



School and Sustainable Relationships: Pedagogical Perspectives for an Ecological and Intercultural Literacy

Scuola e relazioni sostenibili: Prospettive pedagogiche per una alfabetizzazione ecologica e interculturale

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ABSTRACT

This contribution explores the growing unsustainability of our time—marked by climatic, environmental, and educational emergencies—by situating these issues within a systemic interpretative framework. In particular, it underscores how the Anthropocene represents a historical epoch in which the impact of human activity on the planet has reached critical thresholds, requiring urgent interdisciplinary reflection, including within the field of pedagogy. The paper calls for a renewed alliance between pedagogy and ecology—conceived not merely as environmental science, but as an ethical and relational paradigm connecting humans, nature, and culture. The focus is placed on potential pathways for ecological literacy in schools. Ecological literacy is not understood as the transmission of content; rather, it involves lived and embodied experiences aimed at fostering a new ethics of coexistence. These pathways seek to cultivate critical thinking, a sense of responsibility, and, above all, relational awareness - also from an intercultural perspective - both in learners and within society as a whole.

Il presente contributo esplora la crescente insostenibilità del nostro tempo, caratterizzato da emergenze climatiche, ambientali ed educative, collocandole all'interno di un quadro interpretativo sistemico. In particolare, si intende sottolineare come l'Antropocene rappresenti una fase storica in cui l'impronta dell'azione umana sul pianeta ha raggiunto livelli critici, richiedendo una riflessione tra i diversi saperi, compresa la pedagogia. Il paper propone un'alleanza tra pedagogia ed ecologia, quest'ultima intesa non solo come scienza ambientale, piuttosto come paradigma relazionale ed etico che connette uomo, natura e cultura. Il focus è posto su possibili percorsi di alfabetizzazione ecologica per la scuola. Per alfabetizzazione ecologica non si intende la trasmissione di contenuti; si tratta, piuttosto, di esperienze vissute e incarnate, mirate a promuovere una nuova etica della coesistenza. Tali percorsi mirano a sviluppare, nei soggetti in formazione e nella società tutta, senso critico, responsabilità e, soprattutto, consapevolezza relazionale, anche in prospettiva interculturale.

KEYWORDS

Ecological literacy, Education, Sustainability, Interculturality, Anthropocene
Alfabetizzazione ecologica, Educazione, Sostenibilità, Intercultura, Antropocene

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Inhabiting the world / Abitare il mondo

1. Global emergencies and the dissolution of human: the educational challenge of our time

Our time is increasingly characterized by the convergence of social, political, climatic, and educational crises, all of which point to a deepening condition of unsustainability.

Pivotal global events—such as the COVID-19 pandemic, and ongoing economic and environmental crises—underscore the growing necessity of international governance and its inability to respond effectively to such emergencies, thereby perpetuating instability and vulnerability on multiple fronts. For Example, these emergencies permeate every dimension of human life, urging a radical rethinking of daily actions and foundational assumptions.

“What is urgently required is a collective awakening: an imperative, no longer deferrable, to foster reflection and awareness across all sectors of society. The pandemic has laid bare the dysfunctional relationship between humanity and nature. The entrenched anthropocentric and dualistic perception of human beings as separate from and superior to the natural world has proven to be deeply irrational. A health crisis—originating in nature—rapidly escalated into a global social emergency, forcing us to reconceptualize humanity as intrinsically interconnected with all forms of life. It revealed the necessity of adopting a systemic and ecological worldview as the only viable framework for interpreting the present and imagining sustainable futures” (Silva & Gigli, 2021, p. 8).

This scenario is closely linked to the intensifying and now widely acknowledged climate and environmental crisis. According to the Global Footprint Network, humanity annually consumes ecological resources equivalent to approximately 1.7 Earths (2023), thus surpassing the planet’s regenerative capacity (Wackernagel & Beyers, 2019). Data from 2024 show that global demand now exceeds the Earth’s biocapacity by at least 78% (Lo et al., 2025). Industrial overproduction, unchecked urbanization, and the predatory exploitation of natural resources—exacerbated by the individualistic and utilitarian logics of globalization—have amplified structural inequalities, especially in the Global South, deepening the divide between rich and poor (Habermas, 2005).

The repercussions are evident in the weakening of state structures—particularly in less developed nations—where welfare systems, healthcare, and employment protections are in decline (Tocci, 2024).

Simultaneously, global economic and environmental shocks are worsening inequalities between the Global North and South, displacing more individuals—men, women, and children—forced to flee their homelands for “compelling reasons” (McAuliffe & Oucho, 2024). These forced migrations raise complex legal, ethical, and political questions tied to climate justice (Martinez-Alier, 2004; Hornborg, 2019), involving victims of climate change, poverty, authoritarianism, and war (United Nations, 2018; IOM, 2018).

These converging emergencies expose how the Anthropocene—defined by the intensity and scale of

human impact—now rivals or even exceeds natural geophysical forces in shaping the planet (Bonnieuil & Fressoz, 2019). In this context, human beings appear no longer capable of “inhabiting the Earth wisely” (Mortari, 2018, p. 18). The trajectory of anthropogenic development reveals a profound paradox: while the Anthropocene is heralded as “the age of humankind” and emblematic of progress, it also portends the possibility of humanity’s self-dissolution—not only biologically but as an ethical and historical subject. From a pedagogical standpoint, the roots of this existential condition lie not only in the dominant models of economic development but, more deeply, in the rupture of the ontological and symbolic bond between humans and the natural world.

At its core is an ecological crisis—a crisis of relationships—in which the very agent of transformation, humanity, is undermining the conditions of its own survival. This stems from a degenerative relationship with the environment, shaped by a predatory rather than cooperative model. It is not by chance that both public and academic discourse increasingly focus on the unsustainability of human action. The crisis is understood as systemic, spanning economic, political, social, educational, and existential dimensions.

In the context of late modernity, where the acceleration of life has become a dominant force penetrating every domain (Rosa, 2015), humanity’s ability to navigate the unpredictability of contemporary life is diminishing. This emergency also extends to educational institutions, which, tasked with the formation of current and future generations, risk being reduced to a mere functional mechanism, oriented more towards performance than towards the integral flourishing of the human beings (Biesta, 2006). The risk is that human existence will be increasingly “absorbed” passively by technology, progressively eroding the capacities for reflection and introspection.

These climatic, social and educational emergencies are tangible manifestations of the world’s *mounting unsustainability*. Nevertheless, although there can be no subject without a world, a habitable world is not merely a neutral backdrop but, for existence, rather, it constitutes a shared space of co-belonging essential to existence (Biesta & Lawy, 2006, pp. 63–79).

The emergencies outlined here challenge pedagogy, political institutions, and educational systems at every levels to devise and implement actions aimed at reducing social and educational inequalities, while promoting ecological thought and practical initiatives that can restore the bond between humans and nature.

2. Towards a pedagogy of co-belonging in the age of unsustainability

In light of the climate and educational emergencies outlined in the previous paragraph, the dialogue between pedagogy and ecological sciences has, over the years, intensified significantly, both in academic research and in educational and school-based projects. This process of interdisciplinary interaction among different fields of knowledge is driven by the pressing need to respond to the challenges set forth by the

United Nations 2030 Agenda for Sustainable Development (United Nations, 2015).

Nevertheless, despite increasing public awareness and a seemingly shared consensus on the urgency of adopting ecological approaches, the very notion of “ecology” remains vague, fragmented, and often devoid of a common operational framework. The diverse definitions that have emerged over recent decades are heterogeneous and have contributed to relegating ecology to a predominantly theoretical domain, with limited experiential application.

The divide between theory and practice is likewise reflected in studies on environmental sustainability, where, despite robust conceptual elaboration, concrete implementation remains weak and has yet to materialise into effective and systematic policies or actions. Too often, the concept of sustainability is reduced to the acknowledgment of a simple fact: that there is a system to be sustained. The critical question, however, is which system we intend to sustain: the ecosystem, with its intricate biological complexity, or the economy, with its logic of production and profit? (Dittmar, 2013, pp. 1–13).

The etymology of the term “ecology” originates from the concept of “dwelling”, which underscores the necessity of aligning thought and action with the environment, as our shared home. It is no coincidence that Morin (2001, p. 74), linking ecology to the idea of intergenerational solidarity, describes the Earth as “the common home and garden of humanity” (Morin, 2001, p. 74).

Within ecological pedagogy, the discourse on the environment is not limited to defining a static entity but highlights the relational dimension that every living being establishes with the world. The environment, to be understood as a dynamic network of relationships and interactions, encompassing both biotic and abiotic elements, where cultural, social, and economic practices, together with local traditions, shape and are shaped by their surrounding environment. Each culture carries its own distinct vision of how the environment is experienced, perceived and respected. This perception, however, must be understood as a web of relations that cannot be reduced to mere physical space, but rather as a shared “habitat”. Within this dynamic network, every form of life, as well as cultures and traditions, constitutes an integral part of an ongoing process of co-evolution (Capra, 2002).

Ecological thinking, therefore, can only emerge within a framework of reflection nourished by relationships, as human beings are intrinsically part of a profound dialogue with nature (Næss, 2015). Ecology, then, is not merely an academic discipline but a way of being in the world, of feeling and belonging to the planet Earth: “one learns to cultivate ecological thinking by being close to things” (Mortari, 2020, p. 72). This implies that ecological education, which concerns schools at every level—within both Lifewide and Lifelong Learning perspectives—should not be confined to the theoretical acquisition of knowledge about sustainability. Rather, it should take the form of a first-hand, lived experience for the learner, who thereby contributes responsibly to the construction of a culture of sustainability (Malavasi, 2020; Birbes & Bor-natici, 2023).

Such an experience must be conceived as a both subjective and intersubjective practice finding its fullest and most concrete expression in the ordinary spaces of daily life. Consequently, environmental issues should not merely be taught but also experienced in everyday life (Christidis, 2024). For education, this entails the promotion of learning environments where it becomes possible to learn how to live, i.e. places of care that transcend cultural boundaries and engage human beings, regardless of their cultural and historical origins (Morin, 2015).

The transformations of the Earth’s ecosystem, induced by human activity, represent not only an environmental challenge but also raise profound ethical and educational questions, necessitating a fundamental rethinking of educational models. It thus becomes imperative to promote widespread and systematic education that fosters in every individual—and by extension, every citizen—the development of a genuine ecological mindset¹. Such a mindset must transcend mere theoretical awareness of the interconnectedness of all forms of life and manifest itself in tangible attitudes and practices oriented toward the care of the planet.

In schools, particularly in secondary schools marked by the presence of students with direct or indirect migratory experiences, it is essential to foster ecological literacy programmes.

Ecological literacy thus emerges as a *hermeneutics of the lived world*, a form of consciousness cultivated through the decentring of the self, the development of critical thinking, and the rediscovery of the web of relations that invisibly yet concretely binds each individual to the earth, the air, animals, and other living and non-living entities. For this to occur, it is both necessary and essential that ecological literacy be recognised as pedagogical endeavour aimed at enabling students to interact meaningfully with others and with their community contexts (Dozza, 2018, pp. 193–212). What is intended to be shown is that only when education becomes a space for *intercultural encounter* (Portera, 2022; Macinai, 2021) does it become possible to cultivate ecological awareness as an embodied, lived experience.

3. Schools facing otherness: relational fragility and education for sustainability

It is clear, therefore, that ecology is a science of relationships, and that ecological education must necessarily take into account the recognition of the bond that unites human beings with nature, acknowledging that humanity is an integral part of it: human beings stand alongside creation. Ecological literacy is based on these horizons of meaning.

In this light, it is clear that sustainability has now become central to education policies across various

1 The reference to ecology as a “science” date back to the 19th century through the work of Ernst Haeckel. For Haeckel, ecology is a branch of physiology concerned with studying the relationships between organisms and their surrounding environment, beginning with an analysis of their capacity to struggle for survival (Haeckel, 2016).

countries. With the adoption of *Resolution 70/1* by the United Nations General Assembly in 2015, the *2030 Agenda for Sustainable Development* was launched outlining a strategic pathway based on 17 Sustainable Development Goals (SDGs).

Education, and in particular schooling, assumes a pivotal role not only as a vehicle for knowledge transmission, but also as a means of transcending reductionist and/or antisocial conceptions of economic power, thereby fostering a *resilient and transformative approach* of sustainable development (Riva, 2018, pp. 33–50).

The *Agenda 2030* document contains several references to intercultural education. Article 25 explicitly addresses the issue of quality education for all:

“We commit to providing inclusive and equitable quality education at all levels – early childhood, primary, secondary, tertiary, technical and vocational training. All people, irrespective of sex, age, race, ethnicity, and persons with disabilities, migrants, indigenous peoples, children and youth, especially those in vulnerable situations, should have access to life-long learning opportunities that help them acquire the knowledge and skills needed to exploit opportunities and to participate fully in society” (United Nations, 2015, p. 11).

Particularly, sub-goal 4.7 calls for ensuring that every learner acquires the competencies required to face global challenges such as climate change, gender inequality and the promotion of international human rights. Sustainability, in the encounter *with* and *among* differences, becomes a complex educational process that stimulates reflective and independent thinking, following Edgar Morin’s (2000) vision of a “*well-made head*”, that is a mind trained to connect knowledge, grasp complexity and evaluate the consequences of one’s choices.

Within this framework, intercultural education plays a central role. It emerges as a pedagogical strategy that acts as a “bridge” between different cultures, opening spaces for authentic dialogue and mutual recognition. Interculturalism is not merely a technique for managing diversity but rather a horizon of meaning for inhabiting the world in a more conscious and solidaristic manner. It promotes a sense of belonging that is not exclusive but pluralistic, grounded in the recognition of our shared humanity, with the aim of “fostering a sense of belonging to the global community, the sharing of a common humanity among all individuals, as well as with the biosphere and the environment” (Tarozzi, 2017, p. 228).

Nevertheless, to date, the 2030 Agenda has not yet fully achieved its objectives. According to data provided by the United Nations (2023), of the 140 measurable targets, only 12% are currently on track to be achieved. Moreover, despite some positive advancements, more than half of these goals are “moderately or severely off track”. Approximately 30% of the targets have seen no progress or have even deteriorated compared to 2015 levels. Of particular concern is the lack of solutions regarding one of the core goals of the 2030 Agenda: the global reduction of poverty and the expansion of access to education for all individuals.

Despite the efforts of international institutions and individual nations to find solutions to the escalating climate crises, as well as to reduce, as has been said, global poverty and guarantee universal access to education for all human beings, schools at every level, and particularly those marked by the presence of students with migratory experiences, face the pressing need to promote ecological literacy. For the present author ecological literacy does not merely consist in the transmission of theoretical and practical knowledge about sustainability, rather, it involves the cultivation, within the learner of critical thinking, that enables the recognition of the beauty of relationships, rooted in the desire for the well-being of others (D’Addelfio, 2021) and in harmony with creation.

At the heart of ecological literacy lies not so much the dimension of “doing” – which risks reducing education and skills development to mere practical know-how – but rather the dimension of “being,” conceived as the development of critical thinking aimed at fostering active, reflective, and sustainable citizenship within a democratic and solidaristic European society (Council of the European Union, 2018, pp. 1–13).

Against this backdrop, ecological literacy cannot be limited to the transmission of technical knowledge or regulatory guidelines, rather it must be conceptualized as an educational experience that re-centres the individual in their wholeness, conceived as a person aware of its connection to others and nature (Bellingeri, 2020) and to the natural world.

Phenomenology invites us to recognise the co-belonging of human beings and nature, thus overcoming the dichotomous view that opposes them. To borrow Jonas’s terminology, the human person does not stand above nature as a separate or superior entity but is rather a constituent part of it, called to coexist with other beings in the world in a position of proximity and responsibility. This vision opens an ethical and pedagogical horizon in which responsibility for the Others – the foundation of interhuman bonds – extends naturally to encompass responsibility for the environment. To cite Jonas, one is called to act “so that the effects of your action are compatible with the permanence of genuine human life” (1990, p. 15). This entails assuming as an essential task the accompaniment of younger generations in the discovery of themselves in relation to the world, along a journey that does not separate thought from experience, nor humanity from life itself.

In this perspective, ecological literacy emerges as an *existential posture*, a mode of being in the world that involves the awareness of one’s interdependence with all forms of life. It thus becomes a pedagogical approach that restores the individual to the centre as a relational being, capable of critical thought and resonance with both others and the environment. Furthermore, the process of literacy seeks to foster in the learner the ability to discern, to move beyond the functional logic of mere “know-how” and open oneself to a shared meaning of life. In this way, education may be oriented towards the common good, conceived fundamentally as a concrete desire for a good life with and for others, within just and supportive institutions within institutions that are just and solidaristic (Ricoeur, 2015).

4. Ecological literacy and intercultural challenges: towards a pedagogy of presence

In late modernity, the subjective experience of time is marked by relentless acceleration, which manifests itself not only in the external rhythms of daily life but also within the inner sphere of consciousness. The unceasing race towards productivity dissolves the space for reflection, understood not as a pause, but as a fundamental moment in which individuals can come into authentic contact with the meaning of their own experience. It is within this reflective space that the essence of true learning reveals itself: not a mechanical accumulation of information, but as a profound transformation in the way one perceives and inhabits the world (Mezirow, 2016).

In today's world, relationships appear to be pervaded by a widespread sense of fragility, and "all the world's a stage", as the melancholic Jacques declares in William Shakespeare's play *As You Like It*. It is unsurprising that many relationships today are reduced to functional, performance-driven connections (Sennett, 2024), governed by a logic of utility. This experience gives rise to a troubling phenomenon: the tendency to objectify not only nature but also other human beings, treating them as means rather than ends, thereby undermining the intersubjective quality that is the foundation of every authentic relationship. This is the inherent risk within the so-called "culture of utility," where human beings are perceived through the lens of efficiency, on par with objects.

Building upon the reflections developed in the preceding sections, particularly the third paragraph, which highlighted the necessity for schools at all levels to promote ecological literacy programmes as a means for re-centring education on the individual as a relational being, in connection with self, others, and the world, this section seeks to outline a number of pedagogical considerations, oriented towards both meaning and method, concerning ecological education from an intercultural perspective.

From a pedagogical perspective, one of the risks of our time concerns the loss of the capacity to educate toward *co-belonging* and *relational responsibility*. The inability to *dwell-in-relationship* as both gift and responsibility is evident in contemporary struggles to cultivate conviviality, as is the case, for example, shaped by migratory experiences and interactions between migrant populations and so-called "natives" (Zoletto, 2019). In such contexts, migrants are seen as subjects to be managed and controlled. Such policies legitimize systemic intolerance, xenophobia, and racism. These are not isolated occurrences, but rather structural components of political strategies aimed at managing—and often containing—so-called "undesirable" migratory flows (Fiorucci, 2019; Santerini, 2021).

Within this scenario, ecological literacy emerges may be conceived as both a pedagogical and intercultural response. It constitutes a framework capable of acknowledging the complexity of interhuman and *interspecies* relationships, within physical and care-related spaces, thus emphasising how educational and identity trajectories are shaped through dynamic interactions among multiple factors such as gender, age, social class, culture, language, and ability (McCall, 2005). These intersections do not take place in abstract

or neutral spaces, but in concrete historical and geographical contexts, strongly marked by power relations; contexts that expose how every relationship is influenced by mechanisms of *inclusion* and *exclusion* (Valentine, 2007, pp. 20–21).

From an intersectional standpoint, Nira Yuval-Davis (2010, pp. 261–280) argues that public rhetoric increasingly constructs rigid boundaries between "us"—the citizens and natives—and "them"—the migrants. This distinction is often reinforced by the instrumentalization of fear, which is used as a mechanism for justifying discrimination, hate crimes, and exclusion. Fear, therefore, proves to be a central dispositive in exclusionary discourses, legitimising acts of discrimination and hate crimes (Crescenza & Leggieri, 2024, pp. 637–651), committed in the name of defending national identity, thereby relegating minorities to the status of illegitimate inhabitants (Lucchesi & Romania, 2024, pp. 83–115). These exclusionary practices engender relational unsustainability and obstruct genuine processes of inclusion. In practical terms, forms of exclusion affect adult migrants, men and women, as well as children and adolescents who attend our schools daily. They also extend to forced migrants and asylum seekers, including unaccompanied minors, for whom arrival in the host country often becomes a suspended moment of waiting, wherein temporal and spatial dislocation initiates processes of disciplining and categorisation (Aiken & Silverman, 2022).

In contrast to these exclusionary rhetorics, there arises an urgent need to *reopen ourselves to alterity*. These unsustainable dynamics reflect an increasing incapacity to remain *in the presence of the other* without reducing or overpowering them. We are witnessing a *closure of being*: the other, in phenomenological terms, no longer addresses us. It is precisely in response to this closure that the need for ecological and intercultural literacy arises—an educational response to be cultivated within schools as a means of *reopening the gaze* and restoring to the learner the capacity to inhabit the world *sensitively and responsibly*. Within this vision, ecological literacy becomes a *transformative, lived experience*, inviting students to rediscover relationship as the foundation of existence, and to recognise the other in their presence, fragility, and uniqueness. In pedagogical terms, ecological literacy is not about *describing the world* but *allowing it to reappear*—restoring the learner's capacity for wonder and their engagement with what ordinarily remains peripheral in daily life. For it is in the encounter with the other and the world that the trace of life is revealed (Fink, 2019, p. 7).

As Biesta argues:

"We should focus on the ways in which each subject can come into presence. The world, conceived as plural and diverse, is not only a necessary condition for each human being to come into presence, but also a problematic one, making education a complex—one might say, difficult—process. The educator's role is not that of a technician or midwife, but that of a *custodian* of the emergence of unique and singular subjects, and of the world as plural and diversified" (Biesta, 2023, p. 27).

In concluding this contribution, it may be appropriate to suggest that—especially by listening attentively to the needs emerging from heterogeneous educational contexts (Alba, 2024, pp. 136–143; 2025, pp. 245–260)—educational practice, if it is to respond meaningfully to the intertwined challenges of the Anthropocene and intercultural complexity, must adopt a holistic and systemic approach. Indeed, truly transformative education cannot be confined to disciplinary content alone; it must engage the entire educational ecosystem—from organisational culture and pedagogical ethos to the shared governance of material and human resources (Jucker & Mathar, 2015). From this standpoint, schools of all types and levels are called to implement *ecological literacy pathways*, both within and beyond the classroom, in alignment with the *Recommendation on learning for the green transition and sustainable development* (European Parliament & Council of the European Union, 2022) and the 2024 Eurydice data from the European Commission on learning for sustainability in Europe and supporting teachers and schools.

To bring about such a transformation, concrete measures are required. These include the development and reinforcement of community-based networks grounded in active participation, and the establishment of sustainability centres as permanent educational spaces. These centres—operating in synergy with formal and non-formal educational agencies, including families and universities (Batchelder et al., 2023, pp. 1–14; Giovannini & Calvano, Eds., 2025)—can serve as training grounds for teachers, educators, and students, oriented towards ecological care and shared responsibility. In this way, the school becomes a living laboratory—an open and dynamic space embedded in civil society, capable of fostering learning processes as integral to an ethics of relationship, territory, and sustainability (Velden et al., 2025, pp. 685–703).

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