

Learning to Return Home: Environmental Education as a Poetics of Complexity

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1. Introduction

We must learn to return home!

In the shadows of a world trembling under the signs of climate collapse, ecological devastation, and the fragmentation of life, Environmental Education finds itself at a critical moment. At this critical hour in history, when the Anthropocene reveals itself, not only as a geological era, but as an ethical and existential era, the question of education becomes radical: ¿what must we learn to survive? What must we teach to re-enchant our relationship with the Earth? and, moreover, from what epistemic, ontological, and political position should Environmental Education speak, so as not to become yet another appendage of the technocratic rationality that has contributed to planetary uprooting?

For decades, Environmental Education has been conceived as a tool for ecological awareness, framed within pedagogical models that, although well-intentioned, reproduce the assumptions of modern thought, namely, the dualism between human beings and nature, the centrality of instrumental reason, causal linearity, and the fragmentation of knowledge. This education, anchored in the logic of efficiency and conservation, has been insufficient to transform the collective imaginations, social practices, and production systems that threaten the planet's habitability.

From the perspective of complexity sciences, however, a disruptive and regenerative possibility opens up for rethinking Environmental Education, not as a closed disciplinary field, but as an emergent, transdisciplinary, eco-formative, and ethical process, capable of responding to the radical interdependence that defines life on

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Earth. As Edgar Morin (1999), points out, a well-made mind is worth more than a well-filled mind, and that good mind is one that knows how to confront uncertainty, contradiction, and emergence.

This essay, seeks to articulate a critique of the dominant model of Environmental Education, from a narrative and philosophical perspective, and then propose a profound redefinition based on the paradigm of complexity. This is not just a pedagogical reform, but an ontological transformation of the way we conceive ourselves as a species within the fabric of life. Through five moments, the critique of modern dualism, the emergence of a new complex paradigm, transdisciplinary eco-formation, dialogue with the knowledge of the South, and planetary ethics, a path of re-enchantment and resistance amidst uncertainty is traced.

Modernity, was built on a set of oppositions that tore apart the unity of the world: reason/nature, subject/object, mind/body, culture/ecosystem. This metaphysical framework, which enabled the emergence of modern science and the expansion of capitalism, also laid the roots of an unprecedented civilizational crisis. Education, as the quintessential modern institution, internalized these dichotomies in its curricular, epistemological, and pedagogical structure (Maldonado, 2014).

In this context, Environmental Education, emerged as an attempt to correct the ecological blindness of the educational system, but in doing so, it often adopted the very assumptions it sought to transform. It focused on teaching environmental issues, presented as technical, quantifiable, and manageable problems. Nature was treated as a set of resources, and the environmental crisis as a deviation correctable through good practices and responsible consumption.

However, as Enrique Leff (2004), warns, this vision remains trapped in the instrumental rationality that has generated environmental devastation. In the sense, that Environmental Education, cannot be a process of society's adaptation to the crisis, but rather a path to the social re-appropriation of nature and the construction of new rationalities. To achieve this, it is necessary to dismantle the paradigm of control and foresight and open up to a relational and complex vision of the world.

Morin (2001), proposes an education that teaches the true human condition, that makes visible our belonging to the biosphere and our shared vulnerability. Complexity does not deny rationality, but contextualizes it and connects it with ethics, sensitivity, and poiesis. Overcoming dualism implies teaching how to think from interdependence, uncertainty, and fragility.

2. The emergence of a new paradigm: complexity, ecology, and education

The sciences of complexity, emerged in the 20th century, as a response to the limitations of reductionist thinking. From non-equilibrium thermodynamics (Ilya Prigogine), systems theory (V. Bertalanffy), cybernetics (Wiener), and chaos theory, a vision of the world is configured as a network of dynamic, nonlinear, self-organized, and emergent relationships (Capra & Luisi, 2014). Applied to ecology, this view implies that ecosystems are not closed, predictable systems, but rather dynamic structures in constant transformation, where the boundaries between subject and environment are porous. Sustainability ceases to be a static state and becomes a quality of coevolutionary adaptability.

In this sense, Environmental Education, can no longer be limited to teaching ecological concepts. It must educate students in systemic thinking, in ecosophical sensitivity, in the ability to interpret the complexity of living processes. As Gregory Bateson (2000), argues, most of the current ills of the world we live in stem from the clear difference, between how nature works and how we think it works. Educating in complexity means closing this cognitive gap.

Capra (1996), proposes an ecological literacy, based on the understanding of systemic principles, that is, interdependence, cycles, limits, diversity, resilience; however, this literacy must be mediated by a poetics of connection, an aesthetics of care, and an ethics of recognition. Complexity is not only a science, but a way of being in the world.

3. Ecoformation and Transdisciplinarity: Educating in Uncertainty

The notion of ecoformation, proposed by Gaston Pineau and taken up by Michel Serres (1990), refers to a pedagogy that recognizes that human development

occurs, not only in school, but also at home, in the community, and in contact with the living world. The Earth forms us, educates us, and molds us. Environmental Education, then, is learning to listen, perceive, and feel with the world.

This requires, a radical break with disciplinary fragmentation. In this sense, transdisciplinarity, as understood by Basarab Nicolescu (2008), is not only the sum of knowledge, but an ontological openness that transcends the boundaries between science, art, spirituality, and experience. Transdisciplinary Environmental Education, does not seek simple answers, but fruitful questions; it does not transmit content, but rather cultivates the capacity for wonder, discernment, and involvement.

Morin (2008), insists that education must teach how to contextualize, how to globalize, and how to understand connections and implications. This requires, a complex, rhizomatic, narrative methodology that is unafraid of conflict or contradiction. Uncertainty is not a defect, but a constitutive condition of living knowledge.

In this complex pedagogy, the classroom becomes a living laboratory, a space for the dialogue of knowledge, a community of ethical and political learning. Environmental Education, ceases to be a discipline and becomes a cross-cutting fabric that permeates all human development.

4. Narratives of the South: Environmental Education from the Territories

Modern epistemology has systematically silenced ancestral, popular, and community knowledge, which embodies other forms of relationship with nature. Environmental Education, reinterpreted from complexity, must also be a decolonial pedagogy, that recognizes the epistemic plurality of the world and forms a new citizenship. Boaventura de Sousa Santos (2009), proposes an ecology of knowledge that articulates science and popular wisdom, reason and spirituality, technology and lived experience. In the territories of the Global South, from the indigenous peoples of the Amazon to the Afro-descendant communities of the Pacific and the Caribbean, worldviews, are preserved where nature is not an object, but a living, sacred, and relational subject.

Enrique Leff (2010), champions an environmental rationality that emerges from territorial struggles, local resistance, and processes of re-existence. These rationalities, cannot be integrated into the school curriculum, without profoundly transforming educational structures. Environmental Education, must learn to listen, to be affected, to decentralize.

From this perspective, Environmental Education, is also a political act of territorial defense, of recovering memory, of affirming individual and collective identity. It is not a conservation technique, but a practice of ecosocial justice. The classroom expands to the forest, the river, the community; the teacher becomes a facilitator of encounters, a mediator of knowledge.

5. Complexity, Ethics, and Hope: Toward a New Planetary Sensitivity

The ethics of complexity, is not based on universal rules, but on situated responsibility. As Hans Jonas (1995), argues, we must act in such a way that the effects of our actions are compatible with the continuation of human life on earth. This ethic demands a planetary sensitivity, an awareness of our common vulnerability, and a willingness to care.

Complex Environmental Education is, therefore, a pedagogy of caring for the body, for others, for the world. It is also a pedagogy of grief, which recognizes loss, crisis, and fragility, but does not stop there. It is a pedagogy of hope, which focuses on regeneration, on connection, on beauty itself.

As Morin (2011), says, education must teach us how to live, and living today implies facing the abyss without resignation, cultivating clarity without falling into cynicism, and walking with others without losing joy. Environmental Education, can be that space where we learn to endure with tenderness, to think with the heart, to feel with the mind.

6. Conclusions

In a fractured world, reinterpreted Environmental Education, from the perspective of complexity, invites us, to return home. Not to the home of consumption, control, or isolation, but to the common home of life, to the planet as a shared dwelling.

Educating in complexity means, learning to inhabit the world with humility, creativity, and compassion.

It is not enough to teach people how to recycle or plant trees; we must teach them to listen to the murmur of rivers, the whisper of their ancestors, and the cry of disappearing species. We must develop ethical, sensitive, and engaging individuals capable of imagining other possible worlds.

In this endeavor, environmental education is not just another field of knowledge, but the beating heart of a new civilization.

We must learn to return home!

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