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Editorial

Ecocentric Education: Introduction to a Special Collection of Essays

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1. The Origins of Ecocentric Education: From Critical Theory to Ecopedagogy

This Special Issue "Ecocentric education" contains articles focused on ecological values in environmental education (EE) and education for sustainable development (ESD). Ecocentric education is based on a critical theory, originating from Erich Fromm [1], Herbert Marcuse [2], and Paulo Freire [3], and on ecological pedagogy (ecopedagogy), developed by Richard Kahn [4]. These critical theorists served as catalysts in the transformation of education towards the recognition of the "domination" of capitalist, corporate, and/or political power in shaping societies, challenging the broadly shared assumptions and practices [5]. Fromm [1] and his peers believed that education makes learners internalize alienation from humanity and nature, a process which is inherent in the industrial capitalist society. This process increases uncritical adherence to dominant values such as consumerism, downplaying the negative side effects of technocratically defined "progress".

These theorists of critical education derived their critique from neo-Marxist or ecological socialism perspectives, exposing both social inequalities and ecological damage created by a capitalist system of industrial production. Ecosocialism has been especially critical of naive narratives about finitude, scarcity, and conservationism, as David Molina-Motos [6] notes in this collection of essays. However, the Marxist critique (ecosocialism) of capitalism has its shortcomings, as socialist or communist systems are implied to be a solution. This position fails to take into account the fact that contemporary industrial production systems, however ideologically organized, are still predicated on the exploitation of natural resources and on economic growth [7]. Ecosocialism criticized social and economic inequality without challenging the very mechanism of how this wealth is created, that is, through the appropriation of natural resources [6].

At an international political level, the realization of the negative side effects of industrial and economic development was discussed in 1972 at the United Nations Conference on the Human Environment and in *The Limits to Growth* report [8]. The report outlined the need to address population growth, to limit the growth economy and industrial production in order to preserve natural resources for future generations. In 1975, responding to the Conferences' and report's outcomes, these aspirations were translated into educational guidelines. Participants in the United Nations Educational, Scientific, and Cultural Organization (UNESCO) workshop proposed a global framework for environmental education, referred to as the Belgrade Charter, which stated:

"The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones" [9].

This goal of environmental education, combined with the insights of Fromm, Marcuse, and Freire, inspired ecopedagogy, that supports an "earth democracy" and promotes the rights of all living organisms [5]. Having in part evolved from critical pedagogy, ecopedagogy is less ideologically

leftist or Marxist and more environment-centered [4]. What is significant in ecopedagogy is not its leftist origins, but a call for a radically different method of addressing the excesses of industrial development and anthropocentrism. Remaining socially critical, ecopedagogy supports deep ecology and ecocentrism in teaching theory and learning practice [10]. Inspiring this education, ideas addressing the human-centered (anthropocentric) treatment of the environment have been developed by, among others, Arne Naess [10]. The ecology or ecosysytem-centered (ecocentric) alternatives to industrial development underlined, pragmatically, the restraint to growth, and, ethically, the importance of recognizing the intrinsic value, rather than instrumental, value of the environment, as Haydn Washington [11], one of the contributors to this collection of essays has underlined.

As Kazuhito Nakamura, Akio Fujiwara, Hill Hiroki Kobayashi, and Kaoro Saito [12] suggest in this Special Issue, ecocentric education does not "restrict human well-being to economic aspects"; rather, it makes "conventional sustainability education richer and profound" by "positioning human beings as part of nature". Another contributor to this collection, Reingard Spannring [13], relates ecocentric education to ecological citizenship education, which "seeks to liberate human and nonhuman beings from predetermined behavioral results and functions, and opens the time and space for the subjectification of human and nonhuman citizens within the complex dynamics of a multi-species community" (p. 41). Thus, ecocentric education also includes individual care for animals, as Helena Pedersen [14], in this collection, reflects. Pedersen relates ecocentric education to the practice for critical animal pedagogies, offering a critical theory-based form of resistance against the conventionally framed "animal question" in education and beyond.

2. Contributions to this Special Issue: Discussing Anthropocentrism and Industrialism

Contributors to this collection of essays reflect on this new type of environmental education, using case studies originating from Sweden, Spain, Scotland, Austria, Australia, and Japan. Their articles addressed the following questions: What are the prevalence and characteristics of ecocentric education? Does education positively influence environmental knowledge and attitudes at schools and help develop competencies and skills necessary for a transition to a sustainable society in higher education? What are the most effective forms of education taking environmental sustainability as an ultimate goal? How can context-specific studies of education contribute to the scholarship of social change that contributes to environmental sustainability?

Ecocentric education discussed in this collection aids in understanding how complex variables such as national and institutional context, ideology, and ethics (e.g., ecocentric orientation) and pedagogical skills (e.g., didactic qualities) can ensure a sustainable future. Research focuses on nationally contextualized studies on the nexus between education, environment, and sustainable future. Contributors achieve this by examining how a wide range of educational programs have influenced students' worldview and raised particular moral concerns in relation to the environment and our common future. Indeed, as opposed to the dominant forms of environmental education and education for sustainable development (ESD), ecocentric education reveals the lessons of environmentalism and engages with the underlying power structures of society [6,13].

As Washington [11] has emphasized, sustainability and sustainable development are different concepts, and conventional ESD tends to be highly anthropocentric. Assuming that conventional environmental education and, particularly ESD are largely focused on social and economic issues [15,16], ecopedagogy and ecocentric education provide a counterweight with a focus on the "planet". The "planet" in this case is not seen as harmoniously balanced with "people" and "profit" but as foundational for any social and economic activity to take place [17]. In contrast to conventional education, ecocentric education and critical pedagogy are based on "method and process for liberation", fighting for the oppressed and adopting a "critical methodology, and promote education as a non-violent form of radical social change" [18].

Presently, ecocentric education includes various aspects of ecopedogogy, ecological citizenship education [13], conservation [19] and rewilding [20], education for deep ecology [21,22], post-humanist

education [15,23], inclusive (multispecies) pluralism [24,25], animal welfare education [26], and critical animal pedagogy [27]. This education focuses on the unity of animal rights and welfare [28,29] on the one hand, and environmental ethics and sustainability on the other hand [30–33].

As Alexia Barrable [34] writes in this collection of essays, one of the central aims of ecocentric education is "the promotion of nature connectedness, benefiting both the next generation of learners, as well as our planet". Spannring [13] presents a fundamental critique of (animal) consumption as a way of being in and relating to the world. In particular, her chapter addresses how objectification and commodification of nonhumans is opposed to a duty of care within a multi-species community and how they mask speciesism (discrimination against other species). At the moment of writing, for example, millions of animals are used for medical experimentation for the development of the COVID-19 vaccine, in the assumed-to-be morally superior cause of advancing human health. Simultaneously, the root causes of zoonotic pandemics, i.e., high human population density, consumption of meat, and wildlife trade are subordinated to concerns about the economy and calls for a return to normal [35]. In education, as Pedersen [14] notes, this translates into normalizing animal experimentation, as animals are routinely incorporated in the science curriculum, with students taught to "utilize, dominate, or control other species as dissection specimens for hands-on training of certain skills in science classrooms".

Both Spannring [13] and Pedersen [14] argue that the hierarchical status of humans above animals is not challenged but supported by the notion of the *humane* use of nonhuman animals, pertinent to welfare education, traditional forms of environmental education, and ESD. The aim of critical animal pedagogies, according to Pedersen [14], is to disentangle animals from the demands we make on them. The status quo needs to be challenged by education, as aptly argued by Pedersen, who calls for a cessation of our narcissistic preoccupation with "animals for us". Exploring such trajectories in ESD and beyond provides "immanent critique and a foundation and condition for political and environmental engagement in human–animal relations" [14]. It implies the opening of education to "multiple unthought possibilities of unlearning and re-learning our being in the world as standing with, staying away, and stepping aside" [14].

Critical pluralism, in Pedersen's analysis, is different from conventional pluralism prevalent in the environmental education field, sometimes referred to as democratic, which is based on a single dominant species' decision-making [14]. This decision-making is also dependent on the public's perceptions. As Nakamura and co-authors suggest, the public's understanding of environmental challenges often lacks complex time scales, as global issues such as climate change "need to be understood within time spans of some hundred years or more" [12]. Public understanding of the word "speciesism" seems lacking at the time when wokeness (awareness of social injustice) is especially prominent. During #MeToo (anti-sexism) and #BlackLivesMatter (anti-racism) campaigns, discrimination against various human groups is rightly condemned, while abuse of farm animals or extermination of wild animals and their habitats are not recognized as morally abhorrent.

3. Ways Forward in Ecocentric Education

Testing the efficacy of ecocentric education in promoting the ability of learners to address environmental challenges will take years of continuous research and practice, requiring longitudinal cross-national studies to test temporary effects on both affective and pragmatic aspects of learners' ability to solve sustainability challenges. As Barrable [34], these longitudinal studies should focus on measuring the effect of teaching on the "relationship with nature, compassion towards non-human nature, and pro-environmental beliefs and actions" (p. 61). Based on Naess [10] idea of nature connectedness, Barrable stresses that this connection remains central to the ecocentric framework and that disciplines such as environmental psychology are helpful to outline ways that promote this in practice. One of the ways to establish connectedness to nature is through wonder. As Washington [11] notes, while ecocentric education and education for wonder already exist in different forms, there are so many disciplines which should be more deeply integrated into the curriculum. He cites "science education (the kinship of life); geography (sense of place); drama (role-playing games, becoming local species or doing

a "mock trial" about protecting local nature); English (the poetry and prose of wonder—such as those of the American nature writers Thoreau, Muir, Leopold, Carson, etc.); and art (expressing nature through artworks)" [11]. In the context of developing a country's education or indigenous learning, the role of traditional non-hierarchical connectedness to nature, not just through knowledge but through lived and affectionate experience, cannot be understated. Local knowledge systems based on animistic traditions have developed over centuries and involve diverse, versatile content [36]. Both Naess [10] and Kahn [5] have noted that ecocentrism is anchored in these traditionally sustainable worldviews, which can instruct education for the future.

Follow-up studies of ecocentric education, need to involve interdisciplinary fields, such as sustainability, environmental and citizenship education. Tackling environmental issues such as climate change, biodiversity loss, pollution, and natural resource scarcity needs an engagement with practical as well as ethical aspects of various integrated disciplines. Ecocentric education needs to be offered and tested universally, both in developed and in developing countries, ranging from elementary schools to vocational education to postgraduate college levels. In the future, the fields related to ecocentric education will hopefully integrate both ethical and pragmatic implications of the acceptance of intrinsic value of individual beings and nature as an entity. Ways of tackling root causes of unsustainability, including the somewhat uncomfortable issues of population growth and the global expansion of material demands and consumerist lifestyles, will hopefully be developed. Such education will embrace learning about solutions to environmental crises, including issues as diverse as family planning services to address population growth and the understanding of degrowth, steady-state economy and circular production models [17]. Restricting economies towards degrowth and re-orienting politics towards including ecorepresentatives would be a significant part of the solution. Learning to live and flourish, sharing this planet with billions of other living beings, and guaranteeing brighter prospects for future generations will require expert input not just from scientists but also from socially and morally engaged public and decision-makers.

To conclude, this leaves us—academics, educators, and learners—with both a formidable challenge and, in the words of Washington [11], a positive and exciting solution to the environmental crisis. This solution involves "changing our education system, which is arguably a pre-condition for reaching an ecologically sustainable society" (p. 137). Heeding the lessons of Belgrade Charter, we need to "teach about ecological reality, ecosystem functions, ecological ethics, and a sense of wonder toward nature" [8]. Here, again, longitudinal research addressing the effects of such learning, will be needed. It is worth the wait, since such education, as demonstrated by the contributors to this special collection, targets the future generations and, indeed, the future of our planet.

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