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Changing Discourses in EE/ESD
A Role for Professional Self-Development

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Introduction
This chapter will discuss some trends in recent discourses in environment-related educational work, arguing that the field is marked by a policy context based on shifting discourses at national and international levels and a language that is slogan-like in effect, with the attendant risk of creating the conditions for changeless reform.

The chapter will describe some instances of environment-related educational practice, considering these in relation to the recent discourse shift in the field. An approach to professional development will be presented that takes into account the issues associated with the relationship of practice and discourse within particular educational contexts.

Recent Discourse Trends in Environment-Related Educational Work
In the field of environment-related education, the period from the early '70s to the present is marked by continuity and contestation. There has been a remarkable continuity of environment-related practice; and there has also been contestation in the language of the field, with terms like ecology education, environmental education, and education for sustainable development becoming highly visible at different times. Presently, the environment-related work formerly known as “environmental education” (EE) is being aggressively and extensively “rebadged” as “education for sustainable development” (ESD) (Campbell & Robottom, 2008). The United Nations has taken the significant step of establishing an international Decade of Education for Sustainable Development (UNDESD) (UNESCO, 2003), which has encouraged an impressive array of research and development projects around the world. UNESCO defines ESD as follows: “ESD involves learning how to make decisions that balance and integrate the long-term future of the economy, the natural environment, and the well-being of all communities, near and far, now and in the future” (UNESCO, 2005, p. 1). ESD has emerged as an internationally mandated educational movement concerned with responding to the rise of sustainability issues worldwide (UK Department for Education and Skills [DfES], 2006; Selby, 2006). That the rise of ESD represents a shift in discourse from EE is clear in the minds of key participants in the field:

There is clearly a shift taking place between conservative approaches to informing people and students about the environment (commonly practised as environmental education) towards educating to think more critically and reflectively about change and how to engage in change for sustainability, which underpins ESD approaches. (Tilbury, 2004, p. 104)

This internationally mandated shift from a discourse of Environmental Education to one of Education for Sustainable Development is also clearly evident in Australia. Australian Government is developing a National Action Plan for Education for Sustainable Development (NAPESD). The discussion paper relating to the new national plan indicates that the shift in thinking and ESD terminology will be incorporated in the plan. The broader concepts of sustainability are included in many government documents such as “Caring for our Future” which is the Australian Government Strategy for the United Nations Decade of Education for Sustainable Development (2005–2014). This document defines ESD in this way:

Education for sustainable development aims to equip individuals, organizations and communities to deal effectively with the complex and inter-related social, economic and environmental challenges they encounter in their personal and working lives, in a way that protects the interests of future generations. (Australian Government Department of the Environment and Heritage [DEH], 2005)
The discussion paper indicates that ESD is seen as transformative and is about managing change such that people are provided with not only knowledge and understanding, but also skills and capacity to administer change while recognizing the relationships between environmental protection, economic prosperity, and social cohesion. The paper specifies that ESD terminology "encompasses the activities of environmental education, learning for sustainability and change for sustainability." It is also clear that the new discourse of ESD has been institutionalized into a more powerful form—that of official intergovernmental and national policy. For example in Australia, the Australian Vice-Chancellors' Committee (AVCC) (the peak body of Australian university leaders, now Universities Australia) has declared a commitment to ESD in its formal statement that:

By 2020, the university sector in Australia will be playing a key role in promoting sustainability in the community through research and building capacity to achieve change for sustainability . . . . The AVCC will further promote sustainability by supporting its members and through the creation of strategic linkages with government . . . . and encourages its members to engage with schools, industry and communities in partnership and projects which promote sustainable development. (AVCC, 2006)

Right from the start of UNESCO’s public commitment to ESD, there have been allusions to a potential risk that then new ESD policy suite in environment-related work could lead to an expression in practice that is merely symbolic. Speaking at the international launch of DESD in New York in March 2005, UNESCO Director General Koichiro Matsuura set out a clear challenge for ESD:

The ultimate goal of the Decade is that education for sustainable development is more than just a slogan. It must be a concrete reality for all of us—individuals, organizations, governments—in all our daily decisions and actions, so as to promise a sustainable planet and a safer world to our children, our grandchildren and their descendants . . . . Education will have to change so that it addresses the social, economic, cultural and environmental problems that we face in the 21st century. (UNESCO, 2005, p. 2)

So if the discourse of ESD represents a "clear shift" from that of EE, and if ESD is to be "more than just a slogan," what does this change in language really mean, what lessons can be learned from the "environmental education" experience for the proponents of the newer term "education for sustainable development," and what are the implications of these lessons for professional development of practitioners in this field? It is timely now to ask whether this shift in discourse—this evolution in the language of the field—has been accompanied by real change in educational practices beyond the changes in descriptors, that is beyond mere language (including its more institutionalized forms of discourse and policy) to levels of organization and, especially, curriculum practice. As indicated by Matsuura, the real test of efficacy for a new policy is whether it occasions a significant change in everyday actions and (from an institutional education perspective) in educative practices concerned with addressing sustainability problems in the twenty-first century. Putting this another way, can contemporary educational practice conducted under the ESD discourse be differentiated from practices conducted under the EE discourse? The broader issue is whether the ESD discourse is governing environment-related educational reform in name only—reform that may entail no actual change in the practice of EE. This issue is of particular relevance to the matter of professional development of practitioners in environmental education. We will now look at recent instances of environmental education practice, and then consider implications for professional development.

An Instance of Contemporary Environment-Related Educational Work

The Southeast Asian Ministers of Education Organization (SEAMEO) SEAMEO Search for Young Scientists (SSYS) Congress is a regional science and ESD talent search held every two years at the Regional Center for Education in Science and Mathematics (RECSAM), in Penang, Malaysia. Participating in this congress are students and teachers from eleven countries in the Southeast Asian region, including a number of developing countries. Thus the SSYS Congress provides a wide-angled “window” into science education and ESD in much of the Southeast Asian region. A feature of many of the students’ presentations at SSYS is that they are based on authentic local community problems. The approach has particular relevance for students in those communities in Southeast Asia where experience of ESD may otherwise be limited by their relative isolation and limited economic development—it provides an alternative source of ESD activity to the traditional “curriculum package” employed in well-resourced settings in developed countries. Thus this approach may have the capacity to inform innovation in ESD beyond the Southeast Asian region.

In 2010 the SSYS Congress adopted as its key theme “Sustainable Solutions for the Local Community.” The SSYS Congress’s general guidelines include the statement that, “Projects need to focus on the nature of the concept of sustainable community development and the three pillars of sustainable development: environment, economy and society.” The SSYS theme is thus directly related to the discourse of ESD as can be seen in a comparison with the UNESCO Director-General’s statement cited above that, “Education will have to change so that it addresses the social, economic, cultural and environmental problems that we face in the 21st century” (UNESCO, 2005, p. 2).

The following list of titles of students’ sustainability projects provides an indication as to their focus orientation:

While it is evident even from these titles that there is a range of interpretations of the SSYS sustainability theme,
Ambiguities in Environment-Related Educational Work

Educational activity of this kind is clearly valuable in its own right; it is also valuable in terms of illustrating a basic ambiguity in the shift in discourse in environment-related educational work. The teachers and students associated with this instance explicitly position the activity within the discourse of ESD and it certainly appears to tick the ESD boxes, as indicated above. But in what sense may it not also, and equally justifiably, be represented as an instance within the discourse of environmental education? The Thai catfish-feeding project appears to comply with the policy statements emanating from UNESCO in the late seventies:

Whereas it is a fact that biological and physical features constitute the natural basis of the human environment, its ethical, social, cultural and economic dimensions also play their part . . . A basic aim of environmental education is to succeed in making individuals and communities understand the complex nature of the natural and the built environments resulting from the interaction of their biological, physical, social, economic and cultural aspects, and acquire the knowledge, values, attitudes, and practical skills to participate in a responsible and effective way in anticipating and solving environmental problems, and the management of the quality of the environment.—

Special attention should be paid to understanding the complex relations between socio-economic development and the improvement of the environment. (UNESCO, 1978)

In one sense it may not matter in terms of which theoretical discourse this kind of valuable practice is justified. However the task of thinking critically about the relationship between the theoretical positioning of valuable practice is useful in informing both theory (the respective adequacies of and relationships among alternative discourses) and practice (including its congruence with sanctioning policies of the day); such critical reflection on the relationship of theory and practice is a justifiable approach to research aimed at the enhancement of the coherence of educative work (Robottom, 1992, 2000). It may also form the core of effective approaches to professional development in the field of environment-related educational work in this time of shifting discourses.

Responding to the Challenges of EE/ESD: A Case for Professional Self-Development

Teacher education (teacher professional development) is identified as the “priority of priorities” in EE/ESD (Tilbury, 1992). If EE/ESD has the responsibility to educatively engage environmental sustainability problems as exorted by UNESCO Director General Koichiro Matsuura, if such issues are socially, politically, and contextually constructed around contending social, economic, and environmental interests as indicated in the current ESD discourse, and if (as argued above) educators are operating within an ambiguous discourse context, then we need access to a form of research-based professional development that is capable of exploring practically the relationships among theories, practices, and the contexts within these have meaning.

The issue being addressed here is how best to respond to a situation in which educators find themselves located within a changing discursive context—the shift in dominant language of the environment-related field from that of “environmental education” (EE) to that of “education for sustainable development” (ESD)—marked by a lack of definition about how educational practice under the “new” discourse of ESD may differ from educational practice established under the “old” discourse of EE. How may educators develop a greater understanding of the complexity of their own professional circumstances? What are the implications of this pedagogical/curricular situation for professional development of educators? We will now consider some themes that may constitute a coherent approach to professional development for educators in ESD.

<table>
<thead>
<tr>
<th>Country</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>Brunei</td>
<td>Sustainability of stream quality in Lumapas</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Design of a wind generator with low speed and low cost</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>Introducing an incredible curtain which can save and produce electric energy</td>
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<tr>
<td>Lao PDR</td>
<td>Culture-based fisheries in the local community</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Eco-friendly household cleaner from fruit waste</td>
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<tr>
<td>Malaysia</td>
<td>Sustainable flood warning system</td>
</tr>
<tr>
<td>Philippines</td>
<td>A novel glass from rice hulls and oyster shells</td>
</tr>
<tr>
<td>Singapore</td>
<td>Evaluating different methods of synthesizing biodiesel</td>
</tr>
<tr>
<td>Thailand</td>
<td>Soil improvement with soil-borne bacteria and EM microorganism</td>
</tr>
<tr>
<td>Thailand</td>
<td>Catfish command-feeding machine</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Reuse waste paper to grow mushrooms: reuse paper napkins to grow mushrooms and vegetable sprouts</td>
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Specific Example: Catfish Command-Feeding Machine (Thailand)

This example of community-based EE/ESD took place in a rural community in Surattani Province of Thailand. In some traditional communities in the Southeast Asian/Indo-China region, sustainability of social life depends in part on the economic viability of traditional fish-farming practices within a context of ecological sustainability.

The background to the project, conducted by students at a local secondary school, is that catfish aquaculture is an important component of the community's local economy. Thai channel catfish have the capacity to grow very rapidly if appropriate levels of food are available, and they are amenable to aquaculture. One interesting aspect is that Thai channel catfish have the capacity to live and walk on land, though of course they are more usually found in large reservoirs, lakes, ponds, and some sluggish streams. Feeding can occur by day or by night, and they can eat a variety of plant and animal material.

Thai channel catfish are capable of gorging themselves with food through vigorous, even voracious, feeding characterized by high physical activity and rapid movement. In traditional aquaculture, catfish were historically fed by hand. In this method, it is easy to underfeed or overfeed the fish. Underfeeding obviously retards growth of the population of fish in the reservoir; overfeeding leads to residual food accumulating on the water, causing bacterial growth and disease among the fish. It is in the interests of an economically more successful aquaculture operation (and hence greater sustainability of the local environment and traditional community/social life) if a balanced quantity of food is delivered to the fish population in a given reservoir.

With a view to managing the feeding program through delivery of the “correct” amount of food (enough to lead to maximum growth of the fish leaving minimal residual food that may otherwise pollute the water leading to increased incidence of disease among the fish), the students conducted a number of experiments to develop a fish-feeding machine capable of resolving this problem resulting in a catfish self-feeder. Essentially, the food supply was located in a floating platform on a large truck tire tube, and release of the food was controlled by a servo whose switch was activated by a slender paddle extending into the water next to the floating platform. When the catfish are hungry, they swim about vigorously, disturbing the paddle and activating release of food. As their appetite is satisfied, they lose interest in food, swim less vigorously or swim away from the platform, and hence the paddle is disturbed less, resulting in a slowing and cessation of food release.

This example illustrates a number of points about the way teachers and students in the region are interpreting ESD. Issues in the local community that are real, current and relevant appear to serve as effective topics for school project work. These issues have discernible social, economic, and environmental interests that are to a greater or lesser extent aligned. And the resolution of the intersection of interests is essential to the cultural survival of the community within which the issue is constructed and has meaning. For example, catfish aquaculture is part of the social/cultural history of certain Southeast Asian and Indo-Chinese communities; greater economic productivity is being sought; and the longer-term viability of the community is dependent on present good management. Any shift in the balance of social, economic, and environmental interests has the potential to affect an aspect of local community identity.

Personal Professional Theories and Practice as a Starting Point in Professional Development

Perhaps the first point to make is that since the challenge of ESD as outlined above is directly related to practice (that is, avoidance of the pitfalls of a slogan system entails real change in the field which is achieved only when a movement at the level of discourse is matched by a shift in actual educational practice), personal professional theories and practice may be a useful starting point. This is itself a departure from the more conventional, instrumentalist approach to professional development in which participants engage in professional development activities organized for them by operatives outside their own professional context. It is also a starting point that recognized the complexity of teacher change, as discussed by Sikes (1992) who asserts that change:

Is not a one-way process, for the implementation of change is influenced by teachers' ideologies: in other words, by the beliefs and values, the body of ideas which they hold about education, teaching, the schooling process in particular and life in general. This means that it is not possible to attempt to change one aspect without affecting all the others. (p. 38)

The importance of personal professional theories and practice as a starting point in thinking about an appropriate approach to professional development is evident in the work of the well-known curriculum theorist Robert Stake, who proposes that:

The kind of knowings generated by experiencing, whether direct of vicarious, are different from the knowings which come from an encounter with [already] articulated propositions of knowledge. The knowing which arise from experience are more tacit, contextual, personalistic. They are self generated knowings, naturalistic generalizations, that come when, individually for each practitioner, new experience is added to old. (Stake, 1987, p. 60)
Stake is suggesting that educators take an active role in their own professional development with a view to generating their own "naturalistic generalisations" about their professional work through professional self-development. It is evident that for Stake, careful reflection on personal, practical experience is the key to this form of professional development; this gives rise to the second theme in this discussion about professional development in ESD.

**A Commitment to Reflection on Practice** Stake’s assertion of the importance of the knowings that arise from experience, as a starting point in professional self-development, may also be applied to effective learning communities that acknowledge the significance of reflective practice as a means of professional development. In ESD, as elsewhere in other disciplines, educational work is shaped by certain key features: the educators themselves; the learners for whom they have responsibility; the subject matters under consideration; and the context within which the professional work is being conducted. Without trying to over simplify what Sikes and Stake and others have indicated is a very complex situation, most educational situations may be defined in terms of these four elements and their interactions. A better (more complex?) understanding of these interactions requires reflection on the nature of these elements and their interactions within particular contexts. This may be particularly the case in ESD, when there is arguably an overlaying shift in the discourse within which these elements and their interactions are given meaning.

Put another way, it is only those participants whose professional practice is implicated in these shifts that can properly articulate what it’s like to be caught up in these changes and therefore what their professional development needs really are. It is important in professional development that the educators be given the opportunity to themselves engage in research aimed at better understanding the relationships among the features making up their professional work (Louden, 1992), and how these may change within a shifting overarching discourse like ESD.

**Recognizing Context and Culture in Professional Development** While recognizing that individual ESD practice may serve as an appropriate starting point in professional development in this field, and that reflection on that personal practice may be effective in the generation of new understandings about the complexity of professional work, it is also argued that it is important to recognize the influence of context and culture in shaping individual and collective professional work and how these are understood.

Patterns of work are changing rapidly, partly owing to the impact of globalization on the educational sector. One aspect of this is the increasing cultural diversity of classrooms as universities pursue vigorously their policies of internationalization, resulting in the likelihood of a range of differing (culturally embedded) interpretations of key substantive concepts such as sustainability and the relative significance of social, environmental, and economic interests. While increasing cultural diversity is a clear feature of formal primary and secondary classrooms, the postschool sector of education and training is possibly even more diverse and complex. Postschool education takes place in a variety of workplaces, from hotels to hospitals to shop floors in the manufacturing industry. Adult community education takes place in community halls in programs organized by local government, in neighborhood centers, local libraries, and technical and further education institutes, and in all these there is likely to be participants from any and all parts of the world, interpreting the subject matters they engage (including ESD) through a range of culturally derived lenses, conferring a necessary contextuality to learning experiences.

To be effective, professional development in ESD needs to recognize not only this source of contextuality of professional work, but also the contextuality of the substantive topic of ESD itself. ESD seeks to be educative about sustainability issues, and sustainability issues themselves are strongly embedded in local communities, as illustrated by the Thai fishfeeding project outlined above. The meaning that learners construct from engagement with sustainability issues is shaped by their own biographies (their cultural identities) and the ways in which the issues are played out in their local communities. Even for seemingly similar topics (e.g., sustainable aquaculture), this will differ from site to site.

**Recognizing Social Politics in Professional Development** So far I have argued for an approach to professional development in ESD that regards the practical experience of ESD educators as the appropriate starting point in a process of professional self-development mediated by processes of reflection upon such practice, while recognizing the impact of context and culture on the forms of professional work at the center of professional development endeavors. In a sense, this approach is related to views regarding what it is to be a professional educator. The concept of “professional” is itself a contested one. One may draw a distinction between a notion of “professional” as associated with the self-directedness and autonomy of educators, as against those who see the term as antagonistic to the legitimate interests of central authority. The latter might entail an understanding of the professional as “an efficient deliverer of a predetermined product,” and a greater emphasis on skills and discrete competencies with a primacy accorded to skills over understanding and judgment. The issue is one of power and control, about who gets to set the professional development agenda, and how we construct our responsibilities toward students, government authority, and our own professional and personal identities. This point has relevance in the United Nations Decade of Education for Sustainable Development.
which is marked by vigorous attempts to impose centrally developed curriculum packages seemingly designed for universal implementation.

**Recognizing That Professional Development Is Located Within a Broader Ambit of Organizational Change**

The field of professional development is also shaped by the tension between the "ideal" of autonomous professional self-development referred to earlier and the opportunities and demands of the broader educational organization with its higher-order collective strategic goals, which are often market-driven. The presence of environmental education is frequently an outcome of the endeavors of a committed individual, occasionally located toward the margins of the school curriculum. In such cases, the independence of professional self-development is a valuable commodity. However, educational organizations taken as a whole tend to reflect the society and culture within which they are located and from which they derive their financial support. So the individual environmental educator will almost inevitably need to balance opportunities, constraints and competing forces: individual philosophical commitment will encounter a potentially unsympathetic policy-led organization responding to conflicting ideologies within a market economy. In professional development terms, a possible challenge for the salaried professional educator is to determine a justifiable balance between (environmental) self-interest and a seemingly indifferent organization (Henry, 2003).

The approach to professional development in EE/ESD advanced above is based on a similar perspective on the relationship of theory and practice to that of action research in the broader field of education. Within EE/ESD, research has evolved to the point where it is possible to undertake systematic inquiry (and to have it constructed and accepted as proper research) that recognizes a special relationship between theory (in its various forms) and practice (in its various forms). Key figures in Australia in reconceptualizing educational research along these lines include Wilfred Carr and Stephen Kemmis (1987), and Robin McTaggart (1991). Essentially (and oversimplistically) action research in particular came to respect and embrace the relationships among the theories held by participants in educational settings, those participants' practices, and the characteristics of the professional settings in which these theories and practices have meaning. A consequence of this research perspective is a recognition that practitioners themselves, including the range of educational stakeholders, are properly the central figures in the conduct of these inquiries, and that their differing perspectives ought to be acknowledged, explored and tested. These considerations support a form of professional self-development in EE/ESD.

**Conclusions**

In this chapter I began with an overview of recent discourse trends in environment-related educational work, making the point that there has been a significant recent shift in the discourse framing this work. I then described some recent environmental educational activity of obvious value in its community that could as readily be described as an instance of EE and one of ESD, pointing to the contentious relationship between (changing) discourse and educational practice in this field. Finally, I proposed a form of professional development that takes into account the challenges for EE/ESD practitioners within a context of shifting discourses.

The work of Tom Popkewitz on "slogan systems" in educational reform may be useful in seeking to understand the relationship of powerful educational discourse on the one hand and continuity of environment-related educational practice on the other. In exploring instances of school reform and institutional life, Popkewitz (1982) refers to the "myth of educational reform" and proposes the role of "slogan systems" as one key agent in the circumstances of changeless reform:

> In many cases reform activities take on ceremonial or symbolic functions. The rational approach offered by reform program demonstrates to the public that schools are acting to carry out their socially mandated purpose, and that the procedures and strategies of reform offer dramatic evidence of an institution's power to order and control change. But the ceremonies and rituals of the formal school organization may have little to do with the actual schoolwork or with the teaching and learning that goes on in the classroom . . .

The legitimizing function of reform can be clarified by examining the symbolic nature of slogans. The terms "individualization," "discovery approaches," and "participation" are slogans, each of which symbolizes to educators a variety of emotions, concepts and values, just as terms like "democracy" and "national security" symbolize the values and aspirations of political groups. Slogans, however, are symbolic, not descriptive: they do not tell us what is actually happening . . . Reform can be a symbolic act that conserves rather than changes. (Popkewitz, 1982, p. 20)

The slogan system notion was originally proposed to illuminate changeless reform (adoption of a new and high-impact name in absence of any real change in practice). For Popkewitz, adoption of an active, high-profile slogan has at times been associated with a process whereby practitioners seek the benefits accompanying a concept that carries contemporary popularity (and an instantly recognizable name-as-slogan) by simply adopting the slogan symbolically, while retaining practice in largely unchanged form. Slogans can be used to justify activity at the levels of language and organization without actually leading to any real or lasting change at the important level of practice. The slogan enables a continuity of established practice: resources will be expended, careers developed, associations formed, journals filled, yet environment-related practice will not necessarily
change for the better. This is the concern identified in 2005 by no less than the UNESCO Director-General when he issued the challenge that ESD needs to be “more than just a slogan.”

If ESD is to be more than a slogan the challenge is to promote ESD practice in schools and elsewhere that is qualitatively different from established practice already conducted successfully within the discourse of environmental education. Given the stated importance of supporting practitioners in the field (a priority of priorities for some commentators) we need to give thought to ensuring that adopted approaches to professional development are designed with the nature of the challenge in mind. A form of professional development with the following themes has been suggested here:

- Personal professional theories and practice as a starting point in professional development;
- A commitment to reflection on practice;
- Recognizing context and culture in professional development;
- Recognizing social politics in professional development; and
- Recognizing that professional development is located within a broader ambit of organizational change.

References


