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Ecological Agency through Language Learning: An Eco-CLA Assessment of Climate-Focused Activities in Low-Resource Contexts

Sprawczość ekologiczna poprzez naukę języka: ocena zajęć językowych ukierunkowanych na kwestie klimatyczne w kontekstach o ograniczonych zasobach z wykorzystaniem modelu Eco-CLA

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Abstract: This study examines whether climate-focused language activities develop environmental awareness alone or also foster critical consciousness of environmental injustice. We analyzed ten CALE activities using the Eco-CLA framework, which assesses climate-language integration across five pedagogical principles. Results show significant asymmetry. Activities excel at concrete environmental engagement, sustainability framing, and localization–grounding language learning in students' lived experiences. But justice advocacy and linguistic pluralism receive inconsistent treatment. Students develop environmental awareness without necessarily gaining critical consciousness of injustice or seeing their linguistic diversity validated. CALE activities offer accessible, pedagogically sound materials for resource-limited contexts. Yet transformative climate education demands additional work. Teachers need to supplement these materials with critical pedagogy that interrogates environmental injustice, power structures, and linguistic ideologies. Most teacher preparation programs fail to systematically develop these competencies. Indonesian educators face compounded challenges: classes of 35-40 students, relentless standardized testing pressures, and minimal institutional support for critical approaches. Individual teacher effort cannot overcome these barriers. The Eco-CLA framework gives teachers a diagnostic tool to identify where activities work well and where they must intervene with critical pedagogical approaches.

Keywords: climate change, education, language learning, classroom activity, environmental education, SDG 4: Quality Education, SDG 13: Climate Action

Streszczenie: Niniejsze badanie analizuje, czy zajęcia językowe ukierunkowane na problematykę klimatyczną rozwijają wyłącznie świadomość środowiskową, czy także sprzyjają kształtowaniu krytycznej świadomości niesprawiedliwości środowiskowej. Przeanalizowano dziesięć zajęć językowych CALE integrujących naukę języka z edukacją klimatyczną, z wykorzystaniem modelu Eco-CLA, który służy do oceny stopnia integracji zagadnień klimatycznych i językowych w oparciu o pięć zasad pedagogicznych. Wyniki badania wskazują na istotną asymetrię. Zajęcia CALE wyróżniają się konkretnym zaangażowaniem w kwestie środowiskowe, ramowaniem zagadnień zrównoważonego rozwoju oraz lokalizacją, osadzając naukę języka w doświadczeniach życiowych uczniów. Jednocześnie, kwestie promowania zagadnień sprawiedliwości oraz pluralizmu językowego są traktowane w sposób niespójny. Uczniowie rozwijają świadomość ekologiczną, niekoniecznie jednak zdobywają krytyczną świadomość niesprawiedliwości środowiskowej czy doświadczają potwierdzenia własnej różnorodności językowej. Zajęcia językowe CALE oparte są o przystępne i dobrze opracowane pedagogicznie materiały dydaktyczne, które można efektywnie wykorzystać w kontekstach edukacyjnych charakteryzujących się ograniczonymi

zasobami. Transformacyjna edukacja klimatyczna wymaga jednak dodatkowych działań. Nauczyciele powinni uzupełniać te materiały o elementy pedagogiki krytycznej, które problematyzują niesprawiedliwość środowiskową, struktury władzy oraz ideologie językowe. Większość programów kształcenia nauczycieli nie rozwija tych kompetencji w sposób systematyczny. Nauczyciele w Indonezji mierzą się ze złożonymi wyzwaniami: klasami liczącymi 35–40 uczniów, nieustanną presją standaryzowanych egzaminów oraz minimalnym wsparciem instytucjonalnym dla podejść krytycznych. Indywidualny wysiłek nauczyciela nie jest w stanie przezwyciężyć tych barier. Ramy Eco-CLA dają nauczycielom narzędzia diagnostyczne pozwalające zidentyfikować obszary, w których działania dydaktyczne przynoszą dobre rezultaty, oraz te, w których konieczna jest interwencja z wykorzystaniem krytycznych podejść pedagogicznych.

Słowa kluczowe: zmiany klimatu, edukacja, nauka języków obcych, zajęcia w klasie, edukacja ekologiczna, Cel Zrównoważonego Rozwoju 4: Dobra jakość edukacji, Cel Zrównoważonego Rozwoju 13: Działania w dziedzinie klimatu

Introduction

Climate change threatens water supplies, increases wildfire frequency, raises sea levels, and accelerates species extinction (United Nations 2024). Schools occupy a pivotal role in responding to these challenges, shaping how people understand environmental issues and, consequently, how they imagine solutions. International organizations recognized this potential early. The Tbilisi Intergovernmental Conference (UNESCO-PNUE 1977) outlined foundational guidelines for environmental education, while the United Nations Conference on Environment and Development in Rio de Janeiro (1992) reinforced the need to embed such education within formal curricula to build students' capacity to address ecological and developmental challenges. These policy commitments positioned educational institutions as uniquely capable of cultivating new approaches grounded in sustainability, and initial empirical studies supported this optimism. Research consistently showed positive effects of structured environmental education on students' attitudes and behaviors (Erdogan 2015; Ponomarenko et al. 2016; Nazarenko & Kolesnik 2018). However, the transition from international policy to national implementation proved problematic. Bureaucratic delays, competing curricular priorities, and insufficient teacher training weakened program delivery. Decades after these mandates, environmental education remains unevenly implemented across most school systems. Significant variation exists both between and within countries in content coverage and pedagogical quality.

The implementation gap becomes clearer when examining what actually occurs in classrooms. Environmental content, where it appears, typically exists as an isolated unit rather than integrated throughout existing subjects. Language education particularly illustrates this fragmentation (Davari et al. 2024). Teachers often treat environmental topics as supplementary materials—a reading passage here, a vocabulary exercise there—that supplement core instructional goals without fundamentally reshaping them. Environmental content becomes an add-on rather than an organizing principle for language learning. This persistent disconnect between policy intention and pedagogical reality demands attention, particularly in disciplines where integration could occur naturally.

This pattern manifests distinctly in different national contexts, each shaped by local educational priorities and resource constraints. Indonesia's Ministry of Education and Culture has integrated environmental programs into elementary, middle, and secondary curricula (Kemdikbud 2015; Rida & Rokhman 2021), relying heavily on textbooks to shape students' understanding of ecological issues. Indonesian scholarship has likewise explored language-environment relations in instruction (Mbete 2017), and practitioners worldwide advocate blending

language lessons with environmental themes (Syahfitri et al. 2025). Yet textbook analysis reveals a critical flaw: not the absence of environmental content, but how that content gets presented.

Research on Indonesian EFL textbooks shows that environmental themes are clustered around natural beauty and tourism—ecotourism destinations and scenic landscapes—while largely avoiding ecological degradation or climate impacts (Setyowati & Widiati 2014; Ginting et al. 2024). Comparable ecolinguistic appraisals of language textbooks in Iran and Pakistan reveal parallel anthropocentric patterns (Faramarzi & Janfeshan 2021; Zahoor & Janjua 2019). These framings matter because they shape what learners recognize as environmental problems and what solutions seem possible. When textbooks present nature as a tourism commodity, students learn to value it for economic utility rather than ecological integrity, obscuring the systemic drivers of environmental harm. Language choices about "environment" embeds particular interests (Indriyanto 2023). Ecotourism represents the environment as a resource and aesthetic object. It sidesteps questions about extraction, inequality, or systemic harm.

Research on environmental language education compounds this problem. Existing studies document environmental vocabulary and themes through content analysis (Pratiwi et al. 2021; Rida & Rokhman 2021). Previous studies demonstrate the feasibility of integrating environmental issues into ESL contexts (Hasrina et al. 2025; Nurkhamidah et al. 2025). However, these studies rarely examine the ideological dimensions of environmental language or how students might critically analyze it. Research typically catalogs textbook content without investigating how teachers and students might develop critical awareness of the worldviews and power relations embedded in environmental discourse. Teachers thus lack analytical frameworks for evaluating and adapting environmental materials. Climate education requires learners who read environmental language critically, recognize how ecological discourse reflects particular interests, and construct alternative narratives grounded in justice—capacities that current approaches do not systematically develop.

This study applies Eco-Critical Language Awareness (Eco-CLA) to address this gap. Eco-CLA provides an analytical lens for examining existing language activities. It enables evaluation of whether activities help learners engage critically with how language constructs environmental reality. Rather than developing new materials, this approach examines ten existing activities from Climate Action in Language Education (Barber et al. 2022) through an Eco-CLA framework. The goal is twofold: to understand how these activities might cultivate critical environmental consciousness and to identify the adaptations Indonesian teachers would need to implement in resource-limited contexts.

Language is never neutral—how we discuss environmental issues shapes what becomes visible, whose voices are heard, and whose interests are served (Fairclough 2001). Language classrooms are therefore strategically crucial for developing ecological agency: learners' ability to recognize how environmental meanings are constructed through discourse, question whose interests' dominant narratives serve, and articulate alternative perspectives rooted in justice. This connection between language work and environmental awareness operates through examining how linguistic choices construct reality. They may learn vocabulary related to "sustainable development" without interrogating how such language obscures extractive economic systems or encounter environmental content that romanticizes nature while obscuring environmental injustices affecting marginalized communities (West 2015). In Indonesian contexts specifically, where climate impacts disproportionately affect poor and rural populations, language classrooms can become spaces where students develop critical consciousness

grounded in their lived experiences (Asian Development Bank 2024).

When language classrooms integrate Eco-CLA principles, they position learners to develop communicative competence while examining ideology and power relations in environmental discourse. This is not supplementary content or generic "authentic language teaching," but integrated practice in which linguistic skill development and critical ecological consciousness develop simultaneously. Language practice serves as the medium through which students recognize ideological assumptions, question dominant environmental narratives, and construct linguistic resources for ecological and social justice advocacy. In this framework, developing the ability to discuss environmental issues in another language is inseparable from developing critical consciousness of how that language shapes ecological understanding.

This study analyzes ten classroom activities from Climate Action in Language Education: Activities for Low-Resource Classrooms using Eco-Critical Language Awareness (Eco-CLA) as its analytical framework. Eco-CLA integrates Critical Language Awareness with ecolinguistics to examine how language teaching can develop both linguistic competence and ecological agency by critically examining environmental discourse. The analysis investigates three aspects of each activity: how it positions learners to examine environmental meanings in language, how it addresses ideological dimensions of ecological discourse, and what linguistic and cognitive demands it places on learners.

Three questions guide this investigation: How do activities create opportunities for critical reflection on environmental language? What linguistic and cognitive challenges do they present? What adaptations or teacher preparation does implementation in Indonesian secondary schools require? The study does not measure actual learning outcomes but establishes an analytical framework for evaluating climate-focused language activities and identifies implementation considerations for resource-limited contexts. This provides teachers and curriculum designers with tools for selecting and adapting activities while laying the groundwork for future empirical research on Eco-CLA pedagogy in practice.

1. Literature Review

1.1. Critical Language Awareness (CLA)

Critical Language Awareness emerged from critical pedagogy's interrogation of power, ideology, and social justice in language use. Rather than treating language as a neutral communication infrastructure, CLA examines how linguistic choices construct and sustain power relations (Fairclough 2001). Word choices determine whose voices register, which knowledge gains legitimacy, and who benefits (Achugar 2015). Language teaching therefore extends beyond technical competence to cultivate "critical, ethical and politically engaged citizens" capable of recognizing and challenging language-mediated domination (Crookes 2021). CLA pedagogy operates through concrete textual analysis. Students examine who appears in discourse and who remains absent, what assumptions linguistic frames encode, and whose interests' particular patterns serve (Fairclough 2001). This develops Freirean critical consciousness—recognizing that language constructs social reality and that imagination can create alternatives.

Contemporary classrooms apply CLA to unpack gender stereotypes, racial bias, and class assumptions embedded in textbooks and classroom discourse (Mora 2014; Huh et al. 2021). Janks (2020) demonstrates how Greta Thunberg deployed critical literacy to challenge dominant environmental narratives, exposing what Brand and Wissen (2018) call the "imperial mode of living" that obstructs sustainability politics. Despite sustained attention to class, race, and gender, CLA largely ignored environmental dimensions. Fairclough (2001) acknowledged that "unsustainable exploitation of natural resources" warranted critical examination,

yet scholarship rarely operationalized this insight in pedagogical practice. Micalay-Hurtado and Poole (2022) argue that separating social justice from environmental justice produces an incomplete analysis. CLA requires extension to environmental discourse—a project ecolinguistics addresses.

1.2. Ecolinguistic

Ecolinguistics examines how language constructs human-environment relationships. Language is never environmentally neutral: how we name ecological systems, frame environmental problems, and designate legitimate knowledge determines what becomes visible, changeable, or fixed (Stibbe 2015). Discourse produces environmental meanings rather than transparently conveying environmental facts. Without ecolinguistic awareness, language education risks reproducing narratives that obstruct climate action. These narratives treat nature as passive resources while systemic inequities remain unexamined. Adapting critical discourse analysis to environmental questions, ecolinguistics reveals how linguistic patterns encode anthropocentric worldviews and market ideologies.

Stibbe (2015, 2021) identifies "stories-we-live-by"—narratives embedded in language that institutionalize particular human-environment relationships and serve specific interests. Corporate narratives use nominalization to obscure the agents of ecological harm. Policy language employs resource metaphors, positioning nature as a manageable object rather than a relational entity. Climate reporting privileges individual consumer action over structural causation (Alexander 2009, 2013; Stibbe 2021). Ecolinguistic pedagogy treats these patterns as objects of analysis. Learners examine how linguistic choices construct reality and benefit specific actors, developing the capacity to analyze language's role in environmental understanding and to generate alternatives that foreground ecological relationality and justice.

Ecolinguistically informed classroom practice includes comparing media representations of climate change, juxtaposing corporate and advocacy environmental discourse, analyzing the construction of human-environment relationships in textbook language, and producing texts that advance sustainability and justice (Poole 2016, 2022; Goulah 2017, 2018). These activities simultaneously develop linguistic competence and critical awareness of language's ideological work in environmental representation. Combined with CLA's emphasis on ideology and critical consciousness, ecolinguistics produces an integrated framework for language instruction oriented toward social and ecological justice. Micalay-Hurtado and Poole (2022) term this synthesis Eco-Critical Language Awareness, repositioning language classrooms as sites where learners develop communicative competence alongside critical consciousness of how language constructs environmental understanding.

1.3. Eco-Critical Language Awareness Principle (Eco-CLA)

Eco-Critical Language Awareness synthesizes CLA and ecolinguistics into a framework for language education grounded in social and environmental justice. It applies CLA's analytical tools to environmental discourse while integrating ecolinguistics' insights into how language constructs human-environment relationships. The framework recognizes that language carries ideology across all registers—whether discussing race, class, gender, or nature. Environmental discourse embeds assumptions about nature's meaning, human obligations, and responsibility for sustainability. Eco-CLA enables learners to identify these ideological dimensions and construct alternative narratives grounded in justice (Micalay-Hurtado & Poole 2022; Robinson et al. 2021).

Eco-CLA rests on five principles:

1. Learning is bound to the physical world and material relationships. Eco-CLA grounds understanding in

learners' physical environments and interactions with living and nonliving things, positioning language learning as a means of understanding and articulating ecological connections (Micalaly-Hurtado & Poole 2022).

2. Well-being and sustainability as common sense. Rather than treating sustainability as a debatable ideology, Eco-CLA frames ecological wellbeing as a reasonable priority. Learners examine how unsustainable narratives become naturalized and work to challenge them (Stibbe 2015, 2021).
3. Ecological consciousness through localized contexts. Eco-CLA engages learners' circumstances, communities, and lived environmental realities. For Indonesian students, this means addressing climate impacts and environmental injustices directly affecting their lives (Goulah 2017; Micalay-Hurtado & Poole 2022).
4. Advocacy for marginalized communities. Environmental destruction falls unequally on those least responsible. Eco-CLA enables learners—particularly those from marginalised communities—to understand their circumstances as systemic injustice and to develop voices for change (Micalay-Hurtado & Poole 2022).
5. All linguistic varieties are equal. Rather than privileging standard norms, Eco-CLA recognizes equal communicative power across varieties, disrupting colonial and neoliberal language hierarchies. Learners develop sustainable anglophone identities grounded in their own linguistic resources (Delavan 2020; Micalay-Hurtado & Poole 2022).

These principles position language classrooms as sites where learners develop linguistic competence, critical consciousness of language's role in environmental understanding, and agency for justice advocacy. Integrating ecological identity into pedagogy strengthens environmental awareness and responsibility (Bergman 2016; Manase 2016).

2. Method

This study examines ten classroom activities from Climate Action in Language Education: Activities for Low-Resource Classrooms through analysis of how each operationalizes Eco-CLA principles. The study addresses four questions: (1) How do activities position learners to examine environmental discourse critically and recognize ideological dimensions? (2) What linguistic skills do activities develop and through what mechanisms? (3) How do activities address the five Eco-CLA principles, particularly regarding critical consciousness, localized relevance, and justice? (4) What implementation considerations emerge for Indonesian contexts? This analysis provides a theoretical examination of pedagogical potential rather than measuring outcomes. It offers teachers and curriculum designers frameworks for selecting and adapting activities while identifying professional development needs.

2.1. Data Source and Research Design

This study employs document analysis to examine ten activities from Climate Action in Language Education. Document analysis is a qualitative methodology suited to systematic examination of educational materials, revealing how texts embody particular frameworks and pedagogical approaches (Bowen 2009). Here, document analysis operationalizes the Eco-CLA framework to assess how activities integrate climate education with language learning. The ten activities were selected based on availability and representation of diverse pedagogical approaches across proficiency levels. Rather than measuring learning outcomes or conducting classroom observation, this approach provides a theoretically grounded analysis of pedagogical potential.

2.2. Analytical Framework: Operationalizing Eco-CLA Principles

The analysis translates five Eco-CLA principles into observable features, enabling systematic evaluation of each activity.

Principle 1: Learning is Bound to the Physical World and Relationships operates when activities explicitly connect language development to concrete environmental phenomena, ecological systems, or learners' direct experiences. Observable indicators include references to specific places or ecosystems, encouragement to observe environmental conditions, or engagement with tangible environmental content.

Principle 2: Sustainability and Wellbeing as Common Sense manifests when activities frame ecological sustainability as an implicit priority rather than a debatable perspective. Language choices position sustainability as a baseline assumption, allowing learners to focus on achieving sustainable outcomes rather than debating their necessity.

Principle 3: Ecological Consciousness Through Localized Contexts is evident when activities reference learners' specific communities, regions, or lived experiences, connecting global environmental issues to local manifestations. Operationalization occurs through explicit local references, environmental challenges with direct relevance, or tasks inviting community analysis.

Principle 4: Advocacy for Marginalized Communities operates when activities examine environmental justice: who is affected, why impacts are unequal, and how power shapes ecological distributions. Operationalization includes positioning learners as change agents, developing language for voicing concerns and proposing alternatives, and examining whose interests narratives serve.

Principle 5: Multiple Linguistic Varieties as Equal functions when activities avoid privileging standard or native-speaker norms, instead valuing flexible expression and recognizing learners' linguistic resources as valid. Operationalization occurs through activities permitting local varieties or code-switching and valuing expressive language equally with formal accuracy.

2.3. Analysis Process

For each activity, analysis proceeds through five stages: (1) identifying language learning objectives, task structure, and environmental content; (2) assessing alignment between activity design and each Eco-CLA principle; (3) examining whether and how the activity enables critical examination of environmental discourse and ideological assumptions; (4) evaluating communicative demands and mechanisms integrating language development with environmental engagement; (5) identifying implementation considerations for Indonesian contexts, including required teacher knowledge, resources, and adaptations.

2.4. Unit of Analysis

The unit of analysis is the individual activity as designed and described within the resource guide. Analysis examines the activity's instructions, task descriptions, learning objectives, environmental content framing, and learner engagement structures (individual, pair, group, or whole-class work). This approach enables fine-grained analysis of how specific pedagogical designs operationalize Eco-CLA principles while remaining grounded in actual activity descriptions.

2.5. Scope and Limitations

This study analyzes activity design as presented, not classroom implementation. We examine what activities are structured to enable pedagogically, not whether teachers enact them as designed or what outcomes result. Design potential and classroom reality often diverge, particularly in resource-limited contexts where large classes (35–40 students), standardized testing pressures, and competing curricular demands constrain implementation.

The absence of empirical data limits claims about actual implementation and learning outcomes. We cannot determine whether activities successfully develop critical

consciousness in practice, how teachers adapt materials, or what challenges students encounter. Classroom observation, student discourse analysis, and teacher interviews would validate the design's potential against its real-world impact. Nevertheless, the framework offers immediate utility for practitioners evaluating and adapting climate-language activities while establishing the analytical foundation for future classroom-based research.

3. Findings and Discussions

3.1. Findings

This section analyzes ten classroom activities from Climate Action in Language Education: Activities for Low-Resource Classrooms (Barber et al. 2022) through the Eco-CLA framework. Rather than evaluating materials as adequate or inadequate, the analysis uses Eco-CLA diagnostically to identify which ecological principles are readily operationalized in resource-constrained contexts and which require additional teacher mediation.

Table 1 provides an overview of how each activity aligns with the five Eco-CLA principles. The table maps which principles are most and least embedded within the activities as designed. This descriptive overview establishes a foundation for the interpretive analysis that follows.

Each activity was evaluated for how its design requires, scaffolds, or permits Eco-CLA principal operationalization using three codes: strong (task structure explicitly requires the principle), partial (activity allows but does not require it; depends on teacher initiative), and limited/absent (design neither presupposes nor encourages it). This classification reflects varying teacher agency: strong activities function independently, partial cases depend on teacher decisions to activate implicit dimensions, and limited cases require complete redesign.

Analysis reveals coherent but asymmetrical operationalization. Principles 1, 2, and 3—grounded in experiential engagement, normative sustainability framing, and localization—are consistently operationalized. Principles 4 and 5—justice advocacy and linguistic pluralism—appear sporadically with lower intensity, reflecting CALE's prioritization of concrete environmental engagement over justice dimensions and linguistic emancipation.

Principle 1: Learning Bound to Physical World and Relationships

Four activities strongly operationalize this principle by requiring concrete environmental engagement: "The 5Rs in Action" asks learners to identify household sustainable practices with specific examples; "Our Water Use" requires listing daily water activities and estimating consumption; "Weather and Climate Stories" invites recounting local weather events and community responses; "Haiku, Energy and Climate Action" demands sensory associations with energy concepts.

Four activities partially operationalize it through environmental content, allowing abstract engagement: "Endangered Animals" teaches species facts through listening; "Sport and the Environment" discusses climate impacts without requiring personal reflection; "Farming and Food" explores topics through factual/false statements and role play; "Water for All" presents global water crisis through distant cases without mandating local connection. Two activities show limited operationalization: "Upcycling" presents concepts through vocabulary and storytelling without material engagement, reflecting practical constraints in resource-limited contexts.

Principle 2: Sustainability and Wellbeing as Common Sense

Four activities frame sustainability as an implicit baseline rather than a debatable value. "Fast Fashion Chain" opens with "What can we do to make clothes last longer?"—presupposing that extending the life of clothing is desirable. "Energy in Our Lives" similarly asks "What can we do to use less electricity?" without requiring justification. Both use obligatory language (must, should, need to) that normalizes

Table 1: Eco-CLA Operationalization across Ten CALE Activities
Table 1 summarises how the ten CALE activities operationalise the five Eco-CLA principles, indicating for each activity whether alignment is strong, partial, or limited/absent. It shows at a glance that principles grounded in concrete environmental engagement, sustainability framing and localisation are most consistently embedded, whereas justice advocacy and linguistic pluralism are addressed more unevenly across the activities, signalling where teachers may need to add further critical pedagogy.

Eco-CLA Principle	Strong Operationalization	Partial Operationalization	Limited / Absent
1. Learning Bound to the Physical World & Relationships	The 5Rs in Action, Our Water Use, Storms and Weather, Haiku Energy and Climate Action	Endangered Animals, Sport and the Environment, Farming and Food	–
2. Sustainability & Well-Being as Common Sense	Fast Fashion Chain, Energy in Our Lives, The 5Rs in Action, Sending out an SOS	Food Choices, Farming and Food, Water Problems and Solutions	–
3. Ecological Consciousness through Localized Contexts	Weather and Climate Stories, Local Farming, Our Water Use	Fast Fashion Chain, Sport and the Environment, Farming and Food, Water for All (Activities 1-2)	Endangered Animals, Upcycling, Haiku Energy and Climate Action
4. Advocacy for Marginalised Communities	Water Access and Justice (too much/too little water)	Fast Fashion Chain, Food Choices	Sport and the Environment, Storms and Weather, Endangered Animals, Upcycling
5. Multiple Linguistic Varieties as Equal	The 5Rs in Action, Local Farming	Energy in Our Lives, Fast Fashion Chain, Our Water Use	Storms and Weather, Sending out an SOS

sustainable action as moral necessity. "The 5Rs in Action" presents the five actions as environmental imperatives. "Sending out an SOS" treats emergency response to extreme weather as a community responsibility.

Four activities treat sustainability as one value among competing concerns. "Food Choices" and "Farming and Food" explicitly balance farmer productivity with environmental protection. The activity instructs learners to role-play as farmers and environmental activists on a government panel, positioning these concerns as legitimate but competing. "Water Problems and Solutions" asks groups to identify urgent water-related problems in their communities, requiring learners to evaluate competing priorities.

Principle 3: Ecological Consciousness Through Localized Contexts

Three activities strongly mandate local contextualization: "Weather and Climate Stories" requires sharing local weather memories and community responses; "Local Farming" asks about nearby crops, markets, and traditions; "Our Water Use" grounds tasks in household practices.

Five activities partially permit but do not require localization: "Fast Fashion Chain," "Sport and the Environment," and "Farming and Food" discuss global systems using distant examples that teachers could adapt. "Water for All" presents cases from Pakistan, the UK, Germany, and Malawi without prompting local analysis. "Energy in Our Lives" categorizes global energy sources without local reference. Three activities show limited localization: "Endangered Animals" focuses on distant species; "Upcycling" tells Paraguay's Recycled Orchestra story; "Haiku, Energy and Climate Action" addresses global energy without local scaffolding.

Principle 4: Advocacy for Marginalized Communities

One activity explicitly examines power inequalities and scaffolds learners toward advocacy. "Water Access and Justice" asks learners to compare urban and rural water access, then guides action at three levels: personal (refusing single-use plastics), local

(creating school recycling systems), and political (signing petitions, writing to companies). This structure moves learners from awareness to potential agency.

Two activities raise awareness of inequality but do not scaffold advocacy. "Fast Fashion Chain" traces the T-shirt supply chain and discusses who benefits and suffers. However, the activity concludes at the awareness stage; learners do not develop positions or take action on labour conditions. "Food Choices" examines tensions between farmer income and environmental protection without moving toward learner voice or action.

Five activities do not engage justice dimensions. "Sport and the Environment," "Storms and Weather," and "Endangered Animals" focus on environmental topics but do not address power or inequality. "Upcycling" celebrates creative reuse and presents the Recycled Orchestra as an inspirational story rather than examining systemic disparities. "Haiku, Energy and Climate Action" does not engage justice.

Principle 5: Multiple Linguistic Varieties as Equal

Two activities strongly value linguistic flexibility: "The 5Rs in Action" uses pair discussion and informal note-taking without accuracy demands, stating, "It is not a dictation, so they should not write every word." "Local Farming" encourages pair discussion where learners "often mix English with their first languages."

Three activities partially create space for flexibility without explicit emphasis: "Energy in Our Lives" uses group brainstorming; "Fast Fashion Chain" involves pair discussion; "Our Water Use" includes informal pair work, permitting but not explicitly valuing flexible expression. One activity enforces a standardized register: "Sending out an SOS" requires writing SMS and social media warnings, where communicative purpose (public warning) implicitly demands clarity and conventional forms over flexibility.

3.2. Discussion

3.2.1. The Asymmetry Pattern

CALE consistently operationalizes Principles 1, 2, and 3—concrete environmental engagement, sustainability framing, and localization—while treating Principles 4 and 5 (justice advocacy and linguistic pluralism) as peripheral. This reflects how language teaching is conventionally designed and what teachers are trained to do.

The first three principles align with communicative language teaching (CLT), the dominant ELT paradigm prioritizing authentic tasks, meaningful communication, and learner-centered content (Nunan 1989; Brown 2007). Concrete environmental engagement creates such contexts: learners discuss actual water consumption, waste practices, and lived experiences of weather. These activities foster environmental awareness through language because the linguistic work is the environmental work. When learners describe their water consumption patterns, they simultaneously develop vocabulary and ecological literacy by noticing usage, categorizing activities, and articulating relationships between daily practices and resource systems. When they compare how different texts frame "fast fashion," they learn both comparative structures and how language choices reveal ideological assumptions about labor and consumption. Sustainability as common sense requires no ideological justification and serves as a shared baseline. Localization makes content personally relevant, a CLT cornerstone. These principles demand skillful task design but not fundamental pedagogical reorientation; CLT-trained teachers can operationalize them effectively.

Principles 4 and 5 require competencies outside standard language teacher training. Justice advocacy asks teachers to help learners analyze power structures, recognize who speaks and who is silenced in environmental discourse, and develop agency for change—critical pedagogy in Freire's (1970) tradition, not CLT. Linguistic pluralism challenges institutional language ideologies, demanding

teachers actively legitimize code-switching and local varieties. These commitments require critical consciousness about language and power that conventional teacher education does not provide.

CALE reflects these constraints realistically, prioritizing what is achievable within CLT frameworks and low-resource settings: oral delivery, minimal materials, and authentic environmental communication. This design is pedagogically sound and practically wise, but creates trade-offs. Activities such as "The 5Rs in Action," "Our Water Use," and "Weather and Climate Stories" effectively develop environmental awareness through integrated language work. Learners simultaneously acquire communicative competence and ecological literacy by describing, comparing, and analyzing environmental phenomena in their communities. However, this environmental awareness does not automatically produce critical consciousness. Learners may speak fluent English about waste reduction without interrogating why plastic waste proliferates, discuss water usage without examining why access remains unequal, or describe weather patterns without questioning whose labor bears climate impacts. As Micalay-Hurtado and Poole (2022) observe, approaches addressing environmental content without interrogating discourse's ideological dimensions leave significant gaps between environmental awareness and the critical ecological agency necessary for transformation.

Implementing Principles 4 and 5 in Indonesian ELT contexts confronts dual obstacles. Teachers face the global critical pedagogy gap: systematic training in discourse analysis, ideological critique, and teaching for social change is not standard ELT preparation. Indonesian education presents additional structural constraints. Environmental literacy remains marginalized in the national curriculum, with recent policy analysis revealing "significant discrepancy" between Indonesia's climate commitments and K-12 educational standards, resulting in weak climate content integration (Tang 2024). Teachers cannot scaffold learners toward environmental justice consciousness without possessing it themselves, nor can they help students interrogate power structures when ecological science and justice are absent from teacher education. Indonesian ELT teachers are asked to embed climate content without the environmental knowledge and critical literacy competencies required for full CALE framework implementation.

These systemic gaps collide with immediate classroom realities. Teachers manage large classes—typically 35–40 students—within standardized testing frameworks, prioritizing grammatical accuracy over critical thinking (Syamsudin 2024). Curriculum requirements emphasize vocabulary and grammar coverage, while professional development opportunities in critical pedagogy remain sparse. Many schools operate with minimal instructional resources, in contrast to language-education contexts observed elsewhere (Curdt-Christiansen 2020). Teachers are simultaneously asked to facilitate communicative tasks, possess environmental literacy, connect content to local contexts, interrogate power asymmetries, and legitimize linguistic pluralism—while meeting mandated curricula and managing large classes. Individual agency cannot resolve this structural overload. Realizing Principles 4 and 5 demands not only professional development in critical pedagogy but foundational reconstruction of how environmental knowledge is positioned within English language teaching itself.

3.2. Pedagogical Potential vs. Limitations

CALE demonstrates that environmental education can be meaningfully integrated into language teaching without specialized materials or extensive redesign. Activities like "Our Water Use," "Weather and Climate Stories," and "The 5Rs in Action" ground language learning in concrete environmental content while developing communicative competence, repositioning environment from a peripheral topic to a central classroom concern. For teachers in low-resource

settings, this demonstrates feasibility—climate education need not wait for specialized programs or additional resources.

Yet this achievement has boundaries. "The 5Rs in Action" teaches vocabulary and sustainable practices without asking why single-use plastics proliferate, who profits from disposability, or how consumption connects to economic inequality. "Fast Fashion Chain" builds awareness of labor exploitation without scaffolding learners toward advocacy or collective action. These gaps reflect design choice: CALE prioritizes environmental awareness and communicative competence over what Micalaly-Hurtado and Poole (2022) term "ecological agency"—learners' capacity to understand environmental issues as interconnected with power structures and imagine systemic change. CALE genuinely develops environmental literacy and communicative competence, but teachers seeking critical consciousness must supplement activities with deliberate critical work.

This limitation need not diminish CALE's value. The framework signals where teachers must intervene. Activities permitting rather than requiring localization indicate teachers must actively connect global examples to students' communities. Activities raising awareness without scaffolding advocacy signal teachers must guide learners toward developing positions and imagining collective action. These signals make visible the pedagogical work extending beyond activity completion. Effective climate-language teaching requires teachers to recognize CALE as a foundation and bring contextual knowledge, critical consciousness, and pedagogical intentionality. Template-based materials cannot anticipate every context's environmental issues, power dynamics, or linguistic diversity.

The analysis reveals clear implications. CALE achieves its design goal: demonstrating climate education integration into language teaching at scale within low-resource contexts. Activities are pedagogically sound, accessible, and valuable for developing linguistic and environmental competence. However, climate-language integration is not synonymous with transformative climate education. Realizing critical consciousness requires teachers to possess environmental literacy, essential pedagogy competencies, and awareness of language ideologies—competencies that current teacher education systems have not systematically developed. CALE works. What remains uncertain is whether language education institutions are prepared to support teachers in doing deeper critical work that genuine climate action demands.

Conclusion

CALE activities demonstrate that climate content can be integrated into language teaching within existing resource constraints. Activities consistently develop environmental awareness, communicative competence, and localized engagement, but they do not systematically develop critical consciousness—the capacity to interrogate environmental injustice or imagine systemic change. This reflects a deliberate prioritization of accessibility over transformative learning. For Indonesian language teachers, this distinction carries direct implications. Teachers using CALE will build learners' environmental awareness, yet developing critical ecological agency requires supplementing these materials with deliberate critical pedagogy. In Indonesian contexts, institutional constraints intensify this challenge: large classes, standardized testing, and curriculum compliance demands leave minimal space for critical reflection.

Future research should examine how teachers implement climate-language activities in diverse contexts and what adaptations enable critical consciousness development despite institutional barriers. Teacher education programs require systematic integration of environmental literacy and critical pedagogy competencies into preparation curricula. Policy interventions must address structural obstacles—class sizes, assessment frameworks, professional

development—that prevent teachers from moving beyond environmental awareness toward transformative climate education. Without such systemic changes, the asymmetry identified here will persist: climate content in classrooms without the critical consciousness necessary for climate action.

Statements

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