

Ecopedagogy as a Lever for Climate Justice Towards a Just Transition

Radhika Iyengar

Climate School, Columbia University

Syed Nitas Iftekhar

Bard College Beijing Office for Asia-Pacific

Matthew Witenstein

Dept. of Teacher Education, Educational Leadership & Policy, University of New Mexico

Karen Chand

Sustainable Development Solutions Network, Asia Headquarters

The article explores critical learning pedagogies focusing on ecopedagogy and emphasizing the importance of adopting a Freirean approach to learning as a lifelong commitment to promoting civically engaged and responsible climate action. It moves beyond the conventional standardised methods of environmental education taught in formal institutions with structured syllabi and courses. The article highlights ecopedagogy as a learning philosophy integrated through grassroots actions. We discuss selected global issues, threatening biological, social, and environmental marginalization, as case studies to inform the article's dialogue. We examine the definition and interpretation of ecopedagogy in the context of Paulo Freire's vision. We conceptualize ecopedagogy as a pathway to achieving a Just Transition, described as a framework that ensures workers and communities are not left behind as economies shift to sustainable practices. It focuses on fair wages, new job opportunities, and social support for those affected by changes like the move away from fossil fuels. The article proposes a framework that connects ecopedagogy with Just Transition through humanization and critical consciousness. To inform the non-existence of a uniform vision for what just transition entails (Cha & Pastor, 2022), we provide practical applications of this framework in policy and practice, offering recommendations for reconstructing education by implementing ecopedagogy in community-based settings to reconstruct policy aligned to Just Transition.

Keywords: Ecopedagogy, Just Transition, India, Malaysia, United States (U.S.).

Introduction

The Earth is witnessing the climate crisis looming large, interwoven with deep-rooted social and environmental injustices across international, national, and subnational levels. The burden of this crisis falls most severely on the poor and marginalized communities (Kashwan et al., 2020). The limitations of globalized, standardized, top-down solutions

become increasingly apparent. Addressing the polycrisis of climate change, biodiversity loss, and social-environmental injustices requires not only planet-focused technological innovation but also a fundamental transformation in how we learn to understand our place within the wider web of life and humans' role towards the inhabitants of planet Earth. Conventional environment teaching and learning paradigms fall short in fostering the critical awareness and collective action required to address the systemic roots of ecological degradation and inequity.

This article explores ecopedagogy—a critical educational approach grounded in Paulo Freire's (1970/2017) principles' awareness about social injustices and praxis through pedagogy—as a vital lever for achieving climate justice (Misiaszek, 2025). We put forth ecopedagogy and explain its relevance to climate justice, specifically towards 'just transition'. Just Transition (JT) is a concept popularized by United Nations (UN) agencies to bring forward a common global vision around decarbonization, green jobs, and net zero. JT emphasizes the need for a just and equitable shift from extractive industries to sustainable "green" ones (Stark et al., 2023). A JT, as defined by the UN International Labor Organization (ILO):

Conceptual framework in which the labor movement captures the complexities of the transition toward a low-carbon and climate-resilient economy, highlighting public policy needs and aiming to maximize benefits and minimize hardships for workers and their communities in this transformation.

We argue that for a shift toward sustainable economies to be fair and equitable, JT should include work toward deep shifts in consciousness and civic engagement. It is marginalized communities that are most vulnerable to the environmental crises. When it comes to top-down policy or global agendas, it is the minorities who get left out or unheard. We propose an ecopedagogical framing of JT to prevent the sidelining of those who are marginalized or on the brink of marginalization.

Ecopedagogy, with its focus on critical reading of the world, humanization, and conscientization, provides the essential ethical and practical grounding for operationalizing a JT. We will first delve deeper into the theoretical underpinnings of ecopedagogy, drawing connections to Freirean thought. We will analyze illustrative case studies from the authors' local contexts—including challenges related to air pollution and waste management in India, deforestation impacts in Malaysia, and wildfire crises in the U.S.—to ground the discussion in real-world struggles and potentials. Following this analysis, we propose a conceptual framework linking ecopedagogy and JT, concluding with practical recommendations for implementing ecopedagogical approaches in community settings and shaping supportive policy interventions.

Ecopedagogy for Systemic and Participatory Change

Ecopedagogy is an educational approach grounded in Brazilian pedagogue Paulo Freire's popular education and critical pedagogies, which critically examine how

humans perceive themselves concerning the Earth and nature in this interconnected and relational world (Misiaszek, 2022). It incorporates ecological and sustainability concepts into teaching and learning practices, whether in formal, informal, or non-formal spaces. It represents a holistic approach to education that seeks to cultivate ecologically-minded global citizens equipped to address complex socio-environmental challenges with a perspective that is not anthropocentric, but Earth-centric, which includes all ecological and social systems (including human systems) (Misiaszek, 2022). Raising awareness towards issues is an integral dimension, as is developing planetary consciousness that fosters action towards earth-justice (encompassing social, environmental, economic, and other justices). Recognizing the interconnectedness of ecological degradation with social, political, and economic injustices, and an ecopedagogical reading of the JT brings us closer to ending such injustices and human dominance over nature.

Rooted in Paulo Freire's critical pedagogy (Freire, 1970/2017), ecopedagogy is aligned with the UN Sustainable Development Goals (SDGs), particularly those addressing quality education (SDG 4) and climate action (SDG 13). Ecopedagogy promotes the reading and re-reading of the intersections of social, political, economic, and environmental systems (Misiaszek, 2023). Ecopedagogy helps unmask justice-oriented sustainable notions of resilience, adaptation, and mitigation often neglected under the underlying power structures and injustices (see Baker, 2019; Mahdiani & Ungar, 2021; Rahman et al., 2023). We use an ecopedagogical framing in the context of JT as a tool for deconstructing these narratives and exposing how they can perpetuate the status quo.

Consider the concept of adaptation to climate change. While formally defined and promoted globally by the UN as a critical component of the long-term response to climate change, aimed at adjusting systems and behaviors to protect people, livelihoods, and ecosystems from climate impacts, its practical application may not be universally beneficial. As Mahdiani and Ungar (2021) suggest, adaptation can have a dark side, potentially reinforcing existing inequalities or even creating new vulnerabilities. In real-world situations, adaptation manifests differently across socioeconomic lines. For affluent segments, adaptation could mean creating safe micro-environments, insulating themselves from climate change impacts, while for those who cannot afford this luxury, adaptation could take a devastating form of forced endurance and increased physical burden. Academics must highlight these issues with real-world examples to build collective action towards a true JT.

We use examples from our local contexts, uncovering the underlying and inherent issues that come with JT. These are not representative of the Global North or South or the planet as a whole; we put forth in academic dialogue the nuances that could be relevant across nations and must be understood to meaningfully bridge toward building planetary consciousness and transition into an earth-justice-oriented society. The case studies link ecopedagogies and the various pathways in which they could be implemented for moving towards JT.

The case studies related to air pollution and waste in India, the destruction of the forests in Malaysia, and the fires in Los Angeles, U.S., explain the realities people face in various geographies and showcase the potential that ecopedagogies have to reshape environmental education towards action and JT. The case studies have certain underlying commonalities: the marginalization of communities, the loss of/to humans and nature, and that these issues might appear to be specific to a place, but in reality have global implications. Lastly, these case studies have hidden connections between economic, social, and environmental spheres.

Ecopedagogical Framing of Cases from India, the U.S., and Malaysia

Air Pollution in North India: Who Are the Marginalized? The Planet and Its Inhabitants

New Delhi and the surrounding metropolitan area, home to approximately 55 million people, had the world's worst air pollution in 2024, according to IQAir¹, a Swiss company that measures air quality (Zhuang, 2024). The reading on its index rose to over 1,600 in November 2024. Anything above 301 on that index is considered hazardous, potentially leading to severe eye and throat irritation and serious heart and lung conditions (Zhuang, 2024). The U.S. Environmental Protection Agency considers anything above 500 to be high. Schools were asked to close due to the risk of children falling ill from the air pollutants in Delhi. However, daily wage earners in Delhi do not have the luxury of shutting down shop and staying indoors. These individuals at the lower end of the economic spectrum are the ones who suffer the most. According to the Labor Bureau (2024), there are more than 71,000 individuals who are in the informal sector, earning a minimum wage without any benefits. These people are at the most risk of life-threatening environmental exposure due to the jobs they have. There is no respite for these individuals; meanwhile, others with better economic backgrounds, in the same geographic location, are shielded from the poor air quality to some extent with their windows closed and their air purifiers on. In rich neighborhoods in New Delhi, it is a common sight to see air conditioners functioning all day, whereas on the streets, we see drivers, daily wage earners, and street vendors who are engulfed in pollution and heat with no respite. The environmental experiences vary with the income level. Exposure to pollution is self-selecting, causing more harm to the marginalized.

Callo-Concha and co-authors(2013) presented a conceptual tool that shows how the non-marginalization of humans cannot be achieved by focusing on one aspect alone, such as creating income-generating opportunities or guaranteeing an improvement in living conditions. Humans have failed to live with nature. The livelihood of fishermen is

¹ The Air Quality Index measures the density of five pollutants in the air: ground-level ozone, particulates, carbon monoxide, nitrogen dioxide, and sulfur dioxide. It was established by the U.S. Environmental Protection Agency as a way to communicate to Americans the state of the air they are breathing each day. There are pollution monitors at more than 1,000 locations across the country.

getting harder due to a lack of fish near the coastal region (Pandey, 2025). How humans set boundaries between nature and our economic means requires reflective practices between nature and human beings. Adopting an ecopedagogical framing will allow policymakers to commit to civically engaged and responsible climate action. Ecopedagogy takes us away from a more standardized (Iftekhar & Misiaszek, 2019) approach to planetary issues by uncovering inherent systemic issues that are not just related to the environment but are also affected by socio-economic and cultural factors.

Ecopedagogy promotes learning from real-world cases through dialogue that offers a fruitful opportunity for policymakers and educators to grasp and apply concepts in their organizations and communities. Utilizing ecopedagogy to critique and respond to location-specific issues has the potential to open up pathways for a JT in a truthful manner. JT must ensure that the most vulnerable workers and communities are supported while industries shift toward sustainability. Moving to JT will lead to a rethinking of economic means for many, thus the process would protect and empower the marginalized. A shift towards sustainability, or including measures that may be green, needs to be critically looked at, as illustrated by the situation.

“The dust is like a bedsheet,” declared Rohit Mishra when describing the soot that comes from the Timarpur-Okhla Waste to Energy Plant in Delhi, India (Abi-Habib 2024). Hazardous levels of toxic substances have been found near the facility, which turns mountains of trash into electricity. Timarpur, Sukhdev Vihar, and Khadda colony neighborhoods in Delhi have a 200-foot pile of garbage that looms over them. The 20-story garbage pile will collapse on the people of Timarpur or catch fire (Abi-Habib, 2024). The Delhi State Government has placed a state-of-the-art plant there to burn the garbage to create green energy. The plant has produced many environmental challenges, including ash dumps and soot layers near the homes, as well as smoke and toxic soil. These neighborhoods have Arsenic levels 10 times higher than the EPA guidelines, which may cause respiratory, vascular, and cardiovascular diseases (Abi-Habib, 2024). Among other elements in the air is Manganese, which is 11 times higher than the EPA guidelines and can lead to Parkinson’s disease. Cadmium is 19 times higher than the EPA guidelines and can, with prolonged exposure, lead to toxic effects on the skeletal system and other bone diseases.

A large part of exercising ecopedagogy is to organize and to fight (through dialogue, advocacy, and action) against local injustices. The residents, who were the most vulnerable to the adverse effects of the sustainability initiative, sued the plant to stop its operations, and the case is still pending in India’s Supreme Court. The residents have appealed to the UN; however, they were told that the case is in the Indian Government’s jurisdiction. Abi-Habib (2024) mentioned that it was the buyers' responsibility to create so much waste. Such a situation is an example of a green initiative yielding results at the expense of a local community. Ecopedagogy is about educating the masses and guiding people towards a fairer and just circular economy, a system to maximize resource

efficiency and reduce waste. It provides companies and governments with a toolkit to evaluate the effectiveness of initiatives that are meant to bring a positive change.

Wildfires in the U.S.: Re-reading of Climate Disasters for Planet Justice

Wildfires are no longer restricted to California. Dry spells occur in many parts of the U.S., threatening places such as New Jersey and New York. Fires swept through at least 5,000 acres of land for 10 days and impacted towns on the New York-New Jersey border (National Drought Mitigation Center, 2025). Hundreds of trees burned down, including the animals that lived in them. 41.67% of the U.S. and 49.84% of the lower 48 states were in a drought the week of January 15–21, 2025 (National Drought Mitigation Center, 2025). These dry spells make the conditions for wildfires more vulnerable. The unusual severity of these wildfires can be attributed to several compounding climate-related factors. The region has received below-average rainfall, and warmer winter temperatures have further dried out vegetation, making the landscape more flammable than usual (National Drought Mitigation Center, 2025). Strong winds during the winter season accelerated the spread of the flames, making containment efforts especially difficult for fire crews. These conditions reflect a growing vulnerability in the Northeast to climate-driven weather extremes. The impact on local communities was significant. Thick smoke reduced air quality across several counties, posing health risks, particularly to children, the elderly, and individuals with respiratory conditions. Schools in the affected zones were forced to close temporarily, and some major roads were shut down due to poor visibility and fire proximity (Associated Press, 2025). Beyond the immediate threat to human life and property, the fires caused long-term damage to ecosystems, including the destruction of habitats for native species and scorched areas of protected forestland that could take years to recover (McKay & Oladipo, 2025).

This event highlights a troubling trend: drought-induced wildfires are no longer confined to the western U.S. As climate change accelerates, it causes shifts in regional weather patterns, resulting in increased fire risks in places previously considered low-risk (Parshley, 2025). This reality calls for urgent action. State and local governments in the Northeast should revise their emergency preparedness and disaster response strategies to account for wildfires. Investments in forest management, early warning systems, and public awareness campaigns are essential. A coordinated, multi-state approach to drought monitoring and climate resilience could play a vital role in adapting to this emerging challenge. With ever-increasing drought and wildfires along with unseasonal rains, landslides, and rising temperatures, ecopedagogy gives an earth-focused lens to connect to climate change and not consider these climatic disasters a one-season or one-off incident to ignore (Marcius 2024, November 17).

A JT needs to build awareness not only from a standpoint of justice towards humans from the consequences of human actions, but from a standpoint of ecojustice, or justice towards the planet, and vice versa. The wildfire crisis along the New York–New Jersey border underscores the growing impact of climate change in traditionally temperate

regions and reinforces the need for a JT—one that acknowledges the intersection of social justice and environmental responsibility. A JT must go beyond protecting human livelihoods and include a commitment to ecojustice, which recognises the planet's intrinsic rights and the need to restore balance between human activity and natural ecosystems. The path forward must involve building awareness and action that reflects justice toward both people and the planet, recognising that the two are inseparable in the pursuit of sustainable development.

Developing knowledge of planetary justice through an ecopedagogical lens establishes a strong foundation for meaningful dialogue and action toward a JT away from fossil fuel dependence and environmentally harmful practices. In the context of events like the New York–New Jersey wildfires, ecopedagogy encourages students to analyze the scientific causes of drought and fire risk as well as to reflect on their roles as ecological citizens. It challenges traditional, anthropocentric narratives of education, fostering a sense of shared responsibility toward the Earth, highlighting the moral imperative to care for human communities and natural systems. Integrating ecopedagogy into curricula, educators can cultivate awareness, values, and an action-oriented mindset to navigate the complex realities of the climate crisis and contribute meaningfully to a just and sustainable future (Misiaszek, 2020; Kopnina & Cherniak, 2016).

Orang Asli Community of Malaysia: Raising Consciousness from Communities

A total of 1,074 permanent forest reserve areas in Peninsular Malaysia, equivalent to 38,376 hectares (over 53,700 football fields), were illegally cleared as of December 31, 2023 (Abd Malik, 2024). However, the destruction of forests in Malaysia is not confined to illegal activities. As land is under the sole jurisdiction of each state, states can legally degazette permanent forest reserves for activities such as logging, agriculture, plantations, mining, and property and infrastructure development. The biggest victims are the Indigenous people, known as the Orang Asli.

If you compare us with the rich city folk, then, of course, we would seem poor. But we are not starving. We are still able to feed our families, and we are happy with the way we lead our lives here. But deforestation is threatening our survival and way of life. We can't farm, we can't fish, and much of the forest land is taken, making it hard to find materials to practice our rituals. How are we supposed to live? (Wan Razali & Mohamed (n.d.).

The above excerpt is from the case of Gua Musang in Kelantan, Malaysia, which has seen severe land destruction. For the Orang Asli community, life is linked to ancestral land passed down from generation to generation. Living off the land for the Orang Asli means using land thoughtfully, respectfully, and carefully, with the understanding that it will be passed onto future generations (Wan Razali & Mohamed, n.d.). Indiscriminate and unchecked development has displaced these communities and threatened their survival. Water sources are contaminated by upstream logging and development

activities, causing soil and chemicals to flow into the rivers that the Orang Asli rely on for bathing, fishing, and drinking water. There have been cases of dangerous encounters with displaced wildlife, including tigers and elephants (McIntyre, 2024; Zainudin, 2024). Flooding is a perennial problem, but with lucrative revenue streams at stake, the government has little incentive to stop the source of the problem. It adopts an adaptation approach (evacuation, rescue, and relief) each time the floods come. For decades, the Orang Asli have pushed back, offering to help the state with conservation projects that can contribute to the economy sustainably, but to no avail.

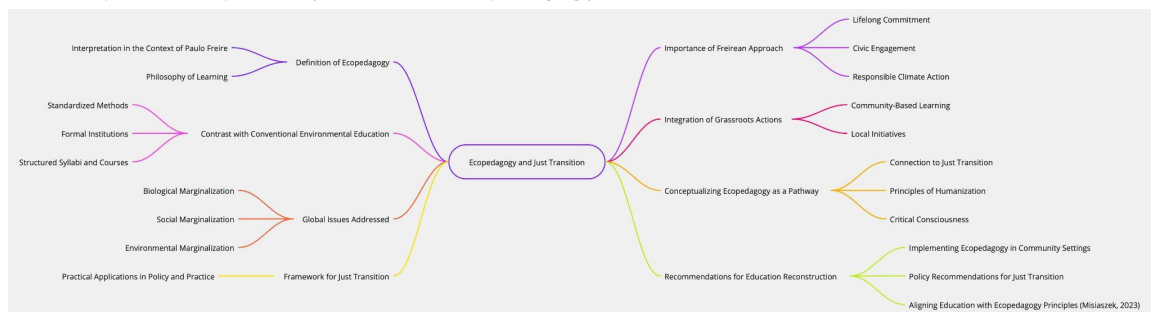
The federal government is responsible for issues of the environment in the Malaysian constitution, including matters of stewardship, conservation, and sustainable use of natural resources. Because jurisdiction over land, water, mining, and forests remains with the state, the federal government can only advise the state but cannot force it to stop making decisions based on what is economically lucrative. Ecopedagogy guides bottom-up dialogue with and the inclusion of those affected. It thereby brings forth alternative solutions that are socially just and still economically valuable in a new, sustainable economy. Measures to improve a community's ecological consciousness need to be social justice-driven and grounded in the local context.

Ecopedagogy: Bridging the Gap to a JT

The case studies discussed above provide pathways that lead to the JT mapped out in Figure 1. Ecopedagogy, as a theory and process, has the potential to bridge gaps on a policy level in pursuit of JT. It does so by examining and questioning, fostering dialogue (inspired by Freire's [1970/2017] concept of communication), and critical and earth-focused assessment (uncovering) of issues to pursue social, economic, political, and environmental justice within the framing of planetary or earth-justice. Ecopedagogy is a lever for climate justice, enabling individuals and communities to engage with the interconnectedness of global issues. It empowers learners to reflect on the causes of climate change and environmental degradation. Such reflection can enable them to challenge structures of inequality that perpetuate environmental harm and to uncover the hidden interconnections between oppressions to counter them.

Figure 1

Mindmap to show pathways between Ecopedagogy and JT



Core components of ecopedagogy (problem posing, equal participation, dialogue, and praxis—that stem from Freire’s critical pedagogy) are achievable with: the awareness of the potential of such a framework to guide policy grounded in local contexts; and with both formal and informal educational frameworks encouraging critical thinking, creativity, active participation, and experiential learning to solve problems (Kopnina & Bedford, 2024). Engaging in critical reading, posing problems, and dialogue helps build a comprehensive understanding of various perspectives. These processes then drive action toward solutions and a praxis-oriented approach leading to real outcomes. Hence, these processes contribute to developing a consciousness-based approach to addressing climate injustices (Misiaszek, 2023).

Conscientization, Freire (1970/2017) discusses, focuses on understanding the root causes of issues, for example, climate change and pollution, rather than merely acknowledging their presence to act against oppressive realities. Rahman and others (2023) explained how top-down approaches may be oppressive when it comes to agenda-setting and may include hegemonic power dynamics, which lead to injustices locally (further marginalising certain communities). This arises when non-local actors and organizations centre the planning on the priorities of donors and certain stakeholders, while not involving communities in decision-making. The disparity of participation and unequal or superficial understandings of local and global action pose a threat to planetary justice. JT should promote bottom-up approaches from an earth perspective rooted in humanisation and conscientization of stakeholders, a process of recognising social, political, and economic contradictions. Misiaszek (2019) underscores how Freirean pedagogies foster an awareness of the underlying causes of environmental destruction and support human actions that promote social and environmental justice as well as planetary sustainability.

Ecopedagogy as a means to provide constructive system critique is based on deconstructing dominant narratives, creating consciousness over solely creating awareness towards issues, and moving away from a rudimentary, predominantly anthropocentric view of the global agendas. This shift is fundamental in recognising our interdependence with nature, a prerequisite for JT. Ecopedagogy emphasises the interconnectedness of all life, and true to the Freirean approach (1970/2017), highlights the importance of protecting the most vulnerable. Ecopedagogy helps establish critical links between climate change, drought, and increased wildfire risk, highlighting the need to restore ecological integrity and balance, envisioning alternative futures that are both just and sustainable. Power imbalances will lead to a failure in the true fulfilment of principles toward achieving JT.

Ecopedagogy as a Lever to Climate Justice

To move to a justice-oriented society, we should understand the notion of development in Education for Sustainable Development (ESD). Whose development is it? Scholars have raised a critical voice that development in ESD implicitly assumes a Western model

of progress (Misiaszek, 2019a; Iftekhar & Misiaszek, 2019; Kopnina, 2020; Jickling & Wals, 2008). A narrow approach to development can lead to the marginalization of Indigenous knowledge systems and alternative visions of advancement (Glavič, 2020).

Development is often treated as a linear line of growth. ESD operates within the framework of sustainable economic growth. This paradigm may be fundamentally at odds with true ecological sustainability, as infinite growth on a finite planet is inherently problematic (Nagata, 2017). ESD may not sufficiently encourage students to critically question the very notion of development itself, instead accepting it as an uncontested good (Nagata, 2017). Such models that do not encourage critical dissection of issues and notions of development can be seen as shallow ecologies (Kopnina & Bedford, 2024). Misiaszek (2019a) put forward the argument of d/Development with an ecopedagogical lens to question development for whom and towards what. How humans define development is a question on its own.

Ecopedagogy's transformative learning through deep reflection on personal and societal values and assumptions can empower individuals to take action for sustainability and social justice. To stop promoting the neo-liberal development ideas linked with ESD, the ecopedagogical lens becomes a critical direction for policy. It will help foster open dialogue about transition challenges, promote critical thinking about long-term planetary sustainability, and encourage innovative solutions to transition-related issues. These elements are crucial for building the broad-based support and engagement necessary for successful transition initiatives. By incorporating these approaches guided by ecopedagogy into education, we can better prepare individuals and communities to understand, support, and actively participate in JT processes. Such a foundation is essential to create an informed, engaged citizenry to implement and sustain the complex changes required for a just and sustainable future.

Shaping Practices with an Ecopedagogical Lens

We need to have a broader approach to environmental education with a social-emotional connection to nature, a critical eye towards the colonial perpetuating factors, and the language to express and connect with others. Table 1 summarizes some key constructs and practices that could guide ecopedagogical discourse in educational settings. A central aspect of the literature on ecopedagogy (Hung, 2017) is its ability to cultivate empathy and forge emotional bonds with nature. Through vivid descriptions and explorations of human-nature relationships, literary works evoke visceral responses in readers (Monem, 2024; Muhsyanur, Murugesan, & Diwakar, 2024). This emotional engagement allows learners to develop an appreciation for the intricate web of life, creating a foundation for environmental stewardship that extends beyond mere factual knowledge (Itle-Clark & Comaskey, 2020).

Table 1

Key Constructs and Guiding Principles Shaping Practices

Key Constructs	Guiding practice reflections
Critical consciousness	Who is getting left out and why? How can community practices be more inclusive?
Action-oriented participation	How can collective bottom-up ideas formulate collective action for social good?
Countering post-colonial tendencies	How can one learn from the culture and heritage, and preserve eco-practices in the community?
Emotional bonding with nature	Collective practices that help us connect with nature at a deeper level.
Cultivating empathy	Cultivating empathy for each other and for nature to help preserve and protect the planet.
Critical Thinking	Collective discussions and dialogue to counteract pollution and other stresses on nature.
Creative Expression	Using art in the community spaces to express gratitude, nature inspiration.

A crucial element of ecopedagogical literature is its capacity to foster critical thinking (Hossain, 2024; Walter & Kluttz, 2021). Presenting diverse perspectives and challenging anthropocentric viewpoints, this approach encourages learners to deconstruct dominant narratives and to examine the ideological underpinnings of environmental discourses (Muhsyanur et al., 2024). This critical analysis process enables learners to develop a nuanced understanding of environmental issues and to confront their unconscious biases, leading to more informed and thoughtful engagement with ecological challenges.

Promoting creative expression is the third key aspect of eco-pedagogical literature (Abed, 2024). It recognizes the power of artistic and written responses in articulating environmental concerns and envisioning sustainable futures (Muhsyanur et al., 2024). By engaging with various literary genres such as poetry, fiction, and personal narratives, learners are empowered to find their voices and to understand others who contribute to the ongoing discourse on environmental issues. This creative dimension enhances the learner's communication skills and allows them to explore innovative solutions and alternative ecological futures. Freire (1994) in *Pedagogy of Hope* proposed to overcome lopsided communication in a non-idealistic but ontological manner by acting in the world to transform oppressive conditions.

The integration of these 3 aspects, emotional connection with Earth and inhabitants, critical thinking towards perpetuating issues, and creative expression to understand the self and others, creates an inclusive approach to environmental education. Transcending common classroom boundaries and embracing diverse cultural narratives, ecopedagogy

helps learners become active changemakers and responsible global citizens (Muhsyanur et al., 2024; Misiaszek, 2019a). This multifaceted approach enhances environmental literacy and fosters a deeper sense of connection and responsibility towards the natural world, paving the way for more sustainable and environmentally conscious societies.

Advocating for JT Policies Grounded in Ecopedagogy

This article advocates for ecopedagogy as a tool to guide policy and practices to help situate our understanding of the world and the community practices as a power to resist planetary oppressions. Using case studies from India and the U.S., Iyengar and Iyengar (2024) suggest that such spaces exist at the township and city levels; however, citizens are not equipped with the skills to inform policy dialogues in the most informed manner. Creating more spaces for dialogues and discussions to co-create knowledge will aid in making the local government representatives more accountable with an informed citizenry (Rhonda, 2013). Physical spaces in towns are re-conceptualised, prioritising the creation of green, accessible public areas that foster community interaction and promote well-being (All Things Urban Team, 2023). Libraries are incorporating outdoor spaces like courtyards and terraces to extend activities beyond the building and connect with the surrounding environment (Pierce, 2021).

Table 2

Key Constructs and Guiding Principles Shaping Policies

Key Constructs	Guiding policy reflections
Creating spaces for dialogues	Cities and Towns need to be reimagined to bring people together in spaces to facilitate informal dialogues
Ecopedagogies in the post-truth era	Critical pedagogies for social media to prevent further polarisation are required.

Table 2 demonstrates that the space for dialogue cannot be restricted to physical spaces. Cultivating ecopedagogical literacies in the era of post-truth is more important than ever, including on social media. As Misiaszek (2019b) states, intensifying post-truthism distorts concepts of development to ignore or falsely justify socio-environmental violence, increase polarization that justifies socio-environmental violence upon them, and ignore or falsify the laws of nature. Examples of this are prevalent on multiple social media platforms and mislead the masses all over the world. Mainstream narratives that lead us away from JT can be countered with ecopedagogical literacy.

Conclusion: JT, the Ecopedagogy Imperative

Equity and inclusivity, cornerstone principles of JT, are addressed by ecopedagogy by recognizing that environmental issues disproportionately impact marginalized communities. This was elaborated in the example of communities in Delhi bearing the

brunt of pollution from the waste plant. In the case of the Orang Asli, Indigenous communities are denied their right to ancestral lands and livelihoods. An ecopedagogical framing of JT would prioritize the rights of these groups, involve them in decision-making, and ensure their benefit (direct or indirect) from conservation efforts or development. JT, from an ecopedagogy perspective, brings the focus to equitable solutions, especially community-based solutions tailored by and towards local needs and contexts, ensuring the JT is relevant and appropriate.

JT requires that vulnerable members in the ecosphere have a voice in shaping their futures and the futures of the natural world. Community empowerment becomes imperative toward prioritizing and voicing the rights of the marginalized. Ecopedagogy fosters participatory approaches and demands accountability on the part of stakeholders to ensure that development is not framed by globalisation from above. Shallow ecological models do not address or critically examine power structures or injustices; for example, in the case of daily wage earners in Delhi severely facing health risks due to air pollution. JT grounded in ecopedagogy would reveal disproportionate injustices to demand pollution control, address health impacts, and provide access to healthcare. Other solutions include transitioning away from polluting industries to prioritize the health and well-being of those who suffer the most, including the communities and the earth. To achieve JT, it is important to debunk the myth that human well-being can be divorced from the Earth's well-being and to carry this dialogue forward.

Radhika Iyengar

Radhika Iyengar is a research scholar and the Director of Education at the Center for Sustainable Development, Climate School, Columbia University. She leads the Education for Sustainable Development initiatives and international education development as a practitioner, researcher, teacher, and manager. She has written numerous books and articles on Education for Sustainable Development. Her recent publication investigates community-based environmental factors that foster environmental education. Dr Iyengar received the prestigious Early Career Award from Teachers College, Columbia University in 2020. She serves as a board member for numerous environmental NGOs.

Syed Nitas Iftekhar

Syed Nitas serves as the Director of Education Programs at Bard College, Beijing Office for the Asia-Pacific Region, leading the development and implementation of location-based programs that connect educational theory with extra-curricular experiences for youth. His programs with Bard happen across various locations in Asia and Europe, addressing critical issues such as environmental sustainability, media literacy, and global citizenship. His work incorporates ecopedagogy theory and is characterised by creative learning activities, critical inquiry, action-oriented learning, and dialogue, designed to foster a deep understanding and practical engagement with global challenges.

Matthew Witenstein

Matthew A. Witenstein is an Associate Professor in the Department of Teacher Education, Educational Leadership and Policy at the University of New Mexico (UNM). He also serves as a Senior Research Fellow, School of Educational Studies at Claremont Graduate University. His US work focuses on immigrants in higher education and international educational experiences, while his international/comparative education research focuses on higher education quality, organization, and governance issues. He is co-editor of the Palgrave Macmillan book series "South Asian Education Policy, Research and Practice", Associate Editor of *Comparative Education Review*, and co-author of the upcoming Bloomsbury Publishing textbook *Comparative and International Education: An Introduction*. He has been an invited speaker at higher education institutions, the ministry, and government agencies throughout South Africa, the US, and South Asia.

Karen Chand

Karen is the Director of Education Studies at the SDSN's Asia Headquarters. She is spearheading efforts under the Mission 4.7 initiative to transform K-12 education in the Asia Pacific by making sustainable development a key feature of national curricula. Karen was previously the Director of Strategy and Operations at the Jeffrey Sachs Center on Sustainable Development at Sunway University, Malaysia. She formerly led the development and delivery of senior-level public sector executive education programs and research on public sector improvement for Malaysia. She began her career as a strategy consultant at PwC.

References

- Abed, S. N. (2024). Reflections on pedagogical ecolinguistics: A systematic review. *An International Multidisciplinary Online Journal*, 4(9).
<https://doi.org/10.55454/rccas.4.09.2024.006>
- Abd Malik, M. (2024, November 18). 1,074 permanent forest reserve areas were illegally cleared. *New Straits Times*.
https://www.nst.com.my/news/nation/2024/11/1136430/1074-permanent-forest-reserve-areas-illegally-cleared#google_vignette
- Abi-Habib, M. (2024, November 9). Is a 'green' revolution poisoning India's capital? *The New York Times*.
<https://www.nytimes.com/2024/11/09/world/asia/india-air-quality-trash.html?searchResultPosition=2>
- All Things Urban Team. (2023, November 27). Top 5 trends in sustainable urban Development to watch and learn. *All Things Urban*.
<https://www.allthingsurban.net/blog/Top-5-Trends-in-Sustainable-Urban-Development-to-Watch-and-Learn>

- Associated Press (AP). (2025, April 23). New Jersey forest fire prompts thousands of evacuations and closes a major highway. *AP News*.
<https://apnews.com/article/wildfire-new-jersey-garden-state-parkway-67aa9857c28eadfaeb54ebc9f0ce1028>
- Baker, S. H.. (2019). Anti-resilience: A roadmap for transformational justice within the energy system. *Harvard Civil Rights-Civil Liberties Law Review*, 54, 2.
<https://journals.law.harvard.edu/crcl/wp-content/uploads/sites/80/2019/03/Baker.pdf>
- Callo-Concha, D., Sommer, J. H., Kleemann, J., Gatzweiler, F. W., & Denich, M. (2013) Marginality from a Socio-ecological Perspective. In J. Baumgärtner, F. W. Gatzweiler, J. von Braun, & P. S. A. Oosterveer (Eds.), *Springer eBooks* (pp. 57-65).
https://doi.org/10.1007/978-94-007-7061-4_4
- Cha, J. M., & Pastor, M. (2022). Just transition: Framing, organizing, and power-building for decarbonization. *Energy Research & Social Science*, 90, 102588.
<https://doi.org/10.1016/j.erss.2022.102588>
- Climate Justice Alliance. (n.d.). *Just transition*. Climate Justice Alliance.
<https://climatejusticealliance.org/just-transition/>
- Cooper, T., Corney, T., & Gorman, J. (2024). Youth work for people and planet: Integrating insights from ecopedagogy into youth work. *Youth*, 4(2), 735-44.
<https://doi.org/10.3390/youth4020049>
- Davis, R. D. (2013). A place for ecopedagogy in community literacy. *Community Literacy Journal*, 7(2), 77-91. doi:10.25148/clj.7.2.009350
- Freire, P. (2017/1970). *Pedagogy of the Oppressed*. Penguin Classics. Original work published 1970.
- Freire, P. (1994). *Pedagogy of hope: Reliving pedagogy of the oppressed*. Continuum.
- Glavič, P. (2020). Identifying key issues of education for sustainable development. *Sustainability*, 12(6500), 1-12.
https://serve-learn-sustain.gatech.edu/sites/default/files/documents/Toolkit-Docs/identifying_key_issues_of_education_for_sustainable_development.pdf
- Haque, M. N., & Sharifi, A. (2024). Who are marginalized in accessing urban ecosystem services? A systematic literature review. *Land Use Policy*, 144, 107266.
<https://doi.org/10.1016/j.landusepol.2024.107266>
- Hossain, I. (2024). An overview of the existing scholarship on the critical aspects of ecopedagogy. *International Journal of Educational Reform*, 1(1), 1-14.
<https://doi.org/10.1177/10567879241228251>

- Hung, R. (2017). Towards ecopedagogy: An education embracing ecophilia. *Educational Studies in Japan*, 11(0), 43-56. <https://doi.org/10.7571/esjkyoiku.11.43>
- Iftekhhar, S. N., & Misiaszek, G. W. (2019). Critically countering appropriations of global citizenship education in the Indian context. In G. W. Misiaszek, Y. Waghid, & N. T. Assié-Lumumba (Eds.), *Routledge eBooks* (pp. 191-214). <https://doi.org/10.4324/9781315180397-10>
- Iltle-Clark, S., & Comaskey, E. (2020). A proposal for a humane pedagogy. *International Journal of Humane Education*, 1(1), 1-31.
- Iyengar, R., & Iyengar, P. (2024). *Grassroots approaches to education for sustainable development: Case studies from India and the United States*. Bloomsbury Press Publication.
- Jickling, B., & Wals, A. E. J. (2008). Globalization and environmental education: looking beyond sustainable development. *Journal of Curriculum Studies*, 40(1), 1-21. <https://doi.org/10.1080/00220270701684667>
- Kashwan, P., Biermann, F., Gupta, A., & Okereke, C. (2020). *Planetary justice: Prioritizing the poor in Earth system governance*. Earth System Governance. <https://doi.org/10.1016/j.esg.2020.100075>
- Kopnina, H., & Bedford, T. (2024). From pseudo to genuine sustainability education: Ecopedagogy and degrowth in business studies courses. *Australian Journal of Environmental Education*, 40(3), 574-87.
- Kopnina, H., & Cherniak, B. (2016). Neoliberalism and justice in education for sustainable development: A call for inclusive pluralism. *Environmental Education Research*, 22(6), 827-41. <https://doi.org/10.1080/13504622.2015.1039277>
- Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *The Journal of Environmental Education*, 51(4), 280-91. <https://doi.org/10.1080/00958964.2019.1710444>
- Labour Bureau. (2024). *ASI: Number of workers: Daily average: Delhi, 2000–2020*. CEIC Data. <https://www.ceicdata.com/en/india/annual-survey-of-industries-number-of-workers-daily-average-by-states/asi-no-of-workers-daily-average-delhi>
- Mahdiani, H., Ungar, M. (2021). The dark side of resilience. *Adversity and Resilience Science*, 2, 147-55. <https://doi.org/10.1007/s42844-021-00031-z>
- Marcus, C. R. (2024, November 17). Residents evacuated because of fire on New York-New Jersey border. *The New York Times*.

- <https://www.nytimes.com/2024/11/17/nyregion/fires-new-york-new-jersey-evacuations.html>
- McIntyre, I. (2024, January 24). Orang Asli claim overlogging destroyed their main water source. *The Vibes*.
<https://www.thevibes.com/articles/news/103063/orang-asli-claim-overlogging-destroyed-their-mainwater-source>
- McKay, R., & Oladipo, D. (2025, April 23). New Jersey wildfire could become state's largest in 20 years. *Reuters*.
<https://www.reuters.com/business/environment/new-jersey-wildfire-could-become-states-largest-20-years-2025-04-23/>
- Misiaszek, G. W. (n.d.). *Ecopedagogy*. PESA Agora.
<https://pesaagora.com/ideas/ecopedagogy/>
- Misiaszek, G. W. (2019a). Ecopedagogy: teaching critical literacies of 'development', 'sustainability', and 'sustainable development.' *Teaching in Higher Education*, 25(5), 615-32. <https://doi.org/10.1080/13562517.2019.1586668>
- Misiaszek, G. W. (2019b). Countering post-truths through ecopedagogical literacies: Teaching to critically read 'development' and 'sustainable development.' *Educational Philosophy and Theory*, 52(7), 747-58.
<https://doi.org/10.1080/00131857.2019.1680362>
- Misiaszek, G. W. (2020). *Ecopedagogy: Critical Environmental Teaching for Planetary Justice*. Bloomsbury.
- Misiaszek, G. W. (2022). Ecopedagogy: Freirean teaching to disrupt socio-environmental injustices, anthropocentric dominance, and unsustainability of the Anthropocene. *Educational Philosophy and Theory*, 55(11), 1253-67.
<https://doi.org/10.1080/00131857.2022.2130044>
- Misiaszek, G. W. (2023). Postdigital Freirean ecopedagogies. In P. Jandrić (Ed.), *Encyclopedia of postdigital science and education*. Springer.
- Misiaszek, G. W. (2025). An ecopedagogical, ecolinguistical reading of the sustainable development goals (SDGs): What we have learned from Paulo Freire. In G. W. Misiaszek, P. B. Corcoran, & J. Weakland (Eds.) *Ecopedagogy and the Global Environmental Citizen* (pp. 37-61). Routledge.
- Muhsyanur, M., Murugesan, M., & Diwakar, S. (2024). Eco-pedagogical literature: Exploring literature-based learning to improve environmental literacy. *Humanist. As'adiyah International Journal of Humanities and Education*, 1(1), 53-64.
<https://jurnallppm.iaiasadiyah.ac.id/index.php/humanist/article/view/100>

- Monem, R. (2024). Ecopedagogy to foster global perspectives. *International Journal on Social and Education Sciences*, 6(2), 188-99. <https://eric.ed.gov/?id=EJ1427023>
- Nagata, Y. (2017). A critical review of education for sustainable development (ESD) in Japan: Beyond the practice of pouring new wine into old bottles. *Educational Studies in Japan: International Yearbook*, 11, 29-41. <https://files.eric.ed.gov/fulltext/EJ1147530.pdf>
- National Drought Mitigation Center. (2025, January 15-21). *National current conditions*. National Drought Mitigation Center. <https://www.drought.gov/current-conditions>
- Pandey, K. (2025, January 23). *Policy gaps are failing traditional fishing communities*. Mongabay India.
- Parshley, L. (2025, May 1). The New Jersey wildfire signals new era for Northeast: Worst fire in NJ's history is a warning that 'there's no reason that what has happened in the western U.S. can't happen here'. *Grist*. <https://www.njspotlightnews.org/2025/05/the-new-jersey-wildfire-signals-new-era-for-northeast/>
- Pierce, D. (2021, November 8). New library design: Spaces that connect, cultivate, and transform communities. *Library Journal*. <https://www.libraryjournal.com/story/new-library-design-spaces-that-connect-cultivate-and-transform-communities>
- Pueyo, A., & Leining, C. (2023). *Just transition processes: From theory to practice*. Motu Economic and Public Policy Research.
- Rahman, M. F., Falzon, D., Robinson, S. A., Kuhl, L., Westoby, R., Omukuti, J., Schipper, E. L. F., McNamara, K. E., Resurrección, B. P., Mfitumukiza, D., & Nadiruzzaman, M. (2023). Locally led adaptation: Promise, pitfalls, and possibilities. *Ambio*, 52(10), 1543-57. <https://doi.org/10.1007/s13280-023-01884-7>
- Stark, A., Gale, F., & Murphy-Gregory, H. (2023). Just transitions' meanings: A systematic review. *Society & Natural Resources*, 36(10), 1277-97. <https://doi.org/10.1080/08941920.2023.2207166>
- Torres-Olave, B. (2020). Pedagogy of hope: Reliving pedagogy of the oppressed. *Educational Review*, 73(1). <https://doi.org/10.1080/00131911.2020.1766207>
- International Labour Organization (ILO). (n.d.). *Just transition, decent work, and climate resilience*. ILO.

- United Nations Framework Convention on Climate Change (UNFCCC). (2023). *Just transition pathways: Achieving the goals of the Paris Agreement in a fair and equitable manner*. UNFCCC. <https://unfccc.int/documents/63006>
- Wan Razali, W. M. A., & Mohamed, S. (n.d.). Losing ground. *Bernama*. <https://garasi.bernama.com/stories/losing-ground>
- Walter, P., & Klutetz, J. (2021). [Review of *Ecopedagogy: Critical environmental teaching for planetary justice and global sustainable development*, by G. W. Misiaszek]. *International Review of Education / Internationale Zeitschrift Für Erziehungswissenschaft / Revue Internationale de l'Education*, 67(1/2), 253-55. <https://www.jstor.org/stable/48771686>
- Zainudin, F. (2024, August 7). Orang Asli in Pos Pasik blame logging for river pollution. *Free Malaysia Today*. <https://www.freemalaysiatoday.com/category/nation/2024/08/07/orang-asli-in-pos-pasik-blame-logging-for-river-pollution/>
- Zhuang, Y. (2024, November 18). Emergency declared as smog chokes parts of India and Pakistan. *The New York Times*. <https://www.nytimes.com/2024/11/18/world/asia/smog-india-new-delhi-pakistan.html?searchResultPosition=2>