greening foreign language education as a part of UNESCO's education for sustainable development (ESD) goals (UNESCO, 2017; 2020), thereby revealing several theoretical and pedagogical implications for L2 learners, teachers, teacher trainers, instructional designers and curriculum developers.

2. Theoretical Principles and Pedagogical Guidelines for L2 Vocabulary Development in Integrating Environmental Issues into English Language Teaching

Greening education globally seems to play a fundamental role in achieving UNESCO's education for sustainable development (ESD) goals (UNESCO, 2017; 2024a). Enhancing the environmental literacy skills of English as a second or foreign language (ESL or EFL) learners might be one of the crucial cornerstones of greening global education since English is currently considered as a lingua franca all over the world. That is to say, the citizens of the majority of the countries throughout the world speak English as their first, second or foreign languages. Therefore, integrating sustainability into English language teaching (ELT) curricula might be one of the best options to convey a message to people on a global scale. In this regard, the development of ESL and EFL learners' lexical competence in environmental matters plays an indispensable role in increasing their content knowledge of the key concepts of ecology, climate change and sustainability, thereby fostering their ecological literacy skills. In other words, the successful integration of eco-friendly matters into ELT curricula cannot be achieved without extending the size and depth of L2 learners' specialized vocabulary knowledge in the field of ecology and environmental science.

It should be kept in mind that there is no best method of vocabulary instruction, which fits all educational contexts, sheds light on all dimensions of lexical development and satisfies the needs of all second language (L2) learners. Nevertheless, the research findings of this systematic review study have revealed 14 theoretical principles and pedagogical guidelines that can be followed for the mastery of the ecological jargon, especially when addressing the environmental issues in teaching English as a second or foreign language (ESL or EFL), which are presented as follows:

Principle 1. The target words to be mastered should be selected methodically based on the key concepts of ecology and the learning objectives of education for sustainable development (ESD). All the environmental words and phrases may not be of equal importance to understand and communicate the key concepts of ecology and sustainability or to reach the corresponding learning goals. Therefore, a meticulous and principled selection of target words for explicit attention plays a prominent role in a well-planned and structured L2 vocabulary development. As an example, if the learning outcome is “*being able to analyze different renewable energy technologies for their suitability for sustainable energy use*”, then the terms and concepts of renewable energy sources (e.g., solar, hydro, wind, geothermal, biomass) might be the best candidate target vocabulary to deserve explicit attention during the related tasks or activities. Apart from the learning objectives and the course content, ESL and EFL teachers should also consider some other criteria for determining which words to teach explicitly such as the frequency, coverage, range, difficulty, learning burden of the target words together with the needs, proficiency levels and interests of their L2 learners.

Principle 2. A realistic goal should be set as to how many words to teach per lesson or task by considering the learning burden of the target vocabulary items. The decision on the number of the target words to be introduced relies heavily on various factors such as L2 learners’ proficiency levels, their prior familiarity with the words, and the difficulty of the words (e.g., the length, the similarity to L1 equivalents, and the correspondence between the spelling and the pronunciation) as well as the other structural and semantic features of the given words. Nonetheless, the studies in the literature recommend presenting 8 to 12 new words per sixty-minute lesson as an ideal vocabulary load for ESL or EFL learners (e.g., Gairns & Redman, 1986; Sarioğlu, 2014; 2020; Sarioğlu & Karatepe, 2024; Schmitt, 2000; Thornbury, 2002). Hence, L2 teachers should decide on the ideal number of ecological words to be mastered per lesson in the light of the needs, interests, proficiency levels and cognitive loads of their learners along with the course objectives and the learning burden of the target words.

Principle 3. A context-embedded approach, which may be in the form of either isolated or integrated form-focused vocabulary instruction, should be embraced to master ecological jargon in L2. The new vocabulary items are suggested to be learned and taught in a meaningful context (Sternberg, 1987), rather than being mastered in a decontextualized manner. Therefore, the ecological jargon should be presented as a part of clear, appropriate, comprehensible L2 input. The contextualized vocabulary instruction of environmental terms and concepts might be given to ESL and EFL learners by means of various supplementary materials such as the use of different example sentences, several spoken and written texts, a range of meaning-based and communicative activities, numerous competitive tasks, games, songs, movies, videos, some types of interactive tasks, a variety of computer-assisted or online tools, and a series of digital learning platforms.

This principle reminds a recent taxonomy of form-focused instruction (FFI), which is more in compliance with modern communicative language learning and teaching methods. FFI can be defined as drawing learners' attention intentionally to L2 forms (e.g., grammatical items or words) during meaning-oriented or communicative tasks. Spada and Lightbown (2008) classify FFI into two types as "isolated FFI" and "integrated FFI" according to the timing and arrangement of the instruction. Isolated FFI involves attracting learners' attention separately to L2 forms either before or after meaning-based or communicative activities. Unlike Long's (1991) traditional classification of "focus on forms" (FonFs) that describes a completely decontextualized study of language forms with no or very little emphasis on meaning or communicative use, isolated FFI is given as an integral part of learning activities to facilitate meaningful and communicative interaction (Sarioğlu, 2020). On the other hand, integrated FFI entails placing emphasis on linguistic forms while L2 learners are engaged in meaningful and communicative tasks. Integrated FFI may be planned and arranged in advance by language teachers, or the need for such an instruction may arise in an unanticipated way during the language practice in the classroom.

As long as the context-embedded approach is adopted, the form-focused instruction (FFI) of the key terms and concepts in ecology can be provided to L2 learners in a way that is either isolated from or integrated into meaning-based or communicative language tasks. For instance, isolated FFI can be in the form of either a pre-reading activity to teach new words to students before reading a text of ecology or a post-reading task to practice those words following the reading session. Alternatively, integrated form-focused vocabulary instruction may be given while L2 learners are being involved in reading activity, or it may take place in the format of a glossary of ecological words that are attached to the

margins of the reading text as explanatory notes in order to help learners with the crucial unknown words in the text (Sarioğlu, 2020). The main objective behind both isolated and integrated form-focused vocabulary instruction is to set the scene for better comprehension of meaning and more effective use of language in communicative contexts. The SLA research in the literature also reveals positive evidence for the facilitating effects of isolated and integrated FFI on vocabulary development and reading comprehension of L2 learners (e.g., File & Adams, 2010; Sarioğlu, 2020).

Principle 4. Lexical instruction of eco-friendly terms and concepts should promote a deeper level of information processing with the help from meaning-oriented and/or communicative tasks. Information learned with greater mental effort is more likely to be retained longer in mind, and it can be recalled more easily from memory (Craik & Lockhart, 1972; Craik & Tulving, 1975). With this in mind, L2 teachers should design and offer vocabulary instruction by means of meaning-oriented or communicative activities that require a deeper level of semantic processing with the target words. Under these circumstances, the specialized vocabulary of ecology and environmental science can also be learned better, kept longer in mind, and retrieved much more easily by ESL and EFL learners.

Principle 5. Second language (L2) learners should be exposed to multiple encounters with the target words. Knowing a word is an incremental and multifaceted process. The knowledge of a particular word usually requires recognizing more than its core meaning(s). In addition to its related meaning senses (e.g., denotative and connotative meanings, concepts and referents, sense relations), L2 learners should also be aware of at least its basic forms (e.g., pronunciation, spelling, word parts) and its main uses in various contexts (e.g., functions, collocations, constraints on use such as style and register). Only one-time exposure to that target word will not be sufficient for L2 learners to have a complete control of all these aspects of knowing and using the given word. Hence, ESL and EFL students should get a maximum level of exposure to comprehensible input, by means of which they can repeat, recycle and revise the eco-friendly words in various contexts to master the multiple aspects and degrees of word knowledge.

Principle 6. L2 teachers should make use of “dual coding” as much as possible so that ESL and EFL students can attain better learning, longer retention and easier recall of target words. The human mind is thought to process and store information through both verbal and visual mental pathways. Therefore, dual coding theory leads L2 teachers to utilize both verbal and visual means simultaneously to convey the meaning of a certain word (Paivio, 1991). If language

teachers benefit from both visual and verbal techniques together to communicate the word meanings, it will lead to stronger semantic networks in L2 learners' minds and will smooth the path for better learning and more efficient storage of the newly-encountered words in the field of ecology and environmental science.

Principle 7. L2 teachers should employ multiple methods and techniques in teaching vocabulary items to appeal to the majority of the learners with different learning styles, divergent intelligence types and various interests. The more different strategies and techniques language teachers put to use in L2 classrooms to convey the meanings of target words, the greater number of learners acquire most of the target terms of ecology and environmental science. Using various methods and techniques to teach ecological jargon is more likely to enhance both the quantity and the quality of vocabulary enrichment since it addresses the needs and interests of ESL and EFL learners with different learning styles, thereby keeping them more focused and active during the classroom tasks. Learning the target words or phrases in many different ways will also boost the memorization, retention and retrieval of the ecological jargon.

Principle 8. L2 teachers are recommended to teach “word families” rather than “individual words” (Schmitt, 2000). During the instruction of a new individual word (e.g., ‘ecology’), it may be useful for L2 teachers to mention other members of the same word family (e.g., ‘ecologist’ ‘ecological’ ‘ecologically’), which will take little time and effort to be learned or taught. Recognizing the complete word family will also raise ESL and EFL learners’ awareness of inflectional and derivative morphemes in the English language (Sarıoğlu, 2014).

Principle 9. Language teachers should train L2 learners in word-part analysis and lexical rules of the target words. Being familiar with the common word roots and most frequently-used affixes (i.e., prefixes and suffixes) in English will pave the way for L2 learners to guess the meanings of unknown words from context, thereby making them more autonomous vocabulary learners that are able to tackle low-frequency words on their own.

Principle 10. L2 teachers should provide a good exemplification of the concept to which the target word refers. Sometimes the concept of a word might be a mental image of that word or an abstract idea. In such cases, the effective instruction of the target word heavily relies on delivering good examples of its concept. Nation (2022) states that “examples help bring a message alive” (p. 317). For example, the concept of “*endangered species*” in the environment can be well-explained to ESL and EFL learners by giving a lot of clear and striking examples from both animal and plant species.

Principle 11. L2 teachers should encourage their learners to personalize the newly-acquired words. L2 learners' personalization of the newly-learned words will facilitate their acquisition, memorization, retention and recall of those words. For instance, ESL and EFL students can be asked to relate new ecological words or terms to their life by giving personal examples about these word concepts. Personalizing new vocabulary items might also involve building a relationship between these words and the real-life experiences of L2 learners (Sökmen, 1997).

Principle 12. L2 teachers should pay special attention to multi-word units and collocations. The mastery of collocations and multi-word units such as compound words, phrasal verbs and idioms is regarded to be highly complicated and extremely challenging for ESL and EFL learners. The related studies in the literature suggest that multi-word lexical items are more likely to be learned and taught explicitly (Nation, 2022; Schmitt, 2007). Thus, the multi-word units and collocations of ecological jargon (e.g., “cut down on”, “wipe out”, “run out of”, “carbon footprint”, “habitat destruction”, “biodiversity loss”, “disrupt the balance”) should be given particular attention by L2 teachers, and they should be mastered consciously by ESL and EFL students.

Principle 13. L2 teachers should associate and integrate the newly-learned words with the old ones. The human mind is argued to learn well-organized information more easily (Baddeley, 1990). Interrelated words are known to be stored more effectively in human memory, and they are retrieved more quickly from there when they are needed for communicative use. With this in mind, L2 teachers' efforts to associate and integrate new ecological words with the already-known ones will smooth the way for better learning, more effective memorization through stronger semantic network, longer retention, and easier recall of those words from memory.

Principle 14. A systematic and well-designed vocabulary learning and consolidation program should be offered to L2 learners. A “harmony model” designed by Sarioğlu (2024) has a great potential to provide L2 teachers and learners with remarkable insights into a well-planned and structured vocabulary instruction program, which constitutes 6 key components: (a) “explicit teaching”, (b) “incidental learning”, (c) “strategy training”, (d) “recycling and revision”, (e) “communicative tasks”, and (f) “awareness raising” (pp. 115-124).

(a) Explicit teaching: Explicit attention should be paid to certain critically-important specialized words of ecology that provide a foundation for eco-literacy skills (e.g., Appendix A). Such fundamental words might pave the way for further learning of the key concepts of environment, ecology, climate science and sustainability. Therefore, they cannot be left to chance. More direct attention can

be paid to teaching these fundamental words by using various vocabulary teaching techniques (e.g., verbal, visual, audial, audio-visual and interactive techniques) and receiving support from a series of digitally-enhanced technological tools. A wide range of lists, glossaries and dictionaries of specialized vocabulary on ecology and environmental science are available both online and as a published material (e.g., Ahad & Ferdous, 2019; Allaby, 2010; Mayor, 2010; Parveen, 2023; Robertson, 2017). The relevant environmental terms of some key concepts can intentionally be chosen from these glossaries, dictionaries and encyclopaedias to pay explicit attention in ESL or EFL contexts to raise students' ecological awareness and to develop their green literacy skills. *Please see Appendix A for a sample glossary of basic environmental terms and concepts for upper-intermediate and advanced L2 learners.*

(b) Incidental learning: Due to the time constraints or the tight schedule, all the specialized words of ecology and environmental science cannot be learned or taught explicitly in ESL or EFL classrooms. L2 learners may also not become thoroughly proficient in all aspects of some environmental concepts with one-time exposure. Therefore, language teachers should try to do their best to repeatedly provide their students with a wealth of clear and understandable L2 input, by means of which they can learn new words of ecological jargon incidentally from the spoken and written context of L2 use.

(c) Strategy training: There is no doubt that L2 teachers cannot directly teach all the words and terms with regard to ecology and environmental science. However, they can help their students to become independent and lifelong vocabulary learners by training them in the most beneficial vocabulary learning strategies such as mnemonics, contextual guessing, semantic mapping, morphological analysis and dictionary skills. Through the agency of strategy training, ESL and EFL learners proceed to develop their lexicon of ecology on their own, thereby enhancing their eco-literacy autonomously. *Please see Gu and Johnson (1996), Sarioğlu (2014), Sarioğlu (2020), Sarioğlu and Karatepe (2024), Schmitt (1997) and Van de Wege (2018) for the details on vocabulary learning strategies and strategy training.*

(d) Recycling and revision: A well-structured vocabulary instruction program should consider the multi-dimensional nature of lexical competence. The mastery of a word usually requires knowing more than its primary meaning(s). L2 learners should also be familiar with at least its basic forms (e.g., pronunciation, spelling, word parts) as well as its uses in various contexts (e.g., functions, collocations, constraints on use). It should be noted that only one-time exposure to a target word will not be sufficient for ESL and EFL learners to have a complete control

of all the lexical aspects of the given word. Through a maximum level of exposure to meaningful input, L2 learners should recycle and revise the given target word in various contexts to master the multiple aspects of lexical knowledge. Thus, language teachers are suggested to plan and design a variety of in-class and out-of-class activities so that L2 learners can re-encounter, practice, recycle, and revise the newly-learned ecological jargon at various intervals.

(e) Communicative tasks: The “receptive knowledge” of the technical vocabulary of ecology is only one side of the coin. ESL or EFL learners should also be given other opportunities to use the recently-acquired words for communicative purposes, which is known as the “productive knowledge”. In other words, L2 learners should also be able to use the ecological jargon actively to communicate their environmentally-friendly ideas and suggestions through various tasks apart from the receptive understanding and learning about the nature.

(f) Awareness raising: The last component of “*harmony model*” is the integration of awareness-raising and motivation-enhancing activities into the systematic vocabulary instruction framework. With the help of awareness-raising and motivation-enhancing tasks, both L2 teachers and learners should be aware of the facilitating impact of a rich specialist vocabulary on their content knowledge of environmental science as well as on their eco-literacy skills.

3. Conclusion

This systematic review study attempts to explore the core principles and instructional guidelines for lexical development in integrating environmental matters into ELT curricula. The research findings revealed the following 14 key principles for enriching L2 learners’ specialized vocabulary repertoire in the field of ecology:

1. Selecting the target words methodically considering the key concepts of ecology and the learning objectives of education for sustainable development (ESD)
2. Setting a realistic goal as to how many words to teach per lesson or task
3. Adopting a context-embedded approach in the form of either isolated or integrated form-focused vocabulary instruction
4. Vocabulary instruction that promotes a deeper level of information processing with the help from meaning-oriented and/or communicative tasks
5. Exposing L2 learners to multiple encounters with target words

6. Making use of “dual coding” as much as possible so that L2 learners can attain better learning, longer retention and easier recall of target words
7. Employing multiple methods and techniques in teaching words to appeal to L2 learners with different learning styles, intelligence types and interests
8. Teaching “word families” rather than “individual words”
9. Training L2 learners in word-part analysis and lexical rules of the target words
10. Providing a good exemplification of the concept to which a target word refers
11. Encouraging L2 learners to personalize the newly-acquired words
12. Paying special attention to multi-word units and collocations
13. Associating and integrating the newly-learned words with the already-known ones
14. Offering a systematic and well-designed vocabulary learning and consolidation program to L2 learners

These fundamental principles and pedagogical guidelines are presumed to enhance the ecological jargon of ESL or EFL learners. A rich specialist vocabulary in the field of ecology is more likely to help the development of their content knowledge about environmental matters, climate change and sustainability. Such a lexical enrichment as a part of a systematic and well-orchestrated vocabulary development program is thought to foster L2 learners’ eco-literacy skills and increase their awareness of embracing a more sustainable lifestyle.

The study findings are expected to fill the research gap in the related literature. Despite the existence of some studies on overall integration of environmental matters into ELT (e.g., Özcan & Gürsoy, 2026; Glas et al., 2025; Mercer et al., 2023) and the impact of ecological literacy on specific language skills such as writing (e.g., Kazazoglu, 2025; Saiful & Yunianti, 2025) and communication (e.g., Karthika, 2026), there seems to be no literature on the development of L2 learners’ lexical competence in key concepts of ecology, climate change and sustainability. Furthermore, the conclusions of this systematic review study show promise to contribute to the achievement of greening foreign language education within the scope of UNESCO’s education for sustainable development (ESD) goals (UNESCO, 2017; 2020). Seeing that English is a lingua franca throughout the world, addressing environmental issues in ELT is regarded to be one of the best options for greening education on a global scale. In this respect, it is thought that the successful integration of eco-friendly matters into ELT curricula cannot be attained without enriching L2 learners’ specialist vocabulary repertoire in the

field of ecology and environmental science. Thus, these research findings also have a great potential to reveal some theoretical and pedagogical implications for L2 learners, teachers, teacher trainers, instructional designers and curriculum developers on how to integrate the specialist words of ecology into ESL and EFL education.

References

- Ahad, A., & Ferdous, A. (2019). *Dictionary of ecology and environmental science*. Dhaka: Himachal Publication.
- Allaby, M. (Ed.). (2010). *A dictionary of ecology*. New York: Oxford University Press.
- Baddeley, A. (1990). *Human memory*. London: Lawrence Erlbaum Associates.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11, 671-684. [https://doi.org/10.1016/S0022-5371\(72\)80001-X](https://doi.org/10.1016/S0022-5371(72)80001-X)
- Craik, F. I. M., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology*, 104(3), 268-294. <https://doi.org/10.1037/0096-3445.104.3.268>
- Crystal, D. (2019). *The Cambridge Encyclopedia of the English Language* (3rd ed.). Cambridge: Cambridge University Press.
- File, K. A., & Adams, R. (2010). Should vocabulary instruction be integrated or isolated? *TESOL Quarterly*, 44(2), 222-249. <https://doi.org/10.5054/tq.2010.219943>
- Gairns, R., & Redman, S. (1986). *Working with words: A guide to teaching and learning vocabulary*. Cambridge: Cambridge University Press.
- Glas, K., Donner, M., Gutiérrez-Stipo, S., & Mancilla-Cid, C. (2025). Co-constructing stories of possibility: Chilean teachers' perspectives on environmental education in English language learning. *Innovation in Language Learning and Teaching*, 1-17. <https://doi.org/10.1080/17501229.2025.2553209>
- Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language learning*, 46(4), 643-679. <https://doi.org/10.1111/j.1467-1770.1996.tb01355.x>
- Karthika, V. K. (2026). Green trends in ELT: Climate change and communication in ESP classrooms. *TESOL Journal*, 17(2), e70130. <https://doi.org/10.1002/tesj.70130>
- Kazazoglu, S. (2025). Environmental education through eco-literacy: Integrating sustainability into English language teaching. *Sustainability*, 17(5), 2156. <https://doi.org/10.3390/su17052156>
- Long, M. H. (1991). Focus on form: A design feature in language teaching methodology. In K. de Bot, R. Ginsberg, & C. Kramsch (Eds.), *Foreign language research in cross-cultural perspective* (pp. 39-52). Amsterdam: John Benjamins.
- Mayor, M. (Ed.). (2010). *Longman exams dictionary for upper intermediate - advanced learners*. Harlow: Pearson Longman.
- Mercer, S., Ibrahim, N. C., Bilsborough, K., Jones, C., & Potzinger, C. (2023). Teacher perspectives on addressing environmental issues in ELT. *ELT Journal*, 77(4), 393-406. <https://doi.org/10.1093/elt/ccac039>
- Nation, I. S. P. (2022). *Learning vocabulary in another language*. Cambridge University Press. <https://doi.org/10.1017/9781009093873>
- Özcan, E. N., & Gürsoy, E. (2026). Integrating sustainability into language teaching: identity-mediated agency among English as a Foreign Language teachers. *Environmental Education Research*, 1-17. <https://doi.org/10.1080/13504622.2026.2708247>

- Paivio, A. (1991). Dual coding theory: Retrospect and current status. *Canadian Journal of Psychology / Revue Canadienne de Psychologie*, 45(3), 255-287.
- Parveen, F. (2023). *Environmental and climate change dictionary*. Karachi: AKU-IED. <https://ecommons.aku.edu/books/117/>
- Robertson, M. (2017). *Dictionary of sustainability*. London and New York: Routledge.
- Saiful, J. A., & Yunianti, S. (2025). Eco-ELT for writing descriptive texts about animals and plants: Fostering writing skill and nature empathy. *TESOL Journal*, 16, e909. <https://doi.org/10.1002/tesj.909>
- Sarioğlu, M. (2014). *The use of mnemonic devices for minimizing cross-association in teaching vocabulary to primary school EFL learners* [Unpublished master's thesis]. Bursa Uludağ University, Bursa, Türkiye.
- Sarioğlu, M. (2020). *Isolated or integrated form-focused instruction in teaching vocabulary to EFL learners through reading texts* [Unpublished PhD dissertation]. Anadolu University, Eskişehir, Türkiye.
- Sarioğlu, M. (2024). The harmony model: A well-orchestrated vocabulary learning and consolidation program for EFL learners. In G. Zeybek (Ed.), *Policy Development, Curriculum Design, and Administration of Language Education* (pp. 106 – 131). Hershey, PA: IGI Global. <https://doi.org/10.4018/979-8-3693-3645-8.ch005>
- Sarioğlu, M., & Karatepe, Ç. (2024). The use of mnemonics to minimize the interfering effects of teaching new words in semantic sets to learners of English as a foreign language. *Applied Cognitive Psychology*, 38(5), Article e4251. <https://doi.org/10.1002/acp.4251>
- Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 199-227). Cambridge: Cambridge University Press.
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge University Press.
- Schmitt, N. (2007). Current perspectives on vocabulary teaching and learning. In J. Cummins, & C. Davison (Eds.), *International Handbook of English Language Teaching* (pp. 827-841). New York: Springer.
- Sökmen, A. J. (1997). Current trends in teaching second language vocabulary. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy* (pp. 237-257). Cambridge: Cambridge University Press.
- Spada, N., & Lightbown, P. M. (2008). Form-focused instruction: Integrated or isolated? *TESOL Quarterly*, 42(2), 181-207. <https://doi.org/10.1002/j.1545-7249.2008.tb00115.x>
- Sternberg, R. J. (1987). Most vocabulary is learned from context. In M. G. McKeown, & M. E. Curtis (Eds.), *The nature of vocabulary acquisition* (pp. 89-105). Hillsdale, NJ: Erlbaum.
- Thornbury, S. (2002). *How to teach vocabulary*. Essex: Pearson Education Limited.
- UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. Paris: UNESCO. <https://doi.org/10.54675/CGBA9153>
- UNESCO. (2020). *Education for sustainable development: A roadmap*. Paris: UNESCO. <https://doi.org/10.54675/YFRE1448>
- UNESCO. (2024a). *Greening curriculum guidance: Teaching and learning for climate action*. Paris: UNESCO. <https://doi.org/10.54675/AOOZ1758>
- UNESCO. (2024b). *Green school quality standard: Greening every learning environment*. Paris: UNESCO. <https://doi.org/10.54675/LOCX2930>
- Van de Wege, M. (2018). Teaching strategies for independent vocabulary development. *The TESOL Encyclopedia of English Language Teaching*, 1-7. <https://doi.org/10.1002/9781118784235.eelt0754>
- Wilkins, D. A. (1972). *Linguistics and language teaching*. Cambridge: Cambridge University Press.

Appendix A: A sample glossary of basic environmental terms and concepts for upper-intermediate and advanced L2 learners (Mayor, 2010, pp. WH 26-27).

TOPIC Activator Environment

1 the environment

the environment *n* [singular] the air, water, and land on Earth, which can be harmed by man's activities: *the effects of acid rain on the environment*

environmental *adj* concerning or affecting the air, water, or land on Earth: *Environmental issues affect us all.*
—environmentally *adv.* *environmentally acceptable technologies*

ecosystem *n* [C] *technical* the animals, plants etc that exist in a place, and are dependent on each other to live: *The rainforest has its own ecosystem.*

habitat *n* [C] the natural home of a plant or animal: *the gorilla's natural habitat in Africa*

the biosphere *n* [singular] *technical* the surface and atmosphere of the Earth where animals and plants can live: *We are causing irreparable damage to the Earth's biosphere.*

ecology *n* [U] the scientific study of the way in which the plants, animals, and natural features of a place affect and depend on each other: *a course on ecology*
—ecologist *n* [C]: *Ecologists have been studying the wetlands for years.*

ecological *adj* connected with the way plants, animals, and people are related to each other and to their environment: *an ecological disaster such as an oil spill*
—ecologically *adv.* *the ecologically fragile mountain forests*

eco- *prefix* relating to the environment: *Eco-education* (=education about ecological issues) *fosters within young people the knowledge and skills necessary to inspire ecologically sound decisions and actions.*

biodiversity *n* [U] *technical* the variety of plants and animals in a place: *the biodiversity of the rainforest*

the food chain *n* [singular] all animals and plants considered as a group in which a plant is eaten by an insect or animal, which is then eaten by another animal and so on: *We do not want diseased animals entering the food chain.*

2 signs of damage to the environment

global warming *n* [U] a general increase in the temperature of the world, caused by pollution from cars, factories etc: *We are already starting to see the effects of global warming.*

climate change *n* [U] changes in the weather around the world, which result in much higher or lower temperatures, violent storms, floods, or droughts: *an international conference on climate change*

the greenhouse effect *n* [singular] the natural process in which gases build up in the atmosphere and prevent heat from escaping, causing the earth to get warmer. Pollution from cars, factories etc is causing this process to go out of control: *There is no doubt that the greenhouse effect is here to stay.*

the hole in the ozone layer *n* [singular] a hole in the layer of natural gases that surround the Earth. These gases protect the Earth from the harmful effects of the sun's rays. The hole is caused by pollution, and means that the Earth is losing some of its protection: *Effective action needs to be taken on environmental issues such as the hole in the ozone layer.*

endangered species *n* [C]

a type of animal that is likely to stop existing completely, for example because of hunting, pollution, or humans damaging its habitat: *The panda is classed as an endangered species.*

endangered species



extinction *n* [U] a situation in which all of a type of animal die and there are no more left: *The white rhino is close to extinction.*

soil erosion *n* [U] the process by which soil is gradually destroyed by wind or rain: *use of the land in such a way as to cause excessive soil erosion*

desertification *n* [U] *technical* the process by which useful land, especially farmland, changes into desert because of climate change or overgrazing: *Farming is leading to the desertification of large areas of the planet.*

3 things that harm the environment

pollution *n* [U] harmful chemicals, gases, or waste materials from factories, cars, etc, that have gone into the air, land, or water: *pollution from cars | dangerously high pollution levels*

pollute *v* [T] to make air, water, soil etc dangerously dirty and not suitable for people to use: *chemicals that pollute the environment*
—polluted *adj.* *the city's heavily polluted air*

pollutant *n* [C] *technical* a substance that makes air, water, soil etc dangerously dirty, and is caused by cars, factories etc: *Companies face heavy fines for discharging pollutants into water supplies.*

hazardous waste *n* [U] dangerous waste materials, for example produced by industries, hospitals etc: *Over 90% of hazardous waste is disposed of by the manufacturers who generate it.*

greenhouse gases *n* [plural] gases that form a layer around the Earth and keep the heat in, causing global warming: *Cars are a major source of greenhouse gases.*

acid rain *n* [U] rain that contains pollution from factories, power stations etc, which causes damage to forests

toxic waste *n* [U] very dangerous waste materials, for example from nuclear power stations or chemical factories: *laws governing toxic waste*

e-waste *n* [U] waste consisting of old electronics products such as computers, batteries, and mobile phones which people no longer want and which often contain poisonous substances: *E-waste presents difficulties for recycling due to the complexity of each item.*

pesticides *n* [plural] chemicals used for killing insects and animals that attack crops. They can be harmful when they are absorbed into crops or the soil: *Farmers are being asked to reduce their use of pesticides.*

fossil fuels *n* [plural] fuels such as coal or oil. Burning these fuels causes a lot of carbon gases to be released into the atmosphere: *our reliance on diminishing supplies of fossil fuels*

deforestation *n* [U] *technical* a situation in which most of the trees in an area are cut down or destroyed, resulting in great damage to the environment

fumes *n* [plural] harmful gas or smoke, for example from cars, factories etc, which can damage people's health: *air pollution from the fumes discharged by factories | Exhaust fumes (=from cars) can be made cleaner by the installation of catalytic converters.*

carbon emissions *n* [plural] carbon dioxide gas which is sent into the air when fossil fuels are burnt: *Carbon emissions from burning rainforest were said to be the third largest contributor to the greenhouse effect.*

overpopulation *n* [U] a situation in which too many people live in a particular place: *A consequence of the overpopulation has been the high incidence of malnutrition and communicable diseases.*

overfishing *n* [U] the process of taking too many fish from the sea, a river etc, so that the number of fish in it becomes too low

overgrazing *n* [U] the process of letting animals feed on plants for too long so that the land is damaged by soil erosion or desertification: *Overgrazing by livestock has caused serious degeneration of grassland.*

intensive farming *n* [U] farming which produces a lot of food from a small area of land by using modern industrial methods including the use of pesticides and growth hormones. Intensive farming is sometimes criticized for damaging the environment and treating animals badly, for example by keeping them in overcrowded conditions

invasive species *n* [C] a group of animals or plants which are introduced by humans to a place where they did not exist naturally before and which can have a damaging effect on the animals or plants already there: *Invasive species can have a major impact on Australia's environment, threatening individual species and reducing overall species abundance and diversity.*

food miles *n* [plural] a unit for measuring the distance which food is transported from the place where it is grown to the place where it is sold or eaten: *The more food miles that attach to a given food, the less sustainable and the less environmentally desirable that food is.*

4 things that are good for the environment

green *adj* used to talk about anything that is good for the environment, or about ideas and issues relating to protecting the environment: *green sources of energy | information about green products*

environmentally friendly/eco-friendly *adj* environmentally-friendly products or methods do not cause harm to the environment: *a campaign to encourage people to use environmentally-friendly forms of transport*

conservation *n* [U] the protection of natural things such as animals, plants, forests etc, to prevent them being spoiled or destroyed and preventing something from being lost or wasted: *a wildlife conservation project*

renewable *adj* renewable sources of energy use fuels that can be replaced naturally, and so they are never completely used up: *the switch from fossil fuels to renewable sources of energy such as solar power*

organic *adj* organic foods are produced naturally, without the use of harmful chemicals: *The higher cost of organic farming means tight financial pressures on those who practise it.*

—**organically** *adv.* *organically grown vegetables*

local food *n* [C,U] food from the particular area you live in. Local food is good for the environment because it does not have to be transported over a long distance by lorries etc which cause pollution: *Local food is usually more 'green' than organic food, according to a report published in the Journal Food Policy.*

sustainable *adj* sustainable methods of farming, fishing etc do not use up more land, natural resources etc than can be replaced naturally, and therefore do not cause harm to the environment: *sustainable use of rainforest resources*

—**sustainability** *n* [U]: *More governments are beginning to recognize the principle of environmental sustainability.*

biodegradable *adj* biodegradable materials and products can be broken into small parts and absorbed naturally into the environment: *Most plastic products are not biodegradable.*

recycle *v* [I,T] to use materials that have already been used, in order to make new products: *New techniques for recycling plastics are being introduced.*

—**recycled** *adj.* *recycled paper*

recyclable *adj* used materials or substances that are recyclable can be recycled: *recyclable bottles*

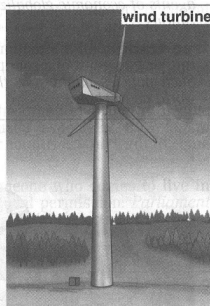
recycling point *BrE*, **recycling center** *AmE* *n* [C] a place where people can leave bottles, newspapers, old clothes etc which are taken away for recycling: *There are many recycling points across the city where you can take your old newspapers and magazines.*

bottle bank *n* [C] *BrE* a container in the street that you put empty bottles in, so that the glass can be used again: *We go to the bottle bank once a week.*

solar power/wind power/wave power *n* [C] energy from the sun, the wind, or the movement of the sea, used to make electricity: *Solar power is a renewable resource.*

wind farm *n* [C] a group of tall structures called wind turbines, which have blades that turn with the wind, used to produce electricity: *Wind farms produce energy without harmful emissions.*

biofuel *n* [C,U] fuel that is made from plants and animals or from something that they produce such as cow manure. It is a renewable source of energy: *research into methods of converting biofuels into electricity*



5 people who want to protect the environment

environmentalist *n* [C] someone who is concerned about protecting the environment: *Environmentalists are agreed that more roads encourage more cars.*

environmental group *n* [C] a group of people that tries to protect the environment, especially by influencing the government and large companies

environmental activist *n* [C] someone who tries to protect the environment, especially by influencing the government and large companies

the Greens *n* [plural] members of the Green party, a political party concerned with protecting the environment: *The Greens aim to bring in environmental policies to protect the future of the planet.*

eco-warrior *n* [C] someone who takes direct action to stop companies and governments destroying the environment

6 science and the environment

environmental science *n* [C,U] the scientific study of the relationship between humans and the environment: *the interdisciplinary nature of environmental science*

biotechnology *n* [U] the use of living things such as cells, bacteria etc to make drugs, destroy waste matter etc: *advances in biotechnology*

genetic engineering *n* [U] the science of changing the genetic structure of an animal, plant, or human, usually to make them stronger or healthier: *developments in genetic engineering*

GM (also **genetically modified**) *adj* genetically modified foods or plants have had their genetic structure changed so that they are not affected by particular diseases or harmful insects: *trials of GM crops in Europe | Many consumers do not want to eat genetically modified food.*

CHAPTER 4.

GAMIFICATION AS A PEDAGOGICAL BRIDGE: ENGAGING LEARNERS IN ECOLOGICAL THEMES IN ENGLISH LANGUAGE TEACHING

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1. Introduction

Ecological problems such as climate change, loss of biodiversity, pollution, and sustainability issues in various contexts increasingly require responses from members of educational settings. To find solutions for such problems, spreading knowledge and information is not adequate; additional measures such as raising personal awareness and equipping individuals with a willingness to participate in positive actions are meaningful (Ariza et al., 2021; Kazazoğlu, 2025). The ELT context offers a valuable setting for such work since the integration of ecological themes can provide more meaningful contexts for communication, critical discussion, collaboration, and project-based learning (Gürsoy, 2010; Hauschild et al., 2012). However, going beyond classroom activities is mostly challenging for individuals because environmental issues are not always relatable for learners and might be too complex for daily life connections (Clayton et al., 2021; Kazazoğlu, 2025).

This issue with relatability mostly damages learners' emotional engagement, and the ecological content turns into another set of texts and vocabulary exercises that mention polar bears and melting ice caps. Gamification, therefore, can serve as a pedagogical bridge by making ecological issues more immediate, participatory, and personally meaningful through challenges, choices, feedback, narratives, social interaction, and visible progress (Nicholson, 2015; Sailer et al., 2017).

This chapter aims to situate gamification as a theory-driven pedagogical approach within the context of ecological and environmental themes used in EFL teaching. The primary purpose is to introduce gamification as a way to enhance the

effectiveness of ecological content by providing motivational drive among learners, rather than simply integrating points, badges, and leaderboards (Deterding et al., 2011). The chapter will initially make a distinction between gamification and game-based learning/serious games. Subsequently, the instructional potential of gamification will be related to motivational frameworks, such as Self-Determination Theory (SDT), flow theory, and constructivist learning, accompanied by useful game mechanics (Alsawaier, 2018; Sailer et al., 2017; Stott & Neustaedter, 2013). Finally, gamified instruction examples in the context of sustainable behaviors and ecological actions will be showcased in light of some studies.

Research has associated well-designed gamification with increased participation, motivation, interaction, and persistence. However, these outcomes are strongly influenced by the learners, context, and design decisions involved (Hamari et al., 2014). Particular attention is therefore given to the risks of pointsification, dependence on external rewards, unhealthy competition, novelty effects, and the possible trivialization of serious ecological concerns. Meaningful gamification requires learners to understand the relevance of an activity, exercise autonomy, collaborate with others, and connect what happens within the gamified experience to the world beyond it (Hung, 2017; Nicholson, 2015; Sailer et al., 2017).

In light of these principles, the chapter considers how digital and analogue gamification strategies can support ecological content in EFL contexts at different proficiency levels. Digital environments can extend learning beyond the classroom through mobile eco-quests, interactive feedback, online collaboration, location-based activities, and the visualization of environmental consequences (Baldauf et al., 2017; Huang et al., 2019; Putri, 2018), whereas analogue approaches can provide accessible alternatives through role-play, classroom missions, progress maps, narratives, and cooperative challenges (Mee et al., 2021). These possibilities culminate in the framework drawn for gamified ecological content integrated into EFL learning, which integrates language objectives, ecological inquiry, purposeful game mechanics, reflection, and project-based action. The framework is intended to help teachers move beyond rewarding the completion of environmental exercises and, instead, create conditions in which learners use English to investigate ecological problems, negotiate perspectives, communicate possible solutions, and develop a more effective relationship with environmental protection.

2. What is Gamification?

Gamification is conventionally defined as using elements unique to serious games in situations where a gameful mechanic is seen as unlikely. Referred to as gameful design at times, gamification is a complementary aspect that focuses on gameful qualities to raise motivation among individuals/users (Deterding et al., 2011).

To overcome misconceptions and achieve effective gamification, the concept should be strictly distinguished from game-based learning, serious games, and game-informed teaching (Caponetto et al., 2014; Deterding et al., 2011). Serious games are fully fledged games that are played to achieve in-game objectives and provide enjoyment. However, gamification is taking the mechanics of games and integrating them into serious situations to make a context more appealing and motivating. Although educational contexts sometimes use gamification and game-based instruction interchangeably, the confusion has become less blurry over time.

Gamification can be an effective approach to improve the quality of EFL teaching/learning, where game principles can shape instruction without requiring a complete game (Reinhardt, 2019). An instructional setting can be enriched with game mechanics such as quests, badges, progress bars, and similar game interface elements. The main reason for this mechanic adaptation and gameful design is to raise learners' motivation and engagement.

3. Why Gamification Motivates

In many cases, gamification has been reported to increase users'/learners' motivation levels if utilized in well-designed settings. Rooted in digital marketing and business models in the early 2010s through applications like Foursquare and Starbucks, gamification aims to speak to individuals'/users' inner motivational drives to ensure that certain behaviors are rewarded and repeated (Deterding et al., 2011).

In the educational sense, the purpose is to ornate instructional settings with game mechanics to simulate the feeling of joy sparked by playful states provided by games. This way, learners can be motivated to perform certain tasks not because they need to but because they like being a part of it. This distinction emphasizes the importance of finding a balance between external and internal motivational drives (Alsawaier, 2018). Instead of depending too much on rewards, the logical way to initiate permanent and effective engagement is to design gamified content revolving around actual progress, investment, and access to information (Stott & Neustaedter, 2013).

In addition, not all game mechanics can be assumed to have similar motivational responses from learners. To be precise, game elements do not guarantee uniform motivation. Their effects depend partly on the psychological needs they support (Sailer et al., 2017). It is possible to support or negatively affect autonomy, competence, or relatedness depending on how learners interpret it (van Roy & Zaman, 2019). Therefore, finding the right balance in game mechanics and determining which motivational theories to draw on are crucial to designing an effective gamification.

It is not right to implement gamification as a novelty product alone; rather, educators should treat it as another combination of already existing pedagogy in a fresh manner to obtain positive outcomes (Landers et al., 2015; Richter et al., 2015). The new design should anticipate both immediate and longitudinal effects, such as intrinsic motivation. The key is to maintain loyalty to the established instructional design procedures, making gamification yet another ingredient.

The most commonly used perspective in gamified settings is the power of conditioning. With this behavioristic perspective, engagement and immediate interest can be rekindled through points, badges, leaderboards, and competitive spirit. However, the risk of demotivation and superficial interest is the main byproduct, unless additional measures are taken (Landers et al., 2015).

Gamification implementation is supported by motivational theories to overcome this stimulus-response chain, such as expectancy theory, flow theory, goal-setting theory, and self-determination theory (SDT) (Landers et al., 2015; Richter et al., 2015). With expectancy theory, learners are directed towards a feeling of capability (expectancy) through clear scaffolds and modeling. Learners can feel that certain actions will lead to reward (instrumentality) because they can clearly see progress paths through rubric-linked badges. Finally, they are expected to value the outcome (valence) by producing authentic artifacts completely tied to their interests.

Furthermore, motivation can be maintained with goal-setting theory by setting difficult, specific, proximal goals, paired with functional feedback channels. This way, learners' abilities and lesson goals are carefully matched, gradually increasing the challenge. The goal-setting theory is deeply connected to the flow theory in this sense. In flow theory, the purpose is to stay within the boundaries of interest until learners reach their goals. Through dynamic difficulty adjustment, moderate challenges with a gradual increase in difficulty, and scaffolding, learners' engagement and self-efficacy can be stabilized, avoiding boredom and frustration. If this scaffolding-and-gradual-difficulty balance is broken, learners will either feel

frustrated by difficult tasks or be underwhelmed by the lack of challenge (Landers et al., 2015).

One of the most common theoretical supports for gamification is the SDT, with components of autonomy, competence, and relatedness. An effective gamification is expected to provide learners with opportunities to make meaningful choices about the sequence of the lesson, topics, roles, etc. (autonomy). Additionally, learners should feel that they are achieving concrete results and their skills progression is clearly visible (competence). Finally, learners should feel connected to others through collaboration, shared goals, and supportive interaction (relatedness).

In short, these theories show that gamification does not motivate learners simply because points, badges, or competition are added to instruction. Motivational value of gamification depends on whether the selected mechanics support learners' expectations of success, provide clear goals and feedback, maintain an appropriate level of challenge, and create opportunities for meaningful choice, visible progress, and social connection. External rewards may draw the attention of learners at first, but more sustained engagement requires learners to develop autonomy, competence, and a genuine interest in the activity. Therefore, mechanics should be selected according to learners' needs and instructional outcomes. It is wrong to assume that every individual will produce the same response to the same mechanic. On the contrary, the same mechanics that motivate some learners may discourage others or shift their attention from learning towards earning rewards, leading to several problems and pitfalls that should be carefully considered (Sailer et al., 2017; van Roy & Zaman, 2019).

4. Problems and Pitfalls

Despite its potential benefits, gamification does not automatically guarantee high levels of motivation or engagement. Positive outcomes depend on certain conditions and may vary across learners, contexts, implementations, and assessments (Hamari et al., 2014). Therefore, before implementing gamification, instructors should consider whether the selected mechanics are fair, motivational, and directly aligned with the intended learning outcomes.

One common problem in gamified settings is the excessive reliance on points, badges, and leaderboards, which may undermine the quality of gamification and lead to a phenomenon known as "pointsification" (Hung, 2017). This overreliance may lead to reward chasing, loss of interest, superficial participation, and focusing on the easiest way to gain points rather than completing the intended learning task. Leaderboards may also discourage newcomers or low-achieving learners

when they feel that they have little chance of progressing and catching their peers with high scores. Similarly, competition should be introduced as an optional form of engagement because not all learners respond positively to intense rivalry (Fijnheer et al., 2021).

In general, including only points, leaderboards, and badges as core mechanics of the gamified setting is not very effective at sparking internal motivation. However, this does not mean that reward systems and points should be completely avoided. Points and badges can initially encourage learners to participate and help them see their progress. However, they should be used as waypoints rather than becoming the main purpose of the activity. Their visibility can be gradually reduced as learners begin to engage through meaningful choice, mastery, and social interaction. Therefore, gamification should ideally create a pathway from initial extrinsic rewards towards more intrinsic and meaningful engagement (Hung, 2017; Nicholson, 2015). Meaningful gamification addresses this limitation by connecting gameful design with learner choice, reflection, information, play, exposition, and social engagement (Nicholson, 2015).

5. Meaningful Gamification

Informed by well-developed learning objectives and motivational theories, a gameful design can be transformed into a holistic and meaningful experience for learners, thereby initiating internal motivation and engagement. This way, gamification is driven by meaningful intentions such as relevance, choice, reflection, experimentation, and social connection, in turn, making learning more permanent and enjoyable.

Reward systems can provide short bursts of motivation and are great ways to establish learner habits, such as responding to certain situations, completing tasks as required, and following patterns. However, motivation and engagement are generally tied to what can be achieved in return, rather than to being invested in the product or solution to a problem. Points, badges, and leaderboards are useful but provide only shallow wins and superficial fulfillment. They should be combined with narrative, decision-making, and reflection opportunities to foster more effective engagement and investment. Nicholson's (2015) RECIPE model (Figure 1), therefore, is a promising complement to gamification by merging motivational aspects such as autonomy, competence, and relatedness with game mechanics.

NICHOLSON'S RECIPE FRAMEWORK

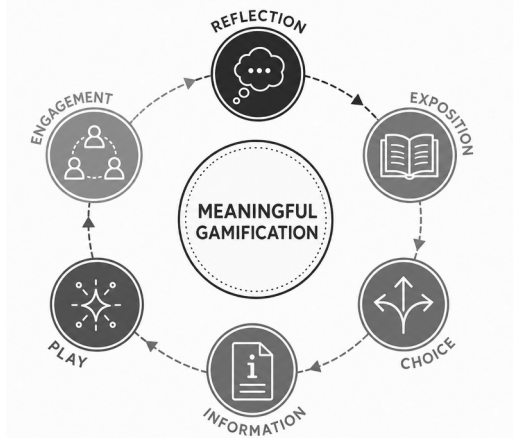


Figure 1. Nicholson's RECIPE Framework

Game mechanics are not capable of creating wonders on their own; that is why they need to be adorned with motivational purposes (Sailer et al., 2017). This purpose can be provided by elements of the RECIPE framework, which envisions connecting new knowledge to prior beliefs for more durable change in learners' behaviors (Nicholson, 2015).

According to RECIPE, a meaningful gamification should offer freedom to explore and fail without dire consequences (**Play**), allowing learners to retry and reset. Additionally, a gamified setting should ideally provide a narrative layer in which learners can connect activities to real-world meaning (**Exposition**), such as stories and assigned roles. Moreover, a gamified process should promote learner autonomy by proposing different options to choose from in terms of paths to be taken or assessment (**Choice**). Reflecting the spirit of serious games, learners should receive game-style feedback or visualized progress check opportunities so that they can understand the real context (**Information**). Information can be provided with digital dashboards, CEFR can-do statements/trackers, impact meters, etc. In a similarly crucial way, gamified settings should create communities in which learners can collaborate, share ideas, peer teach/learn, compare performance, and co-create (**Engagement**) because games are social and interactive in essence. Finally, gamified environments should be designed with a reflective pedagogy mindset (**Reflection**). Through reflection, learners can make connections to prior interests and experiences, transform what has been learned into a deeper meaning to be transferred to future behaviors.

In light of these, significant and valid issues like ecology, environment, and sustainability can be accompanied by meaningful gamification to convey the messages to learners in a more meaningful and impactful way. Considering that a gameful ELT project should make language use necessary for completing the task, producing the outcome, and reflecting on the experience (Reinhardt, 2019), it is more than logical to frame this within ecological content integrated into ELT curricula. This way, both the ecological content and language can be internalized by learners with potentially immense engagement. Projects, narratives, and collaborative activities can turn environmental themes into an authentic English language product (Putri, 2018).

6. Framing Gamification in Ecological and Environmental Content for ELT

Ecological content and sustainability themes are integrated into field-specific curricula and materials in response to UNESCO reports (1978; 2017) and government measures related to global ecological crises. As one of these fields, ELT is a unique context for ecological integration due to its multilayered nature: inclusion of carrier content, language focus, intercultural communication and understanding, and a global mindset. These aspects coexist within ELT classrooms, thus making environmental discussions and ecological integration very ideal for the field (Kazazoğlu, 2025). If learners are convinced to participate in content-based activities, environmental themes can support EFL learners' language development (Hauschild et al., 2012).

Since ecological themes bring with them the risk of distance and lack of empathy due to daily life relevance among learners, they may not easily create a personal connection required for engagement (Clayton et al., 2021); therefore, extra measures for motivation and engagement might be required. Learners who find it difficult to internalize a problem experienced over a distant land can be motivated to appreciate the importance of portraying actions thanks to the gamification of the ecological language content. Meaningful gamification can provide this support by connecting environmental content with narrative, learner choice, reflection, perspective-taking, and locally relevant action (Nicholson, 2015; Reinhardt, 2019).

Some studies can be given as examples of gamified content addressing sustainability and environmental issues. For instance, the most directly relevant example is Mei and Yang's (2019) geolocated environmental scavenger hunt, in which English majors used English to answer environmental questions and reported positive perceptions of the activity and greater environmental awareness. Outside the ELT context, Gustafsson and Bång (2008) connected mobile missions,

feedback, and team competition with household electricity data among teenagers and their families, encouraging changes in energy use patterns during the intervention. Fijnheer et al. (2021) similarly used a household energy-conservation game to examine the role of competition, showing that gameful activities could support energy-related knowledge while competition did not provide the same additional benefits for every outcome.

In a broader sense, Mulcahy et al. (2021) used a smartphone application with gamification elements and reported improvements in sustainability-related knowledge, attitudes, intentions, and realized energy savings. Finally, Reeves et al. (2015) connected a social energy game with subsequent energy-efficient actions and electricity use. Although these studies were not directly conducted in ELT contexts, they remain valuable examples of how digital gameful structures can make environmental information and the consequences of individual actions more visible and actionable.

Taken together, these studies do not establish that gamification automatically produces lasting ecological behavior change. The underlying message is that the pedagogical and motivational value of gamification is its capability of introducing ecological and environmental problems that do not normally spark empathy among learners in a more visible, relatable, and collaborative setting.

Gamified content directed towards ecological themes must recognize this value and envision embedding game elements as a means of making ecological content more relatable and engaging for learners of different ages and proficiency levels. Similarly, ecological content is not solely inserted into the language pedagogy as additional and supplementary content. They are organically integrated into the curricular flow, supported by digital gamification, so that learners and teachers can benefit from their motivational aspect and internalize the ecological issues as relatable problems to be solved. For instance, at the primary level, learners can complete visually supported eco-quests related to recycling, water conservation, and energy use while practicing basic vocabulary, imperatives, and advice. At the secondary level, these activities can be adjusted to the level and turned into collaborative campaigns, role-based ecological dilemmas, digital simulations, and eco-city challenges that require learners to compare alternatives, negotiate solutions, and justify decisions in English. As the level progresses to upper-secondary, university, and adult levels, the design can move toward climate negotiations, sustainability audits, eco-hackathons, policy debates, and research-based projects. This developmental progression can connect CEFR-aligned language outcomes with increasingly sophisticated forms of ecological awareness, agency, and leadership.

7. Conclusion

Effective gamification aligns mechanics, feedback, progression, and social participation rather than treating them as isolated additions. Even though elements such as points, badges, and progress are useful to support motivation and autonomous behaviors, gamified content promoting ecological awareness should balance the process by giving more emphasis on internal drives such as narratives, learner choice, differentiation, collaboration, decision-making, feedback, and reflection. This emphasis is consistent with meaningful gamification and motivational perspectives that prioritize autonomy, competence, relatedness, and personal relevance over the pursuit of external rewards (Nicholson, 2015; Sailer et al., 2017; van Roy & Zaman, 2019).

Digital tools support this process by enabling more practical peer feedback, multimedia production, visualization of the content, collaborative writing, and dissemination beyond the classroom, while low-technology alternatives may also prove useful in settings with limited infrastructure and technological equipment. Digital platforms can extend interaction and feedback, while analogue structures can preserve the same gameful logic without requiring technology (Huang et al., 2019; Mee et al., 2021)

While assessing learner performance, linguistic outcomes should be paired with learners' ecological understanding, reflection abilities, and actions portrayed related to environmental protection. In this sense, gamification can function as a pedagogical bridge rather than a decorative layer because it creates a structured environment in which learners use English to investigate environmental problems, negotiate possible responses, observe consequences, and communicate ecological action.

References

- Alsawaier, R. S. (2018). The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology*, 35(1), 56–79. <https://doi.org/10.1108/IJILT-02-2017-0009>
- Ariza, M. R., Boeve-de Pauw, J., Olsson, D., Van Petegem, P., Parra, G., & Gericke, N. (2021). Promoting environmental citizenship in education: The potential of the Sustainability Consciousness Questionnaire to measure impact of interventions. *Sustainability*, 13(20), 11420. <https://doi.org/10.3390/su132011420>
- Baldauf, M., Brandner, A., & Wimmer, C. (2017). Mobile and gamified blended learning for language teaching: Studying requirements and acceptance by students, parents and teachers in the wild. In *Proceedings of the 16th International Conference on Mobile and Ubiquitous Multimedia* (pp. 13–24). Association for Computing Machinery. <https://doi.org/10.1145/3152832.3152842>

- Caponetto, I., Earp, J., & Ott, M. (2014). Gamification and education: A literature review. In C. Busch (Ed.), *Proceedings of the 8th European Conference on Games Based Learning—ECGBL 2014* (Vol. 1, pp. 50–57). Academic Conferences & Publishing International. <https://www.itd.cnr.it/download/gamificationECGBL2014.pdf>
- Clayton, S., Czellar, S., Nartova-Bochaver, S., Skibins, J. C., Salazar, G., Tseng, Y.-C., Irkhin, B., & Monge-Rodriguez, F. S. (2021). Cross-cultural validation of a revised Environmental Identity Scale. *Sustainability*, 13(4), 2387. <https://doi.org/10.3390/su13042387>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining “gamification.” In *Proceedings of the 15th International Academic Mind-Trek Conference: Envisioning Future Media Environments* (pp. 9–15). Association for Computing Machinery. <https://doi.org/10.1145/2181037.2181040>
- Fijnheer, J. D., van Oostendorp, H., Giezeman, G. J., and Veltkamp, R. C. (2021). Competition in a Household Energy Conservation Game. *Sustainability*, 13(21), 11991. <https://doi.org/10.3390/su132111991>
- Gürsoy, E. (2010). Implementing environmental education to foreign language teaching to young learners. *Educational Research*, 1(8), 232–238. <https://www.interestjournals.org/articles/implementing-environmental-education-to-foreignlanguage-teaching-to-young-learners.pdf>
- Gustafsson, A., and Bång, M. (2008). Evaluation of a pervasive game for domestic energy engagement among teenagers. *Proceedings of ACE 2008*, 232–239. <https://doi.org/10.1145/1501750.1501804>
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work?—A literature review of empirical studies on gamification. In *2014 47th Hawaii International Conference on System Sciences* (pp. 3025–3034). IEEE. <https://doi.org/10.1109/HICSS.2014.377>
- Hauschild, S., Poltavtchenko, E., & Stoller, F. L. (2012). Going green: Merging environmental education and language instruction. *English Teaching Forum*, 50(2), 2–13. <https://eric.ed.gov/?id=EJ982843>
- Huang, B., Hwang, G.-J., Hew, K. F., & Warning, P. (2019). Effects of gamification on students' online interactive patterns and peer-feedback. *Distance Education*, 40(3), 350–379. <https://doi.org/10.1080/01587919.2019.1632168>
- Hung, A. C. Y. (2017). A critique and defense of gamification. *Journal of Interactive Online Learning*, 15(1), 57–72. <https://www.ncolr.org/jiol/issues/pdf/15.1.4.pdf>
- Kazazoglu, S. (2025). Environmental education through eco-literacy: Integrating sustainability into English language teaching. *Sustainability*, 17(5), 2156. <https://doi.org/10.3390/su17052156>
- Landers, R. N., Bauer, K. N., Callan, R. C., & Armstrong, M. B. (2015). Psychological theory and the gamification of learning. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 165–186). Springer. https://doi.org/10.1007/978-3-319-10208-5_9
- Mee, R. W. M., Pek, L. S., Von, W. Y., Abd Ghani, K., Tengku Shahdan, T. S., Ismail, M. R., & Rao, Y. S. (2021). A conceptual model of analogue gamification to enhance learners' motivation and attitude. *International Journal of Language Education*, 5(2), 40–50. <https://doi.org/10.26858/ijole.v5i2.18229>
- Mei, B., and Yang, S. (2019). Nurturing Environmental Education at the Tertiary Education Level in China: Can Mobile Augmented Reality and Gamification Help? *Sustainability*, 11(16), 4292. <https://doi.org/10.3390/su11164292>

- Mulcahy, R. F., McAndrew, R., Russell-Bennett, R., and Iacobucci, D. (2021). "Game on!" Pushing consumer buttons to change sustainable behavior: A gamification field study. *European Journal of Marketing*, 55(10), 2593–2619. <https://doi.org/10.1108/EJM-05-2020-0341>
- Nicholson, S. (2015). A recipe for meaningful gamification. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 1–20). Springer International Publishing. https://doi.org/10.1007/978-3-319-10208-5_1
- Putri, I. G. A. P. E. (2018). Critical environmental education in tertiary English language teaching (ELT): A collaborative digital storytelling project. *Indonesian Journal of Applied Linguistics*, 8(2), 336–344. <https://doi.org/10.17509/ijal.v8i2.13280>
- Reeves, B., Cummings, J. J., Scarborough, J. K., and Yeykelis, L. (2015). Increasing Energy Efficiency with Entertainment Media: An Experimental and Field Test of the Influence of a Social Game on Performance of Energy Behaviors. *Environment and Behavior*, 47(1), 102–115. <https://doi.org/10.1177/0013916513506442>
- Reinhardt, J. (2019). *Gameful second and foreign language teaching and learning: Theory, research, and practice*. Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-04729-0>
- Richter, G., Raban, D. R., & Rafaeli, S. (2015). Studying gamification: The effect of rewards and incentives on motivation. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 21–46). Springer. https://doi.org/10.1007/978-3-319-10208-5_2
- Sailer, M., Hense, J. U., Mayr, S. K., & Mandl, H. (2017). How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. *Computers in Human Behavior*, 69, 371–380. <https://doi.org/10.1016/j.chb.2016.12.033>
- Stott, A., & Neustaedter, C. (2013). *Analysis of gamification in education* (Technical Report 2013-0422-01). Connections Lab, Simon Fraser University. <https://clab.iat.sfu.ca/pubs/Stott-Gamification.pdf>
- United Nations Educational, Scientific and Cultural Organization. (1978). *Intergovernmental Conference on Environmental Education, Tbilisi (USSR), 14–26 October 1977: Final report*. <https://unesdoc.unesco.org/ark:/48223/pf0000032763>
- United Nations Educational, Scientific and Cultural Organization. (2017). *Education for Sustainable Development Goals: Learning objectives*. <https://doi.org/10.54675/CGBA9153>
- van Roy, R., & Zaman, B. (2019). Unravelling the ambivalent motivational power of gamification: A basic psychological needs perspective. *International Journal of Human-Computer Studies*, 127, 38–50. <https://doi.org/10.1016/j.ijhcs.2018.04.009>
- Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game mechanics in web and mobile apps*. O'Reilly Media.

CHAPTER 5.

INTEGRATING SUSTAINABILITY INTO ENGLISH LANGUAGE TEACHING: CURRICULUM PERSPECTIVES

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1. Introduction

Contemporary education increasingly positions sustainability as a core concern in response to the growing environmental, social, and economic challenges facing societies (UNESCO, 2017, 2020). International and European policy initiatives, such as the United Nations Sustainable Development Goals (UNESCO, 2017), the European Green Deal (European Commission, 2019), the GreenComp Framework (Bianchi et al., 2022), and the Council Recommendation on Learning for the Green Transition and Sustainable Development (Council of the European Union, 2022) consistently advocate integrating sustainability throughout the curriculum instead of restricting it to specific subject areas. These frameworks share the view that preparing learners for sustainable futures requires more than disciplinary knowledge; it also necessitates critical thinking, collaboration, ethical responsibility, and active engagement.

Within this context, curriculum design serves as a key determinant of how sustainability principles are put into practice in the classroom (Sterling, 2004). Despite the growing scholarly attention that sustainability has received across educational fields more broadly (UNESCO, 2017), its integration into English language teaching (ELT) remains comparatively underdeveloped (Bori, 2018). This is noteworthy because English as a Foreign Language (EFL) education extends beyond providing linguistic competence and aims to equip individuals with 21st century skills such as critical thinking, intercultural awareness, social responsibility, and global citizenship (Byram, 1997; Canale & Swain, 1980; UNESCO, 2015). Global citizenship calls on individuals to develop a sense of responsibility towards the wider world community in addition to their own, to be aware of universal human rights, and to be sensitive to global issues such as sustainability (Schattle,

2010). In this regard, ELT offers a promising context for promoting sustainability-related competencies alongside language learning (Jacobs & Cates, 1999).

Integrating sustainability into ELT requires more than the occasional inclusion of environmentally themed content or climate-related texts. While many practitioners already bring topics such as climate change, sustainable lifestyles, or environmental justice into their EFL classrooms, these efforts tend to reflect personal interest and local opportunity rather than systematic curriculum planning (UNESCO, 2017). Meaningful integration, therefore, demands decisions made at the level of curriculum design itself regarding learning outcomes, content selection, instructional materials, pedagogical approach, assessment practices, and teacher education (Nation & Macalister, 2010).

Rather than being regarded as an additional curricular requirement, sustainability may instead be conceptualized as an authentic pedagogical context through which learners build communicative competence while engaging with real-world issues and taking part in informed dialogue (Byram, 1997). From this perspective, sustainability complements the broader aims of ELT by encouraging meaningful language use, intercultural communication, and responsible global citizenship (UNESCO, 2017). In light of these considerations, the present chapter approaches sustainability from a curriculum perspective and examines how sustainability principles might inform English curricula. Drawing on recent contemporary policy frameworks and developments within the broader agenda of Education for Sustainable Development (Bianchi et al., 2022; Council of the European Union, 2022; UNESCO, 2020), the chapter first situates sustainability within contemporary education more broadly, tracing the developments that have brought it to curricular prominence. Building on this, the focus narrows to English language teaching itself, where a series of established theoretical perspectives is considered in turn. Next, the chapter discusses how far these commitments are actually reflected in the national English curricula of Türkiye, Italy, Spain, and Lithuania. It closes by bringing these strands together and considering what these observations suggest for the future integration of sustainability into English curriculum design.

2. Sustainability in Education: A Conceptual and Policy Framework

Education for Sustainable Development (ESD) has served as the leading international framework for integrating sustainability into education over the past two decades. According to UNESCO (2017, 2020), ESD goes beyond the narrow, exclusively ecological focus of traditional environmental education.

It encompasses the development of the knowledge, skills, values, attitudes, and agency that empower learners to make informed decisions and undertake responsible actions that promote environmental integrity, economic viability, and social justice for both present and future generations (UNESCO, 2017, 2020). This perspective is significant as it extends sustainability education beyond the transmission of environmental knowledge by highlighting the development of competencies, values, critical thinking, and responsible action (UNESCO, 2020).

The Sustainable Development Goals (SDGs), which have been implemented since 2016, have contributed to the global recognition of ESD and provided a common reference framework for linking education to climate change, biodiversity, poverty, inequality, responsible consumption, sustainable communities, peace, justice, and global partnership (UNESCO, 2017). Nevertheless, rather than teaching learners about SDGs or treating sustainability as a set of environmental topics, the broader curricular challenge is to develop learners' ability to interpret multifaceted socio-ecological associations, acknowledge competing interests and values, communicate across differences, deliberate under uncertainty, and participate responsibly in local and global contexts. In this regard, ESD involves not only content selection but also competence development, curriculum design, pedagogy, assessment, and learner agency (UNESCO, 2020).

Current research on sustainability competence (e.g., Brundiers et al., 2021; Redman & Wiek) has reinforced the shift from knowledge transmission to competence-oriented education. Brundiers and associates (2021), for instance, have presented a collection of core sustainability competences containing systems-thinking competence, anticipatory/futures-thinking competence, normative/values-thinking competence, strategic-thinking competence, and interpersonal/collaborative competence. A more comprehensive competence framework has been proposed by Redman and Wiek (2021), who incorporate emerging competences, including intrapersonal, implementation, and integration competence in addition to the traditionally recognized and well-established competences. These initiatives play a crucial role in curriculum design as they suggest that, rather than being confined to awareness, attitude, or factual understanding, sustainability learning is more accurately characterized as the ability to understand complexity, imagine alternative futures, evaluate values and trade-offs, design strategies, collaborate with others, reflect on one's own position, and translate understanding into situated forms of action.

Within the European context, GreenComp (Bianchi et al., 2022) has emerged as a widely recognized reference framework for sustainability competence. Conceptualizing sustainability competence as consisting of twelve competences

structured around four interconnected areas (i.e., embodying sustainability values, embracing complexity in sustainability, envisioning sustainable futures, and acting for sustainability), this framework adopts a flexible, non-prescriptive approach (Bianchi et al., 2022). Instead of prescribing one specific curriculum, subject arrangement, or pedagogical model, GreenComp offers a shared framework that enables education systems, curriculum designers, schools, teachers, and learners to understand and interpret what sustainability competence entails in diverse educational settings. The Council Recommendation on Learning for the Green Transition (Council of the European Union, 2022) further emphasizes that sustainability must be integrated into education and training rather than restricted to a single subject. Similarly, within the European Green Deal (European Commission, 2019), the green transition is presented as a broad societal transformation that also includes an educational dimension, rather than as a narrowly defined environmental agenda.

3. Sustainability in Education and English Language Teaching

Bringing sustainability into educational curricula is part of a wider shift toward holistic education that addresses environmental challenges. Although this shift is evident across many disciplines, its place in English language teaching deserves particular attention, given the scale at which English is used and taught worldwide (Nakamura & Fujimoto, 2024). English, as a *Lingua Franca*, is more than a tool for communication in global education. It also carries and disseminates ideas and values, including those tied to sustainability (Calvert, 2015; McKay, 2002; Tuyan, 2018). Integrating sustainability into ELT is therefore not simply a matter of adding environmental topics to language lessons. It involves developing learners' linguistic abilities as well as their understanding of and engagement with sustainability issues, an approach that can range from thematic environmental content to pedagogical strategies, such as collaborative learning and critical thinking that themselves reflect sustainable practices (Yu et al., 2024).

The integration of sustainability into ELT is grounded in a set of interrelated theoretical perspectives. One such perspective is Content and Language Integrated Learning (CLIL), which offers a useful theoretical starting point for sustainability-integrated ELT. Coyle et al.'s (2010) 4Cs framework, comprising content, communication, cognition, and culture, provides a structure well suited to environmentally based language teaching since sustainability-focused instruction likewise requires simultaneous attention to subject matter, language, thinking, and cultural meaning. Canale and Swain's (1980) influential model

of communicative competence extends this theoretical foundation further. It shows that language competence requires more than lexical knowledge and demands sensitivity to register, genre, audience, and the pragmatic implications of linguistic choices, all of which are engaged when learners address controversial issues such as climate responsibility or resource justice. Besides, Byram's (1997) model of intercultural communicative competence holds that language education should develop learners' capacity to interpret and relate cultural meanings and evaluate perspectives critically, a capacity that sustainability topics demand almost by definition, since questions of consumption, responsibility, development, justice, and human relations with the natural world are never culturally neutral. Environmentally based language teaching, therefore, requires learners to compare not only linguistic forms but also values, discourses, and culturally situated ways of making environmental meaning.

Ecolinguistics advances this theoretical foundation by examining how language constructs the relations between human beings, other living organisms, and ecological systems more broadly. Stibbe (2021) demonstrates that texts carry culturally embedded narratives concerning growth, consumption, nature, progress, and identity, narratives that are rarely neutral and that shape how societies conceive of ecological problems and their possible resolutions. Building on this perspective, Micalay-Hurtado and Poole (2022) argue that eco-critical language awareness can be incorporated directly into ELT by prompting learners to examine how language represents the natural world and positions human agency in relation to it. In curricular terms, ecolinguistics thereby adds an ecological discourse dimension to communicative competence. To put it differently, learners should be able to identify how texts frame ecological issues, whose interests are foregrounded, which forms of action are rendered visible, and which relationships are normalized or obscured.

Another theoretical foundation derives from the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001), and particularly its Companion Volume (Council of Europe, 2020), which conceptualizes learners not as passive recipients of linguistic input but as social agents who use language to act, participate, and negotiate meaning within authentic contexts. This orientation is particularly relevant to sustainability education given that ecological communication rarely reduces to a matter of linguistic accuracy alone. Learners engaging with sustainability topics must interpret texts, mediate between differing bodies of knowledge, collaborate with others, and adapt language to the audience and purpose. The CEFR Companion Volume's expanded treatment of mediation is especially pertinent in this respect, encompassing the

capacity to relay information, explain concepts, and facilitate shared understanding across individuals, languages, and knowledge domains (Council of Europe, 2020). Tasks generated by sustainability content, such as explaining an infographic, summarizing a local environmental notice for an international readership, or rendering technical findings into accessible language, constitute mediation tasks in this sense, and permit the integration of ecological content without reducing language instruction to the transmission of environmental facts.

All in all, none of the theoretical foundations reviewed above regard sustainability as content added to an existing syllabus. Each perspective instead locates sustainability within the aims that already define the field of language education: developing learners who can think across content and language, communicate with pragmatic and cultural sensitivity, read critically how language constructs the natural world, and act, mediate, and evaluate within real communicative tasks. In this regard, sustainability-integrated ELT curricula need not be justified as an external addition to language teaching, since ecological issues create consequential communicative situations in which language learning becomes purposeful. Therefore, the question is not whether sustainability belongs in ELT, but how existing communicative and intercultural aims can be extended to accommodate ecological content in a principled way.

4. An Overview of Sustainability in National English Curricula: Perspectives from Selected Countries

Sustainability, as expressed in policy, does not translate directly into classroom practice. It passes through national curriculum systems whose structures and emphases differ considerably, and curriculum studies have long distinguished between what policy intends and what actually happens in classrooms (Goodlad et al., 1979; van den Akker, 2003). The four country cases examined here- Türkiye, Italy, Spain, and Lithuania- illustrate this variation across distinct curricular mechanisms. Türkiye offers the most recently reformed curriculum among the four systems examined in this chapter. In 2024, the Ministry of National Education (MoNE) introduced a new curriculum called *Türkiye Yüzyılı Maarif Modeli* (*The Century of Türkiye Education Model*), which was implemented in the 2024-2025 academic year, starting with preschool, 1st grade of primary school, 5th grade of secondary school, and 9th grade of high school. It restructures the intended curriculum around skills, values, and literacies rather than content coverage alone (Ministry of National Education, 2024).

In this framework, sustainability literacy is presented as one of several parallel literacy domains within the curriculum, situated alongside digital, financial, civic, and cultural literacy, positioning it as a way of understanding and acting on complex systems rather than as an isolated environmental topic. *The Virtue-Value-Action Framework* in the model further connects ecological concern with a broader account of responsibility and conduct, linking sustainability to the kind of person and community that the reform hopes to cultivate (Ministry of National Education, 2024). Within the specific context of English language teaching, the accompanying English curriculum (Ministry of National Education, 2025) retains a thematic structure that already incorporates sustainability-related content, such as nature, environmental problems, global problems, sustainable cities, pollution, zero-waste practices, and climate change, which appear as themes or sub-themes. What the curriculum does not yet specify is how this thematic material should develop into the higher-order competences, evaluating sources, and comparing perspectives that sustainability education requires. The Turkish case, therefore, illustrates a system in which sustainability has been named with unusual clarity, while translating this into classroom practice remains an open and consequential question.

Italy secures sustainability through a formally recognized carrier subject rather than an implicit competence statement. Law 92/2019 (Repubblica Italiana, 2019) reintroduced civic education as a compulsory, cross-curricular subject, allocated at least thirty-three hours annually, and assessed in its own right, with sustainable development established as one of its founding pillars in addition to the constitution and digital citizenship (Eurydice, 2024). Among the four cases, this arrangement gives sustainability an unusual degree of structural visibility. As civic education is cross-curricular, language classrooms count as legitimate sites for sustainability-related work, which is assessed. Thus, it carries curricular weight rather than resting solely on individual teachers' interests. The 2024 revision of the civic education guidelines, which is linked to Ministerial Decree 183/2024 (Ministero dell'Istruzione e del Merito, 2024), reorganized this framework into three broader areas: the Italian Constitution, economic development and sustainability, and digital citizenship. The second area includes the value of work and enterprise, protection of the environment and heritage, health education, and respect for animals (Eurydice, 2024).

Within the field of English language teaching, this career-subject model offers real openings, mediating heritage and environmental discourse, comparing public campaigns across languages. Environmental debate, heritage and landscape, public campaigns, sustainable tourism, food systems, urban life, and digital

citizenship are all natural contexts for language learning. A unit that asks learners to compare environmental messages in English, mediate a local sustainability issue for an international audience, or debate a policy proposal can simultaneously contribute to both communicative competence and civic education. However, the current model carries the risk of shared but unclaimed responsibility. Because sustainability is formally part of civic education and civic education is everybody's responsibility. Thus, it can end up belonging to nobody in particular. In other words, language teachers may support occasional activities without developing a coherent progression in English language teaching.

Unlike Italy, Spain locates sustainability not in a single carrier subject, but in an explicit legal and competence-based curriculum. The Ley Orgánica 3/20, commonly known as LOMLOE (Jefatura de Estado, 2020), revised Spain's education law and explicitly recognized the importance of sustainable development in accordance with the 2030 Agenda. The law states that education for sustainable development and global citizenship should be incorporated into the compulsory education system, including knowledge, capacities, values, and attitudes that enable learners to make informed decisions and play an active role in addressing shared problems locally and globally (Jefatura de Estado, 2020). It also links education for ecological transition to the climate emergency and to learners' everyday environmental relationships. *The Compulsory Secondary Curriculum* established by Royal Decree 217/2022 operationalizes this commitment through the citizen competence, whose descriptors invoke ecodependence, interdependence between local and global action, and the adoption of sustainable lifestyles, positioning ecological understanding within citizenship and ethics rather than treating it as a discrete environmental theme (Ministerio de Educación y Formación Profesional, 2022).

The foreign language curriculum itself is organized around plurilingual competence, mediation, communicative action, and oral interaction, an orientation closely aligned with the CEFR Companion Volume's account of learners as social agents (Council of Europe, 2020). This alignment makes ecological integration pedagogically plausible: learners might summarize an article on urban heat, compare Spanish- and English-language sustainability campaigns, and debate a local environmental issue. In each case, sustainability content functions as authentic communicative tasks that draw on competences that the current language curriculum already values. As formally established within Royal Decree 217/2022 (Ministerio de Educación y Formación Profesional, 2022, Art. 2), the concept of '*situaciones de aprendizaje*' (i.e. learning situations), which refers to meaningful and real-world learning tasks or activities, offers a particularly promising vehicle

for this kind of work. Yet, the ecological dimension enters English lessons indirectly, inherited from the general competence framework rather than stated as a language-specific aim, and Spain's considerable regional decentralization suggests that the strength of this integration varies according to how individual autonomous communities interpret the national framework (OECD, 2024).

Lithuania represents a distributed model in which sustainability is positioned across a renewed competence-based curriculum and reinforced through school-level initiatives, environmental projects, partnerships, competitions, non-formal education, and whole-school sustainability agendas. Lithuania's renewed education curriculum, with implementation beginning in the 2023 school year (European Commission, 2025), has been described as a major shift toward skills-based learning, independent learning, and inclusive education, while sustainability is also supported through initiatives such as *the Sustainable School 2030 Agenda* (Lithuanian Non-Formal Education Agency, 2024), which connects curriculum, school environment, community involvement, resource use, mobility, heritage, health, safety, and the reduction of environmental impact. In this configuration, sustainability is not confined to the subject syllabus alone; it is also enacted through the wider ecology of school life. The most distinctive feature of the Lithuanian case is the strength of its project-based and non-formal environmental learning. Lithuanian schools participate in international initiatives such as *the Baltic Sea Project* (UNESCO Associated Schools Network, n.d.) and *the GLOBE* (The Globe Program, 2024). *The Sustainable School 2030 Agenda* (Lithuanian Non-Formal Education Agency, 2024), also invites schools to pursue sustainability according to their own capacity and context (UNESCO/MECCE, 2024). Local ecological concerns, particularly the vulnerability of Lithuania's Baltic coastline to sea-level rise and warming waters, provide authentic materials for language learning activities. Environmentally based language teaching can be connected to project work, local environmental inquiry, Baltic and regional ecological issues, international collaboration, and the communicative affordances of EFL education.

A curriculum scenario prepared within the European Centre for Modern Languages context describes Lithuania's renewed foreign language curriculum as combining competence orientation with integrated interdisciplinary work, including links between foreign language learning and topics such as environment, biodiversity, health, culture, and equality (Daryai-Hansen, 2023). Although this document is a curriculum scenario rather than the national curriculum itself, it is useful since it illustrates how the new curriculum can support connections between foreign languages and subject content. EFL Learners can describe environmental phenomena, interpret data or visuals, compare ecological issues across countries,

present findings, mediate subject-specific information for different audiences, and participate in project-based communication. Such tasks are consistent with communicative approaches to language teaching (Canale & Swain, 1980) and with the CEFR's emphasis on learners as social agents who understand, interact, mediate, and produce meaning in purposeful contexts (Council of Europe, 2020). However, as ecological integration in the Lithuanian case depends mainly on optional projects, motivated teachers, or school-level initiatives, it may remain uneven across institutions and learner groups. The curriculum challenge in Lithuania is, therefore, to connect the vitality of project-based sustainability education with a more systematic progression in ELT.

Overall, the four country cases suggest that sustainability has entered national curricula through at least three distinguishable mechanisms. Italy's model secures sustainability through a compulsory, assessed carrier subject; the models in Türkiye and Spain distribute it across cross-cutting competences and literacies; and Lithuania's model disperses it further still, across a broad competence base reinforced by voluntary school-level projects. Each mechanism secures one advantage at the cost of another. A carrier subject offers visibility and assessment weight but risks concentrating responsibility within a single discipline. Cross-cutting competences offer breadth and legitimacy but can remain abstract without subject-specific translation. A distributed, project-rich model offers authenticity and local relevance but risks unevenness across schools and regions.

Despite these structural differences, the four systems converge in some notable respects. All have granted sustainability explicit standing at the level of policy or intended curriculum, so that its basic claim to a place in the curriculum no longer needs to be argued for. All frame sustainability primarily as a matter of competence, values, and responsible action rather than as a body of environmental facts to be transmitted, an orientation consistent with UNESCO's account of education for sustainable development (UNESCO, 2017, 2020). Nevertheless, what is consistently lacking is an equivalent standing within the English curriculum itself. In Türkiye, sustainability appears thematically but is never named as such in the English curriculum document. In Italy, EFL teaching can support sustainability work, but it does so as a favor to civic education, not because the English curriculum has set this as its own goal. Spain and Lithuania both route sustainability through general competences that language learning is expected to support, rather than as a responsibility that the curriculum holds. Therefore, without a clear statement of what the English curriculum itself is responsible for, sustainability depends on teachers' initiative, available materials, and school-level priorities.

5. Conclusion

The arguments developed in this chapter lead to a single conclusion: sustainability and English language education are not competing claims on the same limited curricular space, but rather they have a complementary relationship, and how far that complementarity is realized in practice depends on decisions made at the level of curriculum design rather than on what happens in any single EFL classroom. Based on this perspective, International and European policy frameworks call for sustainability to run across the curriculum as a whole rather than confined to isolated units or elective content (Bianchi et al., 2022; Council of the European Union, 2022; UNESCO, 2017, 2020). ELT has occupied a marginal position within this policy conversation (Bori, 2018) and is well placed to respond to this call, given that its established aims such as communication, intercultural understanding, critical reflection, and engagement with different viewpoints, already align closely with the competences that sustainability education seeks to build in learners (Byram, 1997; Canale & Swain, 1980; Jacobs & Cates, 1999). The country-specific cases drawn from Türkiye, Spain, Italy, and Lithuania move this argument from theory to practice and offer empirical illustrations of how these curricular principles can be translated into practice in different educational settings.

Some important implications can be drawn for the future development of the national English curricula. Sustainability integration should no longer depend on the interest of individual practitioners or the incidental availability of relevant materials (UNESCO, 2017), as this kind of integration remains uneven and inconsistent across contexts. If sustainability is going to become a stable part of EFL education rather than an occasional addition, it has to be addressed through deliberate curricular decisions about learning outcomes, content and materials, pedagogy, assessment, and teacher training (Nation & Macalister, 2010). Therefore, curriculum developers, materials writers, and teacher educators should treat sustainability as part of the structure of an EFL program, while ministries of education and school leaders should provide the policy support and institutional conditions essential for such change to take hold.

References

- Bianchi, G., Pisiotis, U., & Cabrera Giraldez, M. (2022). *GreenComp: The European sustainability competence framework* (M. Bacigalupo & Y. Punie, Eds.). Publications Office of the European Union. <https://doi.org/10.2760/13286>
- Bori, P. (2018). *Language textbooks in the era of neoliberalism*. Routledge.
- Brundiers, K., Barth, M., Cebrián, G., Cohen, M., Diaz, L., Doucette-Remington, S., Dripps, W., Habron, G., Harré, N., Jarchow, M., Losch, K., Michel, J., Mochizuki, Y., Rieckmann, M., Parnell, R., Walker, P., & Zint, M. (2021). Key competencies in sustainability in higher education—toward an agreed-upon reference framework. *Sustainability Science*, 16(1), 13–29. <https://doi.org/10.1007/s11625-020-00838-2>
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Multilingual Matters.
- Calvert, K. (2015). The ecology of English: Real-world experiences in sustainability and language learning. In D. Nunan & J.C. Richards (Eds.), *Language learning beyond the classroom* (pp. 202–212). Routledge.
- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, 1(1), 1–47. <https://doi.org/10.1093/applin/1.1.1>
- Council of Europe. (2001). *Common European Framework of Reference for Languages: Learning, teaching, assessment*. Cambridge University Press.
- Council of Europe. (2020). *Common European Framework of Reference for Languages: Learning, teaching, assessment—Companion volume*. Council of Europe Publishing.
- Council of the European Union. (2022, June 16). *Council Recommendation of 16 June 2022 on learning for the green transition and sustainable development* (2022/C 243/01). Official Journal of the European Union, C 243, 1–9. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(01))
- Coyle, D., Hood, P., & Marsh, D. (2010). *Content and language integrated learning*. Cambridge University Press.
- Daryai-Hansen, P. (2023). *Curriculum scenario in Lithuania: CLIL in the second foreign language in lower and upper secondary education*. European Centre for Modern Languages of the Council of Europe (ECML).
- European Commission. (2019). *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Deal* (COM(2019) 640 final). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2019:640:FIN>
- European Commission. (2025). *Education and training monitor 2025: Lithuania*. Publications Office of the European Union. <https://op.europa.eu/webpub/eac/education-and-training-monitor/en/country-reports/lithuania.html>
- European Commission. (2019). *The European Green*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640>
- Eurydice. (2024, October 24). *Italy: New guidelines for teaching civic education*. European Education and Culture Executive Agency. <https://eurydice.eacea.ec.europa.eu/news/italy-new-guidelines-teaching-civiceducation>
- Goodlad, J. I., Klein, M. F., & Tye, K. A. (1979). The domains of curriculum and their study. In J. I. Goodlad (Ed.), *Curriculum inquiry: The study of curriculum practice* (pp. 43–76). McGraw-Hill.

- Jacobs, G. M., & Cates, K. (1999). Global education in second language teaching. *KATA: A Biannual Publication on the Study of Language and Literature*, 1(1), 44–56.
- Jefatura del Estado. (2020). *Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación (LOMLOE)*. Boletín Oficial del Estado, 340, 122868–122953. <https://www.boe.es/buscar/act.php?id=BOE-A-2020-17264>
- Lithuanian Non-Formal Education Agency [LINEŠA]. (2024). *Tvari mokykla 2030* [Sustainable School 2030]. Lietuvos neformaliojo švietimo agentūra. <https://www.eduvilnius.lt/schools-of-change/>
- McKay, S. L. (2002). *Teaching English as an International Language: Rethinking Goals and Approaches*. Oxford University Press.
- Micalay-Hurtado, M. A., & Poole, R. (2022). Eco-critical language awareness for English language teaching (ELT): Promoting justice, wellbeing, and sustainability in the classroom. *Journal of World Languages*, 8(2), 371–390. <https://doi.org/10.1515/jwl-2022-0023>
- Ministerio de Educación y Formación Profesional. (2022). *Real Decreto 217/2022, de 29 de marzo, por el que se establece la ordenación y las enseñanzas mínimas de la Educación Secundaria Obligatoria*. Boletín Oficial del Estado, 76, 41571–41789. <https://www.boe.es/buscar/act.php?id=BOE-A-2022-4975>
- Ministero dell'Istruzione e del Merito. (2024). *Decreto Ministeriale 7 settembre 2024, n. 183: Adozione delle Linee guida per l'insegnamento dell'educazione civica* [Ministerial Decree No. 183 of 7 September 2024: Adoption of the guidelines for the teaching of civic education]. https://www.istruzione.it/educazione_civica/norme.html
- Ministry of National Education [MoNE]. (2025). *The English language curriculum (Years 2–3–4–5–6–7–8): The Century of Türkiye Education Model*. T.C. Milli Eğitim Bakanlığı. <https://tymm.meb.gov.tr/upload/program/ingilizce-dersi-2-8.pdf>
- Ministry of National Education [MoNE]. (2024). *Türkiye Yüzyılı Maarif Modeli: Öğretim programları ortak metni* [The Century of Türkiye Education Model: Common text of curricula]. T.C. Milli Eğitim Bakanlığı. https://tymm.meb.gov.tr/upload/brosur/ortak_metin.pdf
- Nakamura, H., & Fujimoto, E. (2024). Integrating Sustainability into English Language Teaching: A Quantitative Analysis of Outcomes. *Research Studies in English Language Teaching and Learning*, 2(1), 36–44. <https://doi.org/10.62583/rseltl.v2i1.36>
- Nation, I. S. P., & Macalister, J. (2010). *Language curriculum design*. Routledge.
- OECD. (2024). *Education policy outlook: Spain*. OECD Publishing. https://www.oecd.org/content/dam/oecd/en/publications/reports/2020/12/education-policy-outlook-in-spain_384aa26d/4b31ce9f-en.pdf
- Redman, A., & Wiek, A. (2021). Competencies for advancing transformations towards sustainability. *Frontiers in Education*, 6, 785163. <https://doi.org/10.3389/feduc.2021.785163>
- Repubblica Italiana. (2019). *Legge 20 agosto 2019, n. 92: Introduzione dell'insegnamento scolastico dell'educazione civica* [Law No. 92 of 20 August 2019: Introduction of civic education teaching in schools]. Gazzetta Ufficiale della Repubblica Italiana, Serie Generale, n. 195. <https://www.gazzettaufficiale.it/eli/id/2019/08/21/19G00105/sg>
- Schattle, H. (2010). Global citizenship in theory and practice. In R. Lewin (Ed.), *The handbook of practice and research in study abroad* (pp. 25–42). Routledge.
- Sterling, S. (2004). Higher education, sustainability, and the role of systemic learning. In P. B. Corcoran & A. E. J. Wals (Eds.), *Higher education and the challenge of sustainability: Problems, promise, and practice* (pp. 49–70). Kluwer Academic Publishers.
- Stibbe, A. (2021). *Ecolinguistics: Language, ecology and the stories we live by* (2nd ed.). Routledge.

- The GLOBE Program. (2024). *GLOBE in Lithuania*. <https://www.globe.gov/web/globe-in-lithuania>
- Tuyan, S. E. (2018). On the way to achieve sustainability: An evaluative look at a three-year action research program in an ELT context. In G. Barkhuizen, A. Burns, K. Dikilitaş, & M. Wyatt (Eds.), *Empowering teacher-researchers, empowering learners* (pp. 19–28). IATEFL.
- UNESCO Associated Schools Network. (n.d.). *The Baltic Sea Project*. UNESCO ASPnet. <https://www.b-s-p.org/>
- UNESCO. (2020). *Education for sustainable development: A roadmap*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374802>
- UNESCO. (2017). *Education for Sustainable Development Goals: Learning objectives*. United Nations Educational, Scientific and Cultural Organization.
- UNESCO. (2015). Global citizenship education: Topics and learning objectives. UNESCO Publishing. <https://www.unesco.org/en/articles/global-citizenship-education-topics-and-learning-objectives>
- UNESCO Global Education Monitoring Report Team, & MECCE Project. (2024). *Education and climate change: Learning to act for people and planet*. UNESCO.
- Van den Akker, J. (2003). Curriculum perspectives: An introduction. In J. van den Akker, W. Kuiper, & U. Hameyer (Eds.), *Curriculum landscapes and trends* (pp. 1–10). Kluwer Academic Publishers.
- Yu, B.; Guo, W.Y.; Fu, H. (2024). Sustainability in English Language Teaching: Strategies for Empowering Students to Achieve the Sustainable Development Goals. *Sustainability*, 16, 3325. <https://doi.org/10.3390/su16083325>

CHAPTER 6.

INTEGRATING SUSTAINABILITY INTO EFL IN SPAIN: FROM CURRICULUM POLICY TO PRACTICE

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1. Introduction

Sustainability is a central concern in contemporary education. In a context marked by climate change, social inequality, migration, and rapid technological change, schools are increasingly expected to prepare learners to act critically and responsibly in society. Sterling has argued that sustainability requires a reorientation of education itself, moving beyond the transmission of information towards transformative learning that enables students to question values, systems, and behavior (Sterling, 2001). Similarly, Orr maintains that environmental problems are also problems of knowledge, culture, and responsibility (Orr, 1992).

Therefore, education for sustainable development implies more than including environmental topics in the curriculum: it involves critical thinking, participation, ethical awareness, and the capacity to imagine alternative futures, since sustainability education should be participatory and transformative, engaging learners with complexity, uncertainty, and real-world problems (Wals, 2012).

Language learning is particularly important in this regard. Learning a foreign language is more than just acquiring grammar, vocabulary, or communicative functions; it is also about gaining access to other cultures, worldviews, and social contexts. Byram's research on intercultural communicative competence (Byram, 1997 and 2008) is particularly pertinent here, as this scholar contends that language education needs to promote learners' development into intercultural speakers who can interpret, relate to, and critically reflect on cultural practices, including their own. From this perspective, EFL instruction can be used not only to develop linguistic competence but also to foster learners' intercultural sensitivity,

democratic values, and global citizenship. The teaching of English is especially amenable to incorporating themes related to sustainability since this language is the primary vehicle for articulating international discussions on climate change, human rights, migration, equality, and sustainable consumer behavior in its role as global language.

In Spain, the education system is ruled by the current curriculum framework defined by the current education law in Spain, *Ley Orgánica de Modificación de la Ley Orgánica de Educación* (LOMLOE hereinafter), which strengthens a competence-based and transversal approach to the education process. The national curriculum for Primary Education and Compulsory Secondary Education provides competences within the areas of linguistic communication, plurilingualism, citizenship, personal and social development, and education for sustainability. That is, sustainability should not be taught only in subjects such as Natural Sciences or Geography, but across the curriculum, not least in English language teaching. Consequently, this study aims to analyse the introduction of sustainability in the Spanish curriculum, particularly in EFL. This study analysed the extent to which curricular materials support sustainability-based values, competences, and learning outcomes, and reflected on how English language teaching can foster global awareness, intercultural competence, and responsible citizenship.

2. Overview of the Spanish Educational System

The Spanish educational system is currently regulated by Organic Law 3/2020 of December 29, known as LOMLOE (LOMLOE 2020), which replaced the 2006 Organic Law on Education (LOE) (Ley Orgánica 2/2006, 2006) and was implemented in the 2022–2023 academic year. It introduced a comprehensive reform, from pre-primary to post-compulsory education, aligning the Spanish system with European Union directives and shifting towards competence-based education, following similar reforms in other European countries.

With this new law, the curriculum is structured around basic knowledge, subject-specific competences, and evaluation criteria, serving as a framework for teachers to adapt their teaching to classroom demands. The law introduces a new feature, the “Perfil de Salida” (Student Exit Profile), which specifies the levels of competence that students are expected to achieve by the end of each educational stage. Both the general and specific objectives of the different stages of compulsory education converge on this profile of competences.

One structural feature of the Spanish system, and one that is relevant to our understanding of the actual implementation of curricula, is the distribution

of curricular authority among various levels of government. While the national government is responsible for establishing the basic elements of the curriculum, regional education authorities are responsible for creating the overall regional curriculum (in which the national minimums are just one part of the whole). Finally, schools are responsible for creating and completing the curriculum based on their autonomy. Therefore, although LOMLOE provides a common national framework, its concrete implementation can and does vary among the 17 Spanish autonomous communities. However, for the aims of this research, we have only analyzed the national curriculum guidelines that are applicable nationwide.

Although Spain aims to guarantee access to quality pre-school education for all children, in line with UNESCO's 2030 Agenda for Sustainable Development, infant education (0–6 year-olds) is not compulsory, but nearly 80% of children attend school, according to the National Statistics Office, and it is free nationwide for the second cycle and in most regions for both. This stage is regulated by Royal Decree 95/2022, which defines objectives such as pupils' integral development, knowledge of their environments, growing autonomy, emotional development, egalitarian relationships, and communicative skills in different languages. The learning of other languages is left to regional governments; as there is no set curriculum for Infant Education, it has not been analyzed in this paper.

Compulsory basic education includes six years of Primary Education and four years of Compulsory Secondary Education, organized in 2-year cycles. Post-compulsory education includes Bachillerato (upper secondary, 16–18), preparing students for higher education, and various vocational training programs. All students receive official certification after completing each stage, regardless of whether they have achieved all the requirements. This model of inclusive certification exemplifies one of its core commitments to equity and the prevention of early school-leavers.

One of the most distinctive features of LOMLOE, and a focal point of our research, is its treatment of language learning. Rather than treating foreign language learning as a purely communicative skill developed in isolation, the reform places it within a broader framework of plurilingualism, introducing a new key competence, Plurilingual Competence, which implies the effective use of different languages for learning and interpersonal communication, along with strategies for mediation and transfer between languages. In line with the European Commission's objective that citizens learn at least two languages besides their own, Article 18 (LOMLOE, 2020) allows regional authorities to add a second foreign language to the Primary Education timetable.

English occupies a dominant position in this plurilingual framework. According to official data, English is the most widely studied foreign language, with 98.2% of secondary students enrolled in it as their first foreign language, a pattern equally present in primary education. At the primary level, the English language curriculum reflects this reality while embedding it within a richer linguistic vision. The subject is structured around three content blocks: communication, plurilingualism, and interculturality.

As far as the values and priorities for UNESCO's 2030 Agenda for Sustainable Development, LOMLOE particularly emphasizes inclusiveness, equity, and sustainable development. The area of Education on Civic and Ethical Values, introduced in the third cycle of Primary Education, includes content on education for sustainable development and global citizenship, the equality of men and women, respect for diversity, and democratic values (LOMLOE, 2020:122873). Thus, sustainability is not regarded as the exclusive responsibility of any one subject area, but rather as an approach that permeates the whole curriculum, a design principle that is directly relevant to our analysis of sustainability in foreign language teaching.

3. Sustainability in the Spanish National Curriculum

LOMLOE includes the objectives of Agenda 2030 from the very preamble of the law, establishing sustainable development as one of its principles (LOMLOE, 2020: 122869). Thus, Sustainable Development Goal 4 (SDG4), which calls for inclusive, equitable, and quality education and explicitly incorporates Education for Sustainable Development (ESD) and Education for Global Citizenship (EGC), is put into practice in the law, as it places sustainability not as an add-on to existing curricula but as a basic principle that should be present in the entire educational project of each school. Article 110 (LOMLOE, 2020) establishes that regional education authorities shall promote the environmental sustainability of schools, their relationship with the natural environment, and their adaptation to the consequences of climate change. Sustainability is thus simultaneously a principle that governs school management, a transversal theme in the curriculum, and in the design of learning situations for all subjects.

Regarding specific curricular objectives, LOMLOE defines its commitment to sustainability mainly as one of the eight key competences in the Student Exit Profile, Civic and Ethical Competence. Sustainability and the development of a sustainable lifestyle consistent with the objectives of democratic global citizenship in Agenda 2030 are explicitly mentioned. Moreover, learning situations in all stages

of education must promote working towards the common good, and sustainability and democratic coexistence are considered essential values to be acquired to enable pupils to overcome the challenges of the 21st century. Thus, sustainability is presented as a set of values to be transmitted, developed, and enacted as citizens. These objectives have direct implications for how different subject areas, including foreign languages, are expected to contribute to the education of responsible citizens.

4. Sustainability and ELT in Primary Education

The Foreign Language area in Primary Education, regulated in LOMLOE, adopts the action-oriented approach of the CEFR (Council of Europe, 2001, 2018) and the Reference Framework for Democratic Culture (Council of Europe, 2018), aiming to develop communicative competence in English, involving formal linguistic knowledge as well as plurilingual and intercultural competences. Royal Decree 157/2022 also states that the learning process of the foreign language will prioritize oral comprehension, expression, and interaction, using the local language only to support the process.

LOMLOE and the Royal Decree move away from the traditional 4-skill organization of foreign language teaching and propose six specific competences: comprehension, production, interaction, mediation, plurilingualism, and interculturality. Comprehension and production include understanding/producing spoken and written multimodal everyday texts; interaction refers to everyday communicative situations using basic strategies; mediation means transmitting basic information and serving as a bridge between interlocutors; plurilingualism means reflecting on how languages work and using one's linguistic repertoire; and interculturality means valuing and respecting linguistic and cultural differences while developing intercultural empathy.

The contents are articulated in three sections: communication, plurilingualism, and interculturality. Communication involves developing communicative activities with confidence (comprehension, production, interaction, mediation), plus linguistic knowledge, pragmatic skills, and basic strategies using analogical and digital tools; errors are considered tools for improvement. Plurilingualism integrates reflection on how languages work and strategies such as comparing languages and acquiring basic metalinguistic terms. Interculturality means learning about other cultures through the target language; in Primary it is particularly relevant, as the curriculum promotes respect for otherness and rejects stereotypes, discrimination, and prejudice.

The Foreign Language area contributes directly to the competences included in the Student Exit Profile: Communicative, Plurilingual, Digital, Personal, Social, Learning to Learn, and Citizenship, among others.

LOMLOE and its later development with the Royal Decree 157/2022, which established the organization and minimum teaching for Primary, introduced sustainability as one of the six core elements of the Spanish education system in line with international commitment to UNESCO's Agenda 2030 SDGs. Royal Decree 157/2022 does not limit sustainability to the contents to be taught but rather defines it as a cross-curricular competence throughout the curriculum for Primary. This cross-curricular skill is reflected in the Student Exit Profile at the end of compulsory education and in the descriptors for key competences and basic knowledge for this stage. Sustainability is included in the Exit Profile within the Civic and Ethical competence, which includes descriptors for being able to critically analyze global problems and to show commitment to sustainable development. Similarly, competences in Science, Technology, and Engineering involve being able to apply scientific knowledge in a responsible and sustainable way as an inherent condition for the responsible use of technology. Thus, digital competence includes the term "sustainable" when advocating for a safe, healthy, sustainable, critical, and responsible use of digital technologies. This reflects the awareness of the education authorities of the environmental impact of digitalization and the need to transmit sustainability values within the technological field.

The subjects of Natural and Social Sciences explicitly include, across the three cycles of Primary, contents related to human intervention on the environment, climate change, biodiversity, responsible use of resources, and sustainable lifestyles. Competence 5.3 addresses conservation of the natural and cultural environment; Competence 6.1 promotes sustainable lifestyles based on respect, care, and co-responsibility; and Competence 6.2 involves assessing proposals to solve eco-social problems. The scope widens progressively across the cycles: from pupils' closest environment, to their territory and society, to global problems linked to Agenda 2030 and the SDGs.

Sustainability is also embedded in Physical Education, Arts, and other subjects, as the Royal Decree instructs schools to integrate it within their teaching Project. Integrating sustainability into the Primary curriculum is thus a two-fold process: acquiring scientific content about the planet and environmental damage, and developing attitudes, values, and competencies for responsible, transformative citizenship.

While sustainability is primarily addressed through Natural and Social Sciences, the LOMLOE curriculum offers multiple points of connection with the Foreign Language area, encouraging an integrated approach, since its competency-based design recognizes that competencies are acquired through the full range of learning experiences rather than within a single subject.

Foreign language, and English in particular, offers an inherently global dimension that makes it ideal for addressing issues related to sustainability. Access to environmental, scientific, and social information in English puts students in contact with real sources of information from different sources and modes, so that they learn about a broader context and make language learning more authentic and relevant.

The analysis of the descriptors and assessment criteria for the Foreign Language area revealed explicit references to sustainability. Specific competence 6 (Interculturality) establishes, in its assessment criterion 6.2, that students should demonstrate an interest in understanding the basic cultural and linguistic elements that promote sustainability and democracy (Royal Decree, 2022:90). This directly links intercultural learning, inherent to the English subject, with the values of sustainability, given that intercultural awareness is not separate from ecological awareness.

CLIL methodology (Content and Language Integrated Learning) offers the most established pedagogical framework for effectively integrating sustainability content with English language learning. Royal Decree 157/2022 addresses this possibility by referring to “Spanish education system courses taught in foreign languages” (Royal Decree, 2022:16) and by encouraging active, contextualized, and competence-based learning. Within the CLIL framework, English ceases to be the sole object of learning and becomes the means through which knowledge about the natural and social world is acquired. This allows learning situations designed around sustainability—such as climate change analysis, the design of responsible consumption projects, ecosystem studies, or debates on the SDGs—to simultaneously serve as opportunities for developing communicative competence in English.

This also introduces the concept of a learning situation; a basic unit of lesson planning defined as a sequence of integrated activities that allows students to mobilize knowledge and skills to solve a problem or produce a relevant result (Royal Decree 157/2022:6). This tool suits integrating sustainability and English well: for example, upper elementary students might prepare an informative report in English on the local impact of climate change, access international sources, interact with speakers from other countries digitally, and present conclusions to

the school community, mobilizing comprehension, production, and interaction alongside intercultural and scientific knowledge related to sustainability.

The competence and cross-curricular approach of the curriculum in the LOMLOE promotes the end of traditional compartmentalized teaching of content in subject areas and promotes collaboration and interdisciplinary projects. Consequently, the connection between foreign language and sustainability should only be regarded not only as a contextualization or motivational resource but rather as a curricular requirement: students must develop their communicative competence in English alongside their civic values and commitment to sustainability.

5. Sustainability and ELT in Secondary Education

The Official Curriculum for Secondary Education is set at the national level by the Ministry of Education via Royal Decree 217/2022, and the autonomous communities modify and expand the curriculum in their own norms. Schools also have some flexibility in execution, especially as far as projects, dual language programs, materials, and teaching methods. A foreign language is also a mandatory subject in the stage, according to Royal Decree 217/2022, including the fourth year of Compulsory Secondary Education (hereinafter, ESO). The aim of the subject of a Foreign Language in ESO is the development of an appropriate communicative competence. The syllabus states that the learner should aim to understand, express, and interact in the foreign language effectively and increase their intercultural competence. Therefore, the approach to English is as a means, not just a grammatical system: it is a language to communicate, to learn with, to have cultural conversations, and so on. Within two key bulwarks of plurilingualism, the ESO Foreign Language curriculum revolves around the communicative dimension and the intercultural dimension, which are two established pillars. The communicative dimension embraces comprehension, production, interaction, and mediation. The intercultural dimension introduces a value-laden curriculum that includes respect for linguistic and cultural diversity, positive attitudes towards other languages and cultures, at least three, participation in intercultural encounters, and its local application. It also notes that they should consider how languages work and how different languages relate to each other within their own linguistic repertoire.

This consideration is in line with the Common European Framework of Reference for Languages (CEFR), which is the basis for developing and positioning the different elements of the timetable organization in FL education. In Secondary Education, assessment is therefore not so much an isolated

knowledge of the language as it is linked to specific abilities, assessment criteria, and communicative actions. Mediation, particularly, is a core component. The ability to intervene is considered to include the capacity to explain ideas, simplify messages, promote mutual understanding, and deliver information. This is much to the point for educating for sustainability, as students will be prompted to read, interpret, summarize, or recast, or possibly even to present information (on global challenges, environmental issues, or social matters) in English.

In addition to the standard Foreign Language curriculum, English can also be encountered in bilingual or CLIL-like courses. These models use English as a medium of instruction in non-linguistic disciplines such as Biology and Geology, Geography and History, Physics and Chemistry, or Technology. The British Council (n.d.) defines English education in Spain as a model that promotes the acquisition of linguistic, scientific, and intercultural competences within a cross-curricular approach. This reinforces the notion that English may be taught not only as a subject matter but also as a lens to view disciplinary material and as a platform for broader academic, intercultural, and civic competencies.

Education for sustainability and environmental education are clearly present in the general part of the LOMLOE. The law requires that education for sustainable development and global citizenship be mainstreamed in the curriculum and programs of compulsory education. It also makes a wide definition of this education, including peace, human rights, international understanding, intercultural education, and ecological transition. Significantly, it links these fields with the climate emergency and the obligation for students to be aware of how our everyday decisions affect the planet. In ESO, the Royal Decree 217/2022 considers sustainability as part of the student exit profile at the end of basic education. Civic competence is also understood to involve addressing significant ethical issues of the present and one's development towards sustainable lifestyles as promoted by the Sustainable Development Goals (SDGs) of the 2030 Agenda. Students are expected to contribute through their lives in the communities of which they are part, to respect for diversity and equality, social cohesion, sustainable development, and global citizenship.

Environmental education is particularly explicit in several areas within the general studies component, including Geography and History. The program covers the SDGs, climate emergency, sustainability, natural and human processes on Earth, globalization, migration, interculturality, technological change, and eco-social awareness. It also challenges students to view and interpret contemporary global problems through the lens of sustainable development and global citizenship. However, sustainability is not confined to these subjects. The

LOMLOE states that care for the environment and sustainability should be treated as a cross-cutting theme in all areas of the common curriculum and in reading comprehension, oral and written expression, audiovisual communication, digital competence, creativity, scientific spirit, entrepreneurship, gender equality, peace education, and health education. This orientation towards transversality is key, as it enables sustainability to be treated from other disciplinary perspectives, such as that of foreign language teaching.

At the level of national policy, Spain's environmental education is framed by the Education for Sustainability National Plan 2021–2025 (PAEAS, in Spanish). It is co-sponsored by the Ministry of Education and the Ministry for Ecological Transition, and it sets strategic lines for environmental education for sustainable development at the national level. The PAEAS facilitates the mainstreaming of sustainability in public policy, educational systems, vocational training, communication, citizen participation, and community-based action.

Consequently, environmental education in ESO is present in the following two complementary forms: It has direct and active relevance to sciences that study (directly or indirectly) the ecosystems, climate change, geography, etc. First, it is explicitly present in disciplines that are directly related to ecosystems, climate change, geography, society, science, and technology. Second, it is integrated into cross-curricular competences and values, and into attitudes and communicative practices to be acquired throughout the curriculum. ELT is predominantly associated with this second type, albeit it may discuss environment-related topics explicitly via texts, tasks, discussions, oral presentations, and CLIL modules.

The treatment of sustainability in foreign language education in ESO is not always through environmental issues, but it is made evident with the intercultural, democratic, global citizen, and SDGs approaches woven around the syllabus content. Foreign language teaching should contribute to developing students' respect for and interest in other languages, cultural patterns and options, and intercultural communication as a mode of communication for sustainability and democracy, according to Royal Decree 217/2022. This is crucial, as it clearly associates language education with sustainability-related values.

The Foreign Language guidelines present English as a language for interpersonal and international communication, as a source of information, and as a means for personal enrichment. In the upper stages of the ESO, the foreign language is further characterized as a means of social participation in the curriculum. This makes English a particularly good language in which to discuss topics such as global warming, migration, responsible consumption, inequality, biodiversity, human rights, and international cooperation.

Sustainability and ELT from the perspective of teaching can be addressed through several communicative tasks. They can read about and discuss texts on environmental issues, compare sustainable ways of living in various countries, talk about news related to the climate, draw up awareness campaigns, debate consumptive habits, write position essays, make posters, record podcasts, or talk about local initiatives to address global concerns. Such practices are in line with the communicative nature of the ESO syllabus, as they involve understanding, producing, interacting, and mediating in English. In certain areas of the curriculum, students are asked to address communicative situations concerning daily life and familiar topics of a personal, professional, or public interest nature, which are related to the Sustainable Development Goals and the issues of the 21st century, according to Royal Decree 217/2022. While this reference is perhaps most clearly articulated in particular application areas, it is consistent with the overall ESO competence-based framework and can be applied effectively to English language teaching in particular and cross-curricular planning in general.

CLIL and bilingual education constitute yet another key point of convergence between sustainability and ELT. In subjects such as Biology, Geology, Geography, History, and Technology, where a portion of the syllabus is taught in English, learners can work on environmental and social issues while acquiring the language. In addition, sustainability can be treated as both a topic and a language function. For example, they may focus on ecosystems, climate change, renewable energies, or urban sustainability, which makes it possible to integrate disciplinary knowledge, academic language, and global awareness. In this regard, the contribution of English language education to sustainability might be considered threefold. First, it enables access to a wide range of information, discussions, and resources on global matters at an international level. Second, it creates means of communication with which to voice opinions, collaborate, negotiate meanings, and engage in dialogues across cultures. Fourthly, it promotes the education of individuals with a sense of responsibility who can make informed decisions and take action for a collective global agenda.

Consequently, sustainable development in ELT should be perceived less in terms of an “add-on” or separate “block” of extra-curricular or environmental content and more as a kind of “rich through-line,” designing and enriching language learning. The foreign language syllabus facilitates the integration of these areas because of its focus on communication, interculturality, plurilingualism, virtual literacy, critical thinking, and social participation. Hence, ELT could serve as a locus of meaningful engagement to foster both linguistic proficiency and eco-social awareness in compliance with the LOMLOE, the SDGs, and Spain’s overarching commitment to education for sustainable development.

6. Conclusions and proposals

This study analyzed the presence of sustainability within the LOMLOE, focusing on English across Primary and Secondary compulsory education. The LOMLOE advances the embedding of Education for Sustainable Development across the Spanish system, in line with UNESCO's Agenda 2030 and SDG recommendations, transforming sustainability from a science topic into a main transversal competence in the Student Exit Profile. Every subject must include SDGs among its values, yet the Foreign Languages curriculum references this only indirectly, so its integration depends largely on teachers and schools rather than explicit guidelines.

The Foreign Language curriculum reflects a progressive orientation shaped by Byram's model of intercultural communicative competence (1997; 2008) and the Council of Europe's Reference Framework for Democratic Culture (2018), both supporting language education as a vehicle for values and critical citizenship. However, the LOMLOE curriculum reveals significant limitations: in Primary, sustainability content is concentrated in Natural and Social Sciences and Citizenship, becoming a transversal competence in ELT without explicit curricular realization; in Secondary, it remains implicit in communicative and intercultural competences through engagement with resources on global issues.

Research into teaching transversal competencies (Sterling, 2001; Wals, 2012) has pointed out that when transversal content is not included in the formal curricular content of every subject, it is often considered an add-on and may not be taught at all. Foreign Language subjects, given their intercultural and global focus, make use of authentic international resources to handle environmental and social issues in a meaningful way.

This analysis highlights both opportunities and limitations for integrating sustainability within ELT. While the LOMLOE provides a normative foundation encouraging transversal, competence-based approaches, inclusion depends heavily on individual teachers, school support, and access to suitable resources. Barros-del Río and Mediavilla-Martínez (2025) found that most language teachers included eco-social issues due to personal concerns rather than curricular requirements. To make sustainability's inclusion in ELT stronger and more systematic, we suggest the following.

First, more explicit references to sustainability in the ELT curriculum are needed, since sustainability-related content is currently only indirectly associated with intercultural or transversal competences; this requires explicit sustainability objectives alongside communicative, plurilingual, and intercultural competences,

and explicit inclusion of environmental topics among the texts students should understand, produce, and discuss.

Second, sustainability must be integrated into ELT not only as a content topic but also as a pedagogic dimension. Therefore, environmental and social concerns should not be featured only sporadically (through “one-off” textbook units on issues such as climate change or recycling) but should be incorporated into everyday communicative practices. For example, pupils may use real materials on the SDGs, evaluate green campaigns, assess sustainable policies of various nations, discuss ethical consumerism, make podcasts on local environmental issues, or create awareness materials in English. Learners can practice reading, listening, writing, speaking, and mediating on these tasks while thinking about a global concern that is important to them. In this sense, the communicative goal of language learning would be extended to include “sustainability” and not as an otherwise unrelated theme bolted on to the syllabus.

Third, teacher education is vital for ELT to be truly inclusive of sustainability. The curriculum now provides teachers with a spanking degree of freedom; however, freedom without guidance is a recipe for confusion. Consequently, pre-service and in-service teacher education should address the knowledge and practical skills needed to link language teaching to ESD, global citizenship, and intercultural competence. Teachers require concrete examples of activities and assessment tools, models for project-based learning, and CLIL materials that illustrate how sustainability can be incorporated without taking away time from language learning. This is particularly important as many teachers might assume that sustainability is for science or citizenship education to deal with, rather than the language classroom.

Finally, sustainability in ELT needs to be clearly embedded as ‘global - local’. While English opens the world of debates to students, sustainability is more profound when students can relate such debates to their own communities. Tasks could then also invite learners to research local environmental issues, question local citizens, produce bilingual information sheets, or suggest ways to make a school or neighborhood more sustainable. This would contribute to closing the gap between global consciousness and local action, which is one of the keystones of Education for Sustainable Development. Therefore, the findings imply that the LOMLOE allows a suitable opportunity for aligning sustainability, citizenship, and language teaching; however, this possibility has not been fully converted into direct ELT curricular proposals.

References

- Barros-Del Río, M. A., & Mediavilla-Martínez, B. (2025). English language teacher education with an eco-social perspective: An exploratory study. *TESOL Journal*, 59, 1786–1803. <https://doi.org/10.1002/tesq.3372>
- Byram, M. (1997). *Teaching and Assessing Intercultural Communicative Competence*. Multilingual Matters.
- Byram, M. (2008). *From Foreign Language Education to Education for Intercultural Citizenship: Essays and Reflections*. Multilingual Matters.
- British Council. (n.d.). Bilingual education in Spain. British Council Spain. https://www.britishcouncil.es/en/partnerships/success-stories/bilingual?utm_source=chatgpt.com
https://www.britishcouncil.es/en/partnerships/success-stories/bilingual?utm_source=chatgpt.com
- Council of Europe. (2001). *Common European Framework of Reference for Languages: Learning, Teaching, and Assessment*. Cambridge University Press.
- Council of Europe. (2018). *Reference Framework of Competences for Democratic Culture* (Vols. 1–3). Council of Europe Publications. <https://www.coe.int/en/web/education/competences-for-democratic-culture>
- Ley Orgánica 2/2006, de 3 de mayo, de Educación. Boletín Oficial del Estado, núm. 106, 4 de mayo de 2006, pp. 17158–17207. <https://www.boe.es/eli/es/lo/2006/05/03/2>
- Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo, de Educación. Boletín Oficial del Estado, núm. 340, 30 de diciembre de 2020, pp. 122868–122953. <https://www.boe.es/eli/es/lo/2020/12/29/3/con>
- Orr, D. W. (1992). *Ecological literacy: Education and the Transition to a Postmodern World*. State University of New York Press.
- Real Decreto 157/2022, de 1 de marzo. Boletín Oficial del Estado. <https://www.boe.es/buscar/doc.php?id=BOE-A-2022-3296>
- Sterling, S. (2001). *Sustainable Education: Re-visioning Learning and Change*. Green Books.
- Wals, A. E. J. (2012). Shaping the education of tomorrow: 2012 report on the UN Decade of Education for Sustainable Development. UNESCO.

CHAPTER 7.

THE CASE OF ITALY: ECOLOGICAL AWARENESS AND FOREIGN LANGUAGE LEARNING

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1. Introduction

In our ever-changing world, characterized by the challenges posed by climate change and other environmental crises, education emerges as a powerful agent for sustainable development. As emphasized in the United Nations' 2030 Agenda and UNESCO's framework for Education for Sustainable Development (ESD), schools are entrusted with a crucial mission: not only is environmental awareness to be fostered, but the acquisition of the knowledge, skills, values, and green attitudes necessary for responsible action is also a fundamental necessity. In this light, language education is attracting increasing attention as a space where students – and teachers alike – can enhance their communicative competence while cultivating ecological awareness.

Within ecolinguistics scholarship, language is primarily perceived not as a neutral tool aimed at describing environmental issues, but as a social practice, capable of shaping the ways in which individuals understand and engage with the natural world. Embracing this perspective, language education is no longer merely a matter of transmitting information about sustainability: it also supports learners in the exploration of meanings, values, and notions embedded in environmental discourses. Drawing on Halliday's reflections on the relationship between language, society, and ecology (2001) as well as on Stibbe's concept of ecological narratives (2021), ecolinguistics research has highlighted the potential of foreign language education to develop critical awareness of how linguistic choices influence representations of human relationships with the environment.

Alongside these theoretical developments, sustainability-oriented competence frameworks have increasingly highlighted the role of education in preparing learners to understand complex global challenges, while actively participating in society. International educational frameworks, including UNESCO's Education for Sustainable Development (UNESCO, 2020), the European GreenComp framework (European Commission, 2022), and the Common European Framework of Reference for Languages (Council of Europe, 2020), emphasize the development of competences such as critical thinking, collaboration, communication, and responsible participation. Viewed together, these frameworks furnish the educational rationale for integrating sustainability into English Language Teaching.

Within this wider international scenario, sustainability-oriented language education can be conceptualized as a pedagogical approach that integrates ecological literacy, communicative competence, and learner agency. Rather than limiting sustainability to the role of subject matter within English Language Teaching (ELT), this approach positions it as a catalyst for communication, reflection, and action.

This chapter focuses on the Italian case, examining how ecological awareness is being integrated into English language education and how sustainability-oriented practices are emerging within the national educational context. Drawing on Italian policy documents, curriculum analyses, textbook review, and teacher perspectives, it discusses the policy framework supporting sustainability education, analyses teachers' experiences in integrating environmental topics into ELT, and considers the implications of these findings for sustainability-oriented language teaching.

By connecting the Italian educational context with broader ecolinguistics and pedagogical perspectives, the chapter highlights both the opportunities and the challenges of embedding sustainability within English language education, showing how ecological awareness and language learning can mutually reinforce one another.

2. Conceptual and Educational Foundations of Sustainability-Oriented Language Education

While the Introduction has outlined the growing relevance of sustainability in language education, this section introduces the theoretical perspectives that underpin the pedagogical approach developed in this chapter. Ecolinguistics offers a valuable basis to view language as more than just a form of communication, but also as one of the social practices by which we create meanings, values and relationships to the environment.

Halliday's contribution marked a meaningful shift in applied linguistics by showing that environmental issues are also connected to the ways in which societies use language to interpret, describe, and represent the world. Instead of viewing language as a neutral instrument, he highlighted how linguistic choices contribute to shaping particular representations of development, consumption, and the environment.

From this perspective, environmental challenges are also influenced by the ways in which societies describe, interpret, and communicate their relationship with the environment. Halliday therefore called for "new ways of meaning" that could support more sustainable relationships between humans and the environment (Halliday, 2001).

This perspective was further developed through the concept of the ecology of language proposed by Fill and Mühlhäusler (2001). Their approach extended the focus beyond environmental discourse to the relationships between languages, cultures, communities, and environments. It also underlined linguistic diversity as a valuable source of cultural and ecological knowledge, suggesting that language education can encourage learners to explore different ways of understanding and relating to the natural world.

Stibbe (2021, p. 1) expanded this perspective by examining the narratives through which societies understand and characterize ecological issues. His concept of the "stories we live by" draws attention to how recurring discourse patterns shape environmental values, legitimize behaviours, and influence the ways in which people understand their relationship with the natural world. Accordingly, language education can help learners critically examine these narratives and develop forms of communication that promote ecological responsibility.

All of these contributions point to the possibility that language learning can not only help learners become effective communicators, but can also enable them to identify, challenge and produce new discourses around the issues of the environment. The insights emerging from ecolinguistics are complemented by international educational frameworks that identify sustainability as a key educational objective. UNESCO's Education for Sustainable Development (ESD), GreenComp, and the Common European Framework of Reference for Languages (CEFR) all emphasize competences such as critical thinking, collaboration, learner agency, and responsible participation, providing a shared educational rationale for sustainability-oriented language education.

Table 1. Conceptual and Educational Foundations of Sustainability-Oriented Language Education

Theoretical perspective	Educational implication	Pedagogical application
Halliday	Critical awareness of language and environmental discourse.	Reflection on language choices and environmental communication.
Fill & Mühlhäusler	Ecology of language and cultural diversity.	Intercultural and ecological perspectives in language learning.
Stibbe	Ecological narratives: <i>stories we live by</i> (cf. Stibbe, 2021, p. 1).	Student-created campaigns, critical discourse analysis.
GreenComp	Sustainability competences.	Action-oriented learning and learner agency.
CEFR	Language as social action.	Projects, collaboration and authentic communication.

Taken together, these perspectives provide the conceptual foundation for the pedagogical approach developed in this chapter, which approaches sustainability as a context for language learning through which learners develop communicative competence, ecological understanding, and learner agency. This conceptual perspective provides the interpretative lens for the Italian case discussed in the following section, where the focus shifts from theoretical principles to their implementation in educational policy and classroom practice.

3. The Italian Case: Ecological Awareness and Language Learning

3.1. Educational Policy Context

In Italy, sustainability has become an increasingly important dimension of education policy, with national policies recognizing environmental responsibility and active citizenship as transversal educational priorities. A key development was the introduction of compulsory Civic Education through Law No. 92/2019, which identified sustainability, environmental protection, and responsible citizenship as core components of education at all school levels.

This policy framework is closely connected with the objectives of the United Nations 2030 Agenda and the Sustainable Development Goals (SDGs), particularly those related to climate action, sustainable communities, and responsible consumption. Italian schools are therefore encouraged to address these issues through interdisciplinary approaches rather than as an isolated subject area. In this perspective, English Language Teaching (ELT) represents a significant

opportunity, as English enables learners to access international perspectives, engage with authentic materials, and participate in global discussions on environmental challenges.

However, while the institutional framework provides strong support for sustainability education, its implementation in English Language Teaching largely depends on teachers' ability to integrate environmental themes into existing language-learning objectives. This creates a relevant role for pedagogical approaches that support teachers in linking educational priorities with classroom practice.

Practical guidelines were developed to support the integration of ecological sustainability into language education. Drawing on evidence from Italian policy documents, curriculum analysis, textbook review, and the teacher survey, these guidelines connect broad policy objectives with recommendations for curriculum design, teaching materials, classroom methodologies, and teacher professional development. Their development reflects the recognition that policy commitments require pedagogical support in order to become effective in everyday language teaching. The guidelines thus provide a practical link between the pedagogical principles discussed in this chapter and their implementation in classroom practice.

The Italian case is particularly relevant because it illustrates how broad educational priorities are translated into everyday classroom practice. Against this background, the following section examines the findings of the Italian survey, exploring how English teachers interpret and implement national sustainability priorities through their pedagogical choices.

3.2. Findings from the Italian Survey

The discussion presented in this chapter draws on Italian policy documents, curriculum analysis, textbook review, and a survey involving English language teachers. Rather than simply documenting current practices, the findings illustrate how sustainability is beginning to reshape classroom pedagogy and language learning experiences.

The study combined curriculum analysis, textbook review, and a survey involving 60 English language teachers from different educational levels across Italy. The findings highlight current practices, challenges, and opportunities for strengthening sustainability-oriented approaches in ELT.

Overall, the survey reveals a positive attitude among English teachers towards integrating environmental issues into language education. Sustainability

is increasingly perceived not as an additional curricular requirement but as a pedagogical resource through which language learning becomes more authentic, relevant, and connected to students' lives. Many teachers reported that environmental themes stimulate communication, discussion, and reflection, allowing learners to use English beyond traditional classroom exercises. This tendency reflects a broader shift from knowledge transmission towards competence-based and action-oriented approaches to language education. Taken together, these findings suggest that teachers increasingly view sustainability as a meaningful context for enriching language learning rather than as an additional content.

Across educational levels, the most frequently addressed themes include climate change (cf. Aguiló Mora & Marín Cobos, 2026), pollution, biodiversity, recycling, sustainable lifestyles, and responsible consumption. While younger learners mainly explore everyday environmental behaviors, older students engage with more complex issues, including climate justice, sustainability policies, and global environmental challenges.

The survey highlights a strong preference for learner-centered and action-oriented approaches. Project-based learning, collaborative tasks, debates, presentations, and awareness campaigns emerged as the most frequently adopted activities, enabling students to use English for authentic communication while developing critical thinking, collaboration, and environmental responsibility. Beyond these practices documented in the survey, the broader analysis also identifies gamification and interactive learning as complementary strategies that can support engagement in sustainability-oriented ELT. These approaches can incorporate structured challenges, narrative contexts, collaborative problem-solving, and repeated language practice. When integrated with broader task-based and experiential approaches, gamified activities can make environmental issues more interactive while maintaining a focus on meaningful communication and learning objectives. These practices closely reflect both the CEFR action-oriented approach and the pedagogical principles discussed in this chapter.

In several cases, interdisciplinary collaboration with science, geography, and Civic Education teachers was reported. Sustainability was also integrated through CLIL, Erasmus+, and eTwinning projects, where English served as a language of international cooperation and global citizenship. English therefore emerges as both a subject of instruction and a medium through which learners engage with scientific, civic, and environmental knowledge in authentic communicative contexts.

The use of digital tools and authentic online resources was also identified as valuable in supporting collaborative, multimodal, and project-based learning, enabling students to create and disseminate environmental messages through different media. Digital technologies can also support interactive and gamified activities, extending opportunities for participation, collaboration, and communication beyond the classroom.

High levels of student engagement emerged when environmental topics were addressed through participatory methodologies. Motivation increased particularly when global issues were connected to local realities and students were encouraged to propose practical solutions through campaigns, debates, or school-based projects, suggesting that sustainability can create authentic communicative opportunities while fostering language development and learner agency. These findings suggest that engagement is closely related to the pedagogical design of learning activities and to the opportunities students have to participate actively in meaningful tasks.

Despite these positive experiences, teachers identified several barriers to a more systematic integration of sustainability into ELT, including limited curriculum time, a lack of teaching materials specifically designed for action-oriented language learning, and difficulties in assessing sustainability-related competences alongside linguistic achievement. The results also indicate the need for targeted professional development focusing on classroom methodologies, interdisciplinary planning, digital resources, and assessment practices.

These challenges point not to a lack of interest among teachers, but to the need for greater pedagogical support and more coherent implementation strategies. They also highlight the importance of ensuring that innovative approaches, including digital and gamified activities, remain inclusive, aligned with curricular objectives, and accessible to learners with different needs and levels of digital access.

Overall, the Italian survey portrays a context characterized by strong teacher commitment, growing pedagogical experimentation, and increasing awareness of the educational value of sustainability. At the same time, it reveals the need for greater pedagogical coherence, practical resources, and institutional support.

More significantly, the findings suggest that the future development of sustainability-oriented language education is closely linked to teachers' capacity to redesign classroom practices through sustainability-oriented approaches, rather than to the introduction of additional environmental content. This includes the thoughtful integration of complementary approaches such as project-based learning, interdisciplinary work, digital learning, and gamification where these approaches can enhance meaningful communication and learner participation.

From this perspective, the Italian case illustrates how the pedagogical principles discussed throughout this chapter can be enacted in classroom practice, integrating communicative competence, learner agency, and ecological engagement within English Language Teaching.

3.3. Implications for Sustainability-Oriented Language Teaching

The Italian findings suggest that the central challenge lies not in introducing additional environmental content, but in integrating sustainability into existing language-learning practices. Rather than introducing sustainability as a separate curricular component, teachers increasingly describe it as a meaningful context that enriches communicative activities and makes language learning more authentic, relevant, and participatory. This indicates a gradual shift from viewing sustainability as subject matter to understanding it as a pedagogical resource.

This is precisely the perspective underpinning sustainability-oriented language teaching. Rather than proposing new curricular content, this approach supports teachers in transforming existing language-learning activities into opportunities for ecological reflection, communication, and social action. Environmental issues become authentic contexts in which learners use English to discuss different perspectives, negotiate solutions, collaborate with others, and engage with real-world challenges.

More fundamentally, the Italian findings suggest that the distinctive contribution of this perspective lies not in introducing new environmental topics but in reconceptualizing the pedagogical role of language itself. Instead of treating sustainability as an additional topic to be learned, this approach positions it as the context through which communicative competence, critical thinking, collaboration, and learner agency develop simultaneously. This represents a shift from teaching about sustainability to teaching through sustainability.

The Italian findings also illustrate the relevance of the theoretical perspectives discussed earlier in this chapter. Teachers' preference for collaborative projects, authentic communication, and real-world tasks reflects the CEFR action-oriented approach. Their emphasis on critical reflection and environmental discourse resonates with Halliday's understanding of language as a means of constructing meaning, while activities such as campaigns, debates, and persuasive communication can be related to the ecological narratives described by Stibbe. Likewise, the importance attributed to learner participation and responsibility closely corresponds to the sustainability competences promoted by GreenComp.

At the same time, the survey highlights the central role of teacher agency. The successful integration of sustainability into ELT depends not only on curriculum

requirements but also on teachers' ability to adapt existing materials, design authentic communicative tasks, and connect global challenges with learners' local experiences. These findings therefore reinforce the need for sustained professional development and accessible pedagogical resources capable of supporting sustainability-oriented language teaching.

Assessment represents a further area requiring pedagogical development. Teachers expressed uncertainty about evaluating sustainability-related competences alongside linguistic achievement, suggesting that innovative pedagogies require equally coherent assessment practices. In this respect, this approach encourages assessment approaches that recognize not only linguistic performance but also collaboration, critical reflection, problem-solving, and learner participation, in line with both the CEFR action-oriented approach and the GreenComp competence framework.

Ultimately, the Italian case suggests that integrating sustainability into English Language Teaching requires a renewed understanding of the purposes of language education itself. English becomes a tool for inquiry, dialogue, participation, and responsible action rather than simply an object of study. The Italian experience does not simply validate this perspective; rather, it illustrates how many of its underlying pedagogical principles are already emerging in teachers' everyday practice, although often in fragmented and implicit ways. This perspective therefore provides a coherent framework for making these practices more systematic, transferable, and pedagogically consistent.

4. Discussion

The Italian case offers a valuable opportunity to examine how ecolinguistic theory, sustainability competence frameworks, and classroom practice intersect within English Language Teaching. Rather than simply illustrating the presence of environmental topics in language education, the findings reveal a broader pedagogical shift towards understanding sustainability as a context for communication, critical reflection, and learner participation.

From an ecolinguistic perspective, the Italian findings confirm the importance of considering language as a means of constructing meaning and shaping relationships with the environment. Halliday's (2001) argument that ecological crises require "new ways of meaning" is particularly relevant in the context of ELT. When teachers engage students with environmental issues through discussion, reflection, and communication tasks, they are not only developing linguistic competence but also encouraging learners to examine how environmental problems

are represented and understood. In this sense, sustainability-oriented language education becomes a form of critical language awareness, enabling learners to recognize that discourses about nature, resources, and human responsibility are shaped by particular values and perspectives. The Italian findings illustrate this perspective by suggesting that many teachers already encourage learners to engage critically with environmental discourse rather than limiting their engagement to the acquisition of environmental vocabulary.

This perspective is further developed by Stibbe's concept of ecological narratives. The classroom practices emerging from the Italian survey show that learners can move beyond receiving environmental information towards producing their own sustainability-oriented messages. Activities such as debates, campaigns, persuasive writing, and project work create opportunities for students to construct alternative narratives based on responsibility, collaboration, and possible solutions. English therefore becomes a means of discussing environmental challenges while also supporting participation and advocacy. Through such activities, classroom discourse enables learners to actively shape ecological narratives and explore more sustainable ways of understanding their relationship with the natural world.

The findings also demonstrate a strong connection between sustainability-oriented ELT and competence-based approaches to education. The practices reported by Italian teachers reflect several dimensions identified in frameworks such as UNESCO's Education for Sustainable Development and the GreenComp framework, including critical thinking, collaboration, responsibility, and the ability to envision sustainable futures. Importantly, these competences are developed through language use itself. Communicating about environmental issues requires learners to negotiate meanings, evaluate perspectives, justify opinions, and collaborate with others, making sustainability an authentic context for developing communicative competence. The Italian case therefore supports the view that language learning and sustainability competences are mutually reinforcing dimensions of language education.

The CEFR action-oriented approach provides a further link between sustainability education and language learning. The Italian experience shows that environmental themes can support authentic language use when learners are engaged in purposeful tasks with a clear communicative goal. Rather than separating linguistic objectives from broader educational aims, sustainability-oriented ELT integrates vocabulary, grammar, discourse skills, and interaction within authentic communicative contexts. This approach challenges the idea that environmental education represents an additional burden on language teachers; instead, it demonstrates how sustainability can increase the relevance and

authenticity of language learning. In this respect, the findings demonstrate the close alignment between the CEFR action-oriented approach and sustainability-oriented language teaching, both of which understand learners as active social agents who use language to participate in socially meaningful practices.

At the same time, the Italian case reveals a significant tension between policy ambitions and classroom implementation. Although national educational frameworks strongly support sustainability and civic education, teachers still require practical guidance, appropriate materials, and assessment tools to translate these principles into everyday teaching. The survey also indicates that teacher agency is essential but cannot operate in isolation. Effective implementation therefore depends on the interaction between teacher agency, institutional support, and coherent pedagogical frameworks.

Within this context, the guidelines illustrate how the principles discussed in this chapter can be translated into practical recommendations for teachers, curriculum developers, publishers, and policymakers. Rather than prescribing a single methodology, they support the adaptation of existing language-learning practices to sustainability-oriented education across different educational levels. This flexible approach also allows teachers to incorporate complementary strategies such as gamification, particularly when structured challenges, narrative scenarios, collaborative problem-solving, and interactive tasks can enhance learner engagement.

This practical dimension reflects a broader contribution of this approach: connecting ecolinguistic perspectives, sustainability competences, and CEFR-oriented pedagogy while recognizing that many relevant practices are already emerging in teachers' work. The framework thus provides a coherent structure through which these practices can be further developed, connected, and applied more systematically across different educational contexts.

Overall, the Italian findings reinforce the view that the future of sustainability-oriented language education lies not in teaching about sustainability as additional content but in teaching through sustainability as a pedagogical approach. This shift redefines the role of English from an object of study to a medium for inquiry, dialogue, collaboration, and responsible action. English classrooms can therefore become learning environments where learners develop not only communicative competence but also the critical awareness and learner agency needed to engage with complex environmental challenges. In this sense, this approach demonstrates how language education can contribute to sustainability by enabling learners to communicate about the world and empowering them to imagine and shape more sustainable futures.

5. Conclusion

This chapter has explored the integration of environmental sustainability into English Language Teaching (ELT) by examining the connections between ecolinguistics, sustainability education, and sustainability-oriented pedagogy. The Italian case is particularly relevant because it illustrates both the opportunities and the challenges involved in translating international sustainability agendas into everyday language education practices.

The analysis shows that the Italian educational context provides a favorable institutional environment for sustainability-oriented teaching. Through Civic Education, the connection with the United Nations 2030 Agenda, and the growing emphasis on transversal competences, schools are increasingly encouraged to address environmental issues across subjects. Within this framework, ELT offers distinctive opportunities because English enables learners to access global perspectives, engage with authentic materials, and participate in international conversations about environmental challenges.

At the same time, the Italian experience demonstrates that policy support alone is not sufficient to ensure effective classroom implementation. Teachers already show strong motivation and creativity in addressing sustainability topics, but they also identify the need for clearer pedagogical models, appropriate materials, and assessment strategies that connect language development with sustainability competencies. The findings indicate that the main challenge lies not in introducing additional environmental content, but in enabling teachers to transform existing language-learning activities into more participatory, reflective, and action-oriented learning experiences.

Within this perspective, the framework offers a coherent pedagogical model that connects ecolinguistic theory, sustainability competences, and the CEFR action-oriented approach. Rather than introducing new curricular content, it supports teachers in adapting and redesigning existing language-learning activities so that English becomes a medium for communication, critical reflection, collaboration, and civic participation. Through communicative tasks centered on sustainability, learners can develop linguistic competence while engaging with real-world issues and constructing their own ecological narratives.

The Italian case also shows that many of the principles underpinning this framework are already emerging in classroom practice, even if they are not yet applied systematically. Teachers are increasingly adopting collaborative, project-based, and interdisciplinary activities that connect language learning with authentic environmental issues. These experiences suggest that the transition

towards sustainability-oriented ELT is already underway, although greater pedagogical support, professional development, and practical resources remain necessary to strengthen and extend its implementation.

The relevance of the Italian case extends beyond the national context. More broadly, it reflects a wider European challenge: how to move from recognizing sustainability as an educational priority to integrating it systematically into language education. In this respect, the Italian experience illustrates issues that are likely to be relevant in many educational contexts where sustainability is increasingly understood as a transversal educational objective.

The Italian experience suggests that successful implementation requires more than curriculum reform alone; it also depends on teachers' capacity to reinterpret existing language-learning practices through ecological, communicative, and action-oriented perspectives.

More fundamentally, the Italian case suggests that ecolinguistics offers not only a theoretical perspective on language and the environment but also a pedagogical lens through which sustainability can become an integral dimension of communicative language teaching rather than an additional curricular topic.

Ultimately, sustainability-oriented English Language Teaching should be understood not as an additional responsibility for language teachers, but as an opportunity to rethink the purposes of language education in contemporary societies. Rather than adding sustainability to existing curricula, this approach shows how environmental issues can provide authentic contexts through which learners develop communicative competence, ecological awareness, critical literacy, and learner agency. The Italian case therefore suggests that language learning and ecological awareness are not separate educational goals, but mutually reinforcing dimensions of the same pedagogical process.

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References

- Aguiló Mora, F., & Marín Cobos, A. (2026). *The Climate Turn in Language Teaching*. Cambridge University Press.
- Council of Europe. (2020). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment – Companion Volume*. Council of Europe.
- European Commission. (2022). *GreenComp: The European sustainability competence framework*. Publications Office of the European Union.
- Fill, A., & Mühlhäusler, P. (Eds.). (2001). *The Ecolinguistics Reader: Language, Ecology and Environment*. Continuum.
- Halliday, M. A. K. (2001). New ways of meaning: The challenge to applied linguistics. In A. Fill & P. Mühlhäusler (Eds.), *The ecolinguistics reader: Language, ecology and environment* (pp. 175–202). Continuum.
- Law No. 92/2019. Introduzione dell'insegnamento scolastico dell'educazione civica. *Gazzetta Ufficiale della Repubblica Italiana*, 195.
- Ministero dell'Istruzione. (2012). *Indicazioni nazionali per il curricolo della scuola dell'infanzia e del primo ciclo di istruzione*. MI.
- Ministero dell'Istruzione. (2018). *Linee guida per l'educazione ambientale e allo sviluppo sostenibile*. MI.
- Ministero dell'Istruzione. (2020). *Linee guida per l'insegnamento dell'Educazione Civica*. MI.
- Ministero dell'Istruzione e del Merito. (2024). *Decreto Ministeriale n. 183/2024: Linee guida per l'insegnamento dell'educazione civica*. MIM.
- Mühlhäusler, P. (2003). *Language of Environment: Environment of Language*. Battlebridge.
- Stibbe, A. (2021). *Ecolinguistics: Language, Ecology and the Stories We Live By* (2nd ed.). Routledge.
- UNESCO. (2015). *Global Citizenship Education: Topics and Learning Objectives*. UNESCO.
- UNESCO. (2020). *Education for Sustainable Development: A Roadmap*. UNESCO.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2017). *Education for Sustainable Development Goals: Learning Objectives*. UNESCO.
- United Nations. (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*. United Nations.

CHAPTER 8.

THE CASE OF LITHUANIA: TEACHER PERSPECTIVES ON SUSTAINABILITY-INTEGRATED MATERIALS IN EFL

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1. Introduction

Education for sustainable development asks learners not only to acquire environmental knowledge but also to interpret complex problems, consider alternative futures and participate in responsible action. The European sustainability competence framework similarly connects systems thinking, critical reflection, future-oriented thinking, and collective agency (Bianchi et al., 2022). Language education can advance these aims by enabling learners to examine different perspectives on environmental problems, critically evaluate claims, negotiate viewpoints, and communicate possible responses. Sustainability, therefore, offers more than an additional set of topics for English as a foreign language (EFL); it can provide a meaningful context in which language, critical literacy, and participation develop together.

This potential is not realised automatically. Environmental issues may appear in coursebooks as short reading passages or vocabulary sets without inviting sustained inquiry, local connection or action. Research in English language teaching (ELT) has long highlighted the selective treatment of ecological issues in teaching materials (Jacobs & Goatly, 2000) and the potential of climate-focused language education to develop critical literacies and eco-ethical consciousness (Goulah, 2017). Teachers consequently need resources that are environmentally substantive while remaining linguistically appropriate, manageable within lesson time, and adaptable to their learners and institutions.

In Lithuania, an initial review conducted from 20 February to 29 March 2025 examined the National Education Agency's first-foreign-language curriculum for Grades 2–12, related policy and guidance materials, and a purposive sample of

14 approved A1–C1 textbooks from eight series. The textbooks were chosen to cover different CEFR levels and to include identifiable environmental units. The review also incorporated responses to a questionnaire from 40 English teachers (Valiukienė & Marčiulionytė, 2025). Four online professional-development seminars subsequently invited Lithuanian teachers to examine selected sustainability-integrated activities. Together, these sources situate teachers' practical evaluations within the national educational context.

This chapter presents an exploratory qualitative case study of Lithuanian teachers' perspectives on the relevance, usability, and potential classroom application of sustainability-integrated materials. Since the evidence consists of seminar feedback rather than classroom implementation data, the chapter does not assess learning outcomes or examine whether seminar participation changed teaching practice. The purpose of this chapter is to identify recurring teacher perspectives that may inform the development and adaptation of sustainability-integrated ELT materials for Lithuanian schools.

The study was guided by three research questions:

How did participating Lithuanian EFL teachers evaluate the relevance and classroom usability of selected activities?

What linguistic, pedagogical, and practical challenges did they identify when considering the materials for Lithuanian school contexts?

What adaptations did they propose to make sustainability-integrated EFL activities more locally relevant, level-appropriate, and feasible?

2. Sustainability-Integrated ELT in Lithuania

2.1. A language-learning perspective

Sustainability-integrated ELT brings environmental content and language-learning aims into a single pedagogical design. This is compatible with the action-oriented perspective of the Common European Framework of Reference for Languages, in which learners use language as social agents to complete meaningful tasks and mediate ideas for others (Council of Europe, 2020). It also overlaps with Content and Language Integrated Learning (CLIL), where content learning and language development are planned together rather than treated as separate processes (Coyle et al., 2010). In both cases, an environmental topic should create an authentic need to read, discuss, compare, persuade, solve problems, or present proposals, while explicit scaffolding helps learners perform those actions in English.

For this reason, an activity is not sustainability-integrated merely because it mentions climate change, recycling, or biodiversity. Stronger integration links the issue to purposeful language use and invites critical examination of causes, consequences, values, and possible responses. At the same time, language teachers are not expected to become climate scientists. Carefully chosen input, transparent objectives, and realistic tasks allow them to support inquiry while maintaining a clear focus on language.

This perspective was operationalized by designing activities that focused on both sustainability content and observable communicative action. Draft materials specified a CEFR level and asked learners to analyze information, negotiate options, formulate proposals, or present decisions using the target language. The Lithuanian review established the curricular and textbook baseline, while the seminar piloting framework asked teachers to examine alignment among objectives, levels, stages, timing, resources, assessment, critical thinking, self-assessment, and possible adaptations. Table 1 summarizes how the language-learning perspective was translated into the Lithuanian work.

Table 1. Evidence Base and Operationalization of the Language-Learning Perspective in Lithuania

Component	Lithuanian implementation
Curriculum and policy sources	National Education Agency first-foreign-language general program (Kalbinis ugdymas) for primary, basic, and secondary education; the Education Portal textbook database; and policy or guidance materials concerning School 2030, CLIL, and textbook requirements.
Textbook corpus and selection	Fourteen A1–C1 titles from eight approved series: Brighter Ideas 4–5; Early School English 3: Yummy English!; Gold Experience B1; Harmonize 2–3; Life Vision Upper Intermediate and Advanced; Reflect Listening & Speaking 1–2; Solutions Pre-Intermediate and Intermediate; and Traveller B1+ and B2. The sample was purposively selected for CEFR breadth and identifiable environmental units.
Educational scope	The curriculum review covered Grades 2–12 (approximately A1–B2+). The wider materials span A1–C2, while the Lithuanian seminars primarily recruited teachers from secondary schools and gymnasiums.
Teacher perspectives before the seminars	A 30-item Google Forms questionnaire collected professional background, 20 Likert-scale responses, and four open-ended responses from 40 English teachers.
Seminar evaluation focus	Teachers considered whether selected activities connected environmental content with attainable language objectives, suitable CEFR demand, workable stages and timing, clear assessment, critical inquiry, learner reflection, and feasible classroom adaptation.

Note. Curriculum and textbook details are drawn from Valiukienė and Marčiulionytė (2025).

2.2. Curriculum and teacher perspectives

English is introduced as a compulsory first foreign language from Grade 2 in Lithuania. The national progression associates Grades 2–4 with A1, Grades 5–6 with A2–A2+, Grades 7–8 with B1, Grades 9–10 with B1–B1+ and Grades 11–12 with B2–B2+. Sustainability themes become more complex across this progression: nature, waste sorting, and ecology at A1; responsible consumption at A2; biodiversity, climate change, and resource conservation at B1; and sustainable communities, climate-change prevention, and the circular economy at upper-secondary levels (Valiukienė & Marčiulionytė, 2025). These grade bands provide the principal Lithuanian school contexts to which the activities can be adapted.

Sustainability is present through general aims, civic competence and interdisciplinary themes rather than as a separate mandatory strand in the EFL syllabus. Schools and teachers have substantial autonomy over methods and materials, so an EFL teacher may address sustainability through textbook units, authentic texts, projects or links with other subjects. CLIL offers one route for such integration, particularly in secondary education, but its use is voluntary and varies among schools; comprehensive national prevalence data are not available (Valiukienė & Marčiulionytė, 2025; Verikaitė-Gaigalienė & Andziulienė, 2019). Curricular entry points, therefore, exist, but the extent and depth of implementation depend strongly on local capacity and teacher choice.

The 2025 Lithuanian National Report found a similar pattern in teaching materials. Environmental topics were identifiable in the reviewed curriculum and in all eight sampled textbook series, but they were commonly used for vocabulary, comprehension, and general discussion. The response was not to add environmental content alone, but to develop supplementary activities in which learners use English to investigate evidence, compare choices, negotiate priorities, and communicate possible action.

Teacher perspectives prior to the seminars were collected via a 30-item Google Forms questionnaire. Items 1–6 gathered professional background; items 7–26 were five-point Likert statements organized into five domains: importance, current practice, challenges, student engagement, and curriculum and textbooks, and items 27–30 were open-ended questions. Teachers were recruited mainly through the Lithuanian Non-Formal Education Agency's Sustainable School 2030 network and through professional contacts. Forty teachers responded. No contact details or respondent-level answers are reported in this chapter. School names, municipalities, and regions were not recorded. The resulting convenience sample

is, therefore, informative about the responding teachers but cannot be treated as geographically representative of Lithuanian EFL teachers.

The respondent group was experienced and weighed towards secondary education: 65% reported more than 16 years of teaching experience, 60% taught mainly at the secondary level, 25% at the upper-secondary level and 15% at the primary level. Respondents could select more than one CEFR level; B1 was reported by more than 82%, B2 by 62%, A2 by 57%, A1 by 40% and C1 by 12%. Figure 1 presents four results that most directly motivated the seminar and materials-development work.

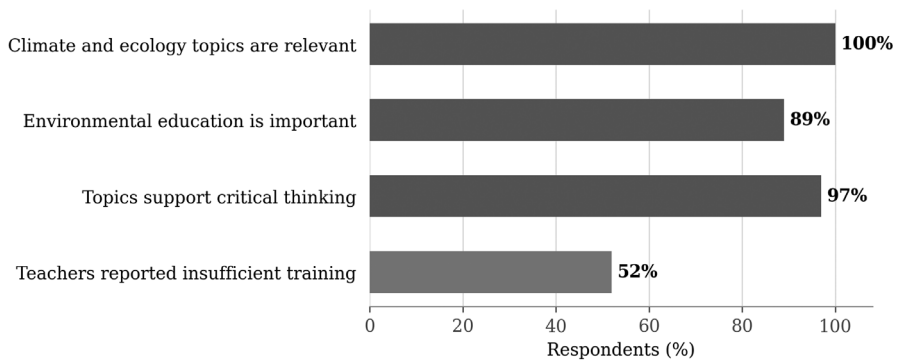


Figure 1. Selected Findings from the Pre-Seminar Teacher Questionnaire (N = 40)

Note. The first three values combine “agree” and “strongly agree.” The training value combines “disagree” and “strongly disagree” in response to the positive statement that sufficient training had been received. Percentages are rounded. Source: Valiukienė and Marčiulionytė (2025).

The questionnaire results show strong perceived relevance alongside a support gap: 89% agreed or strongly agreed that environmental education was important in English teaching, all respondents regarded climate and ecology issues as relevant, and 97% linked these topics with critical thinking, whereas 52% disagreed or strongly disagreed that they had received sufficient training. Open responses requested interactive and current resources, Lithuanian examples, ready-to-use lesson plans, and professional learning opportunities (Valiukienė & Marčiulionytė, 2025). The seminars were designed to address this gap at a practical level by placing draft activities, rather than sustainability in the abstract, at the center of teacher discussion.

3. The Seminars for Lithuanian Teachers

Four online professional-development seminars were organized for teachers from Lithuanian secondary schools and gymnasiums between December 2025 and March 2026. Invitations were distributed through Vilnius University communication channels and to schools involved in the earlier questionnaire. Registration was completed through Google Forms.

Table 2. *Lithuanian Professional-Development Seminars*

Date	Seminar title	Number of activities discussed	Registered
12 Dec. 2025	<i>Environmental Topics in Language Lessons: Developing Critical Thinking with Sustainability-Integrated Activities</i>	6	8
15 Jan. 2026	<i>Developing Linguistic Communication Skills through Climate Change and Sustainability Topics</i>	3	31
17 Feb. 2026	<i>Intercultural Perspectives in Environmental Education: The Potential of Sustainability-Integrated Tasks</i>	3	171
12 Mar. 2026	<i>Enhancing Learner Agency and Autonomy through the Analysis of Sustainability Topics</i>	2	8

Note. Seminar titles, registration figures, and activity counts are drawn from seminar records (2025–2026). Attendance and possible overlap among participants were not recorded; therefore, the registration figures should not be combined into a total number of participants.

Each seminar combined expert input with collaborative review of selected sustainability-integrated materials. During the World Café discussions, participants were allocated randomly to Zoom breakout rooms, where moderators used a common piloting questionnaire and a SWOT structure to guide discussion of objectives, language level, stages, resources, timing, assessment, critical thinking, self-assessment, and adaptation. The main points were consolidated during the plenary debrief and preserved as anonymous group-level notes. No audio recordings, verbatim transcripts, or individually identifiable comments were collected. Because different sets of activities were discussed and participant overlap was not tracked, the evidence cannot support comparisons of activity effectiveness or changes over time.

4. Methodological Note

This chapter adopts an exploratory qualitative case-study approach. The Lithuanian National Report provides contextual evidence from the curriculum and textbook reviews and the pre-seminar teacher questionnaire (Valiukienė & Marčiulionytė, 2025). The primary qualitative material consists of anonymous group-level feedback notes generated during the four Lithuanian seminars. The questionnaire findings are used to contextualise the case and were not combined with the seminar feedback as individual qualitative responses.

The seminar records were analyzed using a hybrid deductive–inductive thematic procedure. Each discrete group-level observation was treated as a coding unit. Initial coding domains were derived from the piloting questions: alignment between objectives and tasks; language level and support; stages, timing and resources; assessment; critical thinking and self-assessment; and possible classroom adaptation. Additional codes emerged from the records, including local relevance, learner agency, authenticity, digital engagement, equitable participation, technology access, and teacher confidence.

Related codes were compared and organized into four themes: (a) purposeful integration of sustainability and language learning, (b) local relevance and learner agency, (c) interactive, digital, and gamified work, and (d) adaptation, scaffolding, and teacher support. Themes were retained when they provided a coherent explanation of recurring observations and contributed directly to answering the research questions.

CEFR and GreenComp served as sensitizing frameworks rather than predetermined coding categories. CEFR informed the interpretation of comments about proficiency, communicative action, mediation, and scaffolding (Council of Europe, 2020), while GreenComp informed the interpretation of critical inquiry, values, agency, and action for sustainability (Bianchi et al., 2022).

Because the available evidence consisted of already generalized group summaries rather than individual responses or transcripts, the analysis could not establish how many teachers expressed a particular view or capture disagreement within groups. The findings are therefore presented as recurring practice-based considerations rather than representative frequencies or individual testimony.

5. Findings: Recurring Teacher Perspectives

5.1. From curricular presence to purposeful integration

The first theme concerns the difference between including an environmental topic and integrating it purposefully into language learning. The National Report showed that Lithuanian teachers already encounter sustainability across curricula and teaching materials. Seminar records similarly treated the topic as familiar. The recurring concern was pedagogical: environmental content becomes worthwhile in EFL when it creates purposeful language use and can be connected to attainable learning objectives.

Teachers valued activities that required learners to analyze information, compare options, negotiate, present arguments, or plan action. Such tasks gave environmental content a communicative function and created space for mediation and critical thinking rather than relying only on fact recall or isolated vocabulary. The B2 *Green Holiday Challenge*, for example, integrated reading, planning, negotiation, persuasive speaking, and evaluation around a sustainability decision.

The notes nevertheless returned to the EFL rationale. Teachers considered whether the target grammar and vocabulary were suitable, whether the instructions were clear, and whether the assessment recognized language as well as collaboration or environmental reasoning. Materials, therefore, need to state both kinds of outcome: what learners will do with English and what sustainability-related understanding or agency the task is intended to support.

5.2. Local relevance and learner agency

The second theme was the value of activities grounded in learners' immediate environment. Feedback on the B1 activity, *Solving Our School's Environmental Problems*, was particularly clear. The school setting was viewed as accessible because learners could identify concrete issues, such as waste, energy use, or everyday habits, and propose changes to a community they knew. The task connected modal verbs, comparatives, and persuasive language to selecting problems, developing an action plan, and justifying priorities.

Localization also strengthened perceived learner agency. Suggestions could be addressed to classmates, staff, or the school council, moving the task from abstract awareness towards action for sustainability. Teachers nevertheless noted that familiar problems might produce predictable solutions and repetitive language. Without additional evidence, learners could remain at the level of general advice, such as recycling more or switching off lights.

Proposed adaptations included short videos, simple school data, a future-school scenario, staff consultation, and broader brainstorming on a sustainable school. These suggestions indicate that local relevance works best when paired with new input and a genuine decision. An optional evidence-gathering stage could deepen environmental reasoning while expanding the language learners' needs.

5.3. Interactive, digital, and gamified work

The third theme was the motivational potential of creative, interactive, and gamified tasks. In the *Green Holiday Challenge*, learners designed and pitched an environmentally responsible holiday while balancing attractiveness, cost, practicality, and environmental impact. This format created a reason to compare alternatives and defend choices. Digital voting, online sources, and possible extensions to green claims in tourism advertising were seen as useful for engagement, evidence evaluation, and critical digital literacy.

Other discussions considered artificial intelligence for research, media analysis, or design. These tools were valued for supporting inquiry and production, but the notes also raised questions about the reliability of information and teachers' confidence in managing AI. Technology and gamification were, therefore, not treated as benefits in themselves.

Complex digital tasks may require more time and resources than a standard lesson allows; some schools restrict phone use; and confident learners may dominate group presentations. Suggested responses included printable evidence packs, teacher-led screen demonstrations, homework research, clear group roles, and explicit participation criteria. These alternatives preserve the communicative purpose when individual device use is not possible.

5.4. Adaptation, scaffolding, and teacher support

A fourth, cross-cutting theme was the need for adaptable, classroom-ready design. Research, collaborative production, and presentation were often viewed positively but were judged difficult to complete within a single 45-minute lesson. The issue was not that extended work lacked value; rather, the materials should include a short version, a complete lesson sequence, and an optional longer project.

Level-sensitive language support was equally important. Feedback on A2 and B1 materials identified the need to clarify the intended learner age, pre-teach vocabulary, and model structures such as *have to*, *must*, *should*, and *could*. Higher-level tasks also require support for argumentation, mediation, and source evaluation. Concise language boxes, model responses, and differentiated prompts can preserve cognitive challenge while improving access.

Assessment also influenced perceived feasibility. The notes supported making teamwork visible and using peer feedback, self-assessment, or portfolio products. Criteria could distinguish language performance, reasoning, collaboration, and the practicality of a proposal. Links to geography, biology, civic education, economics, or tourism could enrich content, but the EFL version must remain workable when cross-curricular coordination is unavailable.

Taken together, the records define teacher support in practical terms: concise background information, explicit language aims, estimated timing, preparation requirements, alternatives for different technology conditions, equitable group-work structures, and usable assessment options. Professional development provides space to test instructions and exchange adaptations, while well-designed teacher notes can carry that support into routine classroom use.

6. Discussion and Implications

The National Report and seminar material indicate broad openness to sustainability-integrated ELT, but also show that perceived usability depends on ordinary teaching conditions. In relation to the first research question, teachers evaluated activities positively when sustainability supplied a meaningful reason to use English, especially through authentic decisions, local problems, collaboration, and a visible audience. Relevance was strongest when environmental content and language outcomes reinforced one another rather than competing for lesson time.

Regarding the second research question, the documented challenges were linguistic, pedagogical, and practical. They included unclear age or CEFR positioning, insufficient vocabulary and discourse support, cognitive load, unrealistic timing, resource and device demands, uneven participation, assessment design, cross-curricular coordination, and teacher confidence with AI. These concerns are best understood as conditions of teachability rather than resistance to sustainability.

The third research question concerned adaptation. Teachers proposed modular short, full-lesson, and project pathways; vocabulary and discourse boxes; model responses; printable or teacher-mediated technology alternatives; defined group roles; separate criteria for language, reasoning, and collaboration; and prompts that substitute school, municipal, or Lithuanian examples. Optional data collection, staff consultation, and community-facing products could deepen inquiry and agency without making every activity dependent on extended project work.

These implications also clarify the use of CEFR and GreenComp. CEFR alignment should be visible in the communicative action, linguistic demand, and scaffolding of each task, while GreenComp-related aims should be made concrete through evidence evaluation, consideration of values, future thinking, or action proposals. The World Café process helped identify where those intentions were visible to teachers and where materials required further specification. The next stage should combine expert and teacher review with documented classroom piloting and learner feedback.

7. Limitations

The pre-seminar questionnaire used a non-probability sample recruited through a sustainability-school network and professional contacts. The results describe the 40 respondents but should not be generalized statistically to all Lithuanian EFL teachers, since schools, municipalities, and regions were not recorded.

The seminar evidence has additional limitations. Records report registrations rather than attendance or unique participants, and possible overlap among seminars was not tracked. The seminars examined different activities, so they do not support a comparison of activity effectiveness. Most importantly, the qualitative records are anonymous, generalized group summaries rather than individual responses or full transcripts. Details, minority views, and disagreements may therefore have been lost before coding. The chapter concerns anticipated classroom use; it does not establish implementation, learning outcomes or changes in teaching practice. Future work should retain anonymized attendance and contextual information, use a more detailed feedback protocol, and document classroom trials with teacher and learner reflection.

8. Conclusion

The Lithuanian case shows that sustainability can provide meaningful content for EFL when it is connected to purposeful communication, critical inquiry, and contexts that learners recognize. National curriculum expectations and teacher perspectives create a favorable foundation, but sustainability remains a cross-curricular opportunity rather than a systematic ELT strand. The materials turn broad themes into tasks in which learners use English to examine evidence, negotiate priorities, and communicate possible action.

Across the available seminar records, teachers valued local problems, authentic decisions, collaboration, learner agency, and interactive formats. They also identified timing, linguistic scaffolding, equitable participation, assessment, technology access, and teacher support as decisive design conditions. Incorporating the proposed modular pathways, language support, low-technology alternatives, and local extensions, and then testing the revised materials in classrooms can strengthen the contribution of sustainability-integrated materials to language development and environmentally responsible participation in Lithuanian schools.

References

- Bianchi, G., Pisiotis, U., & Cabrera Giraldez, M. (2022). *GreenComp: The European sustainability competence framework*. Publications Office of the European Union. <https://doi.org/10.2760/13286>
- Council of Europe. (2020). *Common European Framework of Reference for Languages: Learning, teaching, assessment—Companion volume*. Council of Europe Publishing. <https://rm.coe.int/common-european-framework-of-reference-for-languages-learning-teaching/16809ea0d4>
- Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning*. Cambridge University Press. <https://doi.org/10.1017/9781009024549>
- Goulah, J. (2017). Climate change and TESOL: Language, literacies, and the creation of eco-ethical consciousness. *TESOL Quarterly*, 51(1), 90–114. <https://doi.org/10.1002/tesq.277>
- 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>
- Valiukienė, R., & Marčiulionytė, L. (2025). National report on ecology and climate issues in English language teaching curricula: Lithuania [Unpublished report]. Vilnius University.
- Verikaitė-Gaigalienė, D., & Andziulienė, L. (2019). To be or not to be: An overview of CLIL implementation in Lithuania. *Sustainable Multilingualism*, 14, 123–135. <https://doi.org/10.2478/sm-2019-0006>

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Chapter 4. Gamification as a Pedagogical Bridge: Engaging Learners in Ecological Themes in English Language Teaching

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Chapter 5. Integrating Sustainability into English Language Teaching: Curriculum Perspectives

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Chapter 6. Integrating Sustainability into EFL in Spain: from Curriculum Policy to Practice

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Dr Alba Fernández-Alonso lectures English at the University of Burgos (Spain). She holds degrees in Translation and English Language Teaching, as well as a PhD in Humanities and Communication. Her research is structured around two main areas: literary studies — particularly transatlantic culture and African American literature— and English as a Foreign Language (EFL), with a focus on teacher education and English for specific purposes. She has participated in international conferences, European projects, and has completed teaching and research stays at institutions such as Yale University, Freie Universität Berlin and New York University and Universidad de Córdoba (Argentina).

Chapter 7. The Case of Italy: Ecological Awareness and Foreign Language Learning

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Maria Grazia Maglione is an Italian researcher-practitioner in ELT, with expertise in teacher education, innovative pedagogy, and sustainability. She is an upper secondary school English teacher and collaborates with the University of Rome Tor Vergata as Tutor Coordinator and lecturer in English Language Teaching methodology. She has contributed to teacher education programs, including SSIS and TFA programs for prospective English teachers, and since 2018 has worked with the National Agency INDIRE as a trainer for English Language Assistants in Italy. She has served as President of TESOL Italy (2020-2022), promoting professional development and international exchange among English language teachers. Her publications include *Creative Writing is for Everyone. A challenging and inclusive teaching experience* (2017) and “The M(otivation) factor in learning/teaching English literature: making videos about Jane Austen’s *Pride and Prejudice*” (2017), published in *Studenti e Motivazione*. She has presented her work on sustainable education and ethical awareness through the workshops *How to Foster our Students’ Ethical Footprint* (2019) and *Be Cre(a)ctive Teachers for a Sustainable Future* (2020) at TESOL Italy National Conventions. Her current research explores the role of language teaching in fostering responsible, creative, and socially aware learners.

Elisabetta Marino is Full Professor of English Literature at the University of Rome Tor Vergata and head of “Asia and the West” research centre. She is the author of four monographs: a volume on the figure of Tamerlane in British and American literature (2000); an introduction to British Bangladeshi literature (2005); a study on the relationship between Mary Shelley and Italy (2011); an analysis of the Romantic dramas on a mythological subject (2016). In 2006 she published the first Italian translation of poems by Maria Mazziotti Gillan. Between 2001 and 2026 she has edited/co-edited seventeen collections of essays and a Special Forum of *Journal of Transnational American Studies* (2012). In 2022, she translated *Parkwater*, a Victorian novel by Ellen Wood, for the first time into Italian. She has published extensively on the English Romantic writers (especially Mary Shelley and P.B. Shelley), Indian diasporic literature, travel literature, and Italian American literature. She co-edited two special issues of *de genere. Journal of Postcolonial, Literary and Gender Studies* (2022, January 2026), and acted as guest editor for a special issue of *Journal of American Studies of Turkey* focused on Italian American material culture (2023).

Chapter 8. The Case of Lithuania: Teacher Perspectives on Sustainability-Integrated Materials in EFL

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