Research Journal in Advanced Humanities

RJAH

https://doi.org/10.58256/4xm9r119

Open Access

Check for updates

REVIEW ARTICLE

Section: *Literature, Linguistics and Criticism*

Green universities as seeds of change: An ecolinguistic framework for sustainability literacy in Saudi higher education

Ibrahim Mohammed Alasmari[1], Khaled Ahmed Abdel-Al Ibrahim[2], Mohammad Mahmoud Suleiman Alsadi[3] & Mohammad Osman Abdul Wahab[4]

[1]Department of Curriculum and Teaching Methods, College of Education, Prince Sattam bin Abdulaziz University, Kingdom of Saudi Arabia
[2]Department of Psychology, College of Education, Prince Sattam bin Abdulaziz University, Kingdom of Saudi Arabia
[3]Department of Educational Administration, Faculty of Educational Sciences, Ajloun National University, Jordan
[4]Department of English, Faculty of Languages and Translation, King Khalid University, Kingdom of Saudi Arabia
*Correspondence: ka.ibrahim@psau.edu.sa

ABSTRACT

Green universities are often discussed through measurable environmental indicators: energy consumption, waste reduction, water efficiency, green buildings, transport, procurement, and institutional rankings. These indicators are necessary, but they do not fully explain how sustainability becomes meaningful to students, faculty, staff, and surrounding communities. This article argues that the transformation of Saudi universities into green universities also requires an ecolinguistic transformation: a change in the stories, metaphors, terms, signs, curricula, library practices, and multilingual public messages through which sustainability is understood and acted upon. Focusing on Saudi higher education, the article develops an Ecolinguistic Sustainability Literacy Framework that connects green university policy with language and linguistic studies. The framework is grounded in ecolinguistics, sustainability literacy, education for sustainable development, linguistic landscape studies, discourse analysis, and higher education sustainability research. It proposes six interconnected dimensions: sustainability discourse awareness, ecological metaphor and framing, bilingual terminology and translation, green library communication, curriculum-based sustainability literacy, and community-facing linguistic action. Rather than treating language as a decorative supplement to environmental management, the article positions language as the medium through which institutional values become visible, teachable, and contestable. The contribution is conceptual and practical: it offers Saudi universities a language-centered framework for embedding sustainability into curricula, campus communication, green libraries, digital platforms, and community engagement. It also provides indicators that future empirical research can test through corpus analysis, interviews, classroom studies, linguistic landscape documentation, and sustainability literacy assessment.

KEYWORDS: green universities, ecolinguistics, sustainability literacy, Saudi higher education, green libraries, linguistic landscape, education for sustainable development, sustainability discourse

Research Journal in Advanced Humanities

Volume 7, Issue 3, 2026

ISSN: 2708-5945 (Print)

ISSN: 2708-5953 (Online)

ARTICLE HISTORY

Submitted: 05 **June 2026**

Accepted: 20 **June 2026**

Published: 03 **July 2026**

HOW TO CITE

Alasmari, I. M., Ibrahim, K. A. A.-A., Alsadi, M. M. S., & Wahab, M. O. A. (2026). Green universities as seeds of change: An ecolinguistic framework for sustainability literacy in Saudi higher education. *Research Journal in Advanced Humanities*, *7*(3). https://doi.org/10.58256/4xm9r119

Published in Nairobi, Kenya by Royallite Global, an imprint of Royallite Publishers Limited

1. Introduction

Green universities have become one of the most visible symbols of sustainability transformation in higher education. Across the world, universities are expected not only to reduce their ecological footprint but also to educate students who can understand environmental risk, participate in social change, and communicate sustainability in ways that are ethically responsible and culturally meaningful. The idea is attractive because universities already gather the major resources needed for change: knowledge, young citizens, research capacity, digital infrastructure, libraries, public credibility, and links to government and society. If sustainability is to move from policy language to lived practice, universities are natural places for that movement to begin.

Existing research on sustainable higher education has documented the importance of campus operations, institutional governance, curriculum reform, sustainability competencies, living laboratories, and community partnerships (Cortese, 2003; Lozano et al., 2015; Velazquez et al., 2006; Wiek et al., 2011). International education policy has also emphasized that education for sustainable development should empower learners with knowledge, skills, values, attitudes, and behaviors that enable responsible action for the environment, economy, and society (UNESCO, 2017, 2020). Within this view, the green university is not merely an efficient campus. It is an institution that changes what students learn, how they talk about the future, how research addresses public problems, and how everyday choices become connected to ecological responsibility.

In Saudi Arabia, this conversation has particular urgency. Vision 2030, the Saudi Green Initiative, national environmental programs, water and food security agendas, and human-capability development policies have made sustainability part of a wider national transformation. Saudi universities are therefore positioned within a dual responsibility. On one side, they are expected to support national goals in innovation, human capital, quality of life, and environmental stewardship. On the other side, they must translate those goals into educational experiences that students can understand, critique, and carry into professional and civic life. This is not only a managerial challenge. It is also a linguistic and cultural one, because sustainability becomes actionable only when people can name it, interpret it, debate it, and relate it to their own values and communities.

However, much of the green university discussion still treats language as secondary. Campus sustainability plans often focus on measurable facilities and performance indicators, while the linguistic conditions of sustainability literacy receive less systematic attention. The result is a gap between environmental management and sustainability meaning. A university may install recycling bins, launch energy-saving campaigns, publish sustainability reports, and organize green events, yet students may still encounter sustainability as a distant policy vocabulary rather than as a set of stories, responsibilities, choices, and relationships. The problem is not that operational sustainability is unimportant. It is that operations alone cannot create a sustainability culture unless they are supported by meaningful discourse, accessible terminology, persuasive narratives, and opportunities for critical language awareness.

This gap matters because sustainability is always mediated through language. Words such as green, resilience, carbon neutrality, circular economy, climate action, food security, water scarcity, environmental responsibility, and quality of life do not simply describe reality. They frame problems, distribute agency, evaluate behavior, and imply solutions. In a multilingual higher education context such as Saudi Arabia, where Arabic and English often coexist in academic, scientific, institutional, and digital communication, sustainability literacy also involves translation, bilingual terminology, and audience-sensitive communication. A phrase that sounds transparent in English may not carry the same cultural force in Arabic; an Arabic expression rooted in national, religious, or social values may lose resonance if translated into a generic global idiom. For this reason, the green university needs an ecolinguistic framework.

Ecolinguistics provides such a framework because it studies how language shapes relationships among humans, other species, natural resources, technologies, places, and futures (Alexander & Stibbe, 2014; Fill & Penz, 2018; Stibbe, 2021). It asks not only what language says about the environment but also what kinds of ecological relationships language encourages. Does a text frame nature as a resource, a partner, a victim, a home, a commodity, or a shared responsibility? Does campus discourse invite students to see themselves as consumers, citizens, stewards, researchers, or future professionals with ecological duties? Does a green library display sustainability as a collection category, a community practice, a digital archive, or merely a slogan? These questions place language and linguistic studies at the center of green university transformation.

This article argues that Saudi green universities can function as seeds of change when sustainability

literacy is understood ecolinguistically. A seed does not transform the environment by declaration. It grows through conditions: soil, water, light, care, and time. In the same way, sustainability literacy grows through linguistic conditions: repeated exposure to meaningful terms, critical engagement with environmental metaphors, bilingual accessibility, visible campus signage, library-based knowledge practices, curriculum integration, and opportunities to speak, write, translate, and act. The article therefore develops an Ecolinguistic Sustainability Literacy Framework designed for Saudi higher education. The framework aims to help universities connect environmental operations with language education, applied linguistics, translation, discourse studies, green libraries, and public communication.

The purpose of this study is to lay out a language-centered framework for sustainability transformation in Saudi higher education. It asks three questions: first, how can the concept of the green university be expanded through ecolinguistics and sustainability literacy? Second, what linguistic dimensions should Saudi universities address if they want sustainability to become part of institutional culture rather than only infrastructure? Third, how can green libraries, bilingual communication, linguistic landscapes, and curricula support students in becoming sustainability-literate actors? By answering these questions, the article contributes to language and linguistic studies by showing that sustainability transformation is not only a technical or environmental project. It is also a discursive, educational, cultural, and communicative project.

2. Literature Review

2.1 Green universities and the limits of operational sustainability

The idea of the green university emerged from broader attempts to integrate sustainable development into higher education. Early declarations and institutional frameworks called on universities to model environmental responsibility, generate sustainability knowledge, and educate graduates capable of addressing complex social-ecological problems (Cortese, 2003; Wright, 2002). Later research developed more specific models of the sustainable university, emphasizing governance, curriculum, research, campus operations, community engagement, assessment, and reporting (Lozano, 2006; Lozano et al., 2015; Velazquez et al., 2006). These studies remain essential because they show that sustainability cannot be reduced to isolated environmental projects. It requires institutional integration.

Yet the operational emphasis can also narrow the meaning of green transformation. Energy-efficient buildings, water conservation, sustainable procurement, waste management, and low-carbon transport are concrete and measurable, which makes them attractive to administrators and rankings. However, the visible campus does not automatically produce sustainability literacy. A green building can be used without being understood. A recycling campaign can be seen without changing consumption habits. A sustainability report can be published without shaping student language or critical reasoning. In this sense, operational sustainability is a necessary condition but not a complete educational project.

The concept of the campus as a living laboratory partly responds to this limitation. A living laboratory treats the campus as a space where students, faculty, and staff can study real sustainability problems through research, teaching, experimentation, and institutional decision-making (Evans et al., 2015). However, even living laboratories need language. Students must learn how to describe problems, interpret data, explain findings, persuade audiences, and evaluate policy narratives. Without discourse, data remain numbers; without terminology, concepts remain vague; without storytelling, sustainability struggles to become emotionally and culturally resonant.

2.2 Sustainability literacy and education for sustainable development

Sustainability literacy can be understood as the capacity to use knowledge, values, skills, and communicative practices to make informed judgments and take responsible action in relation to sustainability problems. It overlaps with the competencies identified in education for sustainable development, including systems thinking, anticipatory thinking, normative competence, strategic competence, collaboration, critical thinking, self-awareness, and integrated problem-solving (UNESCO, 2017; Wiek et al., 2011). These competencies are not purely cognitive. They require learners to interpret complexity, negotiate values, imagine futures, and communicate across disciplines.

Higher education research has shown that sustainability cannot be added to curricula as a thin topic

without changing pedagogy. Transformative sustainability education requires active learning, reflexive inquiry, interdisciplinary dialogue, and institutional support (Barth et al., 2007; Sterling, 2011). The language dimension is implicit in these approaches but often not developed explicitly. Critical thinking depends on the ability to recognize assumptions in language. Systems thinking depends on the ability to name relationships and causal chains. Normative competence depends on the ability to debate values. Anticipatory competence depends on future-oriented discourse. Collaboration depends on shared vocabulary and respectful communication. Therefore, sustainability literacy is also linguistic literacy.

This article uses the term sustainability literacy in a deliberately broad but precise sense. It refers not only to knowing facts about climate change, recycling, water scarcity, biodiversity, or green technology. It also refers to knowing how sustainability is represented, translated, narrated, institutionalized, and contested in language. A sustainability-literate student should be able to ask why a university uses the phrase green campus instead of ecological campus, why water scarcity is described as a security issue, why climate action is often represented as a journey or a fight, and how Arabic and English terms organize different relationships to place, responsibility, and future generations.

2.3 Ecolinguistics as a language-centered approach

Ecolinguistics offers a theoretical bridge between sustainability and linguistic studies. Halliday's influential argument that applied linguistics should address ecological problems challenged linguists to examine how grammar, vocabulary, and discourse participate in unsustainable social practices (Halliday, 2001). Subsequent work expanded the field to include discourse analysis, environmental communication, language ecology, metaphor, critical linguistics, and the stories societies live by (Fill & Penz, 2018; Mühlhäusler, 2003; Stibbe, 2021). In this tradition, language is not a neutral mirror of environmental reality. It helps create the social worlds within which ecological action becomes possible or impossible.

Stibbe (2021) uses the notion of stories-we-live-by to describe underlying cognitive and cultural patterns that shape how societies understand economics, nature, growth, identity, and wellbeing. These stories are carried by language patterns such as metaphors, frames, evaluations, erasures, identities, and narratives. For green universities, this insight is highly relevant. A university may teach sustainability while still reproducing unsustainable stories: unlimited growth, nature as external resource, success as consumption, technology as automatic solution, or individual behavior as the only site of responsibility. An ecolinguistic approach helps universities examine these stories and replace harmful or narrow narratives with more life-sustaining ones.

Ecolinguistics also provides methodological tools. Corpus analysis can identify recurring sustainability vocabulary in university websites, strategic plans, and social media. Critical discourse analysis can examine how agency and responsibility are distributed. Metaphor analysis can reveal whether sustainability is framed as a journey, burden, investment, crisis, moral duty, or national project. Linguistic landscape research can document how campus spaces communicate environmental values through signs, posters, screens, labels, exhibitions, maps, and multilingual messages (Landry & Bourhis, 1997; Scollon & Scollon, 2003). Translation studies can analyze how Arabic and English sustainability terms travel across audiences. Together, these tools make it possible to study green universities as linguistic ecologies.

2.4 Saudi higher education and sustainability discourse

Saudi higher education is undergoing transformation within a national context that emphasizes human capability, digital innovation, quality of life, environmental protection, and economic diversification. The Saudi Green Initiative presents national climate action through whole-of-society participation, environmental protection, energy transition, afforestation, land restoration, and protection of land and sea (Saudi Green Initiative, n.d.). For universities, the implication is that sustainability is not a peripheral campus theme; it is connected to national development, employability, research priorities, public communication, and social responsibility.

Recent research on Saudi sustainability discourse has shown that environmental communication in the Kingdom is patterned around action, national transformation, green future imaginaries, and institutional agency (Almaghlouth, 2022; Hameed et al., 2022). Such findings are important for language and linguistic studies because they show that sustainability enters public life through discourse. The vocabulary of greening, climate action, energy transition, food security, water management, quality of life, and future generations does

not simply report policy; it constructs a public grammar of change. Saudi universities are one of the main places where this grammar can be critically studied, taught, and reshaped.

The Saudi context also requires attention to bilingualism. English is widely used in science, engineering, medicine, business, international research, and university rankings, while Arabic remains central to public communication, national identity, policy discourse, and cultural meaning. Sustainability literacy in Saudi higher education must therefore be bilingual and translational. Students need access to global sustainability terminology in English, but they also need Arabic language resources that make sustainability locally meaningful. A green university that communicates only through imported English sustainability jargon may fail to reach the depth of cultural engagement required for lasting transformation. Conversely, a university that avoids English may isolate students from global research and professional discourse. The challenge is not to choose one language but to build an ecolinguistic bridge between them.

3. Theoretical Framework

The proposed framework is built on five theoretical assumptions. The first is that the green university is an ecological institution, not merely an environmentally efficient campus. An ecological institution understands its material, social, cultural, and linguistic relations to the world. It asks how energy, water, food, waste, knowledge, digital infrastructure, labor, and language are connected. This view is consistent with systems-oriented approaches to sustainability education, which emphasize relationships rather than isolated facts (Sterling, 2011; Wiek et al., 2011).

The second assumption is that sustainability literacy is discursively mediated. Learners do not encounter sustainability as raw reality. They encounter it through textbooks, lectures, policies, media campaigns, reports, signs, metaphors, infographics, library collections, digital platforms, and peer discussions. Each medium carries a version of what sustainability means. A course that defines sustainability as technical efficiency will produce a different literacy from a course that defines it as intergenerational justice, community resilience, or ecological care. For this reason, language analysis is not an optional addition. It is a way to understand the educational substance of sustainability.

The third assumption is that ecolinguistic literacy requires critical awareness of stories and frames. A frame selects parts of reality and makes them salient; a metaphor maps one domain of experience onto another; a narrative gives events direction and moral meaning (Fairclough, 1992; Lakoff, 1993; Stibbe, 2021). In university sustainability communication, common frames include green future, net-zero pathway, climate fight, circular economy, carbon footprint, water security, and responsible consumption. These frames can be helpful, but they also need critique. For example, the phrase carbon footprint can make responsibility seem individual, while the phrase green growth may understate ecological limits. Ecolinguistic literacy gives students tools to see both the usefulness and the limits of such language.

The fourth assumption is that bilingual sustainability communication is a form of knowledge justice. In Saudi higher education, Arabic-English movement is not a simple transfer of words. It involves differences in disciplinary authority, cultural resonance, institutional prestige, and audience access. Terms such as sustainability, resilience, stewardship, climate governance, biodiversity, circularity, and ecological footprint require careful Arabic equivalents and explanations. Similarly, Arabic values and concepts related to moderation, trust, responsibility, preservation, community, and future generations can deepen English-language sustainability discourse if translated thoughtfully. A green university should therefore develop bilingual terminology resources rather than allow sustainability to remain fragmented between Arabic public language and English academic jargon.

The fifth assumption is that green libraries are central linguistic infrastructures. Libraries are not only repositories of books or databases; they are public knowledge environments. They classify, display, curate, translate, digitize, archive, and circulate language. A green library can support sustainability literacy through thematic collections, ecolinguistic reading lists, multilingual sustainability glossaries, digital exhibitions, environmental storytelling archives, signage, workshops, research guides, and community partnerships (Antonelli, 2008; Jankowska & Marcum, 2010). Within the proposed framework, the green library is the seedbed of the green university: a place where sustainability language becomes visible, accessible, and shared.

4. Methodological Orientation

This article is designed as a conceptual framework study rather than a completed empirical assessment of a particular university. Conceptual framework studies are valuable when a field has several related discussions that have not yet been integrated into a usable model. In this case, research on green universities, education for sustainable development, ecolinguistics, sustainability literacy, green libraries, linguistic landscape, and Saudi sustainability discourse exists, but it is rarely brought together into a language-centered framework for Saudi higher education. The purpose is therefore to synthesize these strands and produce a model that can guide later empirical work.

The framework-building process followed four steps. First, the article identifies the educational problem: green university initiatives often focus on operations and policy while underdeveloping the linguistic conditions through which sustainability becomes meaningful. Second, it selects theoretical resources capable of addressing that problem: ecolinguistics, discourse analysis, sustainability literacy, linguistic landscape research, and bilingual terminology studies. Third, it adapts those resources to the Saudi higher education context, where sustainability is linked to national transformation and where Arabic-English communication is institutionally significant. Fourth, it translates the conceptual synthesis into dimensions, practices, and indicators that universities can operationalize.

This methodological orientation is cautious about evidence. The article does not claim that all Saudi universities currently lack sustainability literacy, nor does it rank institutions. It also does not claim that the proposed framework has already been statistically validated. Instead, it offers a theory-informed and context-sensitive framework that future researchers can test through empirical methods. Suitable methods include corpus analysis of university sustainability webpages, surveys of student sustainability literacy, interviews with language educators and library staff, analysis of Arabic-English sustainability terminology, linguistic landscape documentation of green campus signage, and classroom-based studies of ecolinguistic pedagogy.

The article's applied value lies in making the framework auditable. Each dimension is defined by a guiding question, a set of language practices, and possible indicators. This structure allows universities to adapt the framework without treating it as a fixed checklist. For example, a university may begin by mapping sustainability terms in its Arabic and English communication, while another may begin by redesigning green library displays or integrating ecolinguistic discourse analysis into English-language courses. The framework is intended to be flexible enough for different institutional starting points but clear enough to support systematic implementation.

Table 1. From green university domains to ecolinguistic literacy goals

Green university domain	Typical operational focus	Ecolinguistic question	Literacy outcome
Campus operations	Energy, water, waste, transport	How are these practices named, explained, and made meaningful?	Students connect daily practices with ecological consequences.
Curriculum	Course content and competencies	How do courses teach the language, metaphors, and values of sustainability?	Students critically interpret sustainability discourse.
Research	Projects and publications	How is sustainability knowledge translated for public audiences?	Research becomes communicable beyond specialists.
Green libraries	Collections, spaces, databases, exhibitions	How do libraries curate multilingual sustainability knowledge?	Sustainability literacy becomes accessible and visible.
Community engagement	Partnerships, campaigns, outreach	How does the university speak with local communities about sustainability?	Students learn participatory and culturally responsive communication.

5. The Ecolinguistic Sustainability Literacy Framework

The proposed Ecolinguistic Sustainability Literacy Framework consists of six dimensions. They are interconnected rather than sequential. A university may begin with one dimension, but the full value emerges when the dimensions reinforce one another. The framework treats the university as a linguistic ecology: a network of classrooms, libraries, screens, websites, research offices, campaigns, signs, student clubs, translation practices, and community interactions.

5.1 Sustainability discourse awareness

The first dimension is sustainability discourse awareness. Students and staff should learn to recognize how sustainability is constructed in institutional and public language. This includes vocabulary such as green campus, carbon neutrality, resilience, environmental responsibility, biodiversity, water security, climate action, circular economy, and quality of life. It also includes the grammatical choices that assign responsibility. For instance, a university may write that waste was reduced, without saying who reduced it; or it may write that students reduced single-use plastics through a campaign, making agency visible. Such differences matter because grammar can either hide or highlight participation.

In practice, sustainability discourse awareness can be built through language courses, communication workshops, first-year orientation, research writing classes, and library sessions. Students can compare sustainability statements from different universities, identify recurring terms, examine how responsibility is assigned, and rewrite vague sustainability claims into clearer language. This is especially relevant in Saudi higher education because students often encounter sustainability through both Arabic and English. A bilingual comparison can show how Arabic expressions of care, preservation, responsibility, or national development interact with English expressions of governance, resilience, and global climate action.

5.2 Ecological metaphor and framing

The second dimension is ecological metaphor and framing. Sustainability discourse is rich in metaphor. Universities speak of sustainability journeys, roadmaps, green futures, footprints, pathways, transitions, ecosystems, pillars, targets, and battles against climate change. These metaphors are useful because they make complex processes understandable. A roadmap suggests planning; a footprint suggests impact; a journey suggests direction; a seed suggests future growth. Yet metaphors also restrict attention. A roadmap may imply that the route is already known. A fight may create urgency but simplify responsibility. A green future may inspire hope but hide tradeoffs.

An ecolinguistic green university should teach students to analyze these metaphors critically. In a Saudi context, metaphors of greening, journey, national transformation, stewardship, protection, security, and future generations may be especially salient. Students can study how sustainability is framed in university communications, national initiatives, media discourse, and local community campaigns. They can ask what each frame makes visible, what it hides, and how it could be improved. This does not mean rejecting institutional sustainability language. It means learning to use it responsibly. The goal is not cynical critique but mature communicative competence.

5.3 Bilingual terminology and translation

The third dimension is bilingual terminology and translation. Saudi universities often operate across Arabic and English, but sustainability terminology does not always move smoothly between the two languages. English terms such as sustainability, climate resilience, circular economy, ecological footprint, green skills, environmental governance, and net zero carry specialized meanings. Arabic equivalents may be available, but their resonance, institutional consistency, and accessibility vary. Similarly, Arabic values and expressions related to moderation, conservation, responsibility, trust, and care for future generations may enrich English-language sustainability communication if translated thoughtfully.

A green university should therefore develop a bilingual sustainability terminology protocol. This may include an Arabic-English glossary, usage notes, examples from campus practices, preferred translations, avoided mistranslations, and short explanations for non-specialist audiences. Translation should not be treated as an afterthought. It is part of sustainability literacy. If students cannot explain water conservation, waste reduction, climate action, or ecological responsibility in both Arabic and English, they may struggle to participate fully in local and global conversations. Language departments, translation programs, scientific colleges, sustainability offices, and libraries can collaborate to produce living glossaries that grow with institutional needs.

5.4 Green libraries as sustainability language hubs

The fourth dimension places green libraries at the center of ecolinguistic transformation. A green library is not only a building with efficient lighting or reduced paper use. It is a knowledge space that helps a university

organize and communicate sustainability. It can curate books, databases, open educational resources, Arabic and English glossaries, student projects, environmental storytelling, local ecological histories, and digital exhibitions. It can also make sustainability visible through signage, reading corners, thematic displays, workshops, and partnerships with student clubs.

In Saudi higher education, green libraries can serve as bilingual bridges. They can host exhibitions on Saudi environmental initiatives, water conservation, desert ecology, urban greening, sustainable architecture, food security, and climate futures. They can invite students to translate sustainability terms, annotate public discourse, produce infographics, record oral histories of environmental change, and create digital archives of local ecological knowledge. Libraries can also support faculty by building research guides for ecolinguistics, environmental humanities, sustainability communication, and green campus studies. In this way, the library becomes a seedbed where sustainability language is collected, examined, and replanted across the university.

5.5 Curriculum-based sustainability literacy

The fifth dimension is curriculum-based sustainability literacy. The proposed framework does not argue that every course should become an environmental science course. Rather, it argues that language and linguistic studies can contribute specific competencies to sustainability education. English courses can analyze environmental rhetoric, climate narratives, sustainability reports, and green advertising. Arabic courses can examine environmental values, public discourse, cultural expressions of stewardship, and local ecological terminology. Translation courses can work on bilingual sustainability glossaries. Applied linguistics courses can study ecolinguistics, corpus patterns, discourse framing, and language attitudes toward environmental issues.

Assessment should also be language-sensitive. Students might be asked to write a bilingual sustainability brief, analyze the linguistic landscape of a campus building, compare Arabic and English sustainability webpages, rewrite a confusing green campaign for a public audience, or produce an ecolinguistic analysis of metaphors in environmental discourse. These assignments do more than test knowledge. They ask students to use language as a tool for ecological understanding and social action. Such curriculum work can help Saudi universities produce graduates who are not only aware of sustainability but capable of communicating it professionally and responsibly.

5.6 Community-facing linguistic action

The sixth dimension is community-facing linguistic action. Green universities should not speak only to themselves. They should communicate sustainability with schools, families, local businesses, municipalities, media organizations, and civil society. Ecolinguistic action may include public translation projects, community workshops, Arabic-English environmental campaigns, student podcasts, green storytelling competitions, and collaborative signage projects. The aim is to move sustainability language beyond the campus without losing accuracy or cultural resonance.

Community-facing work is especially important because sustainability problems are lived locally. Water use, waste habits, food consumption, transport choices, and attitudes toward green spaces are not abstract policy matters. They are everyday practices. Students who learn to explain sustainability in accessible Arabic and English can become mediators between scientific knowledge, institutional policy, and community life. This is one way green universities become seeds of change: they do not only produce graduates with knowledge; they produce communicators who can cultivate sustainability conversations in wider society.

Table 2. Ecolinguistic Sustainability Literacy Framework for Saudi higher education

Dimension	Guiding question	Sample practice	Possible indicator
Discourse awareness	How is sustainability represented in campus language?	Analyze sustainability reports and webpages.	Students identify agency, values, and key terms.
Metaphor and framing	Which stories organize green transformation?	Compare journey, security, and greening metaphors.	Students explain what frames highlight and hide.
Bilingual terminology	How do Arabic and English terms carry meaning?	Build a living sustainability glossary.	Consistent bilingual terms appear in courses and campaigns.

Green libraries	How does the library curate sustainability knowledge?	Create exhibitions, guides, and digital archives.	Library becomes a hub for sustainability literacy events.
Curriculum integration	How do language courses teach sustainability?	Use discourse, translation, writing, and corpus tasks.	Students produce sustainability communication outputs.
Community action	How does the university communicate beyond campus?	Student-led bilingual public campaigns.	Partnerships and community-facing materials are documented.

6. Discussion

6.1 From green operations to green meaning

The framework shifts the idea of the green university from green operations to green meaning. This shift does not reduce the importance of measurable environmental performance. A university cannot credibly teach sustainability while ignoring energy waste, water misuse, excessive consumption, or unsustainable procurement. However, operations become educational only when they are interpreted. Students need to know why an action matters, what values it expresses, how it connects to larger systems, and how to communicate it to others. Language is the bridge between infrastructure and culture.

This is the main reason ecolinguistics is valuable for Saudi green universities. It offers tools for examining the stories embedded in institutional communication. It can reveal whether sustainability is presented as compliance, branding, national duty, moral care, economic opportunity, technological modernization, or shared ecological responsibility. Each story leads to different forms of action. If sustainability is only branding, students may become skeptical. If it is only individual behavior, structural issues may disappear. If it is only technological, cultural and ethical dimensions may weaken. A balanced green university discourse should connect responsibility, systems, values, science, community, and future generations.

6.2 Saudi specificity and the danger of imported language

The framework also addresses a common problem in sustainability education: the uncritical importation of global terminology. Global sustainability vocabulary is important because it connects Saudi students to international research, professional networks, and policy debates. However, when terms are imported without localization, they can become empty academic markers. Students may learn expressions such as climate resilience or circular economy without being able to relate them to Saudi water systems, desert ecologies, urban development, energy transition, food supply, or local community practices.

A Saudi ecolinguistic framework should therefore be both global and local. It should teach students the English vocabulary needed for international participation while also developing Arabic resources that speak to local values, environmental realities, and national priorities. For example, water sustainability in Saudi Arabia cannot be taught only through generic global examples. It should be connected to aridity, desalination, consumption, infrastructure, scarcity, trust in provision, and intergenerational responsibility. Similarly, greening should be linked not only to trees and carbon but also to urban heat, quality of life, biodiversity, public spaces, and cultural narratives of place. Language is the tool that makes these connections visible.

6.3 Green libraries and the public life of sustainability literacy

Green libraries are particularly important because they sit between curriculum, research, and public space. A classroom may reach students enrolled in a course, but a library reaches the wider university community. It is a place where students from different disciplines can encounter sustainability outside disciplinary boundaries. A green library can show engineering students that sustainability has linguistic and cultural dimensions, and it can show language students that environmental communication has technical and policy dimensions. This interdisciplinary visibility is one of the strongest advantages of library-based sustainability literacy.

Green libraries can also make sustainability less abstract. A shelf display on climate communication, a bilingual glossary wall, a digital map of campus water use, a student translation exhibition, or a story archive about local environmental memories can turn sustainability into a shared conversation. These practices are modest compared with large infrastructure projects, but they may have deep educational effects. They invite students to read, interpret, translate, and contribute. In a green university, the library should not simply store sustainability knowledge. It should activate it.

6.4 The role of language departments and applied linguistics

Language departments are often underused in sustainability transformation. Environmental sustainability is frequently assigned to science, engineering, urban planning, or business disciplines. Those fields are crucial, but they cannot do the communicative work alone. Language departments can teach students how environmental problems are narrated, how metaphors shape policy, how translation changes meaning, how public campaigns persuade audiences, how institutions hide or reveal agency, and how multilingual communication can include or exclude communities. These are not secondary skills. They are central to sustainability literacy.

Applied linguistics can contribute empirical methods as well. Corpus linguistics can compare sustainability keywords across university websites. Discourse analysis can examine whether sustainability communication foregrounds students, administrators, government, industry, or future generations. Linguistic landscape studies can document whether green messages are visible across campus and whether they appear in Arabic, English, or both. Translation studies can test whether sustainability terms are consistent and culturally meaningful. Writing studies can evaluate whether students can produce clear, accurate, and audience-sensitive sustainability texts. These methods can turn the proposed framework into a research agenda.

7. Practical Implications for Saudi Universities

For university leaders, the framework suggests that sustainability strategies should include language indicators. A strategic plan may include measurable targets for energy, water, waste, and emissions, but it should also ask how sustainability is communicated, translated, taught, and displayed. This could involve an annual audit of sustainability discourse in Arabic and English, a review of signage and digital communication, or the creation of an institutional sustainability glossary.

For language and translation departments, the framework offers a direct route into sustainability transformation. Departments can develop courses on ecolinguistics, environmental translation, sustainability communication, climate discourse, and Arabic-English environmental terminology. Graduation projects can analyze Saudi sustainability campaigns, translate green library resources, or build student corpora of sustainability discourse. Such projects would align language studies with national and global priorities without reducing the field to service translation.

For libraries, the framework supports the development of green library programs that are intellectual rather than only architectural. Libraries can curate sustainability literacy collections, create bilingual research guides, host green reading circles, organize environmental discourse exhibitions, and support open-access repositories for student sustainability projects. They can also collaborate with faculty to embed sustainability information literacy into language, communication, and research-methods courses.

For students, the framework provides a richer understanding of participation. Students are not merely asked to recycle, attend campaigns, or memorize definitions. They are invited to become interpreters, translators, writers, researchers, and public communicators of sustainability. This is particularly valuable in a society where young people are expected to participate in national transformation. Ecolinguistic sustainability literacy gives students the language to participate critically and constructively.

8. Limitations and Future Research

The article has several limitations. First, it is a conceptual framework study rather than a completed empirical evaluation of Saudi universities. The proposed dimensions should therefore be tested through data-based research. Second, the article focuses on higher education and does not fully address schools, vocational education, or informal learning, although these sectors are connected to sustainability literacy. Third, the framework emphasizes Arabic-English communication because of its importance in Saudi higher education, but other languages may also matter in multilingual campuses, international programs, and community contexts.

Future research can develop the framework in several ways. A corpus study could compare sustainability discourse on Saudi university websites and identify recurring metaphors, keywords, and translation patterns. A linguistic landscape study could photograph and code sustainability signage across campuses. A survey study could measure students' sustainability literacy before and after ecolinguistic instruction. Interviews with librarians, faculty, sustainability officers, and students could examine institutional readiness. Classroom studies could test assignments that combine discourse analysis, translation, and sustainability communication.

Comparative studies could also examine whether universities in arid regions share similar sustainability frames around water, heat, food, and future generations.

Another promising direction is digital ecolinguistics. Saudi universities increasingly use websites, learning management systems, social media, digital libraries, and AI-supported tools. These platforms shape how sustainability is encountered. Researchers can analyze whether digital communication amplifies green slogans without depth or whether it supports sustained literacy through resources, reflection, participation, and feedback. The digital future of green universities should therefore be studied not only as a technological question but also as a linguistic and ethical one.

9. Conclusion

This article has argued that green universities in Saudi higher education can become seeds of change when sustainability is understood not only as environmental management but also as ecolinguistic transformation. The green university should conserve energy and water, reduce waste, improve infrastructure, and support research, but it should also cultivate the language through which sustainability becomes intelligible, debatable, and actionable. Without language, sustainability remains a plan; through language, it becomes a shared culture. The proposed Ecolinguistic Sustainability Literacy Framework identifies six dimensions for this transformation: discourse awareness, metaphor and framing, bilingual terminology, green libraries, curriculum integration, and community-facing linguistic action. These dimensions help universities connect operations with meaning, policy with pedagogy, and national sustainability goals with student participation. They also show that language and linguistic studies are not peripheral to sustainability. They provide tools for analyzing how environmental futures are named, valued, translated, and taught.

For Saudi higher education, the opportunity is significant. Universities can draw on national sustainability momentum while building culturally grounded and globally connected forms of literacy. Green libraries can become hubs of bilingual sustainability knowledge. Language departments can train students to communicate ecological responsibility across audiences. Campuses can become linguistic landscapes where sustainability is not only seen but understood. If green universities are seeds of change, ecolinguistic literacy is the soil that allows those seeds to grow.

Declarations

Conflict of interest: The author declares no conflict of interest.

Data availability: No empirical field data were generated or analyzed for this article. The manuscript proposes a framework for future empirical research.

Ethics statement: Because no human participants or campus photographs were used, formal ethics approval was not required for this conceptual article. Any future field study should obtain institutional permission.

Funding:

The author extends their appreciation to Prince Sattam bin Abdulaziz University for funding this research work through the Project number (PSAU/2026/02/44840).

References

Alexander, R., & Stibbe, A. (2014). From the analysis of ecological discourse to the ecological analysis of discourse. Language Sciences, 41, 104-110. https://doi.org/10.1016/j.langsci.2013.08.011

Almaghlouth, S. (2022). Environmental sustainability in the online media discourses of Saudi Arabia: A corpus-based study of keyness, intertextuality, and interdiscursivity. PLOS ONE, 17(11), Article e0277253. https://doi.org/10.1371/journal.pone.0277253

Antonelli, M. (2008). The green library movement: An overview. Electronic Green Journal, 1(27).

Aulisio, G. J. (2013). Green libraries are more than just buildings. Electronic Green Journal, 1(35).

Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. International Journal of Sustainability in Higher Education, 8(4), 416-430. https://doi.org/10.1108/14676370710823582

Cortese, A. D. (2003). The critical role of higher education in creating a sustainable future. Planning for Higher Education, 31(3), 15-22.

Decamps, A., Barbat, G., Carteron, J.-C., Hands, V., & Parkes, C. (2017). Sulitest: A collaborative initiative to support and assess sustainability literacy in higher education. The International Journal of Management Education, 15(2), 138-152. https://doi.org/10.1016/j.ijme.2017.02.006

Evans, J., Jones, R., Karvonen, A., Millard, L., & Wendler, J. (2015). Living labs and co-production: University campuses as platforms for sustainability science. Current Opinion in Environmental Sustainability, 16, 1-6. https://doi.org/10.1016/j.cosust.2015.06.005

Fairclough, N. (1992). Discourse and social change. Polity Press.

Fill, A., & Penz, H. (Eds.). (2018). The Routledge handbook of ecolinguistics. Routledge.

Hameed, A., Jabeen, I., & Afzal, N. (2022). Towards an eco-friendly future: A corpus-based analysis of media discourse on Saudi Green Initiative. Lege Artis: Language Yesterday, Today, Tomorrow, 7(1), 84-119. https://doi.org/10.34135/lartis.22.7.1.03

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. (Original work published 1990)

Jankowska, M. A., & Marcum, J. W. (2010). Sustainability challenge for academic libraries: Planning for the future. College & Research Libraries, 71(2), 160-170.

Lakoff, G. (1993). The contemporary theory of metaphor. In A. Ortony (Ed.), Metaphor and thought (2nd ed., pp. 202-251). Cambridge University Press.

Landry, R., & Bourhis, R. Y. (1997). Linguistic landscape and ethnolinguistic vitality: An empirical study. Journal of Language and Social Psychology, 16(1), 23-49. https://doi.org/10.1177/0261927X970161002

Lozano, R. (2006). Incorporation and institutionalization of SD into universities: Breaking through barriers to change. Journal of Cleaner Production, 14(9-11), 787-796. https://doi.org/10.1016/j.jclepro.2005.12.010

Lozano, R., Ceulemans, K., Alonso-Almeida, M., Huisingh, D., Lozano, F. J., Waas, T., Lambrechts, W., Lukman, R., & Hugé, J. (2015). A review of commitment and implementation of sustainable development in higher education. Journal of Cleaner Production, 108, 1-18. https://doi.org/10.1016/j.jclepro.2014.09.048

Mühlhäusler, P. (2003). Language of environment, environment of language: A course in ecolinguistics. Battlebridge.

Rieckmann, M. (2018). Learning to transform the world: Key competencies in education for sustainable development. In A. Leicht, J. Heiss, & W. J. Byun (Eds.), Issues and trends in education for sustainable development (pp. 39-59). UNESCO.

Saudi Green Initiative. (n.d.). Information about Saudi Green Initiative. Retrieved July 2, 2026, from https://www.sgi.gov.sa/about-sgi/

Scollon, R., & Scollon, S. W. (2003). Discourses in place: Language in the material world. Routledge.

Sterling, S. (2011). Transformative learning and sustainability: Sketching the conceptual ground. Learning and Teaching in Higher Education, 5, 17-33.

Stibbe, A. (2021). Ecolinguistics: Language, ecology and the stories we live by (2nd ed.). Routledge.

UNESCO. (2017). Education for Sustainable Development Goals: Learning objectives. UNESCO.

UNESCO. (2020). Education for sustainable development: A roadmap. UNESCO.

United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. United Nations.

Velazquez, L., Munguia, N., Platt, A., & Taddei, J. (2006). Sustainable university: What can be the matter? Journal of Cleaner Production, 14(9-11), 810-819. https://doi.org/10.1016/j.jclepro.2005.12.008

Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. Sustainability Science, 6(2), 203-218. https://doi.org/10.1007/s11625-011-0132-6

Wright, T. S. A. (2002). Definitions and frameworks for environmental sustainability in higher education. International Journal of Sustainability in Higher Education, 3(3), 203-220. https://doi.org/10.1108/14676370210434679