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Education for sustainable development (ESD): the turn away from ‘environment’ in environmental education?

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This article explores the implications of the shift of environmental education (EE) towards education for sustainable development (ESD) in the context of environmental ethics. While plural perspectives on ESD are encouraged both by practitioners and researchers of EE, there is also a danger that such pluralism may sustain dominant political ideologies and consolidated corporate power that obscure environmental concerns. Encouraging plural interpretations of ESD may in fact lead ecologically ill-informed teachers and students acculturated by the dominant neo-liberal ideology to underprivilege ecocentric perspective. It is argued that ESD, with its focus on human welfare, equality, rights and fair distribution of resources is a radical departure from the aim of EE set out by the Belgrade Charter as well as a distinct turn towards anthropocentrically biased education. This article has two aims: to demonstrate the importance of environmental ethics for EE in general and ESD in particular and to argue in favour of a return to instrumentalism, based on the twinned assumptions that the environmental problems are severe and that education of ecologically minded students could help their resolution.

Keywords: education for sustainable development (ESD); environmental education (EE); environmental ethics; sustainable development (SD); anthropocentrism; ecological justice

Introduction

There is a growing body of literature about the relationship between environmental education (EE) and education for sustainable development (ESD) (e.g. Johnson 2011; Wesselink and Wals 2011) as well as pluralistically driven tensions within each of EE and ESD (e.g. Læssøe and Öhman 2010; Reid and Scott 2006; Stevenson 2006). Some authors argue that ESD is not likely to replace EE but become one of the (important) goals of it (e.g. McKeown and Hopkins 2003, 123), ESD is a dominant perspective of EE (Sauvé, 29) or EE has in fact become ESD (e.g. Årlemalm-Hagsér and Sandberg 2011; Eilam and Trop 2010). Important distinctions between the goals of EE were made by Lucas (1979) ‘in’, ‘about’ or ‘for’ the environment in order to avoid misunderstandings about the intended type of EE. Similarly, distinctions were drawn between ESD, sustainable development education, learning for sustainability and ‘education for sustainability’. According to Huckle (1983) and Robottom (1987), ‘education for the environment’ has generated powerful images, which have resonated with educators seeking empowerment and new

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directions to enable inquiry into socio-political dimensions of EE (e.g. Ferreira [2009] account and the criticism of the socially critical perspective is instructive for these distinctions).

Reflecting upon these distinctions, recent editions of *Environmental Education Research* were entirely devoted to theoretical deliberations about ESD as well as international case studies. Researchers from South Africa (Volume 10, Number 3, 2004); German-speaking countries (Volume 12, Number 1, 2006); Denmark and Sweden (Volume 16, Number 1, 2010) and Iceland (Volume 17, Number 3, 2011) addressed ESD in specific socio-cultural settings. These studies also emphasize the inherent complexity and diversity of use of the term 'environment' (what is and what is not included in it?) and examine how the very definition of 'sustainability' (what is to be sustained?) fits within the broader history, issues and purposes of EE. As opposed to earlier nature or conservation study that used to dominate EE practices in the early 1970s, infinitely complex forms of 'environment' (including the entire biosphere or just the species; including or excluding humans as part of an ecosystem, seeing 'nature' or 'wilderness' as socially constructed or considering 'acculturated' human landscapes such as urban gardens to be 'natural environments') have been outlined in recent debates. The author will examine the implications of the shift towards ESD against the background of environmental ethics and will consider four areas outlined by Wesselink and Wals (2011, 77–8) within which a shift occurs: the institutional, content, purpose and process domains of education.

When addressing case studies of ESD, the distinction is made between theory and practice, as well as elementary and higher forms of education. Often, empirical studies discussing the practice of ESD at elementary schools are associated with goals of raising environmental as well as social awareness among children. In the case of vocational or higher education students, the goal of ESD is more akin to developing knowledge and skills necessary for participation in the 'green economy' envisioned by the top-down promoters of ESD such as United Nations Educational, Scientific, and Cultural Organization (UNESCO). The role of large international institutions as well as national education policy-makers in determining the aims of ESD (in the simplest instrumental sense of 'what should ESD aim to achieve?' or 'making something matter') may be very different from those goals formulated by practitioners and/or theorists of ESD.¹ For the purpose of this article, however, we shall concentrate on the 'generic' discussion of ESD, as it is presented in recent publications of *Canadian Journal of Environmental Education* (e.g. Sauv   2005) and *Journal of Curriculum Studies* (e.g. Jickling and Wals 2007) and *The Journal of Environmental Education* (e.g. Eilam and Trop 2010).²

This article has two broad aims instructed by the openly ecocentric position of the author. One aim is to demonstrate the importance of environmental ethics for EE in general and ESD in particular. The second aim is to argue in favour of return to instrumentalism, based on two assumptions: that the (anthropogenically created) environmental problems are severe and objective and that education of ecologically minded future generations could help their resolution (Kopnina 2011a). The author will develop an argument that recent ESD debate does not fully realize the problematic nature of economic development for the ecological health of the biosphere. Plural perspectives on ESD can lead practitioners into an essentially anthropocentric paradigm which can be counter-productive to the effort of fostering environmentally concerned citizenry.

Plural perspectives and ecocentrism

It is argued that there is a need for deliberation about ESD, both in terms of its overall aim, theoretical and methodological orientations (e.g. Jensen and Schnack 1997). Some authors imply that unless ESD and generally the discourse on sustainable development (SD) stay open to opinions and debates of educators, it risks becoming indoctrination, a mindless and autocratic repetition of official definitions and limiting standards (Wals and Jickling 2000). Research on ESD is presently dominated by the calls for pluralistic, emancipatory or transactional forms of education that encourage co-creation of knowledge (e.g. Scott 2002; Stables and Scott 2002; Stevenson 2006) and encourage multiple perspectives and critical dialogue on the very concept of SD and ESD (Gough and Scott 2007; Wals 2007).

A related development is viewing ESD as a subjective, interpretive and context-dependent domain (e.g. Jickling 2009; Læssøe and Öhman 2010). Criticism of the concept of SD or educational forms and content within ESD does not necessarily have to be understood solely by reference to specific theoretical positions, but can also be seen in terms of the diverse ways that human beings react morally, encounter different norms and conduct ethical reflection. This position is well summed up by Öhman (2006, 149) who argues that the question is not whether the criticism (of ESD) is correct or not in absolute terms but rather whether the opinions and perspectives have significance in people's lives.

In this article, the author will argue that not only should different perspectives on EE and/or ESD have significance in people's lives, they should (in a way of moral obligation espoused by moral discourse underlying ESD) also have a significance in the world where not only human lives and welfare are at stake. Despite very productive and dynamic debates about what ESD is or should be, there is an 'elephant in the room' very few of current academic debates seem to be addressing. The key concern here is that ESD presents a radical change of focus from prioritizing environmental protection towards mostly social issues, which may or may not be related to environment. While the moral obligation in regard to the poor in the 'developing' world is acknowledged by most ESD theorists (e.g. Stevenson 2006), moral obligation for caring about other species or the entire ecosystems is less often part of ESD discourse.

While some scholars regard the tension between sustainability and development as a universal dilemma (e.g. Læssøe and Öhman 2010; Lewis 2005; Mosse 2005; Oliver-Smith 2010), other scholars seem to be turning towards a kind of post-modern, relativistic, hermeneutic, interpretive view of the very notion of education and agency. Some scholars have argued that the diverse nature of the questions, issues and problems facing advocates of sustainability in higher education requires a willingness to adopt an eclectic approach to the choice of research methodologies as well as empirical analytical, interpretive, critical and post-structural paradigms (Fien 2002). The tension between different approaches to EE, namely the instrumental (in the sense of EE serving particular ends) and the more pluralistic or emancipatory (in a sense of EE privileging transactional and dialogical forms of decision-making characterized by indeterminism and co-creation) leads to a paradox:

On the one hand there is a deep concern about the state of the planet and a sense of urgency that demands a break with existing non-sustainable systems, lifestyles, and routines, while on the other there is a conviction that it is wrong to persuade, influ-

ence, or even educate people towards pre- and expert-determined ways of thinking and acting. (Wals 2010, 150)

Wals (2010, 143) argues that there is the need to reflect on and expose the implicit normativity of ESD and discusses central concepts in the articles dealing with ESD, including democracy, pluralism, the public good, agency, self-determination, and 'competence'. These central concepts, often related to the notions of relativism and uncertainty, are at odds with the increasing sense of urgency in dealing with sustainability challenges and a corresponding temptation to revert to instrumentalism.

In the article titled 'Environmental education research: to what ends?' Jickling (2009, 213) has inquired about the broad aim of EE and reflected upon the intersection of education and ethics. In reflecting upon philosophical assumptions of what education is or should be, Jickling argues against the post-structuralism claims that education has no meaning and no ends, other than the ones that are subjectively ascribed to it. After cautioning about perils of prescribing research agendas, Jickling suggests that in EE, key normative questions exist at the intersection of 'education' and 'ethics', and that they point to an area of research that deserves more attention. Jickling argues that normative questions need to be recognized as important areas of inquiry and that the most value-laden ideas concern 'ethics' and 'education'. Remarkably, while Jickling (2009, 215) does discuss the interceptions of ethics and environmental ethics, as well as ethics and education, he does not address environmental ethics in relation to EE.

Transition from EE to ESD: perspective from environmental ethics

Since the 1960s, education has also been increasingly linked to environmental management and international development efforts. In 1968, the UNESCO Biosphere Conference in Paris issued a declaration that there was a worldwide awareness of the field of EE. EE was then defined as

the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture, and his biophysical surroundings. Environmental education also entails practice in decision making and self-formulation of a code of behaviour about issues concerning environmental quality. (Quoted in Palmer 1998, 5)

The Belgrade Charter – A Global Framework for EE (UNEP and UNESCO 1976) – and The Tbilisi Declaration (1977) had as their aims educating people to be aware of, concerned and actively involved in working towards the resolution of environmental problems and preventing new ones. The early proponents of EE emphasized that EE has as its goal a positive change in human relationship with nature. In the prospects, one of the earlier academic texts on EE, Chiappo (1978) argued

Environmental education ... should be critical in fostering awareness of the social and political factors of the problem, and creative in helping to establish a new ethic of liberation. In this latter respect, EE should favour a return to harmony with nature in order to redress the balance of the ecosystem and to enable man's full potential to flourish. The aim should be to bring about a radical change in man's relation with nature ... and to give emphasis to the relationship of belonging, replacing the anthropocentric world-view by an ontocentric worldview ... What is needed, at bottom, is a

transcendent humanism, starting from a biological and spiritual context in which the historical struggle for liberation forms part of the open-ended encompassing whole, just a biological evolution and the energy of matter dynamically incorporates the succession of species and flourishes in its diversification. (Chiappo 1978, 460)

The 1992 publication of Chapter 37 of Agenda 21 suggested that a balance must be found between addressing the needs of the environment and those of humankind. Agenda 21 signals the introduction of SD discourse as well as ESD into school curricula throughout the world.

While the earlier forms of EE, such as naturalist, systematic, scientific, value-centred, or holistic perceived the environment as nature, system, object of study or field of values, ESD conceives environment as 'resource for economic development or shared resource for sustainable living' (Sauvé 2005, 34). United Nations *Decade for Education for Sustainable Development* (2005–2014) encompasses action themes, including overcoming poverty, gender equality, health promotion, environment, rural development, cultural diversity, peace and human security and sustainable urbanization (UNESCO 2005). While the earlier forms of EE embodied by UNESCO's *International Environmental Education Program* (1975–1995) could be generally characterized by concern with 'ecological justice', defined by Low and Gleeson (1998) as 'justice between human beings and the rest of the natural world', the Educating for a Sustainable Future programme focuses on environmental justice, which concerns the distribution of environmental benefits and burdens among human beings. While the Belgrade Charter is more focused on the environment than on human development, emphasizing the need of environmental protection from human activities, ESD only places further emphasis on human rights issues rather than offering any new substance (Smyth 1995).

Case studies of ESD curriculum indicate the shift towards democratic issues with the goal of contributing to promotion of SD, recognizing that a sustainable economy is closely linked to the conservation of natural resources and the equitable sharing of resources (Sauvé 2005, 29). We may reflect on how institutional context is influenced by content and aim formulated at national level. What does the process of interpretation from 'prescribed' curriculum imply for the practice of EE of which ESD may have become a part? These questions can be generalized to different national and institutional settings in which ESD is taught.

Environmental ethics literature poses the question as to the extent to which only loss in human life and welfare should be the basis of political action and moral concern, and whether human 'progress' should also take into account the consequences for non-human species. An important basic distinction may be drawn between the 'functions of' natural capital and the 'functions for' humans which it generates³ (Eckins 2011, 636). The value bases for environmental concern address a number of basic assumptions about the intrinsic value assigned to humans and non-human entities; as well as belief in human progress and ability to solve all problems. Environmental sociologists, Dunlap and Van Liere (1978) and Dunlap and Catton (1979), described western dominant worldview (with its possibly global dominance over other worldviews), characterized by human exceptionalism paradigm in which humans may be seen as 'part of nature' and yet 'above nature' and thus exempt from natural constraints (or able to solve environmental problems through human ingenuity). In this dominant paradigm, while human dependency on natural resources is largely acknowledged, and while human place in the natural system is

seen as ‘interdependent’, the intrinsic value of ‘nature’ and the moral imperative of humans to address non-human needs (in some cases, the very survival of entire species) is rarely part of this paradigm. In other words, while social and environmental concerns are certainly closely related in the case of dominant ESD discourse, the balance between human and natural worlds is largely lost.

This concern is exacerbated by the recent calls for the pluralistic perspectives (e.g. Öhman 2006; Wals 2010). Multiple perspectives and visions might be less democratic than they appear as the discourse on SD is dominated by the international organizations such as the United Nations, financiers such as World Bank and the International Monetary Fund and large non-governmental organizations (NGOs) (Lewis and Kanji 2009; Lewis and Mosse 2006) and with corporatists seeking to exert their influence through the development of curricula (Crossley and Watson 2003; Jickling 2009, 214).

The most obvious anthropocentric position can be illustrated by the Biblical quotation:

Let us make man in our image, after our likeness and let them *have dominion over* the fish of the sea, and *over* the fowl of the air, and *over* the cattle, and *over* all the earth and *over* every creeping thing that creepeth upon the earth. (Genesis I, 26)

In contrast, ecocentric theorists like Leopold (1949/1987) postulated that humans should protect the biotic community by eschewing self-interest and acting for the good of other species. Based on Leopold’s Land ethic, Dunlap and Van Liere (1978) introduced the idea of non-anthropocentric (ecocentric) altruism into environmental concern. Ecocentric or biospheric altruists extend concern beyond the human boundary and acknowledge intrinsic value of other species.

Eckersley (1992, 33) considered ecocentrism and anthropocentrism to be ‘... the opposing poles of a wide spectrum of differing orientations towards nature’, acknowledging mixed value systems in between in her later work (Eckersley 2002, 2004). These gradations in the shades of green may be placed on a continuum between deep and shallow ecology (Næss 1973) indicating degrees of strong and weak anthropocentrism and weak and strong ecocentrism. In the context of development ‘shallow ecology movement’ can be seen as a ‘fight against pollution and resource depletion’, with the central objective of ‘the health and affluence of people in the developed countries’. In this lighter shade of green, the values assigned to nature are instrumental in character, in the sense that the concern for environment is limited to promoting the satisfaction of human wants and needs, both in material and aesthetic terms (Mathews 1994). Proponents of shallow ecology worry about the environmental problems, which affect humans, such as overexploitation of natural resources and pollution. However, according to their critics, they do not ask ‘deep’ questions about ecological relationships and the origins of environmental problems, leaving the basic structures of advanced industrial societies intact (Lundmarck 2007). Following more ‘deep green’ perspectives, the environmental crisis calls for revision of major political, economic and social systems (Devall 1993) and re-examination of an anthropocentric dominant western worldview (DWW) in which humans are seen as superior to nature and able to solve all environmental problems (Dunlap and Catton 1979).

If anthropocentrism in all of its shades is optimistic regarding human capacity to cope with environmental problems, ecocentrism’s proponents take a more sceptical

stance (Naess 1973). The ‘deep ecology movement’ endorses ‘biospheric egalitarianism’, the view that all living things are alike in having intrinsic value, independent of their utilitarian usefulness to humans, thus embedding environmental ethics debate in the sphere of political theories of justice. While the scope of this article does not allow for discussion of theories pertaining to political liberalism and ecological justice, suffice is to say that many theorists agree that democratic liberalism is incompatible with non-anthropocentric ecologism, as at its foundation, liberalism is concerned with the lives of individual humans, not with plant and animal species (Conglianese 1998, 56 in Bell 2006, 207). More moderate political thinkers see the relationship as not necessarily incompatible but potentially problematic (e.g. Bell 2006; Eckersley 2002). The fundamental point is that if EE in general and ESD in particular are not instrumental in the basic goal of making environment matter to students, ecological perspective might be simply lost. In line with Callicott’s (1990) ‘The case against moral pluralism’ and ‘Moral monism in environmental ethics defended’ (1999), it may be possible that pluralism weakens our moral obligations towards non-human species. It needs to be noted that there are many ‘shades of green’ present in the anthropocentric and ecocentric continuum. However, the differences in the context and scale, debates and levels of consensus generated in sub-fields such as social ecology or ecofeminism do not negate the fact that ‘with a variety of theories at our disposal, each indicating different, inconsistent, or contradictory courses of action we may be tempted to espouse the one that seems most convenient or self-serving in the circumstances’ (Callicott’s 1990, 155). Are we (EE researchers and practitioners) not actually denying them (students of EE and/or ESD) the opportunity to actually learn (to care) about and contribute to the resolution of environmental problems by suggesting that all perspectives are subjective and (in the most relativist sense) equally valid?

Using environmental (rather than general ethics, as Jickling 2009 proposes) insights, we may ponder the implications of pluralistic approach for fostering what Wals (2010, 150) termed a ‘planetary consciousness’. Without the deep ecology perspective, can the aim of the Belgrade Charter (to educate students that are aware of, and concerned about, the environment and its associated problems, and which have the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones) be achieved?

Paradoxes of SD and ESD

The empirical dilemma in regard to SD in general can be summed up in the question whether human equality and prosperity as well as population growth can be achieved with the present rate of natural degradation (Rees 1992). Rees suggests that expanding the ‘economic pie’ to include the most dispossessed, will necessarily include even more natural resources being consumed. Since the material saturation level as witnessed by western consumers is ‘unsustainable’, the negative spiral of increasing needs for resources and depletion is not likely to cease. The oxymoronic goal of both promoting development through economic growth, re-distribution of wealth and keeping the health of the ecosystem intact, the internalization of the ideas of ‘development’ poses new ethical challenges (Shoreman-Ouimet and Kopnina 2011).

In line with Dunlap and Van Liere (1978) and Dunlap and Catton's (1979) inquiry into the DWW in environmental sociology, Bowers (1993) formulated an underlying assumption of the modern/industrial worldview that humans as a species stand above and separate from the natural world. In regard to ideas of SD and corporate responsibility, Scott (2005) proposes that rather than seeking a balance across the economic, social and environmental arenas, the 'real bottom line is the ecological integrity of the biosphere' (Scott 2005, 2).

Environmental protection in SD discourse is seen as an afterthought to all other pressing human issues such as equality, fair distribution of natural resources (*sic!*), and human rights, the key concern is that the discourse on SD maintains an instrumental and anthropocentric worldview (Kopnina and Keune 2010; Kopnina and Shoreman-Ouimet 2011). Concerns with depletion of resources, equity in distribution of resources, concerns about human health and welfare exclude consideration of an ecocentric perspective (Spring 2004). Anthropocentric perspective does not necessarily exclude the interests of non-human species, but non-human-oriented interests are likely to be marginalized (Dunlap and Catton 1979). On the other hand, while the ecocentric perspective is not necessarily exclusive of social concerns (aside from 'very deep green' variety, humans are positioned within the 'nature' domain and are seen as part of the bio- or eco-sphere), there is empirical evidence that people with ecocentric orientation are more likely to protect the environment independent of its value to humans (Thompson and Barton 1994; Kortenkamp and Moore 2001). While the inclusion of the ecocentric perspective is logical in a truly pluralistic system which represents interests and priorities of different stakeholders in cosmopolitan democracy (Eckersley 2002), empirical evidence of many governments' and citizens' failure to address issues such as rapid biodiversity loss may indicate that non-anthropocentric perspective is either under-represented (due to the current power balances within neo-liberal democratic societies) or simply too weak in comparison to anthropocentric interests. Recent calls of ESD scholars for plural representations and democratic debates are not likely to lead to the inclusion of ecocentric perspectives that favours interests of non-human species independent of their value to humans, and may in fact unintentionally support the dominant post-industrial neo-liberal anthropocentric discourse.

In the recent qualitative study of pre-school teachers' comprehension of SD, Ärlemalm-Hagsér and Sandberg (2011) have noted that SD is seen as a holistic approach, an environmental issue or a democratic issue with the particular emphasis on 'fundamental topics' that do not concern ecological issues. These issues include four categories: children's views, social relations, gender equality and cultural diversity. For example, one teacher is quoted as saying: 'In my pre-school the most fundamental parts of working with SD are human rights, democracy, gender equality, morals and ethics' (Quoted in Ärlemalm-Hagsér and Sandberg 2011, 194). Another example is ESD curriculum in Iceland described by Jóhannesson et al. (2011), emphasizing social and economic aspects of development and evoking environment only in relation to either environmental problems that effect humans or environmental *social* justice. Environment in such a discourse often comes as an afterthought, or only in connection with human interests, as in 'health and environment' or 'poverty and pollution' and environmental protection is not seen as in any way linked to intrinsic value of non-human species. According to the Founder and President of Sea Shepherd Conservation Society Paul Watson (2012),

Racism and Sexism... are social issues but they are not issues relevant to the survival of the biosphere... I think that speciesism is a far more serious issue. Human discrimination against practically every other species on this planet has resulted, is resulting and will continue to result in mass extinctions, extirpations and diminishment. Whereas racism is acknowledged, speciesism is not even given a moment's thought by most people. It is willfully and arrogantly ignored.

In other words, while human rights are taken for granted, while the rights of other species are reduced to 'protection of natural resources'.

SD as a concept has been described as contradictory and socially and culturally contested. Many authors have suggested that the fuzziness and contradictions are not only acceptable but desirable as transformative debates on sustainability are then made possible (e.g. Jickling and Wals 2007). While multiple perspectives on SD are possible and desirable and although democratic forms of learning are certainly welcome, the dominant, mainstream discourse on SD masks inherent anthropocentric bias. The real danger of ESD is that it confuses the teacher and the student about inherent contradictions of 'having your cake and eating it' approach. The most fundamental paradox of SD can be summed up in its oxymoronic goal of both promoting development through economic growth and re-distribution of wealth and keeping the health of the ecosystem – including humans – intact.⁴

While human and environmental domains are intimately intertwined as acknowledged by most environmental ethics thinkers, ESD debates tend to emphasize environmental concerns in relation to human welfare. Social and environmental interdependency is often framed within the context of human needs, deconstructing 'nature' or 'wilderness' in terms of 'natural resources' rather than finding a true balance between human and non-human needs.

In sum, two points of concern need to be stressed. The first concern is that the pluralistic perspectives might not be truly democratic as the discourse on SD is dominated by the perspectives of the political and corporate elites. If we consider the power of political or corporate elites and the apparently global (although unequal) influence of industrial capitalism in shaping the discourse on development, with its clear emphasis on human welfare, how can we guarantee that pluralistic perspectives will lead students to develop ecocentric values?

What light do we shine on things the moment we qualify them as 'resources'? ... A resource is something that achieves its purpose only when it is transformed into something else: its own value evaporates before the claims of higher interests ... Our perception has been trained to see the lumber in a forest, the mineral in a rock, the real estate revenue in a landscape ... What we term a resource is placed under the jurisdiction of production ... (Sachs and Esteva 2000, 77–8 in Sauv   2005, 15).

ESD is still dominated by the industrial worldview and has 'remained a part of the hidden curriculum of schooling' (Orr 1994). Corporatists have sought to 'exert their influence through the development of school curricular and teaching aids' (Jickling 2009, 214). L  ss   (2010) emphasized that the ecological modernization theory still dominates much of ESD and that without inclusion of dissenting perspectives, deliberative communication tends to only strengthen the hegemony of dominant discourse. This implies that there is no guarantee that dialogical, open and pluralistic in-class discussions will not be influenced by these dominant anthropocentric corporatist perspectives.

The second concern is that pluralistic approach to education may simply not address ecocentric perspectives. Eckersley (2002, 29), in reflecting upon the strengths and weaknesses of moral pluralism approach to environmental politics reflects that there is nothing in the environmental pragmatist method of inquiry that would guarantee any special representation rights to non-human species in cases when there are no human advocates to represent them. Despite the diversity and nuances of the ethnically or gender-specific perspectives, moral pluralists or environmental pragmatics tend to be conservative and take too much as a given, as we avoid critical inquiry into 'the big picture' (such as environmental degradation), and do work with rather than against the grain of existing structures and discourses (such as those that are prevalent in real-world liberal democracies) and facilitate 'interest accommodation' in the context of prevailing alignment of social forces. It accepts path dependency of institutional design, and prefers incrementalism over any radical overhaul of social institutions precisely because the latter are disruptive and likely to generate conflict of a kind that makes agreement much more difficult (Eckersley 2002, 32–3).

Encouraging plural interpretations of ESD and opening it up for democratic debate may in fact lead to allowing corporate and political elites as well as ecologically ill-informed (or simply uninterested) student-citizens to exclude ecocentric perspective from considerations. From the deep ecology perspective, 'pluralism' represents the 'voice' of a single species and marginalizes the voice of the 'eco-advocates' as just one of many perspectives. The true biospheric justice would resonate with 'voices' of non-human species, which are in the majority, based on a simple ethical assumption that all species – and individuals – want to survive.

Implications for the ESD research and practice

The tensions between EE and ESD can be summarized in four distinctive domains: the institutional, content, purpose and process (Wesselink and Wals 2011, 77). Key activities within the institutional domain are engaging in continuous quality improvement, sharing and developing expertise with other institutions, as well as be proactive attitude towards working with government (e.g. Læssøe 2010). The *content domain* reflects highly diversified perspectives regarding the relationship between EE and education for SD (e.g. Hesselink et al. 2000) or conceives the relationship as problematic (e.g. Jickling and Wals 2007). The third is the *purpose domain*, which is related to the preferred goal orientation of EE. The final domain is the *processes domain*, characterized by the shift in emphasis from transmissive learning towards more transformative and pluralistic social learning.

Within the *institutional* domain, EE or ESD curriculum needs to be clearly articulated and embedded within local institutional context. Within institutional domain, as one of the reviewers of the draft of this article has pointed out, context and scale are important 'relativizers' of the way a discourse about EE or ESD might 'trickle down' or 'percolate up' and be practised circumstantially. Nations where ESD is practised differ greatly in their socio-political priorities, as do the forms of democracy surrounding their educational institutions, as well a host of other historical, socio-cultural, political, ecological and economic factors. ESD might be more appropriate in some circumstances (for example, the issues concerned with reproductive health in developing countries); while EE might be more appropriate in others (the issues concerned with consequences of high level of consumption in more affluent western

societies). Diversity of institutional settings does not imply a student–teacher dyad in a formal setting but can also be interpreted in the context of wider socio-cultural influences in which both formal and informal learning takes place (e.g. see recent work of anthropologists in the field of EE: Anderson forthcoming; Efrid 2011; Kopnina 2011a, 2011b, 2012). Internal tensions within EE or ESD are persistently intensified by the hyper-individualized susceptibilities generated by the neo-liberal pragmatists. These differences in institutional domain call for critical ‘sociology’ of knowledge generation or production in EE and ESD within the neo-liberal corporate institutions both in ‘developed’ and ‘developing’ countries where academic capitalism has traction, as well as ‘anthropology’ of cultural differences in educational contexts. Harnessing sociology’s methodological focus on conceptualization and modelling of concern for social patterning, as well as anthropology’s emphasis on in-depth ethnographic study as well as expertise in cultural comparison, investigation of EE and ESD in institutional domain opens up opportunities for further research.

The author is more concerned about too much ambiguity in the generalized *content* domain. Assuming that the recently published articles in academic journals concerned with developments in ESD can be useful to educational practitioners, the author’s concern with pluralistic perspectives is that ecocentrism – particularly in the deeper shade of green – is under-represented. While pluralistic views are not necessarily all anthropocentric, the position of deep ecology espoused by the Belgrade Charter does not seem to be the subject of this pluralistic discussion. The apparent lack of discussion of the significance of deep green perspective can confuse the educators about the purpose of EE or ESD and thus render curriculum related to subjects such as SD ineffective. In regard to the *content* domain of EE or ESD curriculum, the author is sceptical of how highly diversified pluralistic perspectives are going to lead the students to more pro-environmental perspectives and actions. While social, participatory and action competence in educational approaches can be very beneficial to the *process* – or methodology – of EE and/or ESD as it actively engages students into the ongoing debates, the danger of abandoning the *purpose* of EE or ESD in addressing environmental problems is of greatest concern. In Breiting and Mogensen (1999) argumentation for action competence in EE, Rickinson’s (2003) enquiry-based learning, or Chawla and Cushing’s (2007) essay on the importance of strategic learning in EE all call for clear objectives and ends in order to make EE and ESD effective in addressing environmental problems.

In Sauv  s (2005) terms, the critical question about conservation from EE point of view can be ‘How to avoid conservation education remaining instrumental?’ The question that the author wants to raise in this article is: ‘Why should environmental education NOT be instrumental?’ The obvious answer to this that instrumental education – or education for something – does not fit with liberal democratic tradition. In his many publications on the subject, Jickling (1992, 2009) and Jickling and Spork (1998) reflected on implications of instrumentalism in education in general and education for environment or for SD in particular. The authors expressed doubts whether education in general can be – or should be – non-instrumental, and pointed out the salience of nominative questions in EE and ESD. Critics have argued, however, that all ‘education’ – be it that represented in policy, by curricula, in pedagogy and through assessment cannot be normatively neutral (e.g. Fien 2000; Wals 2007). Also, Jickling and Spork do not critically address the normative consideration of EE within the context of the ‘strong’ to ‘weak’ versions of democracy. In his critique of Jickling and Spork’s concern that

education for the environment is a universalizing discourse that seeks to marginalize other approaches, Fien accuses the authors of the lack of reflexivity over their own ideology of education and encourages the critical pedagogy of education for the environment (Fien 2000).

In line with Callicott (1990), the author argues that the embrace of democratic, deliberative or moral pluralism carries a danger of lapsing into indecisive relativism as philosophical contradictions and dubious political and economic priorities may not lead to the enhancement of ecological values. Also, liberal democracy seems to be influenced by the corporate elite and their current powerful, short-sighted and profit-driven regime of production (Dryzek 1992). It has been argued that despite evidence of heightened global problems, 'environmental considerations continue to be subordinated to economic ones' (Stevenson 2006, 280). Liberal democracy typically promotes weak sustainability (Ward 2008) and there is nothing inherent about democracy that guarantees environmental protection (Lidskog and Elander 2010). Pluralistic approach to education may simply not address or under-represent ecocentric perspectives. While plural perspectives do not exclude ecocentrism, deep ecology has been mentioned only in passing in any aforementioned publications of EE journals, suggesting that the majority of ESD scholars are of lighter shade of green. Plural perspectives and democratic representation do not guarantee ecological protection as the underlying concerns may still be anthropocentric.⁵

Another concern is that liberal democracy may be in part influenced not just by government politics and socio-cultural values, but also by corporate elite, such as international financial organizations and multinational corporations or MNCs (Crossley and Watson 2003). There is evidence that formal ESD in 'developed' countries is dominated by UNESCO guidelines for the development of curriculum (<http://www.unesco.org/new/en/education/>). As Blum (2009) has noted, powerful NGOs may also play a significant role in how educational programmes are structured. It is especially important to understand the role of these organizations and their educational programming in the local context because NGOs have been at the root of community development for the last several decades, and as such they are located precisely at the intersection of powerful interests in (environmental) education (Blum 2009, 718). According to Wesselink and Wals (2011), some in EE are quite critical of adopting the language and models of the corporate world. In evoking the term 'environmental justice', for example, the mainstream discourse on SD, and NGOs that support 'development', for example, may give low priority to environmental protection and privilege economic growth and equal distribution of natural resources. The negative effects of development and 'progress' are often underplayed (Bodley 2008). The use of corporate or development language and models could easily transform EE into a neo-liberal project that undermines everything socially critical EE stands for (Jones and Moore 1993).

Many scholars have pointed out that there is a danger of marginalizing the field of EE by policy-makers, environmentalists and broad-spectrum funding bodies (Reid 2003; Reid and Scott 2006; Rickinson 2001, 2003). One way to avoid this marginalization is to state clear the purpose of EE, rather than obscure it by either conflating it with a number of predominantly social issues unrelated to environment (or only related to it in purely instrumental terms), or by encouraging continuous re-definition, re-contextualizing and re-negotiation of EE. Considering the severity of present environmental problems, the rapid extinction of species of plants and ani-

mals, such departure from 'environment' in 'environmental education' and apparent shift towards ESD is worrisome.

Aside from Spring (2004), few theorists have systematically pointed out the problem of anthropocentric approach advocated by mainstream ESD in the institutional, content, purpose and process domains. Concerns expressed in Jickling's article addressing proponents of ESD remain:

I want them to realize that there is a debate going on between a variety of stances, between adherents of an ecocentric worldview and those who adhere to an anthropocentric worldview. I want my children to be able to participate intelligently in that debate. To do so, they will need to be taught that those various positions also constitute logical arguments of greater or less merit, and they will need to be taught to use philosophical techniques to aid their understanding and evaluation of them. (Jickling 1992, 8)

In the article by Jickling and Spork (1998) addressing these concerns, the authors reflect:

To enable the success of our students, we need to acknowledge that shaping the future does not consist of being led to adopt some alternative vision. Rather, it involves the more indeterminate process of examining and re-casting society. If we acknowledge that education should be free of specified ends, then we are ultimately led to challenge the way in which 'education for the environment' operates to predetermine educational aims. We believe that the creation and adoption of a promising new environmental vision should instead be viewed not as an aim of education, but as one of the logical and practical outcomes of an educational process. And, we believe such an education offers most hope to those who wish to create promising new visions. (Jickling and Spork 1998, 325)

I agree that the endless contestation of new and alternative perspective should not be the aim of education. However, I fundamentally disagree that EE should be free of specified ends. The refusal to realize the urgency of environmental problems and the possible great benefit of EE in fostering aware, concerned and skilled citizenry that is prepared to prevent them mean the refusal to address the world outside of the anthropocentric vision of it. As one of the referees of this article has argued, understanding of multiple perspectives expressed by, social(ist) ecologists, eco-feminists, deep or shallow ecologists can contribute to understanding of education's complicity in reproducing the 'environmental crises'. In Callicott's argument, pluralism provides no basis for determining which one of multiple incompatible principles to follow in any given circumstance and results in the dissolution of moral responsibility for non-human species for it leads to the scepticism and nihilism he associates with 'deconstructive postmodernism' (Callicott 1990, 1999). Within the field of EE where each perspective (re)constitutes the other, researchers of ESD may need to further elaborate the implications of multiple perspectives upon educational policy, curriculum theory and development and pedagogical strategies within a normative reflexivity about neo-liberal democracy noting the naturalization of the anthropocentric paradigm. In line with Dunlap and Catton's (1979) critique of the dominant western paradigm that led sociologists to treat modern societies as 'exempt' from ecological constraints, continuous prioritization of anthropocentric (or shallow ecology) perspective in dominant theorizing about ESD can lead to the denial of any aim of EE in addressing severe problems such as rapid extinction of species and drastic reduction of biodiversity in recent decades.

Conclusion

In this article, we have argued that pluralistic, liberal or emancipatory approach to education signals scholarly departure from the 'real-world' dilemmas concerned with environmental degradation and an escape from necessity of using education as a tool of acquisition of knowledge and skills that would enable future generations to address urgent environmental problems. ESD represents the shift towards greater anthropocentric orientation in EE. Implications of ESD anthropocentrism were examined in the light of environmental ethics theory and its implications as to the efficacy of the present ESD in fostering young people's care for environment. Despite the very productive and dynamic debates about what ESD is or should be, there is a real danger of losing 'environment' from the aim of EE.

The ESD debate is more salient than just conceptual or philosophical disagreements about nominative domains and differences in perspectives. At the time of unprecedented loss of biodiversity and many other well-known examples of environmental degradation, academic relativism about ESD might in fact be undermining the efforts of educating citizens in the importance of valuing and protecting the environment.

The danger of pluralistic interpretations of ESD is that it may confuse the teachers and the students about the inherent problems and contradictions of SD. While promoting environmental justice that concerns the distribution of environmental benefits and burdens among humans, ESD undermines ecological justice between humans and the rest of the natural world. Without the inclusion of the ontocentric or ecocentric perspective in EE, we may not be too optimistic about the fate of environmental protection and about the long-term welfare of humanity. The early understandings of EE that focused on the protection of natural environment should not be lost in ESD that seems to amplify anthropocentric concepts that often put people and profit before the planet.

As for the potential future direction of this debate, the consequent contributors to the ESD debate are encouraged to deal more emphatically with the intersecting reconstitutions of the ideas and practices of both environment and education, irrespective of how these imperatives might have been manipulated by the discourses of sustainability and the neo-liberal drivers of the unsustainable politics of sustainability. Acknowledging the potential difficulty of advocating deep ecology position (and accusations of ethical 'environmental determinism'), the author's hope is that ESD theorists will consider implications of this position for educative capacity to test theory and ethics off each other.

While academic discussions between EE theorists and practitioners provide an example of engaged deliberative democracy, degradation of environment in the face of rapid industrialization and population growth is continuing to accelerate. The limits to growth seem to be forgotten by the liberal enlightened EE scholars who seem to be increasingly engaged in academic debates about the dangers of dogmatic thinking and declarations of support for democracy and participation. It seems that EE theorists might be failing to see the (still standing) forest behind the (receding) trees.

Notes

1. Also, it needs to be emphasized that environmental, conservation or whatever type of education related to conservation or development is not necessarily taught as such but integrated within general curriculum such as biology or history. This implies that while 'official' ESD and debates about it might be transforming themselves, EE in 'traditional' capacity defined by Belgrade Charter has stayed in its present capacity. This article targets EE theorists as well as practitioners who do consciously engage with the specified subject of ESD.
2. We need to acknowledge, however, that there might be significant differences at the 'grass root' level of practice of ESD – both as far as goals and orientation, as well as level of educational programmes within ESD is concerned. Also, not everything that may be characterized as 'sustainable development' in the curriculum is taught as part of a specific course – for example, at the level of middle school, children could be taught about issues such as poverty and agriculture within regular history or society courses.
3. The functions 'of' (such as the life-support functions of ecosystems) are independent of people. The 'functions for' people all contribute directly in some way to human welfare by acting as inputs to, or waste absorbers from, the economy, others help to maintain human health, or contribute to other aspects of human welfare.
4. Although the scope of this article does not allow for a review of all the positive aspects of ESD discourse, the author is careful not to throw a baby out with the bath water. It needs to be emphasized that advances in conceptualizations and operationalization of ESD have led to a number of very useful developments, both in theory and in practice. Participation and action competence research (e.g. Breiting and Mogensen 1999; Jensen and Schnack 1997) provides excellent perspectives on how new generation of global citizens can be truly engaged and active in the enterprise of sustainability. Breiting (2009) and Jóhannesson and colleagues (2011) argue that that education should focus on empowerment for democratic engagement and on teachers becoming capable of handling controversial issues with learners. In advocating the political model for EE, Chawla and Cushing (2007) argue that students need to learn not only about environmental and social equality issues, but also to learn to recognize the power centres that influence environmental and social change and understand the processes by which they operate.
5. For instance, in 1994, as much as 62% of a representative sample of the Swedish public fully approved of the idea of giving constitutional protection to the rights of animals and plants to life and reproduction (Lundmark 1998, 149). However, Lundmark reflected in the later article, if people were also asked to choose between different valuables, to judge the outcome of potential conflicts between rights, or even to see the rights of animals and plants in relation to interests such as employment, health care, macroeconomic stability, the result is likely to be totally different (Lundmark 2007).

Notes on contributor

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References

- Anderson, E.N. Forthcoming. Tales best told out of school: Traditional life-skills education meets modern science education. In *Anthropology of environmental education*, ed. H. Kopnina. New York, NY: Nova Science.
- Ärlemalm-Hagsér, E., and A. Sandberg. 2011. Sustainable development in early childhood education: In-service students' comprehension of the concept. *Environmental Education Research* 17, no. 2: 187–200.
- Bell, D.R. 2006. Political liberalism and ecological justice. *Analyse and Kritik* 28: 206–22.
- Blum, N. 2009. Teaching science or cultivating values? Conservation NGOs and environmental education in Costa Rica. *Environmental Education Research* 15, no. 6: 715–29.

- Bodley, J.H. 2008. *Victims of progress*. Lanham, MD: Altamira Press.
- Bowers, C. 1993. *Education, cultural myths and the ecological crisis: Toward deep changes Albany*. New York, NY: SUNY Press.
- Breiting, S. 2009. Issues for environmental education and ESD research development: Looking ahead from WEEC 2007 in Durban. *Environmental Education Research* 15, no. 2: 199–207.
- Breiting, S., and F. Mogensen. 1999. Action competence and environmental education. *Cambridge Journal of Education* 29, no. 3: 349–53.
- Callicott, J.B. 1990. The case against moral pluralism. *Environmental Ethics* 12, no. 2: 99–124.
- Callicott, J.B. 1999. Moral monism in environmental ethics defended. In *Beyond the land ethic: More essays in environmental philosophy*, 171–83. Albany, NY: State University of New York Press.
- Chawla, L., and D. Cushing. 2007. Education for strategic environmental behaviour. *Environmental Education Research* 13, no. 4: 437–52.
- Chiappo, L. 1978. Environmental education and the Third World. *Prospects, A Quarterly Review of Education*. UNESCO 8, no. 4: 456.
- Crossley, M., and K. Watson. 2003. *Comparative and international research in education: Globalisation context and difference*. London: RoutledgeFalmer.
- Devall, B. 1993. *Living richly in an age of limits: Using deep ecology for an abundant life*. Salt Lake City, UT: Gibbs Smith.
- Dryzek, J.S. 1992. Ecology and discursive democracy: Beyond liberal capitalism and the administrative state. *Capitalism, Nature Socialism* 3, no. 2: 18–42.
- Dunlap, R., and W. Catton. 1979. Environmental sociology. *Annual Review of Sociology* 5: 243–73.
- Dunlap, R.E., and K.D. Van Liere. 1978. The new environmental paradigm: A proposed measuring instrument and preliminary results. *The Journal of Environmental Education* 9, no. 4: 10–9.
- Eckersley, R. 1992. *Environmentalism and political theory: Towards an ecocentric approach*. New York, NY: UCL Press.
- Eckersley, R. 2002. Environmental pragmatism, ecocentrism and deliberative democracy: Between problem-solving and fundamental critique. In *Democracy and the claims of nature*, ed. B. Pepperman Taylor and B. Minter, 49–69. Lanham, MD: Rowman and Littlefield.
- Eckersley, R. 2004. *The green state rethinking democracy and sovereignty*. London: MIT Press.
- Eckins, P. 2011. Environmental sustainability: From environmental valuation to the sustainability gap. *Progress in Physical Geography* 35, no. 5: 629–51.
- Efird, R. 2011. Learning the land beneath our feet: An anthropological perspective on place-based education in China. In *Environmental anthropology*, ed. H. Kopnina and E. Shoreman-Ouimet, 253–66. New York, NY: Routledge.
- Eilam, E., and T. Trop. 2010. ESD pedagogy: A guide for the perplexed. *The Journal of Environmental Education* 42, no. 1: 43–64.
- Ferreira, J. 2009. Unsettling orthodoxies: Education for the environment/ for sustainability. *Environmental Education Research* 15, no. 5: 607–20.
- Fien, J. 2000. 'Education for the environment: A critique' – an analysis. *Environmental Education Research* 6, no. 2: 179–92.
- Fien, J. 2002. Advancing sustainability in higher education: Issues and opportunities for research. *International Journal of Sustainability in Higher Education* 3, no. 3: 243–53.
- Gough, S., and W. Scott. 2007. *Higher education and sustainable development: Paradox and possibility*. Abingdon: Routledge.
- Hesselink, F., P.P. van Kempen, and A.E.J. Wals. 2000. *ESDebate: International on-line debate on education for sustainable development*. Gland, Switzerland.
- Huckle, J. 1983. Environmental education. In *Geographical education: Reflection and action*, ed. J. Huckle, 43–68. Oxford: Oxford University Press.
- Jensen, B.B., and C. Schnack. 1997. The action competence approach in environmental education. *Environmental Education Research* 3, no. 3: 163–79.

- Jickling, B. 1992. Why I don't want my children to be educated for sustainable development. *Journal of Environmental Education* 23, no. 4: 5–8.
- Jickling, B. 2009. Environmental education research: To what ends? *Environmental Education Research* 15, no. 2: 209–16.
- Jickling, B., and H. Spork. 1998. Education for the environment: A critique. *Environmental Education Research* 4, no. 3: 309–28.
- Jickling, B., and A.E.J. Wals. 2007. Globalization and environmental education: Looking beyond sustainable development. *Journal of Curriculum Studies* 40, no. 1: 1–21.
- Jóhannesson, I.Á., K. Norðdahl, G. Óskarsdóttir, A. Pálsdóttir, and B. Pétursdóttir. 2011. Curriculum analysis and education for sustainable development in Iceland. *Environmental Education Research* 17, no. 3: 375–91.
- Johnson, S. 2011. Review of *Higher education and sustainable development: Paradox and possibility*, by Stephen Gough and William Scott. *Environmental Education Research* 17, no. 2: 281–4.
- Jones, L., and R. Moore. 1993. Education, competence and the control of expertise. *British Journal of Sociology of Education* 14, no. 4: 385–97.
- Kopnina, H. 2011a. Educating for environmental justice. In *Sage green education series*, Vol. 7, ed. P. Robbins, J. Newman, and J.G. Golson. Thousand Oaks, CA: Sage.
- Kopnina, H. 2011b. What about that wrapper? Using consumption diaries in green education. In *Environmental anthropology today*, ed. H. Kopnina and E. Shoreman-Ouimet, 118–39. New York, NY: Routledge.
- Kopnina, H. 2012. *Anthropology of environmental education*. New York, NY: Nova Science.
- Kopnina, H., and H. Keune. 2010. *Health and environment: Social science perspectives*. New York, NY: Nova Science.
- Kopnina, H., and E. Shoreman-Ouimet. 2011. *Environmental anthropology today*. New York, NY: Routledge.
- Kortenkamp, K.V., and C.F. Moore. 2001. Ecocentrism and anthropocentrism: Moral reasoning about ecological commons dilemmas. *Journal of Environmental Psychology* 21: 1–12.
- Læssøe, J. 2010. Education for sustainable development, participation and socio-cultural change. *Environmental Education Research* 16, no. 1: 39–57.
- Læssøe, J., and J. Öhman. 2010. Learning as democratic action and communication: Framing Danish and Swedish environmental and sustainability education. *Environmental Education Research* 16, no. 1: 1–7.
- Leopold, A. 1949/1987. *A Sand county almanac and sketches here and there*. New York, NY: Oxford University Press.
- Lewis, D. 2005. Anthropology and development: The uneasy relationship. In *A handbook of economic anthropology*, ed. James G. Carrier, 472–86. Cheltenham: Edward Elgar. <http://eprints.lse.ac.uk/253/>.
- Lewis, D., and N. Kanji. 2009. *Non-governmental organisations and development*. London: Routledge.
- Lewis, D., and D. Mosse, eds. 2006. *Development brokers and translators: The ethnography of aid and agencies*. Bloomfield, CT: Kumarian Books.
- Lidskog, R., and I. Elander. 2010. Addressing climate change democratically. Multi-level governance, transnational networks and governmental structures. *Sustainable Development* 18, no. 1: 32–41.
- Low, N., and B. Gleeson. 1998. *Justice society and nature: An exploration of political ecology*. London: Routledge.
- Lucas, A.M. 1979. *Environment and environmental education: Conceptual issues and curriculum implications*. Melbourne: Australian International Press and Publications.
- Lundmark, C. 1998. *Eco-democracy. A green challenge to democratic theory and practice*. Umeå: Umeå University Press.
- Lundmark, C. 2007. The new ecological paradigm revisited: Anchoring the NEP scale in environmental ethics. *Environmental Education Research* 13, no. 3: 329–47.
- Mathews, F. 1994. *The ecological self*. London: Routledge.
- McKeown, R., and C. Hopkins. 2003. EE ≠ ESD: Defusing the worry. *Environmental Education Research* 9, no. 1: 117–28.

- Mosse, D. 2005. *Cultivating development: An ethnography of aid policy and practice*. London: Pluto Press.
- Naess, A. 1973. The shallow and the deep: Long-range ecology movement. *A Summary, Inquiry* 16: 95–9.
- Oliver-Smith, A. 2010. *Defying displacement: Grassroots resistance and the critique of development*. Austin, TX: University of Texas Press.
- Orr, D. 1994. *Earth in mind: On education, environment, and the human prospect*. Washington, DC: Island Press.
- Palmer, J.A. 1998. *Environmental education in the 21st century: Theory practice, progress and promise*. New York, NY: Routledge.
- Rees, W. 1992. Understanding sustainable development. In *Sustainable development and the future of cities*, Proceedings of an international summer seminar, ed. B. Hamm, G. Zimmer, and S. Kratz, 17–40, Bauhaus Dessau, September 7–14, 1991.
- Reid, A. 2003. Sensing environmental education research. *Canadian Journal of Environmental Education* 8: 9–30.
- Reid, A., and W. Scott. 2006. Researching education and the environment: Retrospect and prospect. *Environmental Education Research* 12, no. 3: 571–87.
- Rickinson, M. 2001. Special issue: Learners and learning in environmental education: A critical review of the evidence. *Environmental Education Research* 7, no. 3: 208–320.
- Rickinson, M. 2003. Reviewing research evidence in environmental education: Some methodological reflections and challenges. *Environmental Education Research* 9, no. 2: 257–71.
- Robottom, I. 1987. Towards enquiry-based professional development in environmental education. In *Environmental education: Practice and possibility*, ed. I. Robottom. Geelong: Deakin University Press.
- Sauvé, L. 2005. Currents in environmental education: Mapping a complex and evolving pedagogical field. *Canadian Journal of Environmental Education* 10, no. 1: 11–37.
- Scott, W. 2002. Education and sustainable development: Challenges, responsibilities, and frames of mind. *Trumpeter* 18, no. 1: 123–34. <http://trumpeter.athabasca.ca/index.php/trumpet/article/view/123/134> (accessed May 26, 2011).
- Scott, W. 2005. ESD: What sort of education? What sort of learning? What sort of decade? Invited paper presented at the Danish Opening Conference for the United Nations Decade of Education for Sustainable Development, March 10–11, in Copenhagen, Denmark. www.ubu10.dk/konf/english.htm.
- Shoreman-Ouimet, E., and H. Kopnina. 2011. Introduction: Environmental anthropology yesterday and today. In *Environmental anthropology today*, ed. H. Kopnina and E. Shoreman-Ouimet, 1–34. New York, NY: Routledge.
- Smyth, J.C. 1995. Environment and education: A view of a changing scene. *Environmental Education Research* 1, no. 1: 3–20.
- Spring, J. 2004. *How educational ideologies are shaping global society: Intergovernmental organizations, NGO's, and the decline of the state*. Mahwah, NJ: Lawrence Erlbaum.
- Stables, A., and W. Scott. 2002. The quest for holism in education for sustainable development. *Environmental Education Research* 8, no. 1: 53–60.
- Stevenson, R. 2006. Tensions and transitions in policy discourse: Recontextualising a decontextualised EE/ESD debate. *Environmental Education Research* 12, no. 3–4: 277–90.
- The Tbilisi Declaration. 1977. Intergovernmental conference on environmental education. Organized The United Nations Education, Scientific, and Cultural Organization (UNESCO) in cooperation with the U.N. Environment Programme (UNEP). Tbilisi, Georgia (USSR) from October 14–26, <http://www.gdrc.org/uem/ee/tbilisi.html>.
- Thompson, G.S.C., and M.A. Barton. 1994. Ecocentric and anthropocentric attitudes toward the environment. *Journal of Environmental Psychology* 14: 149–57.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2005. *United nations decade of education for sustainable development (2005–2014)*. Framework for the international implementation scheme. 32 C/INF.9. <http://unesdoc.unesco.org/images/0013/001311/131163e.pdf> (accessed May 2011).
- United Nations Environment Programme (UNEP) and United Nations Educational, Scientific and Cultural Organization (UNESCO). 1976. The Belgrade Charter. <http://unesdoc.unesco.org/images/0001/000177/017772eb.pdf>; http://www.medies.net/_uploaded_files/The-BelgradeCharter.pdf.

- Wals, A.E.J. 2007. *Social learning: Towards a sustainable world*. Wageningen: Wageningen Academic.
- Wals, A.E.J. 2010. Between knowing what is right and knowing that is it wrong to tell others what is right: On relativism, uncertainty and democracy in environmental and sustainability education. *Environmental Education Research* 16, no. 1: 143–51.
- Wals, A.E.J., and B. Jickling. 2000. Process-based environmental education seeking standards without standardizing. In *Critical environmental and health education: Research issues and challenges*, ed. B.B. Jensen, K. Schnack, and V. Simovska, 127–48. Copenhagen: The Danish University of Education, Research Centre for Environmental and Health Education.
- Ward, H. 2008. Liberal democracy and sustainability. *Environmental Politics* 17, no. 3: 386–409.
- Watson, P. 2012. Clarification on where director Paul Watson stands on various issues. <http://www.ecospherics.net/pages/wonw.htm> (accessed January 14, 2012).
- Wesselink, R., and A.E.J. Wals. 2011. Developing competence profiles for educators in environmental education organisations in the Netherlands. *Environmental Education Research* 17, no. 1: 69–90.
- Öhman, J. 2006. Pluralism and criticism in environmental education and education for sustainable development: A practical understanding. *Environmental Education Research* 12, no. 2: 149–63.