

No Longer a “Little Added Frill”: The Transformative Potential of Environmental Education for Educational Change

By Paul Hart

Introduction

My daughter, as a physician, says that, when a patient visits a general practitioner with a specific concern, there is often a simple solution to be prescribed. In instances where this is not the case, well... you really don't want to hear about the alternative. When environmental education manifests itself in schools, it is usually a simple matter of the insertion of an environment-related activity into the science, or perhaps social studies, curriculum. However, if you find a teacher who has “the ethic,” the entire school might be “green.” The fact that this ethic is spreading through a relatively well organized and rapidly expanding field of theory and practice, grounded in research and philosophical thought, that challenges many of the taken-for-granted assumptions of the dominant educational discourses, may be a cause for concern in some quarters.

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Those teachers who are happy in standard practice may not want to hear about “the alternative,” the critiques of business-as-usual in the field of education, whether from environmental education or other related areas such as social justice and cultural studies.

The purpose of this article is to explore some issues of worth concerning what takes place in schools and in teacher education from this vantage point of

No Longer a “Little Added Frill”

environmental education, as a field that challenges the taken-for-granted assumptions of the dominant discourses of schooling.

In view of the focus of this special issue on “environment in the curriculum,” with teacher education in mind, I argue that the socially critical charter of the field of environmental education has meaningful things to say to mainstream education that, if taken seriously, can provide the means to transform our thinking about some things that really matter in schooling. I begin by providing a number of basic contrast points between mainstream educational goals (initially using science education as the example) and the philosophical position taken up by environmental education largely as a result of UNESCO-based international conferences over several decades. Examination of these founding documents reveals an environmental education that does not advocate insertion of isolated activities into the curriculum. On the contrary, it provides a complex philosophy with particular theoretical groundings that, just as environmental issues do within society, position dominant educational concepts as contested concepts for critical debate in (teacher) education. These distinctive qualities are found in philosophical counter-narratives generated by environmental education debates over more than 40 years as foundation for exploration of notions of structure-agency in teaching. These notions are then applied to education, and particularly to teacher education, as they relate to teacher and student subjectification in the schooling process.

Environmental Education in the School Curriculum: A Piece for a Different Puzzle?

Decisions about “what counts” in schools are always rooted in assumptions about the nature of education. Embedded within the curriculum and pedagogy of subject areas such as science are messages, often tacit or subtle, about historical theories of culture and society, as well as the nature of educational discourse. Such non-neutral theories have generated interesting debates within teacher education concerning how much of this history and philosophy teachers need to know in order to critically participate in their translation into curriculum and pedagogy. For example, how much more should teachers know than the fact that there is a range of views on these matters, that deeper purposes, interests and values underlie various perspectives? How much should they know about the connections between these perspectives and the forms of inquiry that supposedly sustain them? And, more specific to school subjects such as science and maths, at what depths should they be able to discuss ways of knowing (i.e., epistemologies) and being (i.e., ontologies) so that they can think more deeply and critically about their theories of practice? And in respect of teacher education programs, should we work to create conditions through which teachers can be initiated into forms of critical reflection into how they, as practitioners, have come to construct themselves as educators of a particular kind?

Environmental education, by its very nature, challenges traditional education provision to engage educational issues that, like environmental issues, are political, contested, and involve deep philosophical struggles with positioning arguments. Such questions push traditional boundaries and challenge traditional assumptions about what really matters and about what can count as legitimate within schooling. It seems useful to use the differences created by environmental education to make more visible those boundaries and assumptions that have framed established systems of education. In "Schooling and Environmental Education: Contradictions in Purpose and Practice," Robert Stevenson (1987, republished 2007) examines the discrepancy between the problem-solving and action-oriented goals of environmental education and the content-acquisition base of knowledge in school programs. A summary of the contrasting positions reveals some of the "common sense" assumptions of general education provision that warrant attention from the perspective of many environmental educators who argue the need for students to engage in ideological and critical inquiry.

Stevenson (1987) argued, for example, that, although rooted in the liberal-progressive educational philosophy of nature study and conservation education, environmental education's fundamental concern for social patterns of resource use in the 1960s and 1970s spanned a very different ideology. Fien (1993) characterized this difference from the dominant social paradigm as an environmental ethic or a new paradigmatic position. Although this ontology is complex and is, itself, comprised of several ideological positionings ranging from deep ecology to more technical approaches, the academic position taken by environmental educators tends toward the socially critical. This positioning is evidenced in foundational UNESCO documents that portray traditional educational mandates as sustaining certain social values based in particular ideologies, that is, in particular (moral) philosophies.

As Robottom (1987) said, these statements remind us that education is always ideological and thus subject to the self interests of the people who share power in society and may share certain values. In environmental education, however, the focus on environment and environmental issues reveals various contesting positions. But what we may miss, says Robottom (1987), is the point that the educational processes by which environmental issues are studied are also subject to the influence of a range of self interests. Environmental education, by virtue of its investment in real world issues, helps to bring these usually implicit operating principles and educational discourses into sharp relief. At the school level, this rhetoric may mean that environmental education poses problems for teachers who do not have either the content or the pedagogical background that is at the same time interdisciplinary, outdoors-oriented, community-oriented, problem/inquiry-oriented and action-oriented, and often in service of local environment-related social issues that may be critically-oriented to local politics. At the level of the academy, an increasing number of universities have courses in environmental education intended to attempt to address these issues of background.

No Longer a "Little Added Frill"

Following the landmark Tbilisi conference, the UNESCO report states that:

Environmental education...should help the public question its misconceptions concerning the various problems of the environment and the value systems of which these ideas are a part...The educated individual should be in a position to ask such questions as: Who took this decision? According to what criteria? What are the immediate ends in mind? Have the long-term consequences been calculated? In short, he (or she) must know what choices have been made and what value system determined them. (UNESCO, 1978, pp. 26-27, quoted in Robottom, 1987, p. 84)

Messages such as this from foundational documents in environmental education propose that, given the complexity of environmental issues, students require more than background science content. They also require skills in issue investigation and public decision-making that are missing in current school practice and, as a result, educational provision must become more complex. People need to be able to make decisions about complex (political) issues, about resources such as water and energy, population, and pollution; schools are not preparing students for their democratic responsibility as citizens. An environmental education should prepare citizens for active participation in dealing with social/environmental issues, not only within their own communities but also across national and international boundaries. Thus, it is argued, environmental education has a role in educational programs.

These statements and messages also raise direct questions about the nature of education systems that continue to reproduce the kind of social conditions (i.e., passive consumerism) which pose threats to the environment and which conserve rather than challenge critical consciousness of social-environmental issues. According to Stevenson (1987, 2007), the social and cultural purposes of schooling, despite spikes of innovation, continue to promote the transmission of existing cultural knowledge, skills and values so that current social conditions can be maintained. Schools have assumed a credentializing role where mastery means individual achievement, through a competitive process. Teachers' work is defined largely by the curriculum and assessment system which demands efficient/effective coverage of content-oriented material organized in discrete time periods with prescribed problem "bits" that are easily evaluated as either correct or incorrect.

While environmental educators do not typically dispute educational basics required by general school programs, they demand much more than simplistic, token, environment-related activities added on to existing programs, or nature-based outdoor studies that do not raise larger questions about personal and social goals with "environment-in-mind." Environmental education, organized across the curriculum, is intended to build the knowledge and skills to look critically at social/environmental problems, including their root causes. Students should systematically build research and action skills in learning how to participate thoughtfully in working toward solutions. They should learn, with their teachers, to work across disciplinary boundaries and engage in real-world community problem solving and decision making toward democratically based improvements in conditions around

quality of life issues. In contemplating how far schools and school systems may be willing to go in allowing students and teachers to engage in activities that go beyond normal school boundaries that privilege work construed in terms of discrete, manageable units, right answers and certainty through measuring devices, environmental education thus poses deep philosophical problems for normal school programs that implicate teacher education.

Environmental Education:

The Current Crisis of Sustainability

Given some understanding of the thinking that has driven the field of environmental education, more recent debates concern how the field has been co-opted within the dominant educational paradigm, through the evolution of parts of the field to education for sustainability. In spite of presenting a “more balanced” approach to social issues, notions of sustainability education have not yet gained credibility within mainstream education, including teacher education and curriculum development. For example, although the Pan-Canadian Science Framework (CMEC, 1997) placed considerable emphasis on environmental education through the Science-Technology-Society-Environment (STSE) set of goals, the connections to environmental sustainability remain unclear. And in areas such as social studies, where compatibility with social issues, citizenship responsibilities and community and cooperative learning have provided opportunities for some of the critical and creative thinking, personal and social values and skills and independent student social learning, connections to environmental education remain vague. Thus, there remains, within the literature of the field, a deep discontent and understandable impatience amongst environmental educators concerning a lack of progress in penetrating the ideology of mainstream educational systems. For example, Alan Reid, editor of *Environmental Education Research*, quotes Elizabeth Atkinson, “We all have reasons for doing one thing rather than another, but we are often trapped in those reasons...we never take time to question them” (Reid, 2009). Environmental educators, tired of remaining on the periphery of education when environmental problems become more complex and global, are looking for new and different ways of thinking about their future actions in spite of the constraints of the dominant discourses. Yet they are increasingly aware that by co-opting foundational principles in school applications of environmental education, they may simply be strengthening the discourses which marginalize diversity and difference.

In search of alternatives, Gruenewald and Manteaw (2007) have argued that environmental educators should focus their work in specific ways to influence basic conversations about what education needs to be accountable for as part of a more comprehensive (re)thinking of the role of accountability within education. They suggest that a different language that connects wider circles of interest to general education, in particular, the popular current notion of sustainability, may provide

No Longer a “Little Added Frill”

new strategic pathways for connections amongst social, cultural, and disadvantaged groups who together represent a more powerful voice for change. From their perspective in the USA, the public, which they believe is unlikely to be concerned enough about ecological literacy to do anything about it, educationally, is more likely to look at something like the ‘participation gap’ in respect of the appropriate role for schools in local communities. Seeking a new language community amongst place-based educators, including those implementing community-focused (Berg, 2005), culturally-responsive (Alaskan Native Knowledge Network, 1998; Hart, 1997) or action inquiry-oriented approaches, they search for other approaches that focus on education for participation and community action.

The sweeping cultural goals in environmental education and sustainability education discourse, expanded by the UN Decade of Education for Sustainable Development (DESD), remain as troubling paradoxes now framed within the tidal wave of globalized economics (Sauvé, Brunelle, & Berryman, 2005). Countries such as Australia that have tried to develop national initiatives such as *Mainstreaming Sustainability into Pre-Service Teacher Education in Australia*, given what they perceive to be growing interest and support within schools, reported challenges in implementing these change processes as systemic to large educational systems (Ferreira, Ryan, Davis, Cavanagh, & Thomas, 2009). Successes came in increasing conceptual capacities for change through expanded opportunities for networking, action research and systematic approaches to learning and teaching as part of professional development for teacher educators.

Resistances to systemic educational change have continued to plague environmental education as they have other perspectival critiques of education systems, such as social justice and cultural studies. In particular, areas of concern about the cultural and social purposes of schooling and those promoting social change or reconstruction have been portrayed as threats to social stability. The remainder of this paper attempts to engage several dimensions of more general problems of educational inclusion and change with particular focus on implications for teacher education. I explore the new language of (ecological) sustainability within the context of education as grounding for direction in constructing a view of teacher education more directly focused on post-critical notions of social identity in pedagogy. Where other approaches may have privileged curriculum, I explore notions of the constitution of teachers and students as subjects and related concepts of agency, emotion and narrative as prerequisite to change within critical teacher education.

The New Language of Ecological Sustainability:

Discourse and Educational Change

According to Peterson (2009), significant shifts are necessary within education, and by implication teacher education, as bridges to educational and social change. To expand the goals of education seriously, to include ecological sustainability through

environmental education, will involve the academy in critical (re)examination of its onto-epistemological frames. For example, if we shift certain questions in teacher education so that, ultimately, teachers themselves learn to shift questions in schools, we can perhaps begin to think more deeply about what we think we are doing for/to students. We can begin to question the certainty of our preferred ways toward certain goals. We can learn to think about who we think the student, as subject, is. We can take up questions of how these subjects come to agency. As Hey (2002) suggests, beginning in teacher education, we need to find ways of elaborating on what we are doing to structure young people's lives as they negotiate entanglements of issues of race, class, gender (and environment). Bowers (2008) goes further, suggesting that these structures, as cultural narratives, can only be accessed through thick description of lived experience, including early life experience. He says that such narrative work should become integral to the educational process (i.e., part of teacher education and professional development) focused directly on which parts of the cultural and environmental commons to conserve and which to change.

Using science education as an example of traditional education practice, we should, in theory, be able to explore what is going on in school science from a number of perspectives. In practice, however, this has proven difficult, given a particular ideological mindset concerning what really counts as school science. We can now begin to see the problem as discursive rather than one that blames the victim. According to Hey (2006), for example, we can engage in such a process only if we have constructed an explicit platform of critical educational theory through which they can question ideas already held, as un(self)consciously as common sense knowledge, about beliefs that currently form part of education's professional lexicon (Hey, 2006). Students of science education, it is argued, can learn how to construct themselves as practitioners who are capable of addressing issues of pedagogy using tools from ethnography, phenomenology, narrative inquiry and action strategies (from action research) to gather stories of lived experience of teachers' and students' lives in science courses based in their own experiences within test-oriented, industrial models of schooling. These inquiry methodologies provide the means for teachers to engage in critically reflexive processes that are needed to turn the field of science education back on itself, that is, to make explicit those ways in which the institution of schooling disciplines activities in its name. Only then can we begin to ask questions differently and to ask different questions, about how school science has been socially/educationally constructed to do certain kinds of work (and not others). We can then learn to ask what is thinkable in school science education and what is not. We can learn to ask what teachers can do and can't as a product of a field that structures and legitimates a certain orthodoxy or doxa.

While it is possible to consider change in subject areas such as science education over time (e.g., that field engaged in debates about STSE in the 1980s) and across an array of possible forces (i.e., philosophical positions), many of these so-called innovations have been over-shadowed by economic-based discourses

No Longer a “Little Added Frill”

(i.e., evidence based practice, measurable outcomes and achievement gains). When new teachers look at this picture, they either resolve to accept the enculturation that internship/apprenticeship offers or prepare themselves to articulate alternative positionings. Increasingly examples may be found where teachers struggle to work across cultural and interdisciplinary boundaries, including work in/with First Nations communities or ‘multicultural’ classrooms. In such cases teachers themselves are often obliged to make the case for connections to ground their alternatives without much recourse to necessary background theory.

Arguments are now being made for teacher education to equip prospective teachers with the kinds of theoretical/philosophical background needed to interpret their pedagogy in terms of the epistemological expectations placed upon it by complex teaching situations. Teachers in such programs soon learn to be more savvy of the preconceptions of the field(s) they are working in. Unless more teacher education programs move toward actively engaging in background foundations of goals and purposes of education, teachers will lack the capabilities required to counter the dominant discourse. Thus, no matter how brilliant the rhetoric of fields such as environmental education/education for sustainable development (EE/ESD) or calls for “Aboriginal” science, that advocate changed theory and praxis, arguments about practice will never be resolved at the level of practice. This is difficult work that implicates educational discourse in the theory-praxis dilemmas raised over many years by environmental educators.

Moving Ecological Sustainability into Critical Educational Discourse

The theory-praxis dilemma is exposed in Smith’s (2007) work that attempts to directly link schools and curriculum to communities. He describes community and place-based programs in social and environmental issues, centered on things such as school gardens, in ways that can engage students in what he calls authentic forms of learning—a kind of ecological education-in-action (see also Smith & Williams, 1999). The value in these stories, it seems to me, is that, like thousands of similar stories in many countries (e.g., the ENSI program in Europe [Posch, Kyburz-Graber, Hart, & Robottom, 2006]), they are theorized.

Greunewald (2003) describes teaching practice in terms of decolonization and re-inhabitation so that we can see why certain experiences were chosen and implemented. It is at the level of narrative within these place-based stories where teachers can learn how to critically theorize their practice as they live their experience. By coming together as critical action research groups, focused on their own shared stories of educational praxis, teachers learn to articulate their own stories in ways that help their students raise their own questions about living sustainably. At the same time teachers learn how to question their own practice in the process of writing stories that form the basis of their critical discussion with like-minded

colleagues. This methodology of a new action-oriented, relational form of professional development, envisioned by critical environmental educators decades ago, reappears, strengthened by new conceptual work, focused in areas such as discursive psychology (Taylor, 2006) and postcritical environmental education (Hart, 2005).

Another example of theoretically informed, self-conscious practice is Barrett's inquiry that closely examined teacher, student and community partner roles in implementing action-oriented environmental/sustainability education within school programs (see Barrett, Hart, Nolan, & Sammel, 2005). Each teacher-student working group experienced challenges and resistances when typical roles changed as students themselves attempted to assume more control and teachers relinquished some authority. We found that we could better view the "programmed" nature of these performed roles when the dominant cultural narratives of "good teacher" and "good student" were intentionally disrupted. Directing attention on processes of "good" pedagogical practice disrupted taken-for-granted assumptions about roles and responsibilities to the extent that both students and teachers began to critically question their role identities.

The research revealed not only a need to attend more to narratives that teachers and students use to explain themselves and the variety of discourses possible, but to more effectively address identity as a component in teacher education. The question of theory-praxis, when applied to teacher education, then became one of how to engage preservice teachers in the kind of auto(bio)ethnographic work that gives them permission to trace their educational beliefs to fundamental philosophical principles as internal drivers rather than external barriers and to treat this work as the subject of critical debate. This work also raised issues of the view of knowledge and social order being reproduced in the cultural narratives of curriculum and pedagogy.

Beyond the classroom, community-oriented education projects are complicated by societal issues. Questions are often raised concerning the kind of society/environment that people want to sustain and the form of citizen participation (i.e., hopefully deep critical engagement) that current citizens may be prepared to engage. Environmental educators often describe how, in their work outside of schools, they encounter the rather empty conceptual spaces that many societies/communities have avoided. Exceptions include communities in Vancouver, Sydney, and perhaps Toronto that have begun to engage in public debates focused in these places-spaces (see Eby, 2007). The point is that even at political levels, where the construction of relationships between cultural narratives and individual or social consciousness has lacked substance, education is nowhere to be found (Zizek, 1999).

Teacher education faculties at many Canadian universities, particularly new faculty members, seem to me to be acutely aware of this problem of community engagement, even within university communities themselves, and seem committed to creating conditions (i.e., a politics of space) for critical examination of constructions of social/environmental sustainability. As Plumwood (2002) has said, when normative goals of sustainability are left undefined, dominant economics-based

rather than the social-environmental discourses shape wider socio-political agendas. The same may be said of educational discourses where prospective teachers have not been engaged in questions of theory-praxis that raise into view those tensions and contradictions of the infrastructure of education in society. The assumption remains, of course, that teachers as professional educators have some basic interest in, and inclination to pursue, education as complex, social fields of theories (and dreams) that can help guide their practice in ways that involve schools critically and responsibly in wider societal issues.

Education Theory—

Moving Slowly Toward Critical (Eco)Pedagogy

Fortuitously, for those interested in moving beyond school-society, theory-practice or rhetoric-reality gaps in the fields of education, despite recent “official” responses to make practice more evidence-based or research-based, an expanding literature in areas of feminist (e.g., Weiler, 2009), arts-based (e.g., Atkinson, 2007), and early childhood (e.g., Moss, 2007), and journals such as *Discourse: Studies in the Cultural Politics of Education* and *Educational Philosophy and Theory*, among many others, assume practitioners already have personal practical educational theories that came from somewhere. Although diverse, this literature introduces educational praxis as thought-in-action with a view toward the kinds of inquiry generative of and enacted by the people who want to work through dilemmas of thinking-practices within their own local contexts. These different perspectives on what counts as theory and inquiry are grounded in the beliefs and assumptions by which teachers make sense of their individual school experiences. This means that professional development and initial teacher education can focus on discrepancies between personal theory and its origins in the processes of subjectification. Hence, we can now see links between those educational theories and professional practices in respect of the social structures and cultural narratives which themselves are always contested and remain uncertain and therefore problematic.

When the emphasis shifts from grand theory to small, personal, local stories in search of conscious, critical self-appraisal, educational theory can be viewed as a relational debate about both the ends and means of education, that is, as both philosophical and practical. In this view, the interest shifts from applied theory, that simply draws from ideas in foundations and social psychology, to interactional elements of the whol(istic) enterprise of critically appraising the concepts, beliefs and values incorporated within prevailing theories of educational practice. Practice is not derived from theory but inter-relationally uses the ideas of theory as generative and dialectically integrated with practical understandings of lived experience. The gap is not from theory to practice but from ignorance and habit to thoughtful, critical reflection (Carr, 1983).

This re-interpretation of educational theory as critical appraisal of theory-prac-

tice dialectic sees knowledge as an interplay of the individual's subjective views (i.e., their subjectivity) on the one hand and the sociocultural, historical, political contexts within which they work and live. This kind of thinking infers a relational epistemology (as opposed to technical-expert) where knowing and learning involves an interplay of theories that guide action within the structures (institutions and cultural narratives) that surround such relations. Understanding teaching is about the relational processes of subjectification within the cultural narratives of education. Critical dimensions of environmental education are rooted in this relational work in education, using concepts such as nature in relation to ethical human activity in respect of human responsibility for the planet and educators' responsibility for access to deep aspects of sustainability as frames of mind (see Bonnett, 2003).

If the question of how to improve environmental education, or teacher education, can be conceived in terms of relational epistemology (methodology), then questions of change in education become ones of improving educational theorizing through processes of professional development that begin in the teacher education experience. Teacher learning, conceived as a social process, recognizes past experience as a source of knowledge and interpretive forms of inquiry as a legitimate means of engaging such processes. And, engaging social/relational processes as a basis for educational (i.e., theoretical) debate implicates certain shifts toward social, cultural and environmental issues as one of the bases for educational experiences and for critically engaging community-based teacher education. Critical analysis of theories and discursive structures are seen as crucial to personal construction of subjectivities. If teacher education does not include elements of both critical reflection and social critique at several levels of engagement, then educational change is unlikely (Davis, Sumara, & Luce-Kaplan, 2000).

Environmental educators have taken up these questions and challenges in at least two major ways—through proposals for an action-based orientation to education and teacher education and, more recently, through critical (eco)pedagogy. The principles apply to teacher education more generally as part of the chorus for self-reflexive inquiry and processes of discourse analysis. And although certain notions of action research have been badly abused, certain principles of this interactional form of inquiry resonate with social, relational learning and knowing just described. The idea of valuing personal practical (i.e., teachers') theories as a legitimate form of educational theory and the idea of valuing critical engagement of agency-structure (from critical theorists) sets action research within the broad realm of ideology critique of relational knowing (social learning), developed by sociocultural psychologists, cultural geographers and learning theorists.

Historically, critical pedagogy has epistemological roots that go both to questioning how culture constitutes us (as teachers and learners) as well as how we come to construct our educational identities within such discourses. It goes beyond social critique, however, in proposing forms of activist engagement in the transformative aims of sociocultural change. It focuses on learning that more productively accounts

No Longer a “Little Added Frill”

for both cognitive and embodied kinds of intersubjective experience, acknowledging poststructuralist (particularly Foucauldian) conceptions of the discursive formation of identities. Taking these ideas seriously implies a need to focus on questions of identity/subjectivity whether we look at environment-related, science-related, or teacher education as we approach change. The most difficult thing to get hold of in this view is how to come to a place where we can value those experiences that form our lives, including difficulties we face, in teacher education, in trying to articulate or narrate the meanings of those experiences that have formed us as teachers.

Environmental education’s interest has evolved, it seems to me, as one that is looking for spaces of possibility and resistance beyond postmodern concerns about languages, as a product of the cultural narratives we are immersed in. Critical pedagogies in environmental education look for educational opportunities to design intersubjective (i.e., social learning/action inquiry) experiences as places of learning (i.e., fields of emergence) where some form of the self emerges and where we can have agency within our own constitutedness. The idea is, of course, that, if we can create pedagogical places/spaces that may have deeper meaning, perhaps learning can be transformative. McKenzie (2008), Payne (in press), Wattchow (2004), and Fawcett (2009) in environmental education and Boler (1999), Pitt and Britzman (2003), Bonnett (2009), Gough (2004), and Kenway and Bullen (2008) and many others in education and the social sciences are pointing toward identity/subjectivity as a social experience of subjectification that is crucial to teacher education.

Similar to post-critical perspectives, environmental education-oriented theory attempts to shift the discourse of research and pedagogy from individualist conceptions of being/knowing “selves” to social relational onto-epistemological positionings. It shifts the focus of concern in inquiry from text interpretation to analysis of discursive practices. Unlike traditional subject areas such as science education, environmental education provides concrete alternative grounding for changing school practices (and teacher education practices) through identity work with discourse in mind. These reconstructions are the focus of the last section of this article.

Challenges to Understanding

Subjectification as a Process

Perhaps because of its socially critical ontological orientation, perhaps its relational epistemology and methodology, environmental education has always represented a challenge to complacency in the field of education. In other ways, it has provided concrete alternatives for teachers and researchers searching for paths toward particular ends (i.e., the health of the planet). Many of the issues raised by these challenges, whatever their origin, seem to me to come back to a desire for more complex notions of agency and subjectivity. We want teachers in teacher education to want to trouble their teaching. We can see that we need to get beyond rhetoric-reality or theory-practice gaps, beyond discrete factors that form “driv-

ers and barriers” (see Hart, 2007), or even beyond analyses of power of cultural narratives that work to disrupt transfer of beliefs to practice. But we seem to have difficulty in knowing where to turn to access subject positions that enable critical pedagogy. This is where notions of identity/subjectivity and discursive production of teaching become useful.

Teacher education seems a likely place to begin to learn how to “become critical and constructive.” It is part of the academic structure of society that should inspire creativity and critical capacity for exploration of possibilities in contact with young people who have developed their own ways of connecting to each other and the planet (Berry, 1999). Yet teacher education seems somehow limiting or complicit in its instrumentalist and technocentric role, fulfilling its responsibility to credentialize people for the system (Stevenson, 1987, 2007). Teacher education lives a kind of schizophrenic existence between advocating radical change and maintaining the status quo, a space which is rapidly becoming an unsustainable fiction (Watson, 2009). The idea, that the literature on teaching has diversified to include things like environmental education and many other perspectives and in some quarters to direct attention to tensions of processes of subjectification, is encouraging.

We see the literature on teacher narratives as the key to teacher reform. It is argued that teachers can become critical agents of their own learning when they reflect on stories of their identities and prior experiences—talking, reading, “slow” exposure and reflection (see Drake & Sherin, 2006; Samaras & Freese, 2006). Davis and Phelps (2006) say that transforming practice is hinged to the exercise of uncovering core assumptions and webs of belief about what knowledge is, what learning is and what schools (should) do. One must go beyond reflection, they say, to consider theories and philosophies that are embedded in one’s habits of thought and action. One must also assume that identity and learning emerge within social, cultural and historical contexts (Gutiérrez & Rogoff, 2003; Rogoff, 2003). Boaler and Greeno (2000) describe students and teachers as co-authors, relational agents who are mutually committed and accountable to each other for constructing understandings of discourse. The literature has opened many new debates which expose the vulnerability of such work. Commenting on the necessity and impossibility of identity work, St. Louis (2009) foregrounds the dialectical nature of social positioning as well as the differences of perspective brought to bear on the politics and ethics of collective identity. Clearly, educational discourse has changed the theory base for teachers as professionals.

Although the environmental education literature, with exceptions (e.g., Lunde-gård & Wickman, 2009), does not represent the large body of research and scholarly work on identity-agency discourse, this complex critical literature in its own way foreshadowed the changes we now see in educational discourse. It provided natural spaces that open up subjectification¹ as a process through which one becomes a subject (Davies, 2006). Examination of this process has enabled environmental educators to interrogate the deeper meanings of those significant life experiences

No Longer a “Little Added Frill”

that have had a formative influence on their persistent sense of agency and advocacy and activism (see Hart, 2003). It now seems quite natural to look at the rejuvenated attention to identity outside psychological connotations of a unified self. Given this discursive shift, Probyn (2003) and many post-structuralists tend to avoid using the term “identity” altogether, preferring the notion of subjectivities to emphasize subjects’ multiple and fluid identities and positionalities (see also Kreber, 2010). Whatever term is used, the notion of our identities being spoken and written into existence by the stories we tell about ourselves, or that others tell about us, becomes an important part of the autobiographical narrative work that is now contemplated and enacted in teacher education programs (see Allard, 2006; Wales, 2009).

Judith Butler’s (2006) work was foundational in establishing the concept of subjectification as a basis for thinking ourselves outside the liberal humanist perspective of students and teachers as autonomous individuals each with varying degrees of freedom to choose what kind of person to be. Butler’s interest, which seems crucial to critical teacher education, is in how subjection works paradoxically on and in the psychic life of teachers (who are at once dependent upon yet resistant to the powers that dominate and subject it). Following Davies (2006), we see that Butler’s subjects have agency such that their discursive constitution does not completely determine what they can do. Instead, if their engagement with educational discourse involves critical reflection, this may work to enable resistances and reworkings that can eclipse the powers that act on them. For environmental educators, the key element in this process has been the “critical” part of the reflexive process, now, in post-critical times, extended in terms of an historical autobiographical exercise of “insearch.”

While much recent literature on teacher education highlights identity, the arguments for such attention are framed within very different analytic lenses ranging from essentialist or individualist to nomadic and collective or even political positionings (Beauchamp & Thomas, 2009). Many environmental educators that I work with recognize the necessity and impossibility of identity work. The challenge, as Hall (1996) says, lies in attempting to work with people who seem unable or have no apparent interest in the struggle to look at how they have come to construct themselves as “people who teach” within specific historical and institutional constructions of discursive formations and practices of what constitutes “good teacher.” Assuming a willingness, perhaps even a desire, to engage in the narrative work of “arrival” at their present view of teaching/learning, curriculum and pedagogy, identity narratives can provide access to assumptions and worldviews—onto-epistemological positionings—that can be situated within a range of philosophical perspectives. Tough work, no doubt, but the challenge of producing change agents demands what Hey (2006) calls “slow cognition”—a form of intellectual engagement not easily achieved in “high-speed higher education.”

Involvement in such work means that teachers have an opportunity to locate themselves in the world, to probe their tacit assumptions—their worldview—that locate their performance, often unconsciously, within the field. Within environ-

mental education, the importance of identity work, that is, the subjectification process, has been located in its specific quality as a phenomenological relation with education and with society/environment. Phillip Payne (in press) argues that ecophenomenological experience is more than just cognitive or intellectual in that it becomes embodied as part of our larger connection with our purpose on the planet (as sentient and immediate precognate experiences of the natural and social). What comes out of genuine subjectification processes may be a kind of political ontology that empowers teachers, as Butler (1995) says, to recognize their relations to education/environment as purposive and significant reconfigurations of cultural and political relations (p. 46). Thus, becoming conscious of onto-epistemological beliefs/values has the capacity to (re)shape and (re)direct teachers' lives as well as their approaches to curriculum, pedagogy, and learning and should more explicitly inform teacher education (Taylor, 2005). The question of whether the growing literature on onto-epistemological identity in teacher education can be used to frame the big questions of education theory/praxis remains.

All that Glitters . . . Critical Reflection

There can be problems in identity work as an individualistic exercise in self study. Those who focus on the processes of subjectification now look seriously at collective narrative constructions of identity. Particularly in those relational spaces that are created in action-oriented inquiries of environmental education, thinking outside the dominant educational narratives has taken a great deal of courage. Working against the grain requires capabilities that technician-oriented practitioners are not trained for but for which teachers as professional educators ought to be. This means reconceptualizing what counts as research, which in turn means engaging with philosophical groundings that work to possibility and imagination in curriculum and pedagogy beyond the technical. It means that rather than considering teacher education as producing teachers as discrete "subjects" (through competition and exclusion), who work within individual boundaries and as separate identities struggle for recognition, we work to skill up, to engage collective, collaborate responsibility for learning and relation.

It is not enough, says Davies (2006), for teachers and educators to simply engage in passive resistance, to perform "good teacher" in the privacy of the classroom. We must learn how (beginning at least in teacher education) to take responsibility for critically examining the curriculum and pedagogies, as discursive practices that are taken for granted in our schools and universities and ask: What conditions of possibility are they creating and maintaining for us (p. 436) and for our students? Our responsibility, says Davis (2006) is to understand, to the extent possible, the complex conditions of our mutual formation. In their collective biography work, Davies and Gannon (2006) encourage teachers to work with their own memories, to read, to engage in collective writing sessions with critical, friendly discussion

No Longer a “Little Added Frill”

of each others’ ideas. Teachers are encouraged to generate stories, not so much as personal, autobiographical accounts made after engagement in group work, but as collective stories, as empowering of new pedagogical possibilities originating in coming to know oneself in relation—responsive and emergent—and moving beyond the limitations of current pedagogical thought.

The idea that identity/subjectivity is conceived as a fluid and dynamic relational process, constantly (re)negotiated through experience (multiple, emotional, narrative/discursive), within a complex “architecture” (Day, Kington, Stobart, & Sammons, 2006) needs unpacking beyond what can be accomplished in this paper. While Beauchamp and Thomas’ (2009) attempt to construct a notion of identity based in examination of a combination of self-knowledge (or knowledge of self) as well as through the collectivity of the profession in order to help us think more clearly about teacher “development,” Rodgers and Scott’s (2008) useful connection between “self and being” should not be lost in the detail of this article.

These ideas resonate with environmental educators such as Fien (1993) and Payne (in press) who have, for years, voiced their concerns about the neglected ontological connection in critical discourse analysis of educational programs (see also Lotz-Sisitka, 2009). The notion that the self that is recognizable (e.g., a teacher of a particular kind) as an evolving yet somewhat coherent being who consciously (and unconsciously) (re)constructs (and is reconstructed) historically, in interaction with cultural (institutional) systems, provides a base for my concern about the “barriers and drivers” approach to mainstreaming environmental education (Hart, 2007). While the attempt to bridge the personal and professional or internal-external (elided as “ought self” and “ideal self” by Rodgers and Scott, 2008) may seem worthwhile, environmental educators have argued for more focus on “being”—on the existential connection to the embodied connection to things (Barrett, 2007; Payne, in press).

In a deeper sense, Beauchamp and Thomas (2009) do indeed represent “embodiment” and “emotion” (see, for example, Alsup, 2006; Zembylas, 2003) as dimensions of the self in the subjectification process, but they do so seemingly as “factors” of somewhat distant externalities. They get closest to what environmental educators such as Barrett (2007) and Payne (in press) are attempting to make clear to the educational community concerning the deeper value of what really underlies environmental education’s critique of educational discourse, when they consider “the narrative and discourse aspects of identity.” This new “positional” emphasis in identity work aligns with Taylor’s (2005) attempt to clarify the distorted understandings of discursive and constructionist theories of identity. And it leads to the idea, from Davies and Harré (1990) and Bansel, Davies, Laws, and Linnell (2009), that identities may be viewed as points of attachment to subject positions which discursive practices construct for us.

Given these connections, teacher education may begin to attend more to “first person” narration of teachers’ stories of how they believe they have come to construct themselves as teachers, as well as their ideas about what counts as

knowledge and pedagogy within their subject positions. In other words, just as environmental educators have been challenging the singularity of dominant educational discourses as a “site” in teacher professional development discourses for over 20 years, discursive/cultural psychologists are now challenging cognitive and developmental psychologists to consider more seriously the value of narrative as the “site” of identity work (see, Edwards, 1997; Potter & Wetherall, 1987; Taylor, 2005; Wetherall, 1998, 2003).

Literature in research on teaching now legitimates conceptually the value of the storied nature of identity (see Connelly & Clandinin, 1999; Søreide, 2006; Watson, 2006) as a discursive activity of collective storytelling (Sfard & Prusak, 2005), or as collective biography (Davies & Gannon, 2006), in relation to the larger social context. What needs more emphasis, it seems to me, beyond narrative inquiry, is recognition of qualitative inquiry frames of phenomenology and autoethnography, framed by many theoretical perspectives such as feminist, poststructural and cultural, as useful in exploring ways that identity can be negotiated contextually and discursively (Cohen, 2008). The idea that the discourses in which teachers engage can actually change their trajectories and challenge traditional configurations of education (see Miller Marsh, 2002) approaches notions of borderland discourse (see Alsop, 2006) that critical environmental educators discuss as action research. The point is that, at least for environmental education researchers with an interest in socially critical approaches to change that go beyond the school (i.e., community-based approaches), there is a need to create educational conditions for teacher engagement in new forms of professional development. And there is a need to begin this process of “insearch” early in their teacher education programs in ways that allow them to confront the ideological nature of their forming identities, that is the direct engagement with the processes of their subjectification. In my own critically reflexive encounters with preservice post-interns, they talk about the emotions, feelings, ideas, appearances, actions and language involved in constructing learning environments for their students. They talk about how these experiences provoked transformation in their thinking about practice (see the typology in Luttenberg & Berger, 2008).

Environmental educators have become interested in this emphasis concerning the relationship between identity and agency, particularly in traversing the boundaries of teachers’ business as usual—or as Robottom (1987) said, as a kind of dynamic stability in the face of change. Barrett’s (2006) deep reflexive work with one teacher who wanted to teach environmental education reveals the gap between identity and agency. As she said, “he had the skills, knew the theory (he was pursuing a phenomenologically oriented masters degree that involved finding his personal practical theory of teaching in an environment-related program), was in a setting that removed some structural boundaries and yet he just couldn’t seem to get there” (Barrett, 2006). Although narrative-based formulations of identity describe such constructions as crucial to identity processing, they may require more work that digs into cultural (Holland, Lachicotte, Skinner, & Cain, 1998), feminist (Butler, 2006), disability (Perselli,

No Longer a “Little Added Frill”

2005) and many other discourses of difference. We see this in our own work with intern teachers troubled by the impact of context in the enculturation process that occurs as preservice teachers are inducted into the profession.

Many questions remain about how to address the identity-agency gap within teacher education (see Britzman, 2003; Hoban, 2007; Nias, 1987). It seems fair to say that along the continuum of views that one finds on the importance of identity development within teacher education, ranging from the view of those like Hammerness, Darling-Hammond, and Bransford (2005) who see developing an identity as a teacher as an important part of securing teachers' commitment to adherence to professional norms, to those like Britzman (2003) who argue for critical (de)construction of the real, the necessary and the imaginary in teacher identity work, in full awareness of the discursive cultural discourses in which they (we) are all embedded, environmental educators as a whole have established no fixed address.

Beauchamp and Thomas (2009) argue that teacher education programs should create spaces for teaching contexts that provoke tensions and challenge taken-for-granted assumptions about the role of the teacher and the dominant discourses of education. It may be that, as they say, alternative shapes must be given to teacher education experience, to paths that allow for deep consideration of the self in relation to the profession, to multiple conceptual frameworks and to practical, community-based experiences that challenge comfortable constructions of teaching and traditional educational contexts.

Environmental education discourse will continue to trouble conventional educational discourse in ways that challenge preservice teachers to look critically at the profession and to attend to the truths or sacred stories that are too easily treated as givens. Increasingly, environmental educators are re-imagining their practices that (re)inscribe particular structures of schools in ways that (re)shape what is possible, expose the invisible strings that control what counts as knowledge (i.e., onto-epistemology) and limit the positions we can 'see' in the process of subjectification. What Alan Reid (2009) has said of environmental education applies to teacher education: Education is about engaging the 'in-between spaces' of our performance as educators. It seems to me that this is what Butler (1995) refers to as that paradoxical space between mastery and submission, between the power forming the subject and the possibility it creates for agency and change. Perhaps educators are now ready to explore these spaces as rich transition zones of change?

Note

¹ See *British Journal of Science Education*, 27(4), 2006, a special issue on Judith Butler's work on subjectivity.

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