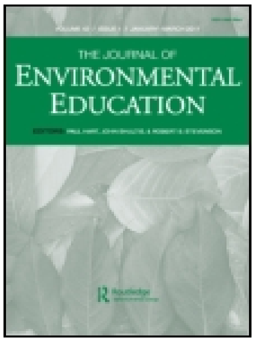

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Environmental Education and Curriculum Theory

Phillip G. Payne

ABSTRACT: Recent reviews of environmental education (EE) research converge with pedagogical trends in the education literature to situated and constructivist learning and the need for greater researcher reflexivity about the assumptions and conduct of research. These trends also elaborate the need in EE and education for sustainable development and related fields of curriculum inquiry and theory for learners to critically examine their own and others' experiences of the various places they regularly encounter. In this article, the author describes a humanly constructive approach to inquiry. This curriculum of 9 questions can be used in its entirety or selectively infused into existing curriculum and pedagogical and research efforts. Because the questions focus on learners' everyday experiences of environmentally problematic and enabling circumstances, this different perspective of curriculum theory reiterates those historical imperatives for experiential, problem (re)solving, interdisciplinary, and participatory action strategies.

KEY WORDS: curriculum theory, embodiment, environmental education (EE), experience, inquiry, phenomenology, situated learning

The global vitality now evident in environmental education (EE) research (Gough, 2004; Hart & Nolan, 1999; Lotz-Sisitka, 2004; Scott, 1999, 2000, 2003) has not necessarily been matched in curriculum theories of or for EE in English-speaking, industrial, and advanced countries. Critical curriculum theory has fallen on hard times as neoconservative ideology, centralized mandates, bureaucratic standards, litigation threats, and heightened accountability measures have subdued any (re)visionary impulses in schooling. To be sure, the decade-long rise of "education for sustainable development" has influenced educational policy developments at state, national, and international levels. The blurring of environmental and sustainable educations has also been noted (McKeown & Hopkins, 2003). For example, the writings of David Orr (1992) and Chet Bowers (1993) have shaped the ways educators might think more courageously about education and its environmental practices and consequences.

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By and large, the development of EE curricula has not kept pace with the issues generated in the more fertile discourse of EE research or, for that matter, in environmental philosophy and even social science research methodology. In this article, I aim to rekindle educators' involvement in "theorizing" the curriculum and its pedagogical enactments. I highlight how the philosophical interest in "place" (Hay, 2002), the intriguing developments in emerging genres of inquiry in EE research (Russell & Hart, 2003), and the questions researchers pose about the environmental nature of educational experience (Rickinson, 2001) converge in ways that mark promising directions for curriculum developers.

Trends in Western Environmental Thinking: The Subjective Experience of Contested Places

Hay's (2002) comprehensive cross-disciplinary survey of the main strands of thought in the Western environmental movement identified a number of vantage points from which the development of EE curricula might proceed. These points include a variety of ecophilosophies, ecofeminism, religion and spirituality, the critique of science, the phenomenology of place, and the green politics of authoritarian, conservative, liberal, and socialist traditions. Hay expresses surprise that the phenomenological literature of place has had so little influence on mainstream ecological thought. This "place literature," he observes, is relevant to the wider concerns of ecological thought because it creates empathy, encourages a deep concern for the processes of life, stresses living in accordance with ethical precepts, and has a political edge. For those familiar with this genre, the writings of Barry Lopez (1986) and Gary Snyder (1990) are grounded philosophical examples of poetically evocative narratives about poignant experiences of various places, spaces, and natures (see Brady, 2005; Stewart, 2005).

Hay (2002), however, concedes that the phenomenological literature is primarily concerned with wilderness-type environments and should be accompanied by, for example, less romantically inclined critiques of the commodification of space and our alienation from those very everyday places in which we ordinarily dwell. Bowerbank's (1999) critique of one-sided, positive "nature writing" illustrates Hay's concerns, as does Cronon's (1995) provocative text about the historical, social, and cultural levels of human–nature–place relations. But we await a critical texting of the environmental problematic in our everyday, largely urbanized living experiences. Hay believes that a critical approach to phenomenological perspectives of place and our experiences of them would be immensely valuable. Not coincidentally, and at a more general level than what I propose here, critical approaches to phenomenology and ethnography have gained considerable currency and legitimacy in social science research over the past few years (Foley & Valenzuela, 2005; Lincoln, 2005).

In addition, prominent environmental philosophers, such as Eugene Hargrove (1998), founding editor of *Environmental Ethics*, lament their philosophical field's lack of practical impact on education and policy. Indeed, few curriculum scholars in EE have developed the rich conceptual links that exist between, for example, aspects of phenomenological philosophy and the ways in which EE curricula might be conceived and enacted. Recently published exceptions include Gruenewald's (2003) focus on the experiential and linguistic processes of human social development, Newbery's (2003) narration of carrying a canoe, Powers' (2004) evaluation of place-based education programs, and some largely rhetorical claims about a "deep ecology" pedagogy.

Education philosopher Marjorie O'Loughlin's (1997, 1998) neo-Deweyan educational appraisal of Merleau-Ponty's philosophical phenomenology of "lived experience" outlines a number of ideas that are crucially relevant to the aspirations many environmental educators have in teaching about the relationships of humans and their environments. Reflecting the concerns of a growing number of EE researchers, O'Loughlin is critical of the traditional emphasis in pedagogy placed on the acquisition of knowledge and facts whose abstractions are all-too-often removed from learners' everyday experience. She observes that the human body, which is of considerable interest to phenomenologists, is excluded from most curriculum discussions and documents. Drawing from the prominent social theorist Anthony Giddens (1984), O'Loughlin differentiates between the practical consciousness of individuals (i.e., embodied, tacit, and intuitive habits, emotions, routines, traditions, conventions, patterns, norms, and dispositions) and the individual's discursive consciousness (i.e., reason, awareness, knowledge, logic, and texts). Notably, with regard to the critical potential for phenomenological and ethnographic approaches to inquiry and curriculum development, Giddens argues that social theory, and by implication curriculum and pedagogical theory, should be concerned, "first and foremost with reworking conceptions of human being and human doing, social reproduction and social transformation" (p. xx) for which the embodied, practical consciousness of the everyday and its environmental problematic should be a leading phenomenological focus for empirical study.

In regard to Giddens' (1984), and others', interest in human agency, action, *being* and *doing*, to which *becoming* environmental might well be added, O'Loughlin (1997) proposes the pedagogical development of "intelligent bodies" and "ecological subjectivities." She highlights the expressive aspects of individual and collective bodies. Learners should also have multisensory experiences, not just "sight" experiences. O'Loughlin (1997) wants learners to explore "time–space dynamics." Her phenomenologically oriented, "lived everyday experience" curriculum would offer and draw on the many situational encounters learners have with both built and natural environments where learning should embrace the continuities and discontinuities of time and the sensuality and desensitizing qualities of various places and spaces. Such learning experiences should be extended explorations of those places that, she notes, are often "conflictual" and "contested," highlighting how such environments are "social constructions," as well as being physical. Investigations should focus on the meanings of spatial behaviors, awareness of boundaries and territoriality, their histories in human affairs, and their current significance as environments of action, interaction, and relations. O'Loughlin (1998) concludes that the multisensory study of experiences of various environments should lie in the process of inquiry, discovery, and articulation by the group "because it is only though the experience of embodied sociality that students may come to be aware of the deepest meanings generated in their common corporeal experience" (p. 294).

In summary, curriculum theorists might well consider the aforementioned philosophical and theoretical ideas about place and its significance in peoples' attachment and disattachment to various environments, the quest for interpreting the ecological nature of such experience, and the beckoning role for curriculum and research endeavors that highlight how (environmental) agency and associated knowledge, attitudes, and values are phenomenologically constructed both positively and negatively in the everyday, via human bodies and their practices, by a competing range of local and global forces. These philosophical and theoretical trends converge with certain developments in EE research.

Trends in EE Research: The "Nature" of Experience

Crucially important lessons for curriculum theory and the not yet fully recognized role of phenomenology in pedagogical reflection and inquiry approaches are also to be gained from the most recent metareviews of the past decade's EE research effort (Hart & Nolan, 1999; Rickinson, 2001). Rickinson's analysis of the evidence base about learners and learning identifies three well-established nodes of students: (a) environmental knowledge, (b) environmental attitudes and behaviors, and (c) environmental learning outcomes. Rickinson also identifies three emerging nodes, namely students' (a) perceptions of nature, (b) experiences of learning, and (c) influences on adults. The implications of the first two emerging nodes are almost self-evident. Learners do require diverse experiences of different environments and versions of nature so as to better inquire into, reflect on, and understand how they themselves perceive, conceive, construct, compare, act, and relate to nature and the environment. Learners, teachers, and researchers need, therefore, to understand the "natures" of the environmental experiences they have and the places in which they occur—at the home, school, playground, river, mall, and so on.

There are, however, risks for the curriculum theorist in not thinking seriously about the different "natures" and places of real and direct environmental learning experiences, noting the term *experience* is bandied about easily, not least of all by educators advocating its virtues. Some questions rarely asked in EE include: What is an environmental learning experience in, about, with, or for "nature" and its various "versions"? Whose and what experience is being experienced—the learner's, the teacher's, the curriculum author's, the policy maker's? Indeed, these and related questions about the nature of environmental interactions and experiences and human–environment, culture–nature relations are formidable, both conceptually and practically.

John Dewey (1938/1988) anticipated the problem of "social control" in schools when he called for an intelligent theory of experience that, if neglected, would leave learners "at the mercy of every intellectual breeze that happens to blow" (p. 31). More recently, Usher and Edwards (1994) argued that the relationship of the postmodern and experiential learning is undertheorized. They added, "meaning is constructed through experience rather than simply being conveyed by it" (p. 205), and is now too often associated with the practices of guidance and counseling. Bauman (1997) asserted that "the bitter experience in question is the experience of freedom" (p. 183). Bauman said, about the growing demands for teachers of experience, that experiencing has become a technical problem for training "perfect consumers" by the "paragons and prophets" of the postmodern marketplace.

Hart and Nolan's (1999) extensive review of the 1990s decade of research in EE focused on the field's methodological developments and diversification of approaches to inquiry. Their conclusions about the educative nature of experience have strong implications for curriculum theorists and developers if we are to take seriously the observations of Dewey (1938/1988), Usher and Edwards (1994), and Bauman (1997). Hart and Nolan implore educators to "get right" the ontological presuppositions they make about learners' current activities and their *connections* in daily life to the complex social structures in which they live, act, and relate to various environments. To not undertake such an elementary task, they rightly assert, renders pointless any common vision for EE. Hart and Nolan call for strategies that "make it possible for teachers and students to work with and as inquirers to confront their own notions and ideas about the way the world works" (p. 41), where learning should be seen as an enabling process rather than mere knowledge acquisition.

The phenomenological and existential trend identified by Hart and Nolan (1999), O'Loughlin (1997, 1998) and Rickinson (2001), while reiterating Hay's (2002) views, is that learning should be a positive, experientially placed process of individual and collective inquiry. Situated investigations of one's own and others' (embodied) environmental experiences are required to reveal how we practically live and construct our problematic environmental relations with various (local) places and (global) spaces. There is a persistence in this educational demand whose imperatives can be traced to those 1970s United Nations commitments to experiential learning, holism, interdisciplinary inquiry, problem solving, and participatory action (Palmer, 1998) but in ways that highlight the ordinary and enabling or constraining roles of the everyday, the body, and place encounters. This trend to retheorizing the phenomenological significance of educative and everyday experiences in which learning occurs also resonates with the latest developments in cognitive science, ecological psychology, and philosophy about the embodied mind as an interface of culture–nature experiences and relations (for example, Lakoff & Johnson, 1999; Lombardo, 1987; Petitot, Varela, Pachoud, & Roy, 1999; Varela, Thompson, & Rosch, 1991; Weiss & Haber, 1999).

There are, therefore, very good historical and contemporary reasons for educators to take seriously the possibilities of a phenomenological and socio-ontological approach to curriculum theory and its pedagogical development in which learners (students, teachers, policy makers, researchers) interrogate their own (and others') embodied experiences of places and spaces whose contested local and global terrains reflect the socially constructed and problematic nature of human–environment–nature relations.

A Humanly Constructive EE

Background

The following theorization of a phenomenologically oriented, "humanly constructive" curriculum is a response to the aforementioned trends, as well as a consequence of a series of related concerns in EE, curriculum development, social theory, and environmental philosophy, namely

- Unresolved tensions between competing perspectives of EE—the applied science, practical/interpretive, and socially critical approaches.
- Persistent concerns about the processes, materials, outcomes, and efficacy of EE; allegations of theory–practice "gaps"; and ongoing confusion about the nature of interdisciplinary and experiential learning. These problems hinged on a number of unexamined assumptions about the applied science, practical/interpretive, and socially critical approaches, or were a reflection of the unrealistic expectations of the field to bring about change.
- Practical problems in schools presented by a nonconventional subject that demanded flexibility in timetabling, staffing, field visits, as well as other logistical, financial, and legal issues.
- Developmentally inappropriate curricula that met the interests of absent experts but did not address the present circumstances of learners and teachers.
- Limited progress in the ability of social theory, environmental philosophy, and geography to inform curriculum developers of how to bridge the dualisms of agency–structure, identity–spatiality, and local–global that, effectively, denied the possibility of plausible empirical insights into the nature of human–environment relations and, therefore, satisfactory explanations of socioecological life needed for the planning of meaningful curricula experiences.
- The need for "change agents" to acknowledge the ontologically enabling and constraining features of the body, the role of tradition, the force of power, and the contingencies of reason.

The nine questions that summarize the curriculum theory, but are offered for individual and group inquiries, were derived from a range of theoretical sources (see Payne, 1995, 1999a) and have been empirically qualified over the past decade (Payne, 1997, 1998, 1999a, 2000, 2002a, 2002b, 2003a, 2003b, 2005a, 2005b).

Defining Features

The questions are *sensitizers* and not prescriptions for inquiry by learners or teachers (and researchers) to foster inquiry. The questions can be used individually, as a theme of inquiry or reflective project, or can be infused into existing curricula, flexibility permitting. Or they are a developmental curriculum in their own right and can be implemented over whatever time period is available. Some questions may be more developmentally appropriate than others. The latter questions hinge on meanings derived from the initial questions.

The content of the proposed curriculum is the mundane, everyday experiences of the learners. These are the lived places of human agents and actors in which environmentally enabling and problematic circumstances occur, with consequences for the reconstitution of reality. The preferred locus and focus, or field site, for inquiry is the human body and the variable and uneven embodiments of the sediments or residues of history, society, culture, and nature. For example, the ingestion of certain foods reproduces the so-called ecological crisis, an unfortunate and very abstract but highly popular term that effectively disembodies, dislocates, and displaces the agent's complicity in partially contributing to or resolving the environmental problematic (Payne, 1997). Self- and group-reflective inquiries can follow themes by deliberating about what is environmentally enabling or disabling.

In considering the merits or otherwise of this curriculum theorization, this humanly constructive approach actually embodies an environmental ethic in that very few resources, costs, and travel to outside sites are needed, as has conventionally been the case. This curriculum approach may also be adapted in other human and social development issues of education. The astute reader will note how these related issues about health, citizenship, gender, and ethnicity are embedded in the inquiry process and sequence of questions.

- In phenomenological terms, the humanly constructive curriculum is interested in revealing our individual and collective being, doing, and becoming with a Deweyan-inspired end-in-view of for being for the environment.
- It is concerned, therefore, with real human experiences of environmental actions, inactions, and relations, but it acknowledges that such experiences are many and layered, often in contradiction, stretching from the body to the local, through many more layers of geography and culture to the global.
- It acknowledges that real experiences are not authentic, nor should the global problem be conflated, individualized, and intensified to one's own body, but that various experiences are temporally, spatially, socially, and symbolically mediated by a range of forces, including language, families, geographies, technologies, politics, and economics.
- It is, therefore, concerned with how human experience and embodied environmental actions and relations are structured and constructed in the everyday and actively recycled by actors, often unknowingly, as a repackaged version of human–environment relations, many of which are troubling.
- Therefore, it is primarily concerned with interpreting what already is the case in the everyday, in our individual and collective being, doing, and becoming. Exposure to theories of personal, social, and environmental ethics and politics might assist learners in judging the merits or otherwise of the match of what they find is the case and what theory says it could or ought to be.
- Another humanistic aim of this ecocentric inquiry for being for the environment is that it is enabling. Its in here focus for being highlights the need for solutions and hope to the problems and issues way out there whose overemphasis in EE reconstitutes a disabling paralysis. Problems, therefore, might be understood as temporary constraints on embodied agency. A judicious mix of enablement and constraint is pedagogically desirable in the way reflexive learners mount their individual and collective inquiries.

In sum, this approach to curriculum theory reflects an attempt to reclaim the places of human agency (Archer, 2000; Giddens, 1984) where real inquiries can be conducted by learners, teachers, and researchers into their organic, material, social, and symbolic experiences of what others refer to as the ecological crisis. The restoration of human agency, the parent of human action, through reflexive inquiries into everyday, insignificant experiences is a positive response to the negative instrumental rationality enframed in modernist, positivist linear approaches to EE. Human agency, the empowering but elusive possibility of education, also needs rescuing from those postmodern perspectives of education that effectively reduce the self and his or her or our lifeworld realities to a disembodied and decontextualized form of textualism in which languages and discourses supposedly serve as a mirror in reading what it is to be a human being, doer, and becomer.

The defining features of this questioning, inquiry approach aim to be (a) critical (practical, non-idealist, socially scientific, ethicopolitical), (b) ecological (embodied, intercorporeal, intersubjective, relational, glocalized, ecocentric), and (c) ontological (underlying agency structure mutually constituting patterns of human existence).

The questioning for being for the environment is outlined in Table 1. *Sensitizing* means that (a) the questions can be reworded or modified according to learners' needs and (b) their pedagogical appropriateness might range across informal discussions, role-playing exercises, group problem solving, action research, extended individual, paired, or group projects, or a dissertation.

Eating chemically treated, imported, preserved, or organically grown, local, seasonal fruits or vegetables is an example of an everyday experience that can be examined (through or compared with) individual or group inquiries using some, or all, of the nine questions to reveal how those embodied experiences actually reconstitute certain environmental relations and local–global consequences. Where a learner sits at a desk in relation to available lighting and ventilation can be considered according to the lesser or greater demands for clothing, lighting, and air conditioning. Young children already receive instruction in, for example, the need for fruits and vegetables for growth and good health; equally, chemistry and biology students can study the organic composting and pesticide residues of the apple varieties they already eat. In geography, history, or economics, learners might study the production, labor market, transportation, and retailing of apples. It is clear that this type of curriculum approach endorses the frequent calls in education for situated learning, contextual knowledge, reflective practice, constructivist, and socially constructivist pedagogies, and authentic curriculum, as well as stories, narratives, standpoints, and autobiographies.

There is also a deeper worldview issue encapsulated in the above curriculum's characterization as an education for being for the environment. The hyphens reflect the aim of phenomenologists to reconstruct the mutually constituting human–environment duality while deconstructing the Cartesian-inspired self–world separation and disconnection. Cartesian thinking, allegedly, invokes major epistemological and methodological assumptions about the nature of reality, knowledge, and truth upon which much of the positivist and postpositivist curriculum development and research in EE has proceeded and been legitimized (e.g., Robottom & Hart, 1993). Critiques of its dominance have contributed to the current vitality in EE research, in particular, the emergence of a range of interpretive approaches within qualitative approaches to inquiry. Moreover, many environmental philosophers and ecofeminists, in particular, are critical of the dualisms, binary logics, and values of hierarchical thinking that they associate with the positivist and patriarchal worldviews of Western science and philosophy and their associations with the ecological crisis (Merchant, 1980; Plumwood, 1993).

Conclusion

Trends in EE research, educational philosophy, environmental thought, and social science research methodology invite us to reconsider the previously unrecognized significance of the

TABLE 5. Questioning for Being for the Environment

Sensitizer/probe	Experiental dimension	Conceptual and empirical resources
1. In what ways might there be environmental problems or solutions "at work" in my/our acting body(ies)?	Intelligent body(ies)	Le Grange (2004) Macnaghten (2003) Melucci (1996) Payne (1997, 1999a)
2. What habits or routines and feelings do I have at home, in the neighborhood, at the shops, in the playground, on the river, at school, and at work that allows or limit these problems or solutions from continuing?	Embodied reasoning	Kahn (1999) Lousley (1999) MacEachren (2000) Malone & Tranter (2003) Payne (1998, 2002b)
3. How and from where "out there" do these "in me/us" problems or solutions come from, or go to, every day? What are the local/global "pathways" of these problems in and out of my/our bodies?	Ecological subjectivities embodiment processes	Berryman (1999) Fien (1993) Hart (1997) Loughland, Reid, Walker, & Petocz (2003) Malone & Tranter (2003) Payne (2000)
4. How do these problems and solutions converge and diverge for each and all of us?	Intercorporeal/intersubjective social intelligence	Kaufman, Ewing, Hyle, Montgomery, & Self (2001) Stern (2000)
5. What household, school, local, and social conventions, rules and norms, talk, pressures, technologies, recreations, and media are most likely to allow or limit these problems?	Structuring of experience/ governing/disciplining	Chawla (1998, 1999) Huckle (1995) Michael (2000) Payne (1998, 2002a, 2003b)
6. How are these embodied problems and solutions, pathways, and conventions shaped by personal and family histories, geographical setting, living circumstances ethnicity, and social conditions?	Tradition/social structure/ geography/culture	Hampel, Holdsworth, & Boldero (1996) Brody (1997) Payne (1998, 1999b) Seidel (2000) Strandbu & Krange (2003) Sundstrom (2003)
7. What of my/our actions, interactions, and relations can be changed to help or not help the environment?	Embodied agency	Bentley, Fien, & Neil (2004) Jensen & Schnack (1997) Jickling & Spork (1998) Payne (1997)
8. What are the consequences of my/our proposed changes, or nonchange, for others and the future (people, environments, nature)?	Socioecological agency and ethics/intergenerational ethics	Connell, Fien, Lee, Sykes, Yencken (1999) Hicks (1998) Malone (1999) Walker (1997)
9. What insights, meanings, interpretations, explanations, or justifications are needed in responding individually and collectively to each of the above questions?	Environmental education: for being for the environment	Numerous, in various plines and interdisplinary studies

embodied, situated, and practical nature of educative (environmental) experience. In light of the revelation that individuals, teachers, researchers, and schools actively construct and give meaning to human–environment interactions and relations, there is now a different role for curriculum theorists to play in reconstructing appropriate educational opportunities for those whom education purports to serve—the learner.

There can be no doubt that individual and social agency requires resuscitation via new curriculum frameworks and approaches and pedagogical strategies that engage and breathe real authentic life into the processes of learning and the natures of educational experience. The rescuing of agency, via inquiry into the everyday in which learners really live, is one strong possibility. To avoid the negative risk of education, in the full face of curriculum's straitjacketing by bureaucratic and economic forces, risks even greater consequences for the conservation, protection, and restoration of those few places and natures that contribute reciprocally to the integrity of the human condition and its intergenerational prospects. A humanly constructive approach to reflexive inquiries by intelligently embodied learners, teachers, policy makers, and researchers, as outlined in a critical, ecological ontology of human experience, is one creative, practical, enabling, and nonidealistic solution that curriculum theorists now need to consider in relation to an education for being for the environment.

REFERENCES

Archer, M. (2000). *Being human: The problem of agency*. New York: Cambridge University Press.

Bauman, Z. (1997). *Postmodernity and its discontents*. Oxford, England: Blackwell.

Bentley, M., Fien, J., & Neil, C. (2004). *Sustainable consumption: Young Australians as agents of change*. Canberra, Australia: National Youth Affairs Research Scheme.

Berryman, T. (1999). Relieving modern day atlas of an illusory burden. *Canadian Journal of Environmental Education, 4,* 50–68.

Bowers, C. (1993). *Education, cultural myths, and the ecological crisis*. Albany, NY: SUNY Press.

Bowerbank, S. (1999). Nature writing as self-technology. In E. Darier (Ed.), *Discourses of the environment* (pp. 163–178). Malden, MA: Blackwell.

Brady, I. (2005). Poetics for a planet: Discourse on some problems of being-in-place. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 979–1025). Thousand Oaks, CA: Sage.

Brody, M. (1997). Descending the watershed: Rethinking the "place" of curriculum. *Canadian Journal of Environmental Education, 2,* 114–131.

Chawla, L. (1998). Significant life experiences revisited: A review of research on sources of environmental sensitivity. *The Journal of Environmental Education, 29*(3), 11–21.

Chawla, L. (1999). Life paths into effective environmental action. *The Journal of Environmental Education, 31*(1), 15–26.

Connell, S., Fien, J., Lee, J., Sykes, H., & Yencken, D. (1999). "If it doesn't directly affect you, you don't think about it": A qualitative study of young people's environmental attitudes in two Australian cities. *Environmental Education Research, 5*(1), 95–114.

Cronon, W. (Ed.). (1995). *Uncommon ground: Rethinking the human place in nature*. New York: Norton.

Dewey, J. (1938/1988). Experience and education. In J. Boydston (Ed.), *John Dewey, volume 13: 1938–1939* (pp. 3–62). Carbondale: Southern Illinois University Press.

Fien, J. (1993). *Environmental education: A pathway to sustainability*. Geelong, Victoria, Australia: Deakin University Press.

Foley, D., & Valenzuela, A. (2005). Critical ethnography: The politics of collaboration. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 217–234). Thousand Oaks, CA: Sage.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration.* Cambridge, England: Polity Press.

Gough, S. (2004). Editorial. Case-study research in environmental education. *Environmental Education Research, 10*(1), 3–6.

Gruenewald, D. (2003). At home with the other: Reclaiming the ecological roots of development and literacy. *The Journal of Environmental Education, 35*(1), 33–43.

Hampel, B., Holdsworth, R., & Boldero, J. (1996). The impact of parental work experiences and education on environmental knowledge, concern and behaviour among adolescents. *Environmental Education Research, 2*(3), 287–300.

Hargrove, E. (1998). After twenty years. *Environmental Ethics, 20*(4), 339–340.

Hart, P., & Nolan, K. (1999). A critical analysis of research in environmental education. *Studies in Science Education, 34,* 1–69.

Hart, R. (1997). *Children's participation: The theory and practice of involving young citizens in community development and environmental care.* London: Earthscan.

Hay, P. (2002). *Main currents in western environmental thought.* Sydney, Australia: University of New South Wales Press.

Hicks, D. (1998). Stories of hope: A response to the "psychology of despair." *Environmental Education Research, 4*(2), 165–176.

Huckle, J. (1995). Using television critically in environmental education. *Environmental Education Research, 1*(3), 291–304.

Jensen, B., & Schnack, K. (1997). The action competence approach in environmental education. *Environmental Education Research, 3*(2), 163–178.

Jickling, B., & Spork, H. (1998). Education for the environment: A critique. *Environmental Education Research, 4*(3), 309–327.

Kahn, P., Jr. (1999). *The human relationship with nature: Development and culture.* Cambridge, MA: MIT Press.

Kaufman, J., Ewing, M., Hyle, A., Montgomery, D., & Self, P. (2001). Women and nature: Using memory-work to rethink our relationship to the natural world. *Environmental Education Research, 7*(3), 359–378.

Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought.* New York: Basic Books.

Le Grange, L. (2004). Embodiment, social praxis and environmental education: Some thoughts. *Environmental Education Research, 10*(3), 387–400.

Lincoln, Y. (2005). Institutional review boards and methodological conservatism: The challenge to and from phenomenological paradigms. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 165–181). Thousand Oaks, CA: Sage.

Lombardo, T. (1987). *The reciprocity of perceiver and environment: The evolution of James J. Gibson's ecological psychology.* Hillsdale, NJ: Erlbaum.

Lopez, B. (1986). *Arctic dreams: Imagination and desire in a northern landscape.* New York: Bantam.

Lotz-Sisitka, H. (2004). Editorial. Environmental education research and social change: Southern African perspectives. *Environmental Education Research, 10*(3), 291–296.

Loughland, T., Reid, A., Walker, K., & Petocz, P. (2003). Factors influencing young people's conceptions of environment. *Environmental Education Research, 9*(1), 3–20.

Lousley, C. (1999). De(politicising) the environmental club: Environmental discourses and the culture of schooling. *Environmental Education Research, 5*(3), 293–304.

MacEachren, Z. (2000). Crafting as practice of relating to the natural world. *Canadian Journal of Environmental Education, 5,* 186–199.

Macnaghten, P. (2003). Embodying the environment in everyday life practices. *The Sociological Review, 51*(1), 63–84.

Malone, K. (1999). Environmental education researchers as activists. *Environmental Education Research, 5*(2), 163–178.

Malone, K., & Tranter, P. (2003). School grounds as sites for learning: Making the most of environmental opportunities. *Environmental Education Research, 9*(3), 283–304.

McKeown, R., & Hopkins, C. (2003). EE/ESD: Defusing the worry. *Environmental Education Research, 9*(1), 117–128.

Melucci, A. (1996). *The playing self: Person and meaning in the planetary society*. Cambridge, England: Cambridge University Press.

Merchant, C. (1980). *The death of nature: Women, ecology and the scientific revolution.* New York: Harper & Row.

Michael, M. (2000). These boots are made for walking . . . : Mundane technology, the body and human–environment relations. *Body and Society, 6*(3–4), 107–126.

Newbery, L. (2003). Will any/body carry that canoe? A geography of the body, ability and gender. *Canadian Journal of Environmental Education, 8,* 204–216.

O'Loughlin, M. (1997). Corporeal subjectivities: Merleau-Ponty, education and the "postmodern" subject. *Educational Philosophy and Theory, 29*(1), 20–31.

O'Loughlin, M. (1998). Paying attention to bodies in education: Theoretical resources and practical suggestions. *Educational Philosophy and Theory, 30*(3), 275–297.

Orr, D. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany, NY: SUNY Press.

Palmer, J. (1998). *Environmental education in the 21st century: Theory, practice, progress and promise.* New York: Routledge.

Payne, P. (1995). Ontology and the critical discourse of environmental education. *Australian Journal of Environmental Education, 11,* 83–106.

Payne, P. (1997). Embodiment and environmental education. *Environmental Education Research, 3*(2), 133–153.

Payne, P. (1998). Children's conceptions of nature. *Australian Journal of Environmental Education, 14,* 19–27.

Payne, P. (1999a). Postmodern challenges and modern horizons: Education "for being for the environment." *Environmental Education Research, 5*(1), 5–34.

Payne, P. (1999b). The significance of experience in SLE research. *Environmental Education Research, 5*(4), 365–381.

Payne, P. (2000). Identity and environmental education. *Environmental Education Research, 7*(1), 67–88.

Payne, P. (2002a). On the construction, deconstruction and reconstruction of experience in critical outdoor education. *Australian Journal of Outdoor Education, 6*(2), 4–21.

Payne, P. (2002b). Post-metatheorizing environmental behaviours in environmental education. *Environmental Education Research, 8*(3), 307–314.

Payne, P. (2003a). Postphenomenological enquiry and living the environmental condition. *Canadian Journal of Environmental Education, 8,* 169–190.

Payne, P. (2003b). The technics of environmental education. *Environmental Education Research, 9*(4), 525–541.

Payne, P. (2005a). Families, homes and environmental education. *Australian Journal of Environmental Education, 21,* 81–96.

Payne, P. (2005b) "Ways of doing" learning, teaching and researching. *Canadian Journal of Environmental Education, 10,* 108–124.

Petitot, J., Varela, F., Pachoud, B., & Roy, J.-M. (1999). *Naturalizing phenomenology: Issues in contemporary phenomenology and cognitive science.* Stanford, CA: Stanford University Press.

Plumwood, V. (1993). *Feminism and the mastery of nature.* New York: Routledge.

Powers, A. (2004). An evaluation of four place-based education programs. *The Journal of Environmental Education, 35*(4), 17–32.

Robottom, I., & Hart, P. (1993). *Research in environmental education: Engaging the debate.* Geelong, Victoria, Australia: Deakin University Press.

Rickinson, M. (2001). Learners and learning in environmental education: A critical review of the evidence. *Environmental Education Research, 7*(3), 207–320.

Russell, C., & Hart, P. (2003). Editorial. Exploring new genres of inquiry in environmental education research. *Canadian Journal of Environmental Education, 8,* 5–8.

Scott, W. (1999). Editorial. Five critical commentaries on significant life experience research in environmental education. *Environmental Education Research, 5*(4), 349–351.

Scott, W. (2000). Editorial. Qualitative methods of inquiry. *Environmental Education Research, 6*(1), 5–8.

Scott, W. (2003). Editorial. Reviewing research in environmental education: Extended critical reflections. *Environmental Education Research, 9*(2), 147–148.

Seidel, J. (2000). Reading the stones. *Canadian Journal of Environmental Education, 5,* 178–185.

Snyder, G. (1990). *The practice of the wild.* San Francisco: North Point Press.

Stern, P. (2000). Toward a coherent theory of environmentally responsible behavior. *Journal of Social Issues, 56*(3), 407–424.

Stewart, K. (2005). Cultural poeisis: The generativity of emergent things. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 1027–1042). Thousand Oaks, CA: Sage.

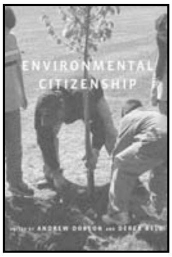
Strandbu, A., & Krange, O. (2003). Youth and the environmental movement—Symbolic inclusions and exclusions. *The Sociological Review, 51*(2), 177–198.

Sundstrom, R. (2003). Race and place: Social space in the production of human kinds. *Philosophy & Geography, 6*(1), 83–95.

Usher, R., & Edwards, R. (1994). *Postmodernism and education.* New York: Routledge.

Walker, K. (1997). Challenging critical theory in environmental education. *Environmental Education Research, 3*(2), 155–162.

Weiss, G., & Haber, H. (1999). *Perspectives on embodiment: The intersections of culture and nature.* New York: Routledge.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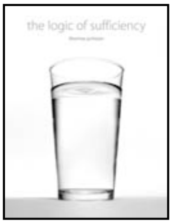

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