

# Transitioning to Quality Education: Examining Education for Sustainable Development Goals, Its Limitations, and Alternatives

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## 1. Introduction

*The Limits to Growth* report published almost half a century ago was based on a computer simulation of exponential growth with a finite supply of resources, and it underscored concerns about human population growth and increase in consumption (Meadows et al. 1972). Heeding the report's warning and expressed need to urgently address environmental problems resulting from demographic and industrial activity increase, The Belgrade Charter, supported by The United Nations Environmental Program (UNEP) and The United Nations Educational, Scientific and Cultural Organization (UNESCO), developed educational guidelines to facilitate the transition to an environmentally sustainable society. This education was targeted towards addressing environmental problems and motivating students to better protect the environment (Orr 1994). The Belgrade Charter's initiative intended to teach students at all levels the fundamentals of ecology, simultaneously developing an awareness of the plight of the environment and motivation for protecting it through the acquisition of knowledge and practical skills to address challenges (UNEP and UNESCO 1976).

However, despite the increased severity of environmental problems since the 1970s, as the Intergovernmental Panel on Climate Change (IPCC 2019) and the Millennium Assessment Reports (MEA 2019) testify, pro-active education focused on understanding the root causes of the problems and drastic measures focused on their resolution has given way to a more optimistic belief in a balanced and integrated approach to the economic, social, and environmental dimensions of sustainable development (Leicht et al. 2018). In 1987, the World Commission on Environment and Development produced a well-known document called *Our Common Future*, also known as the Brundtland Report, named so in recognition of the former Norwegian Prime Minister Gro Harlem Brundtland (WCED World Commission on Environment and Development). In this document, sustainable development was referred to as "development that meets the needs of the present without compromising

the ability of future generations to meet their own needs” (WCED World Commission on Environment and Development, p. 4).

Soon after publication of the Brundtland Report, Education for Sustainable Development (ESD) was developed. ESD commonly encourages changes in knowledge, skills, values, and attitudes to enable a more sustainable and just society, aiming to empower the present and future generations to meet their needs (Leicht et al. 2018). In its phrasing, as opposed to a more urgent tone of the Belgrade charter, the ESD has placed more emphasis on social and economic aspects of sustainability (UNESCO 2005).

Consequently, the UN Sustainability Development Goals (SDGs), following the Millennium Development Goals (MDGs), was developed. These goals built upon what was seen as great achievements of the MDGs: reducing poverty, mortality, and raising overall living standards throughout the globe. The 17 SDGs include poverty alleviation, sustainability education for achieving food security and promoting sustainable agriculture, ensuring a continuum of quality care for healthy lives and well-being, quality education, gender equality and empowerment, sustainable management of water and sanitation, access to sustainable and modern energy, sustainable economic growth, sustainable industrialization and infrastructure, sustainable cities and human settlements, conservation and sustainable use of marine and terrestrial ecosystem and resources, justice and peace, and partnerships for implementation.

Significantly, while the MDGs did achieve many social and economic goals, their record in targeting environmental problems from climate change to biodiversity loss has been seen as dismal (IPCC 2019; MEA 2019). The failure of biodiversity conservation strategies and climate change mitigation efforts are apparent as the greenhouse gas emissions have sharply increased after the publication of *The Limits to Growth* report (Washington 2015). It has also been noted that while the MDGs aims of eliminating extreme poverty and hunger, reducing mortality, etc., have been achieved, future social and economic security, let alone environmental integrity, can hardly be guaranteed due to increased pressure on natural resources and accelerating climate change that affects mostly poor countries (Wijkman and Rockström 2012). Critical academic researchers have stated that the overarching drivers of overshoot are the ideology of economic growth, population growth associated with increase in consumption, as well as denial of ecological limits (Rees 2010; Washington et al. 2017).

Ignoring these failures, swiftly after the publication of the SDGs, new documents supporting Education for Sustainable Development Goals, or ESDGs, were published (UNESCO 2017). The fourth goal of the SDGs, namely “Quality Education”, aspires

to enable every student to acquire the knowledge and skills needed to promote sustainable development (UNESCO 2017). This assumes that the SDGs and ESDG are a good thing.

This chapter will argue that universally applicable ESD and ESDG are problematic. Quality education does require teachers that have the competence, knowledge, and skills to be able to plan and carry out meaningful education and teaching. However, if sustainability and sustainable development are not the same, and might be at times even opposed to each other, the question is whether teaching sustainable development should be seen as something “good” in the first place. This chapter will explore the question of what is wrong with ESD/ESDG and what can be done better to encourage a more radical understanding of sustainability challenges and action to address them. The chapter will encourage critical reflection on the ideas of sustainable development, assuming that such reflection can foster greater awareness of contradictions inherent in the SDG’s aims to simultaneously address social, economic, and ecological challenges through economic means. To explain what might be wrong with ESD/ESDG, the broader question will be posed: what is or should be the purpose of education?

## **2. Materials and Methods**

This chapter is based on desk research examining policy documents, especially stemming from the United Nations, as well as pedagogical and critical literature on sustainable development. These materials (web pages on the Internet, journals, and books in the fields of education or pedagogical studies and critical theory, etc.) were searched using content analysis (Norris and Jacobson 1998; Elo et al. 2014). As noted by Elo et al. (2014), results of qualitative content analyses are linked to transferability, conformability, and credibility; however, it is often difficult to evaluate the trustworthiness of such analyses because of the specific data collection method used. In this case, one of the limitations was the fact that sampling of ESDG-related literature was restricted to UNESCO documents, as the initiative started just a few months before writing this chapter. While there is robust literature addressing the impact and shortcomings of ESD (for recent overview see Kopnina 2020), ESDG practices still need to generate a volume of evaluative academic publications. The section criteria used for literature selection were relevant to the central premise of this paper—identifying and analyzing the aims of ESD and the ESDG curriculum. The literature review was organized into sections that presented themes including the transition from education that heeds the *Limits to Growth* warning of environmental problems, to education embracing the (naïve)

optimism of the Brundtland report, corresponding to the transition to ESD and ESG. This literature search also identified trends in these shifts, including relevant theory connected to the critique of sustainable development, anthropocentrism, and neoliberal economy.

### **3. Results: What Is or Should Be the Purpose of Education?**

The documentary film *Schooling the World*, directed by Carol Black (2010), reflects on the education offered to local Indian villagers as well as presents interviews with anthropologists and professionals involved in development. Black traces the idea of universal education to Christian missionaries as well as colonial powers, operating schools from Africa to Australia, with learning aimed to substitute indigenous knowledge with the supposedly superior notions of progress. In a chapter reflecting on her experience in making the movie, Black (2017, p. 453) writes:

“Just as non-Christian societies have been seen by missionaries as “heathen” rather than as having different but valid spiritual beliefs, societies that lack schools are often seen not as having different but valid modes of knowledge and learning, but as “uneducated” and “illiterate.” And just as the “salvation” of Indigenous people has often historically been the companion of conquest, the “education” of Indigenous people is often an integral part of planned programs of economic development and resource extraction on Indigenous lands . . . ”

Helena Norberg-Hodge, author and filmmaker and the founder and director of *Local Futures*, reflects on an assumption that Western education and knowledge is superior, and that our “developed” nations have “evolved to a higher level of being, and that these people, however lovely they are, they’re going to benefit from this superior knowledge” (Norberg-Hodge in Black 2010). This realization reflects the theory of “cognitive imperialism”, describing the “process through which education is used to validate certain forms of cognition and to simultaneously devalue others that represent alternative perception and spiritual understanding which for millennia have guided human relationship to the natural world” (Battiste 1998, p. 19). In this documentary, cognitive imperialism refers to schools set up by missionaries or Western development agencies, oftentimes destroying bio-cultural diversity. While “traditional” (implying a “thing from the past”) learning is seen as “backward”, Western education and the desire to “get a good job” is perceived as modern and superior (Black 2010). However, from an anthropological and historical point of view, “traditional” cultures “are not failed attempts at being us—they are unique

answers to the fundamental question, ‘What does it mean to be human and alive?’” (Davis quoted in Black 2010).

The ESDGs do not provide an answer to this question. In fact, in its colonial overtones implying that Western society knows better (although its sustainability record shows otherwise), an imposition of “universal” education is also highly suspect. This leads us to the realization that a less neocolonial alternative to “education for all” should not come from the top down, but perhaps from the bottom up.

### *3.1. ESD and ESDG: A Good Thing?*

As early environmental education used to emphasize human responsibility in the process of environmental destruction and called for the duty to repair the damage, with an often ecocentric (ecosystem-centered, recognizing the intrinsic value of environment) approach (Van Matre 1978; Orr 1994), ESD tends to be more focused on the balance between social, economic, and ecological needs as well as being almost exclusively anthropocentric (Bonnett 2007, 2013; Kahn 2010; Kopnina 2012, 2013a, 2013b, 2014a, 2014b, 2015a; Washington 2018). The terms “inclusive economic growth” or “sustainable use” are used abundantly in the descriptions of the SDGs (e.g., UNESCO 2017), basically presenting the environment as a resource for human use and excluding nonhuman species as stakeholders (Kopnina 2018; Kopnina and Gjerris 2015). Clearly, “inclusion” here refers to one single species (Kopnina and Cherniak 2016), as nonhuman beings and their habitats do not profit from economic growth or industrial development.

As Haydn Washington (Washington 2015; 2018) has emphasized, sustainability and sustainable development are different concepts. The term sustainable development often refers to wanting to sustain industrial and economic development (Kopnina and Meijers 2014; Washington 2018). The triple objectives (People, Profit, Planet) also tend to see “people” as separate from “profit”, thus creating a double weight to counterbalance “planet”. By contrast, the concept of environmental sustainability takes the “planet” as a basic necessity that supports both People and Profit (Washington 2015). The “planet” also contains billions of nonhuman species, whose survival has a very different moral imperative than “profit”. Simply, species extinction is a great moral wrong (Cafaro and Primack 2014). While sustainable development rhetoric frames issues of (human) hunger, inequality, racism, sexism, etc., as normative ethical issues, it seems to leave out human responsibility for converting habitats into agricultural or urban areas and threatening biodiversity.

Critics have noted while hunger and disease in one single species deserve moral consideration, the planetary-scale discrimination against nonhuman species also

deserves our attention. As Eileen Crist (Crist 2012, p. 149) states, “More serious than modern society’s potential ability to technologically fix or muddle through problems of its own making is people’s apparent willingness to live in an ecologically devastated world and to tolerate dead zones, endocrine disruptors, domestic animal torture (aka CAFOS), and unnatural weather as unavoidable concomitants of modern living”.

As testified by indicators of the rapid decline of biodiversity (MEA 2019), increase in activities contributing to climate change (IPCC 2019), and shortage of natural resources, we can hardly speak of the success of policies implicated in “sustainable development” (Wijkman and Rockström 2012). Philip Alston, a UN special rapporteur on poverty and human rights, said the impacts of climate change are likely to undermine not only livelihood for millions of people (Alston does not mention billions of nonhuman beings) but also democracy and peace. Quoted in *The Guardian* (Carrington 2019), Alston said “Climate change threatens to undo the last 50 years of progress in development, global health, and poverty reduction”.

In this context, the SDGs’ focus on “sustainable industrial development” remains disconnected from a critical realization that one cannot have the cake and eat it too. Crist (2012, p. 149) reflects that “sustainability” of the current industrial system is, at least in the short term, possible. Crist reflects that the “civilization at work prospecting, expanding, and diversifying the resource base is also increasingly engaged in the parallel work of correcting the side effects of its excesses” (ibid.). This is the reason why proponents of sustainable development embrace “imminent possibilities of geoengineering, synthetic biology, genetic engineering, laboratory-made meat, and sundry adaptation projects to keep climate change under control and food on the table” (ibid., p. 149). Indeed, the “Brundtland-type definitions of sustainable development reflect highly anthropocentric and economist motives that lead to nature being seen essentially as a resource” (Bonnett 2007, p. 710). It is precisely the human needs and wants, particularly economic growth and industrial development that are immoral towards the rest of the species (Kopnina 2016a; Washington 2015). Crist (2012, p. 150) has summarized this moral issue as follows:

Human supremacy has ensconced widespread indifference toward the plight of nonhumans and their homes; it ignores and keeps itself ignorant of the question of, their reproductive rights, as individuals and as species. The dominant culture thus seems unable to grasp the moral evil of erasing wild Nature just to accommodate more and more people to live, all at once, on a planet occupied as a resource satellite.

This implies that for sustainability education to reach further than the comfortable rhetoric of “balance” or “sustainable use”, the less comfortable questions of expansion of the human population and the growing appetites need to be addressed. It is, therefore, surprising that many researchers and practitioners embrace the idea of teaching for sustainable development, ESD, and ESDG. Scholars have warned that as long as social and economic priorities are being taught at the expense of environmental awareness, sustainability remains no more than a slogan (Bonnett 2013, 2015; Fien 2010; Kahn 2010; Kopnina 2013c, 2014c; Molina-Motos 2019; Sitka-Sage et al. 2017).

To sum up, the most common application for sustainable development, as “balancing” triple objectives and the SDGs, is not only anthropocentric (Adelman 2018; Kotzé and French 2018), but also counterproductive in educating future planetary citizens. In its designation as “quality education”, the ESDG might negate environmental sustainability.

### *3.2. Universal Education as a Positive Force: Better Alternatives*

Not all Western education needs to be criticized off-hand as economy-centered, neocolonial, or hegemonic; some types of education can be much more so. For example, a terrorism group Boko Haram (which means “Western education is prohibited”), has been responsible for creating an educational vacuum, and promoting authoritative types of “pure Islamic education” or no education at all for girls (Vos 2019). While Islamic education embraces basic numeracy and literacy, as well as wider values and eco-ethics (Mohamed 2014), the more strict or militant “pure” education promotes intolerance towards other cultures, religions, and ways of life (Vos 2019). In a less extreme example, basic numeracy and literacy are often rudimentary in poorer countries, placing children at a disadvantage when they become adults.

In the critique of Western education one needs to be careful not to throw the baby out with the bathwater, as education can be a tool of self-reflection and development of critical ability. Some critical commentators, interviewed in the documentary *Schooling the World*, notably Vandana Shiva, Manish Jain, Helena Norberg-Hodge, and Wade Davis, are Western-educated themselves (Kopnina 2013a).

Additionally, the choice of education does not need to be “either-or”, a combination of topics and didactic styles is possible. A combination of Western education that calls attention to the scientific understanding of sustainability challenges, such as climate change, evidence of species extinction, or pollution, and local or indigenous value transfer can result in a more holistic education combining

“modern” insights and traditional wisdom. Below, different types of alternative education will be discussed.

### 3.2.1. Critical Pedagogy, Eco-literacy, and Ecopedagogy

A return to sustainability education or education for the environment, as embraced by the Belgrade Charter, offers an alternative for educating responsible global citizens. There are many varieties of education—starting from elementary schools and leading on to universities—that can qualify as education for the environment fostering ecological citizenship (Spanning 2019). Inspired by critical pedagogy developed by Paulo Freire’s seminal text *Pedagogy of the Oppressed* (Freire 1986), the inter-related fields of ecopedagogy and eco-literacy were to empower disenfranchised students by taking control of their own lives in the face of oppressive power holders, and understanding of one’s position within a community, through active participation and engagement. Considering neoliberal economy or rapacious capitalism, it must be noted that industrial socialism or communism (at least in theory) is still based on resource exploitation (Kopnina 2016b). While neo-Marxist in its nature, Freire’s theory has wider applications as it exposes the larger scale of oppression.

In the SDG-framed society and economy-centered sustainability, the impact on the oppressed nonhuman species is forgotten. The question asked by proponents of sustainable development can be summarized as “What is the maximal number of people that the Earth can provide resources for without severely degrading those resources for future people?” (Crist 2012, p. 149). Yet, as Crist notes, if planetary-scale oppression of nonhuman species is taken into account, the real moral question should be “How many people, and at what level of consumption, can live on the Earth without turning the Earth into a human colony founded on the genocide of its nonhuman indigenes?” (Crist 2012, p. 149).

Richard Kahn (Kahn 2010) foresees ecopedagogy, critical pedagogy, and eco-literacy as unique opportunities to engage students with this kind of question. This pedagogy results not just in emancipatory learning but also in the task of realizing ethical and pragmatic aspects of what development means for billions of other species. This emancipation is inspired by civil rights liberation movements, liberating slaves, granting voting rights to women and minorities (Kahn 2010; Kopnina 2014d, 2015b).

However, as opposed to social liberation movements, environmental and animal welfare liberation movements such as Earth Liberation Front (ELF) and Animal Liberation Front (ALF) have been labeled as “radical”. According to Kahn, it is not



the radicalism of the movement that needs to be criticized but a society that indeed labels movements that defend nature as terrorist organizations. Education inspired by critical pedagogy, eco-literacy, and ecopedagogy, while not at all supporting the strategy of economic sabotage employed by ELF and ALF, draws its inspiration from ideals that drive these groups (Kahn 2010; Nocella 2007). It does so as part of a future-oriented, political and legal vision rooted in ecocentrism (Cafaro and Primack 2014) that radically opposes the globalization of ideologies such as colonialism, neo-liberal economy, and imperialism, also discussed by Black (2010; 2017). These types of education attempt to foment an understanding of the current environmental predicament as well as the motivation and tools (knowledge, skills) to actively address these challenges. Such education is founded on cultural democracy, indigenous sovereignty, human rights, and respect for all life (Anderson 2012; Black 2010, 2017; Kahn 2010). In its attempt to liberate both human and nonhuman beings and support the flourishing of all planetary citizens within the multi-species community (Spanning 2019), ecopedagogy is a far cry from ESDG. ESDG can be seen as toothless in terms of environmental protection efficacy.

Equally far from ESDG is education that takes a complex interplay and intricate entanglements between social and environmental systems as a starting point (Black 2010, 2017). Far from being “under-developed” (as the very paternalistic and colonial term “development” implies), indigenous knowledge systems have developed over centuries and involve diverse, versatile content. Distinctive patterns of interpretation are anchored in diverse but traditionally sustainable worldviews (Kahn 2010). Indigenous knowledge, with its integration of the material and spiritual domains, with interdependent culture and other forms of life, is not seen in the current education of sustainable development. In a certain sense, traditional “education for all” used to exist in all localities.

Similar to ecopedagogy is the concept of ecological literacy (sometimes known as eco-literacy), developed by David Orr (1994), which emphasizes the ability of learners to understand basic facts about the environment and ecosystem functions. Ecological literacy involves appreciating the principles of ecological community organization and uses those principles for creating sustainable societies, for example, based on Cradle-to-Cradle principles (McDonough and Braungart 2002). These principles refer to the regenerative design of products and the entire industry by using materials as nutrients circulating in technological or organic metabolisms without harmful, toxic waste products.

### 3.2.2. Emancipation and Empowerment Education

In part, stemming from the *Pedagogy of the Oppressed* (Freire 1986), another alternative is an admittedly more “Western” type of education that can be described as emancipation or empowerment education. This education is rooted in empowerment theory that explores relationships between individuals within specific social, organizational, political, and, significantly, educational environments (Freire 1986; Shor 1992). When empowerment is applied to areas concerned with sustainability or nature protection, intentional education for sustainability can be seen as an enabling process targeting student abilities or competencies such as self-determination, self-efficacy, motivation, and active engagement (Kahn 2010; Nocella 2007), which is in line with the early ideals of the Belgrade charter. In this context, empowerment education reaches beyond pure economic aspirations toward more humane—and in this way possibly truly universal—ways of being in this world.

Ethically, empowerment education promises simply to encourage learners to be independent from social or cultural impositions and restrictions. Pragmatically, this education can also encourage, indirectly but very significantly, more sustainable relation to the environment through restrictions on unwanted births. The United Nations Population Fund (UNFPA 2009, 2011, 2019) has reported the need for educational investment that empowers women and girls to engage in family planning. While smaller families have a positive correlation with reducing poverty as well as a beneficial impact on climate mitigation and natural resource depletion, reducing the population is a win–win solution to social, economic, and environmental challenges (Wijkman and Rockström 2012). While the interaction between demography, food production, and biodiversity is complex, the combination of education that focuses on teaching the importance of humans, and particularly women’s rights, cannot be understated (Crist et al. 2017). As Crist (2012, p. 146) notes, an “international financial, technological, knowledge and informational campaign” is needed to “bring the full range of modern contraceptive methods, safe abortion, professional counseling, and sex and health education”. This is especially true in countries where these means are most urgently needed, particularly in the developing world (Potts 2009).

Next to human rights education, animal rights (and animal welfare) education is emerging (Best 2009; Gorski 2009; Kopnina and Cherniak 2016; Kopnina and Gjerris 2015; Lu et al. 2013; Ortiz 2015; Spannring 2019). In a recently published book, *Animal Rights Education*, Horsthemke (2018) explores how the ethical treatment and status of animals influence pedagogy, teaching, and learning in general, through existing forms of environmental education, humane or posthumanist education, ecopedagogy, critical animal pedagogy, and critical animal studies.

### 3.2.3. Ecocentric Education

Ecocentric education is based on eco-philosophical principles, having its foundations in land ethics, deep ecology (Barrable 2019; Glasser 2004), social ecology, ecofeminism, experiential education deep ecology (e.g., LaChapelle 1991), ethics underlying biological conservation (e.g., Norris and Jacobson 1998), and/or animal rights (e.g., Horsthemke 2018) and welfare (Kopnina 2019a; Molina-Motos 2019), post-humanism and post-colonialism (e.g., Bonnett 2013), and other types of pedagogies closely related to the ones discussed above. In a larger context, ecocentric education promises to bring the realization of moral wrongs inflicted by one species upon all others, and is also a vision of hope, as expressed by Crist (2012, p. 150):

Hope lies in humanity's coming to realize the immensity of what we are irretrievably losing, which is not resources. Hope lies in the fact that we are native to the Earth: we have the potential of understanding that we are losing our own family.

This is a far cry from the 17 SDGs that emphasize sustainable use and sustainable industrialization perpetuating an anthropocentric and profit-driven paradigm. By contrast to the ESDGs, ecocentric education fosters wonder or empathy towards nature (Nakamura et al. 2019). The issues of food security and the basic needs of human beings—and for that matter, nonhuman beings—are deemed important, as all lives matter in an ecocentric thought.

### 3.2.4. Education for Alternative Economic Models

Alternatives to neoliberal, capitalist (or industrialist socialist or communist) systems have been proposed by several critical economists and social scientists. These include the concepts of degrowth, steady-state economy, and circular economy (Daly 1991, 2014; O'Neill 2012; Washington 2015, 2018). While the scope of this chapter does not allow for a detailed discussion of these alternatives, briefly, a steady-state economy refers to an arrangement where throughput is maintained within ecological limits (Daly 1991, 2014)—something that in the context of present overproduction and overconsumption requires degrowth. O'Neill (2012) defines degrowth as the voluntary transition towards a just, participatory, and ecologically sustainable society. O'Neill (2012) proposes a framework based on ends and means, and a set of biophysical and social indicators derived from a steady-state economy, which considers the capacity of the planet to provide resources (admittedly, in this case in mostly anthropocentric framing of 'natural resources' and 'ecosystem services') and particularly variables including population and consumption

growth. Notably, ESG-related publications (Leicht et al. 2018; UNESCO 2017) do not mention degrowth (O'Neill 2012), steady-state economy (Daly 1991), nor Cradle-to-Cradle economy (McDonough and Braungart 2002). However, there are occasional references to the circular economy, finding reflection in the emerging education for Cradle-to-Cradle economy (<https://www.c2ccertified.org/education>) and education for circular economy (<https://www.ellenmacarthurfoundation.org/our-work/approach/learning>).

Here, again, caution needs to be exercised as circular economy models have been often subordinated to “business-as-usual” in opportunities for future economic growth (Kopnina 2019b; Rammelt and Crisp 2014). Education for a circular economy, therefore, should not serve the purpose of education for sustaining profit that results in greenwashing, with businesses appearing green without taking sometimes drastic necessary steps to become truly ‘circular’ (Kopnina 2019b).

### 3.2.5. Indigenous and Traditional Education

Because the system of Western, top-down education is so different from the way local people live, so divorced from their traditional culture or harsh reality, as noted by Manish Jain (quoted in Black 2010), many local pupils end up without a diploma. This failure is based on assuming that the standard measurements of ability, or success measured by the amount of money a future job promises, do not take into consideration alternative ways of learning and being. By contrast, the conditions of learning in most indigenous societies, such as freedom, curiosity, observation, experimentation, and horizontal collaboration, may be more effective conditions for scientific learning than teacher-directed, textbook-based instruction found in most classrooms (Vedder-Weiss and Fortus 2011). Indeed, “it is likely that transmission of environmental knowledge may depend on a sibling or peer teaching, particularly during early childhood” (Zarger 2010, pp. 358–59). As the integrative and inter-dependent character of cultural and biological systems often escapes biological science, as Nabhan (1982, 2001) argues, indigenous knowledge that is continuous with and derived from ecosystemic awareness can offer ways forward. Nabhan (2001) notes that traditional intergenerational learning includes passing on stories and legends from old to young, stories that embody existential questions without explicit moralizing. The explicit prioritization of Western ideas over those of traditional societies is unfashionable in the post-colonial world, yet ‘traditional ecological knowledge’ is only considered if it contributes to corporate or industrial interests (Kidner 2017), for example, when it helps the pharmaceutical

industry in their search for medicinal properties of rare plants. However, learning from indigenous people contains much deeper lessons that reach beyond mere utility.

### 3.2.6. Basic Literacy and Numeracy Education

In some countries in Africa or South America, the lack of basic human rights and even basic education providing basic literacy or numerical skills leads to situations where girls are taken out of schools and forced to give birth after childhood marriage or even after rape (Vos 2019; Wurth 2019). So, some basic education and policy that helps to maintain human dignity and rights—even though it can be seen as Western—can be seen as “good”. One of the challenges is how to combine Western values with culturally variable ones.

Black (2017) notes that indigenous families may be making well-reasoned decisions about how to maintain their traditions while still accessing some of the positive returns of basic literacy and numeracy schooling. These basic academic skills and competencies are arithmetic, health, governance, and land rights. Such lessons can be conducted in a way that integrates existing culture and new skill development, perhaps involving parents or members of extended families not to disrupt respect for elders (Lynch and Judd 2009). It is significant though that basic numeracy and literacy education has been part of traditional education in many cultures as well.

See Table 1 (next page), which summarizes different types of alternative education.

## 4. Discussion: Lessons from ESDG and Alternatives

This chapter has argued that great caution needs to be exercised when promoting education for sustainable development and education for sustainable development goals. This caution is warranted by the underlying contradictions of the very enterprise of sustainable development that tend to prioritize social and economic objectives at the cost of environmental integrity, which, ironically, is the very foundation upon which social and economic systems are built. It was also argued that the root causes of unsustainability, population, and industrial production growth are not readily discussed in the framing of sustainable development. While the accent, both pragmatic and ethical, often lies in elevating poverty and raising living standards (which are certainly worthy objectives), the United Nations framing of sustainable development is woefully inadequate due to robust anthropocentric bias, which effectively excludes concerns about the welfare of all but one single species.

**Table 1.** Alternatives to education for sustainable development and education for SDGs.

Type of Education	Main Application	Origin
Critical pedagogy, eco-literacy, and ecopedagogy	Education for the environment; Education for sustainability; Ecocentric education; Ecoliteracy; Ecological citizenship	Mixed (International)
Emancipation and empowerment education	Education for human rights (including reproductive rights, family planning; sex health education); Education for minority rights; Education for animal rights	Western
Ecocentric education	Deep ecology education; Education stressing intrinsic values; Education for wonder; Empathy education	Mixed
Education for alternative economic models	Education for degrowth; Education for the steady-state economy; Education for Cradle-to-Cradle and circular economy	Western
Indigenous and traditional education	Local learning exemplified by ancestral forms of knowledge and attitude transfer; Holistic, total worldview education	Traditional/indigenous
Basic literacy and numeracy education	Most of the existing UNESCO and development NGO-sponsored programs	Mixed (International)

Not all types of education mentioned above can or should apply in all contexts—some countries or regions might suffer from lack of basic literacy or numeracy education, but they might promote traditional values that teach the wisdom of the elders about the human relationship to the environment. “Modern” problems associated with industrial development might not be adequately addressed by any traditional education, and awareness of these issues may need to be taught. For example, in poorer countries that are most affected by plastic pollution, such as Cambodia, behavior change in the use of plastic has been rarely noted until recent educational campaigns were launched (<https://plasticfreecambodia.com/>; Phnom

Penh Post 2019). A school-level program teaching about separating organic and nonorganic (e.g., plastic) garbage and using organic garbage for composting can be a starting point.

As in the case of Cambodia, school curricula in developed countries can be enriched by a more critical focus on the dominance of industry (e.g., oil producers that make petrochemical residue products, such as plastic, affordable and easily available globally) and ask students to engage with alternative thinking to sustainable packaging in line with Cradle-to-Cradle principles. While schools in developed countries may be paying lip service to sustainability, they seldom have a curriculum that encompasses human–environment interdependency as many indigenous cultures used to have (Anderson 2012).

Considering this, universally applicable education focused on the SDGs, without realizing that the goals concerned with combatting climate change, biodiversity loss, and indeed the long-term welfare of future generations are negated by continuous economic growth, is problematic. In addition, considering the discussion of neo-colonialism and bio-cultural diversity above, the appropriateness of any kind of education should be considered on a case-to-case basis.

As a counterweight to education centered on economic development, this chapter has discussed alternative forms of learning. Traditional and indigenous learning, critical pedagogy, illiteracy, ecopedagogy, ecocentric education, and alternative economy education, including education for degrowth, steady-state economy, and Cradle-to-Cradle and circular economy were discussed.

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