CAMBRIDGE
UNIVERSITY PRESS

ARTICLE

From Pseudo to Genuine Sustainability Education: Ecopedagogy and Degrowth in Business Studies Courses

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Abstract

This article surveys critical scholarship that links the literature on sustainable business education and education for sustainable development goals (ESDG). It is assumed that ESDG is desirable in the business curriculum. However, it is argued here that ESDG erroneously fosters the illusion of successfully combining economic growth, social justice, and environmental protection, foregrounding "sustained and inclusive economic growth", which is often dependent on the increased consumption of natural resources. ESDG rarely addresses industrial expansion that jeopardizes the opportunity for the resolution of environmental crises, ignoring the intrinsic value of nonhuman species and ecosystems and masking the root causes of unsustainability. ESDG places heavy emphasis on economic and social aspects of sustainability, at the cost of the environment. By contrast, some earlier forms of environmental education recognize the limits to growth and emphasize environmental integrity as a foundation for both social and economic activity. This article emphasizes the need to re-orientate ESDG towards genuine sustainability of ecopedagogy in the context of business education, emphasizing transformative business models based on degrowth, circular economy, and steady-state economy. It is argued that a more explicit pedagogical re-orientation towards the recognition of planetary boundaries, as well as toward a less anthropocentric focus is needed.

Keywords: Circular economy; degrowth; ecopedagogy; education for sustainable development (ESDG)

Introduction

Education for Sustainable Development Goals (ESDG) is a global project coordinated by UNESCO since 2019. It follows on from the Decade of Education for Sustainable Development ESD (2005–2014) and the Global Action Plan. UNESCO (2021) has responsibility for Target 4.7 of SDG 4, which aims to ensure that by 2030 all learners acquire the knowledge and skills needed to promote sustainable development through ESD. ESDG started to dominate the international curriculum in courses of sustainable or responsible business (Hales & Phi, 2021; Molina-Motos, 2019; Nonet et al., 2022; UNESCO, 2017; Westerman et al., 2020). The application of ESDG to responsible or sustainable business education is often associated with the ubiquitous triple Ps of People, Profit, and Planet. Conventional literature used in business courses, for example on leadership (Yukl, 2002), strategy (Aurik et al., 2015), disruptive innovation (Schmidt & Druehl, 2008), and Corporate Social Responsibility (CSR), typically lists environmental issues as balanced with social and economic issues (e.g., Crane et al., 2008; Rajeev & Joy, 2021). The concept of "purposeful profit", an aim of reshaping businesses as essential to solving global challenges, is

popularized by The British Academy (2017). The purpose is largely defined in terms of social equity and justice (Borland & Lindgreen, 2013; Fryer, 2015).

Although there has been a rapid spread of ESDG-supporting institutions, this has occurred without a serious critique of SDGs (Kopnina, 2020). As sustainability or ethics-centred business courses are emerging, many of the programs unquestionably embrace ESDG (for a review of sustainable business programs) (Kopnina & Benkert, 2022; Mayer, 2021). In the article tellingly titled "Business as Usual Will Not Save the Planet" Kramer et al. (2019) inquire whether the companies are advancing serious solutions inspired by SDGs or are simply greenwashing. Their answer indicates that the latter is true. While many business schools have introduced elective courses on topics such as environmental, social, and corporate governance (ESG), they have been slow to recognize the extent of reform required for their curricula (Mayer, 2021). Publications in the *Journal of Business Ethics Education* (e.g., Hales & Phi, 2021; Westerman et al., 2020) tend to equate SDGs with sustainability and assume it is desirable to integrate them into business curricula, treating SDGs as something that should be accepted without question. Borland and Lindgreen (2013: 173) highlight the widespread adoption of what they term *anthropocentric sustainability*, which "prioritizes a human bias and has generated sub-disciplines such as environmental management, sustainable development, and environmental resource management . . . which put human needs and wants" first, reflecting in business management literature and practice.

In the editorial overview in the article titled "Advancing Corporate Sustainability, CSR, and Business Ethics", Hansen et al. (2015) find that while sustainability management and CSR have become more integrated within what they term an "embedded view" which business and society is part of (and constrained by) the natural environment, "business ethics has not been integrated to the same extent, except for the subfield of environmental ethics" (p. 287). Furthermore, both CSR and business ethics tend to be focused on "social responsibilities" and are "anthropocentrically orientated" (p. 289).

This article will review the emerging scholarship on the hegemonic tendencies of sustainable development, and by implication, ESDG (Adelman, 2018; Bonnett, 2007; Kopnina, 2012; Spannring, 2019). The broad church of CSR, sustainable business and business ethics often mix in diverse topics ranging from equal labour conditions, fair pay, child labour, gender and racial equality, as well as climate change, all issues present in ESDG (Kopnina & Blewitt, 2018; Rajeev & Joy, 2021). On the one hand, "all-embracing" notions and manifestations of CSR are too defused (Van Marrewijk, 2003: 96). On the other hand, the apparent plurality of approaches also masks salient absences, such as the lack of ecosystem-centric (ecocentric) perspective in much of CSR and business ethics (Nicolaides, 2017; Purser, Park & Montuori, 1995) — which fit within normative anthropocentric ethics embraced by ESDG (Adelman, 2018). While this mixing of (mostly anthropocentric) objectives can be seen as part of a broadly 'ethical' strategy, critical scholarship, examined in this article, also points out that without clear priorities in what business education's contribution to environmental sustainability can be, the diversity of approaches does little to address the root causes of environmental degradation, which, in turn, affects both social and economic objectives.

The paradoxes of SDGs

One of the larger problems is that the SDGs disregard the interests of nature (environment, habitats, biodiversity) and nonhuman animals outside of their utility to humans (Kopnina, 2020; Kotzé & French, 2018; Torpman & Röcklinsberg, 2021; Visseren-Hamakers, 2020). Ironically, the same disregard can backfire in terms of human welfare, as there is unlikely to be any People or Profit without a healthy Planet. Hansen et al. (2015) reflect that a stronger integration of all domains within the business and society fields (and by implication, education), including a more explicit re-orientation of CSR towards environmental sustainability, is both promising and desirable.

Critical scholars such as Freire (1970), Fromm (1956), and Illich (1971) have warned of hegemonic tendencies in educational systems to follow the status quo, reinforce capitalist logic and ideology, and the standardization of ideas. While critical theory scholars tend to be classified as neo-Marxist, it needs to be noted that environmental destruction is not limited to capitalist societies but is characteristic of any industrial society, including socialist or communist ones, predicated on natural resource exploitation (Kopnina, 2016). Although consumption patterns and attitudes differ cross-culturally, the practice of socialism (or in non-Communist countries, left-leaning policy) does not prohibit the exploitation of the environment for economic gains (Mazurski, 1991). This industrialism as a force of environmental destruction has been noted by environmental philosophers, such as Aldo Leopold (1989), and translated in terms of education:

> One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and pretend that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise.

This quote highlights the underlying ethic of ecocentrism or ecosystem-centredness, otherwise known as "deep ecology" (Naess, 1973), which recognizes the intrinsic value of nonhuman beings. Partially based on critical theory, and partially on environmental philosophy and ecological education, ecopedagogy has been developed with its origins dating back to the Earth Summit in Rio de Janeiro in 1992 (Kahn, 2010). The crucial element of ecopedogogy in comparison to conventional 'sustainability studies', is not just the recognition of social and economic aspects of sustainability, which often hinge upon fair distribution of environmental goods, such as natural resources, or harms, such as pollution, but a willingness to address the root causes of environmental destruction. While the SDGs' objectives are oriented towards single-species welfare, ecocentric objectives are more akin to the failed AICHI targets set by the Convention on Biological Diversity (CBD, 2020).

The root causes of biodiversity loss involve population, consumption, and production nexus that convert nature areas into industrial or agricultural production factories, destroying life-sustaining habitats (Piccolo et al., 2018; Taylor et al., 2020; Washington et al., 2018). The United Nations report on the state of nature has admitted that not a single target to stem the destruction of wildlife and ecosystems has been met (Greenfield, 2020).

This failure is much less publicized than any successes of the SDGs, with the wealthier, healthier, and overall larger population being the witness of this progress, despite the setbacks during the COVID-19 pandemic. Yet, while this progress comes at a price of the steady destruction of the life-sustaining ecosystems and wild habitats, this sacrifice seems to garner much less public and political attention, let alone corporate action, than the objectives of sustainable economic growth and social and profit-oriented systems. This failure is reflected in mainstream ESD and ESDG and as such, it is argued in the next section that they represent an education based on pseudo-sustainability.

Pseudo sustainability: education for sustainable development goals (ESDG)

When it comes to the credibility of the SDGs there are several elephants in the room. Firstly, the SDGs are built on a foundation of economic growth. Given limits to decoupling growth from ecological impacts, more economic growth will lead to an increase in material and energy use and contribute to environmental degradation, more CO_2 emissions, climate change, deforestation, loss of biodiversity, and mass extinction (Meadows et al., 1972). As Bogović and Čegar (2012) point out, in the long run, a sustainable economy may exist only in a sustainable symbiosis with the

natural system, upholding natural laws and respecting natural limits of economic growth. Therefore, as economic growth is the means to achieve the SDG goals, this will result in further planet degradation. Sustainable economic growth is, therefore, oxymoronic "because it erroneously fosters the illusion of combining endless economic growth on a finite planet, social justice, and environmental protection" (Adelman, 2018: 14). Daly and Townsend (1993) refer to the economy as an open subsystem of the Earth's ecosystem, which is finite, non-growing, and materially closed. Therefore, they state, that sustainable economic growth is an impossibility.

Economic growth is mentioned seventeen times in the UN's 2015 SDGs resolution 70/1, while planetary boundaries are not mentioned at all. Furthermore, economic growth based on natural resource exploitation is not only uncontested but is seen as essential for achieving some of the SDGs such as the elimination of poverty (Adelman, 2018). This highlights the problem of combining and achieving social, economic, and environmental sustainability.

Mainstream ESDG is therefore complicit in a growth fetishism that is destroying the planet. SDG 8 is dedicated entirely to decent work and economic growth, hardly compatible with environmental sustainability, especially given that developed countries are already in ecological overshoot. To create sustainable societies, excessive consumption of resources needs to be curbed so that it is possible to live within the earth's carrying capacity. Today, humanity uses the equivalent of 1.7 planet Earths to provide the resources we use and to absorb our waste. As Mathis Wackernagel et al. (2017) point out, "Ranking high on the SDG index strongly correlates with high per person demand on nature (or 'Footprints'), and low ranking with low Footprints, making evident that the SDGs as expressed today vastly underperform on sustainability." Furthermore, it would take five planets Earths to sustain a global population of seven billion at American levels of consumption (Global Footprint Network, 2021).

The next elephant in the room is the global population, a major factor in the increasing consumption of resources and its destructive impact on the environment. Population Matters, a charity that focuses on human rights, equality, and sustainability, has emphasized that the SDGs conspicuously ignore the question of population growth, assuming that, magically, the health and wealth of 8 billion consumers will not come at the cost of environmental integrity (https://populationmatters.org). Denialism of a population problem or the need for drastic action to reduce consumption explains the disregard for nonhuman animals, common in the SDGs (Visseren-Hamakers, 2020). Maynard (2021) notes that Western academics appear ignorant of the "inconvenient facts of the considerable human rights, climate and biodiversity benefits addressing the human population factor" (p. 26). Ironically, while the political liberal left rallies against "oligarchs, capitalists and free-market economists", these "gain most from the denial of population growth" (Maynard, 2021: 26). Indeed, corporate, and political elites

> have a vested interest in a growing population, seeing expanding markets for their goods and services, boosting consumerism globally and seeding exaggerated fears in the public's and politicians' minds that without fresh cohorts of young people as labour, social services and pension funds will collapse (Maynard, 2021: 26).

It is often assumed that people in poor (and populous) countries have a very small environmental impact compared to the supposedly homogenous group of Western/Northern (over)consuming "privileged elites". This ignores evidence of growing middle classes in developing countries or migration from low-consumption to high-consumption countries (https://databank.worldbank.org/source/wealth-accounts). Saliently, the very core of social justice principles should enable social and economic mobility.

The biggest problem with the SDGs and ESDG is that they promote a failing economic model that does not respect planetary boundaries and impedes the implementation of deep structural change needed for sustainability. Indeed, Huckle and Wals (2015) argue that mainstream ESD "failed to acknowledge or challenge neoliberalism as a hegemonic force blocking transitions

towards genuine sustainability" (p. 491). ESD has become entangled with the SDGs making it less likely that the hegemonic principles underpinning sustainable development will be critically examined, debated, tested, and applied. Huckle and Wals (2015) conclude that the UN ESD represented 'business as usual' since the "majority of those who determined its rationale and developed educational projects and programs under its umbrella failed ... to face up to current global realities" (p. 492). Thus, it appears that ESGD with its anthropocentric orientation is a project of pseudo-sustainability. There is therefore the need for a new genuine sustainability paradigm that a critical pedagogy such as ecopedagogy can offer.

Towards genuine sustainability education: critical pedagogy and eco-pedagogy

The critique so far of ESDG demonstrates the need for a new strong sustainability education paradigm rooted in principles and values of ecological integrity. Kahn (2010) calls for a new paradigm for living out of a transformative ecological praxis — one that is shaped by the power of human emotions, the cultural rituals of diverse ways of being, deep respect for universal rights, and the integration of planetary consciousness (p. xvi). Ecopedagogy rooted in critical pedagogy offers a way forward for genuine sustainability education to promote well-being for all within the limits of planetary boundaries.

Informed by critical theory, critical pedagogies share the aim of empowerment through education to challenge social, economic, political, and environmental injustice. These pedagogies foster critical consciousness to understand the root causes of oppression and injustices and action to transform society. They share some common assumptions, aims, and practices, but also have their nuances and emphases as well as applications in diverse contexts. In its early development in the late 1960s, critical pedagogies focused on social issues such as discrimination, human rights, justice, and economic issues such as exploitation and oppression. Since the early 1990s critical pedagogy began to address environmental issues, and the fusion of ecology and critical pedagogy became ecopedagogy.

The works of Paulo Freire have been the biggest influence on critical pedagogies (1970, 1973, 1994, 1998). Freire views education as a liberatory practice that is not only committed to individual empowerment and transformation, but also the collective radical transformation of society. His educational approach focuses on issues and problems that are important to communities such as climate change (what he calls *generative themes*), believing there is a strong connection between emotion and drive to act. Learning activities are therefore situated in the life experiences and concerns of students and teachers.

Problem posing is the term Freire uses for his pedagogy in which the teacher (or animator) provides a framework for critical thinking, creativity, active participation, and experiential approaches to find solutions to problems. It involves a learning community engaged in cooperative inquiry to develop an understanding of issues and act on a problem of concern. Dialogue is central to a learning community and as Freire says, "without dialogue there is no communication, and without communication, there can be no true education" (1970: 73). A dialogical learning community contrasts with the domesticating banking or transmissive approach in which students passively absorb the sacred body of knowledge deposited in their heads by the teacher. The learning community is based on mutual support to empower learners to act in ways that promote justice and equity. It is also a community that leads students to find their voices and develop self-understanding.

Central to Freire's pedagogy is *conscientization*, which he refers to as "learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality" (1970, p. 17). At the heart of the conscientization process is the development of an understanding of the root causes of a problem such as climate change and pollution rather than just an awareness of its existence.

Conscientisation proceeds through a praxis of "reflection and action directed at the structures to be transformed" (Freire, 1970: 107). In this praxis, individuals develop a critical understanding of their reality (critical consciousness) that is understood to have the power to transform the world. Freire's praxis thus creates an inner power that enables individuals and groups to become activists to change the world. The praxis impacts both the capability and drive to act and transform.

Giroux (1991, pp. 47–54) similarly calls for creating a language of critique and possibility that engages students in imagining a more just world and struggling for it. This is achieved through participatory learning communities engaged in a dialogical praxis of action and reflection. Ira Shor (1992, p. 17) proposes an agenda of ten principles for his empowering pedagogy: participatory, affective, problem-posing, situated, multicultural, dialogic, democratic, researching, interdisciplinary, and activist. Shor's principles sum up the main pedagogical principles of critical pedagogy.

Ecopedagogy is a more recent development in critical pedagogy that places the environment at the center of sustainability, in contrast with anthropocentrism (Kidner, 2014), reflected in sustainability education that ignores nonhuman species' interests (Pedersen, 2019). Ecocentrism is characterized by concern with the well-being of entire ecosystems, otherwise known as biospheric altruism (Naess, 1973; Taylor, 1981) — something which is largely absent in the SDGs or business ethics but prominent in ecopedagogy. Hung (2021) views ecopedagogy as the joining of ecology and pedagogy — an education based on an ecological worldview that focuses on ecojustice (Baxter, 2005). Misiaszek (2020) highlights how Freirean pedagogies construct learning that leads to an awareness of the root causes of environmental destruction and human actions geared towards increased social and environmental justice and planetary sustainability. Understanding the alternatives such as degrowth, post-growth, and the steady-state economy, is central to ecopedagogy.

Grigorov and Fleuri (2012) have highlighted differences in the strategy, language, methods, target groups, and perspectives of ecopedagogy. This can be seen for example in the diverse contributions in the *Handbook of Ecopedagogy* (Grigorov, 2012). Grigorov and Fleuri (2012) stress that it is "exactly these differences co-construct together the unity of Ecopedagogy as a planetary project based on Solidarity" (p. 438). Antunes and Gadotti (2005) point out that classic pedagogies are anthropocentric, whereas ecopedagogy represents an evolution to a "planetary understanding, to practising planetary citizenship, and to a new ethical and social reference — planetary Civilization" (p. 136). Ecopedagogy is characterized by a systemic and holistic approach to sustainability and employs visioning of sustainable futures to develop strategies for transformation.

Kahn (2010) traces the roots of ecopedagogy back to the second Earth Summit in 1992 held in Rio de Janeiro, Brazil, though it is important to note that indigenous pedagogies with an ecological worldview existed long before this. Building on the Earth Summit, in 2000 the Earth Charter was launched. The Charter was an attempt at an "educational reformulation of how people should maintain sustainable cultural relations with nature and between each other" (Kahn, 2010: 13). Antunes and Gadotti (2005), both scholars from the Paulo Freire Institute, view ecopedagogy as the appropriate pedagogy to the Earth Charter process.

The Charter has 16 principles organized under 4 pillars for building a just, sustainable and peaceful world: (1) Respect and Care for the Community of Life, (2) Ecological Integrity, (3) Social and Economic Justice, and Democracy, (4) Nonviolence, and Peace. These ecological principles provided the foundation for the development of ecopedagogy. This ecocentric Charter acknowledges ecological integrity and therefore the reality that the economy is a subset of society, which in turn is a subset of the environment (Daly, 1990; Reddy & Thomson, 2014). Thus, whilst the social and economic pillars of sustainability are important, ecological integrity is paramount and cannot be compromised as a foundation for genuine sustainability education, which is about sustaining life and not destroying the planet. Strong sustainability ecopedagogy based on the Earth Charter contrasts with the weak sustainability ESDG where at best the environmental pillar is seen as of equal importance to the social and economic pillars.

Furthermore, the Earth Charter recognizes that the goals of ecological protection, the eradication of poverty, equitable economic development, respect for human rights, democracy, and peace are interdependent and indivisible. It provides, therefore, a new, inclusive, integrated ethical framework to guide the transition to a sustainable future.

Ecopedagogies are diverse, but the main focus is "participatory anti-hegemonic perspective promoting a new Earth's paradigm" (Grigorov & Fleuri, 2012: 439). The Manifesto for the Earth (Mosquin & Rowe, 2004) is another potential foundation for ecopedagogy. This Manifesto contains six core principles of ecocentric ethics formulated in The Earth Charter, and notably from a critical pedagogy perspective five action principles: (1) Defend and Preserve Earth's Creative Potential, (2) Reduce Human Population Size, (3) Reduce Human Consumption of Earth Parts, (4) Promote Ecocentric Governance, and (5) Spread the Message.

As the International Handbook of Ecopedagogy (Grigorov, 2012) is testament to, ecopedagogy initiatives based on an existing ecological worldview ecopedagogy have often been co-constructed in learning communities with a participatory place-based approach. An example of this is Bedford's (2022) action research to construct a Transformative Sustainability Pedagogy (TSP) that fosters teacher empowerment for a sustainable future. The context for the TSP was a Transformation Education for Gross National Happiness project with teachers in Bhutan.

Significantly, a recent UNESCO (2021) report from the International Commission on the Futures of Education was published that signals a shift away from anthropocentric ESDG towards more ecocentric environmental education. The report highlights ecological concerns such as "resource use that surpasses planetary boundaries in terms of material production, consumption, and waste", and that the "population explosion has been matched by concurrent increases in resource needs" (p. 31). In addition, biodiversity loss and the widening social and economic inequality are mentioned (p. 3). The report is explicit in signalling the need for a paradigm shift towards an ecopedagogy: "the mainstream development and economic growth paradigm needs to be rethought in the light of the ecological crisis" (p. 64), and furthermore:

> for too long, education itself has been based on an economic growth-focused modernization development paradigm. But there are early signs that we are moving towards a new ecologically oriented education rooted in understandings that can rebalance our ways of living on Earth and recognize its interdependent systems and their limits (p. 33).

> We must rethink and reimagine curricula to instill a fundamentally new way of looking at the place of humans as part of the planet. In all areas, students should encounter the urgency of environmental sustainability — living within planetary boundaries and not compromising future generations or the natural ecosystems of which we are all a part (p. 66).

The UNESCO (2021) report is an interesting development that may put the organization on a road towards genuine sustainability education based on an ecological worldview. In the meantime, until mainstream ESD becomes disentangled from the unsustainable growth paradigm, any hope for a sustainable future lies with grassroots critical pedagogy and ecopedagogy initiatives.

Ecopedagogy, circularity and degrowth in business (ethics) education

Degrowth is an integral part of an ecopedagogy in business (ethics) education as can be seen in literature which specifies if not complete elimination but the radical reduction of environmental impacts at all stages of the product's lifecycle; eliminating built-in obsolescence (which stimulates consumers to buy more products) and making products that last longer through repair (Khmara & Kronenberg, 2018) and product to service shift in closed-loop systems (Sheth & Sharma, 2008). These closed-loop systems are partially based on biological or organic/biodegradable and partially on technical/technological cycles.

The latter cycle is often evaluated by the so-called 10-R hierarchy. This hierarchy starts with the R of Refuse (the discontinuation of wasteful production by eliminating the need for new products), followed by the Rs of Rethink, Reduce, Re-use, Repair, Refurbish, Remanufacture, Repurpose, Recycle, and Recover (Potting et al., 2017). The higher tiers of this hierarchy require de-materialization or a switch from resource-intensive manufacturing to keeping what is already produced in use through a product-service shift (Bocken, 2021). The most service-oriented business models that avoid the use of either virgin or even recycled (typically, downcycled) natural resources are aided by life cycle assessments that evaluate the product's manufacturing and delivery inputs, as well as production outputs, use, and disposal (Ünal & Shao, 2019). The ecopedagogical approaches to teaching 10-R strategies are reported in Kopnina (2020, 2021); Kopnina and Saari (2019); Kopnina and Benkert (2022); Kopnina and Poldner (2022).

The first R of Refuse and the second R of Rethink of the 10-R hierarchy are akin to degrowth. Degrowth in business models (and consequently case studies and sponsor companies for students studying sustainable business) provides a particular challenge and opportunity. Hankammer et al. (2021) note that organizations striving for sustainable degrowth face obstacles associated with the application of the first Rs of the circular economy hierarchy (Refuse and infinite reuse) to products they sell or rent. The case study of four B Corps companies shows that few companies can easily transition to circularity as far from all parts of components rented can be reusable (Hankammer et al., 2021). The role of informative case studies in business education for increasing students' sustainability awareness of greenwashing cannot be underestimated (Kopnina, 2019, 2020, 2021).

The concept of degrowth is critical of C2C and circular economy's promise of absolute decoupling of economy from resource consumption as it stresses pragmatic limitations, e.g., the laws of thermodynamics (Rammelt & Crisp, 2014). Thus, there is a need for re-orienting business (ethics) education away from the SDGs-guided curriculum towards alternative teaching methods that emphasize transformative business models based on degrowth, circular economy, and steady-state economy through ecopedagogy. While mainstream business education involves fine-tuning strategies, emphasizing branding, customer loyalty, and optimizing ways of market expansion, transformative business education would alert students to the need to consider changes to the core business models and, in terms of business ethics, challenging anthropocentric ethics (Cunha et al., 2008; Nicolaides, 2017; Purser et al., 1995).

Critical learning about SDGs should include awareness of problems of growth-based approaches, embodied in SDG 8 (Decent Work and Economic Growth). Critical learning could take the form of didactic strategies that activate active citizenship through a flipped classroom approach, in-class debates (for example about the relationship between natural resource consumption and economic growth), and role-play involving various (also nonhuman) stakeholders (Kopnina, 2019; 2020, 2021; Kopnina & Saari, 2019; Herbrechter, 2023; Kopnina & Benkert, 2022; Kopnina & Poldner, 2022).

With the flipped classroom approach student groups start their seminars by discussing a situation in which non-anthropocentric business ethics may occur and asking their classmates to engage in the discussion afterwards. The ecopedagogical approach can take the learners through alternative stages in business education that reach beyond individual change (which is akin to transformative learning) towards individual and social transformation as is the case with critical pedagogy.

Critical pedagogy has the potential to perationalize degrowth, rather than relying on economic growth as a supposed solution to social and environmental problems (Bauwens, 2021). Degrowth can reach beyond business-as-usual, for example by transitioning from ownership to lease (de-materialization) and encouraging the re-use of products. In business education, this implies learning strategies based on the case studies of either existing or possible corporate initiatives, for example by critically examining the supposedly best circular case studies by Ellen MacArthur's

Foundation, with students using the 10-R and C2C evaluation tools to examine circularity of the products or processes (Kopnina, 2020, 2021; Kopnina & Saari, 2019; Kopnina & Benkert, 2022; Kopnina & Poldner, 2022).

Degrowth argues for the need to radically reduce total demand, critical of the assumption that the growing economy, dependent on increased energy and material throughput, can sustain future generations (Bauwens, 2021; Köves & Bajmócy, 2022). In business education, engagement with degrowth and other critical ecopedagogical approaches (reported in Kopnina, 2020, 2021; Kopnina & Saari, 2019; Kopnina & Benkert, 2022; Kopnina & Poldner, 2022) included seminars and lectures targeted at both testing their critical thinking, reading, and encouraging active participation.

Ecopedagogy provides a way forward in sustainability education and includes the realization that education — both of teachers and learners — that accentuates critical (and logical) thinking about complex 'wicked' problems within the socio-economic-environmental nexus, ability to make clear choices, and form priorities in action can be effective. One of the debate topics discussed by one of the authors in previous publications was centred around the statement for the debate is the following: Poverty reduction can be decoupled from an increase in consumption of natural resources. The students also engaged in the Shell game, a role play in which the students were asked to assume roles of both managers, politicians, and other stakeholders such as shareholders and civil society representatives, to discuss the topic of Shell's decision to drill in the Arctic.

Just as the civil rights movement and rejection of racism and sexism have become mainstream in education in most institutional contexts across the world, so can an understanding of the need to halt environmental destruction be understood and widely shared and supported by both social movements (e.g., environmentalism, animal welfare/rights) and translated into the curriculum. The ESDG is not the best vehicle for achieving this objective as it marginalizes the primary importance of Planetary integrity for both social and economic sustainability. Through ecopedagogical approaches, students can learn to discuss how ecological decline and the failure to meet biodiversity targets (CBD, 2020) could be addressed through not just the popular buzzwords but through business models that strive towards degrowth.

The way forward for sustainability business education is to emphasize population reduction through family planning investment as part of a CSR strategy (https://www.pathfinder.org/projects/corporate-social-responsibility-family-planning/), degrowth (Kallis, 2011), steady-state-economy (Washington & Maloney, 2020), and, where possible, closed-loop circular systems (Kopnina & Blewitt, 2018).

Business students can be taught which business models or products can be truly more circular than others and distinguishing between realistic possibilities and greenwashing is key (Kopnina & Blewitt, 2018). For example, de-materialization is almost impossible due to the second law of thermodynamics which states that entropy always increases i.e. useful energy constantly turns into non-useful. For example material products, such as food, change in quality when consumed — becoming excrement and higher entropy than the original product (Rammelt & Crisp, 2014). However, as students can be taught in sustainable business classes, parts of consumer electronics or cars, can be fully reused (e.g. metals), and other parts can be repaired or refurbished, but they can be costly. Students could calculate corporate costs in different scenarios, for example involving biodiversity accounting and investment, acting in a similar way as carbon price.

For example, some companies that have started lifelong repair schemes, such as Dr. Martin's shoe repair service, have discovered that it is too costly and stopped their scheme (Brignall, 2020; Kopnina & Blewitt, 2018). Especially businesses that might — directly or indirectly (through their operations such as extracting industries) affect ecosystems and wild habitats and biodiversity need to be carefully examined. Some businesses even claim to positively contribute to biodiversity, including detergent-making company Draft to bottled water company Harrogate Water (Casci,

2021). In most cases, their contribution applies to some minimal restoration or compensation effort, such as tree replanting (typically involving monocultures that could be in turn used for the timber industry), or the ad hoc initiatives involving a single species in an affected habitat. For the best contribution to biodiversity conservation, corporate leaders might consider complete halt of operations, radically revising their business model, as reported by The EU Business and Biodiversity Platform (EC, 2023). The students are then asked to examine financial feasibility of transition to an alternative model of operation.

In the above-mentioned didactic strategies (the debate, the role play, examination of case studies, etc.) it is implied that ecopedagogical approaches can inform business education in ways that are realistic (not everything can be refused, as the first R dictates) and inspire hope in terms of informed calculating of opportunities. Investment and divestment are of particular importance here (https://www.dnb.nl/media/cy2p51gx/biodiversity-opportunities-risks-for-the-financial-sector. pdf), and the guest speaker lectures that addressed students in regard to the necessary reform of financial system. In courses described by one of the authors (Kopnina, 2019, 2020, 2021), part of student engagement includes a dialogue with these guest speakers and practices, not just by taking what they say or what the bank's website states in their mission statement for face value (e.g., not every investment called 'green' or 'ethical' influences mitigating climate change or halting biodiversity loss). Students that learn active engagement also learn to politely confront the corporate partners that are often, directly, or indirectly, involved in business education.

Business students' ability to see financial constraints and technical possibilities are key ingredients in the transformation, including addressing the root causes of environmental crises. Kahn (2010) argues that addressing these crises would 'require a much more radical and more complex form of eco-literacy than is presently possessed by the population at large' (p. 6). But if this means more education then Schumacher (1997) cautions:

> The volume of education continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind: an education that takes us into the depth of things (p. 206).

Conclusion

The world is facing escalating economic social and ecological crises resulting from unsustainable exploitation of nature and cultural practices that are harmful to the environment. UNESCO has championed ESD and ESDG education but as has been argued they are locked into the economic growth paradigm and as such are unsustainable. Rather than the education of a different kind they represent business as usual and pseudo-sustainability. We have argued that without a clear understanding of priorities of action the grand objective of sustaining future generations can be counter-productive to the task of initiating transformative change, in business and beyond. The primary concern here is not just that the core business courses remain unchanged, but that continuous reification of the SDGs as the guiding principles of business education could have done more harm than good.

Recommendations for amendments to the ESDG and business ethics courses were made, building on Hansen et al. (2015) supporting a more explicit re-orientation of CSR and business ethics (education) towards the recognition of planetary boundaries and toward a less anthropocentric focus is both promising and desirable. The example of business (ethics) courses based on ecopedagogies offers an alternative that explores the root causes of crises that lead to action to change the world. Ecopedagogies based on ecological principles and critical pedagogy provide the foundation for genuine sustainability to foster well-being for all within planetary boundaries.

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