

# Recent International Developments in Professional Development in Environmental Education: Reflections and Issues

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## Abstract

This article considers two recent international research projects in environmental education. Each project adopts a participatory research-based approach to professional development. Principal outcomes of each project include case studies of environmental education practice in particular settings—development of these case studies is their ultimate aim. These projects will be juxtaposed with other approaches in which participatory and action research is but one step in the further process of wider international dissemination, adaptations, and adoption. The article thus draws attention to the interplay of contextuality and universality, and the role of participatory research in this tension.

## Résumé

Cet article s'intéresse à deux récentes recherches internationales en éducation relative à l'environnement. Toutes deux abordent la question du développement professionnel dans une optique de recherche participative. Les principaux résultats de chaque recherche comprennent des études de cas sur les pratiques d'éducation relative à l'environnement dans des contextes particuliers; le but ultime étant le développement de ces études de cas. Ces projets seront juxtaposés à d'autres approches où la recherche participative et la recherche-action ne constituent qu'une étape du processus de dissémination, d'adaptation et d'adoption à une plus vaste échelle internationale. L'article attire ainsi l'attention sur l'interrelation entre la contextualité et l'universalité ainsi que sur le rôle de la recherche participative dans cette dialectique.

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Professional development is recognised as a priority in the field of environmental education. International education agencies such as the Organization for Economic Co-operation and Development (OECD) and UNESCO are active in this area, and several current international research and development projects in environmental education have professional development as their focus. This article reviews two such contemporary international projects, noting that each purports to adopt participatory research (usually in the form of action research) in their curriculum development and professional development activities. We will identify some similarities and some differences between these two approaches, and consider them in relation to other approaches adopting participatory research, with a view to contributing to further understanding about the role of participatory research in professional development in this field, especially the tension between contextuality and universality.

The two projects we draw upon in this way are:

- the Organisation for Economic Co-operation and Development's Centre for Educational Research and Innovation (OECD-CERI) project "Environment and School Initiatives" (ENSI) a project in professional development in environmental education that has involved some 20 countries for 13 years. One of us has three years' experience in this project as a country representative; the other has 13 years' experience, formerly as a country representative and more recently as project director.
- the AusAID project "Educating for Socio-Ecological Change: Capacity Building in Environmental Education, Focusing on South Africa's Tertiary educators." This is a two-year project managed by IDP Education Australia that involves collaboration among eight tertiary institutions in two countries (South Africa and Australia). The project focuses on research-based approaches to curriculum development and professional development in a range of settings in South Africa. One of the authors is the Australian project director for this project.

In terms of structure, the article will outline each of these projects, drawing largely on already published material. We will then consider a number of issues in professional development that emerge from a consideration of these projects (alone and in juxtaposition with projects adopting alternative approaches) focusing on some of the confounding factors that impede the extent to which participatory research principles are expressed in professional development—such as choice of starting point in curriculum development, status and authority of curriculum packages, and overall coherence of views of curriculum development, professional development, and educational research.

## Contemporary Professional Development Project in Environmental Education

### *Environmental and School Initiatives Project*

The Environmental and School Initiatives project is an international project in environmental education coordinated by the OECD-CERI. The Environmental and School Initiatives project is based on the assumption that there is a strong case for a form of environmental education premised upon active learning rather than upon the transmission of knowledge, supported by a form of professional development similarly premised upon participatory action research rather than upon instrumentalist, centrally orchestrated teacher in-services (Kyburz-Graber & Robottom, 1999).

Thus the Environmental and School Initiatives project is seen as a marked alternative both to conventional environmental education as “education *about* and *in* the environment,” and to conventional approaches to professional development (which ultimately see the problem of improving environmental education as one of central development of policy and materials, followed by their delivery to schools and teachers for implementation).

In terms of its subject matter emphasis, the Environmental and School Initiatives project favours the promotion of activities related to the development of “dynamic qualities in environmental education” such as initiative, independence, commitment and readiness to accept responsibility (see Posch 1988, 1993). Of more relevance to the focus of this article, the process of the Environmental and School Initiatives project, as originally conceived and described in publications since its origination (Posch, 1988; 1993; Elliott, 1995), explores the role of participatory research-based curriculum and professional development strategies, with a specific focus on the establishment of action research as a basis for linking curriculum and professional development in the field of environmental education.

Since its origin 13 years ago, the project has sought to support teachers to adopt a research perspective on their environmental education work and to help them prepare written accounts of this work:

Teachers who take on this [curriculum development in environmental education] duty need to communicate with each other and need external support . . . This, however, is not enough . . . . When a teacher no longer contents himself [herself] with imparting systematic knowledge, but exceeds the limits set by the school and accepts to cope with unstructured situations, he [she] increasingly needs to be aware of what he [she] does, a kind of systematic reflection on his [her] own actions, in order to keep a check on the risks connected with environmental projects, and in order to facilitate communication on his [her] actions and further development.

Therefore we want to encourage and help project teachers to evaluate their work with the pupils themselves and to write about it . . . (Posch, 1988, p. 15)

It is important to work towards “the improvement of teacher-teacher communication and the integration of a greater number of teachers/schools into this exchange of experiences, [and] the production of knowledge on environmental project instruction by the teachers themselves. (p. 15)

At an international conference of the Environment and School Initiatives Project and in the final conference report, John Elliott (1995), one of the British consultants to the project, pointed out that:

. . . we should view the advocacy of action research in ENSI, as a means of both developing environmental awareness and the professional knowledge of teachers. The rapidity of change in the condition of our natural and built environment renders some customary patterns of human conduct problematic. Traditional attitudes need to be re-examined in the light of their effects and, if necessary, reconstructed through social experiment. Action research is not the only approach to changing environmental attitudes. It is simply the course entailed by the pragmatic theory of knowledge which underpins the curricular framework of the ENSI project. (p. 15)

That the OECD-CERI project continues to be based on action research principles, and supports the adoption by teachers of a research perspective on their own teaching experiences in environmental education, is clear in recommendations presented in the final report of the most recent Environmental and School Initiatives conference, in Linz, Austria in October, 1998, where it was proposed that the project:

Establish a cross-country action research project in which teachers develop and test pedagogical strategies for linking inquiry into local environmental issues with global factors . . . (Elliott, 1999, p. 37)

Maintain and develop the action research approach as the special quality of the ENSI program, while initiating a new discussion in the ENSI network about the role of action research in relation to other forms of research in environmental education. (p. 37)

In Elliott’s view, by the end of phase 2 of the project, the professional development agenda of the Environmental and School Initiatives project was (*inter alia*) to develop

structures within the educational system for supporting teachers-based action research as an approach to school-based curriculum and pedagogical development. (p. 8)

He also lists a number of research questions relating to the role of participatory (action-) research approaches to professional development, including:

How are the complex relationships between human beings and their environment best represented and explored through the curriculum?

How to describe and assess the dynamic qualities the project aims to foster in students through an active engagement in improving the environmental conditions, which govern their lives?

How to develop pedagogical strategies for handling in an educationally defensible manner the value issues raised by attempts to involve students in action to improve the environment?

How to develop a pedagogical process which links locally defined environmental concerns with global issues?

How to involve teachers in finding answers to the above through a process of collaborative action research within their schools? (p. 6)

These research questions are very close to the agenda of another current project in professional development in environmental education—the Australia/South Africa Institutional Links Project in South Africa.

The Environmental and School Initiatives project was significant in a number of ways, not least of which was its interest in the rise of alternative research genres against a background of the dominant applied science approach to research in environmental education. The project linked curriculum development and professional development through the involvement of practising teachers in participatory forms of educational inquiry. Experiences with collaboration between teachers and researchers concerning questions of environmental education evoked reflections on what might be important for teachers regarding their professional development in environmental education.

In terms of outcomes, the Environmental and School Initiatives project has produced reviews of policy developments in several participating countries, as well as country reports that present case studies of actual environmental education practice. One of the features of these country reports, which are essentially case studies of professional development based on action research in environmental education, is that they indicate a wide range of interpretations of action research and an equally wide range of environmental education practices in schools and other educational settings (see for example Axelsson, 1993; Keurentjes, Mellegers, Pieters, van Rossum, & van der Zande, 1994; Kyburz-Graber, Gingins, & Kuhn, 1995; Kurtakko & Izadi, 1994; McAndrew & Pascoe, 1993; Moosbrugger, Posch, Rauch, &

Thonhauser, 1994; OECD, 1994; Robottom, 1993). Uniformity of curriculum materials was neither an aspiration nor an achievement of the Environmental and School Initiatives project (Kyburz-Graber & Robottom, 1999).

### *Australia/South Africa Institutional Links (AusLinks) Project*

The project entitled “Educating for Socio-Ecological Change: Capacity-building in Environmental Education, focussing on South Africa’s tertiary educators,” was funded by AusAID and administered by IDP Education Australia as one of its Australia/South Africa Institutional Links projects.

The overall focus of the AusLinks project was the professional development of new and existing environmental education staff in participating post-secondary educational institutions. The project was organised into four activities which aimed to develop curricula and materials (Activity 1), enhance existing programs by reviewing courses and planning new courses (Activity 3), and enhance research capacity through reviewing and developing research supervision strategies and resources (Activity 4). Activity 2, which we will focus on in this paper, sought to enhance research and professional capacity by working with colleagues in a process of workplace-based participatory research towards development of original case studies of changing environmental education practice.

In Activity 2 of the AusLinks project the development of case studies of changing practice was conceptualised as central to professional development in two distinct ways. First, the process of developing the case studies was seen as a moment in professional self-development, as participants reflect critically on the meaning and significance of their theories, policies, organisational arrangements, and teaching practices. Second, the emerging case studies themselves were seen as possibly forming the basis of useful professional development interactions with other (non-project participant) environmental educators in the future.

Instead of following a single defined process of professional development or adopting and adapting a single set of existing environmental educational materials, the approach in Activity 2 was to simply work flexibly within a set of principles. These principles were that professional development should be:

- *contextual*: that professional development respects and relates closely to the particular workplaces and workplace issues of participants;
- *responsive*: that the issues explored in the professional development processes are those of interest and concern to participants themselves;
- *emergent*: that the professional knowledge that carries most weight in

discussions about how to improve professional practice is that which emerges from the case study work lying at the centre of the professional self-development process;

- *participatory*: that participants are involved directly and as equitably as possible in all dimensions of the professional development process (for example: identifying issues to be addressed; collection and analysis of case study data; development and dissemination of materials and reports);
- *critical*: that the processes of professional development look beyond the surface layers of activity at the levels of policy, organisation and practice to identify and appraise the values, assumptions and interests that inform and justify this activity; and
- *praxiological*: that processes of professional development proceed through and are mediated by *praxis*—defined in this project as a reflective interaction between personal professional theory, personal professional practice, and the professional settings within which these are intelligible.

The process by which these principles were enacted is explained in a paper presented by Activity 2 participants at the 1999 annual conference of their national professional association:

In small groups participants shared with others a number of relevant environmental and environmental educational issues. It was decided by consensus that the activity would involve the development of case studies related to the professional contexts of participants and located in the geographical context of their respective work-places. Guidelines and frameworks were provided by activity co-ordinators which provided initial structure and ideas. This process was to include development of photographic records of people, places, contexts and activities to be shared at the next meeting. The project provided participants with cameras for this purpose.

At the second meeting held in the Northern Province, each participant tabled for discussion photographs of aspects of the issues they felt were important in conveying the meaning and significance of the case under study in their own context. Other Activity 2 participants provided feedback on these illustrated reports, enabling identification of “gaps” or shortcomings in the pictorial records in each case study.

These photographic records proved to be important in providing continuity to discussions aimed at firming up the case studies. At the third meeting captions were written for the photographs by individual participants and these were shared and discussed with other participants who then made input into the further development and improvement of the text. At this meeting participants also began to develop case study commentaries for presentation at the next meeting.

At the fourth meeting the draft case studies included the commentaries (5-10 pages) and photographs with captions (5-10 lines). These draft case

studies were circulated among at least two other participants who provided critical feedback verbally and in the form of annotations on the text. Feedback was also provided in a plenary setting: all participants present engaged in a discussion about the developing accounts. It should be pointed out that at this stage of the process relationships of trust were fairly well established between the participants; this level of trust facilitated the processes of collaborative critique that were central to our writing of the texts.

All the institutions were visited in the course of the programme. The planning meeting was held at University of Stellenbosch, the second in the Northern Province, the third in Grahamstown and the fourth in the North Western Province. This enabled us to see the workplaces (University of Venda; Tshisimane College of Education; Shingwedzi College of Education; Tlhabane College of Education) of all the participants and we were also able to visit some of the sites of enquiry of some of the participants, especially in the Northern province. (LeGrange, Makou, Neluvhalani, Reddy, & Robottom, 1999, p. 4)

These participating institutions all developed case studies on teacher networking in environmental education and issues-based curriculum development at tertiary level. A feature of these case studies is their diversity and contextuality. The case study in the Northern Province on teacher networking highlights strengths and weaknesses of a teachers' network and provides useful insights into the establishment and support of teacher networks in environmental education. The case study on issues based curriculum development at Shingwedzi College indicates different dimensions of environmental issues and provides a perspective on how curricula can be developed around these issues. In the North West Province, Tlhabane College lecturers developed a case study on the AIDS/HIV epidemic in the Rustenberg area as a focus for curriculum work at tertiary level. This case study provides perspective on the need to consider local context in curriculum development. In the Western Cape, Stellenbosch University lecturers piloted two teacher education programs, which introduce the need to consider issues of relationship and power in constructivist pedagogical processes in environmental education, using science and sustainability as curriculum focus. In the Eastern Cape, Rhodes University lecturers implemented a short course in environmental education for Higher Diploma in Education students. This case study highlights the tensions between environmental education processes and contextual constraints in tertiary institutions. It also provides an example of a theme-based approach to curriculum design at tertiary level (LeGrange et al., 1999).

These case studies were developed by participants in particular professional/social settings for use in their own context. They have not been developed with the intent of dissemination for adoption or adaptation



elsewhere. However the Activity 2 team decided to table the materials at a forthcoming national conference as indicators of the kind of programs it is possible to develop through the processes of participatory research-based curriculum development:

It was always felt that the main benefits in this professional development activity lay in the process of research-based curriculum development undertaken by participants themselves—we saw this as professional self-development. However it was also recognised that the outcomes of the project might be of value to others interested in environmental education, as indicators of the nature and feasibility of the participatory research-based process. For this reason it was decided to disseminate the project outcomes to a wider audience in various forms, one of which was an account of the process together with a collection of the outcomes —illustrated case studies including commentaries and photographs and possibly a set of A4 size photographs for use in professional development workshops. The decision was taken to make these public for the first time at the forthcoming annual EEASA conference. An overview article detailing the process had, by this time, already been published in the *Southern African Journal of Environmental Education* (Lotz and Robottom 1998). In addition, two South African participants presented selected case studies from the project at a symposium at Deakin University. (LeGrange et al., 1999, p. 4)

This participatory research project resulted in several valuable outcomes, including greater capacity and confidence on part of many project participants; the greater availability in South Africa of materials and resources from the Australia context; the development of new, contextually relevant materials in South Africa for South Africans; the establishment, extension, and deepening of collegial and intellectual networks; and overall a greater sense of what can be achieved through collaborative collegial work involving representatives from a range of tertiary institutions across South Africa. Linkages have established among a wide range of South Africans, and the participating Australian partners, in a field where such linkages did not exist before the project, enabling all the outcomes mentioned above, but also enabling the less tangible benefits of enhanced formal and informal professional and academic conversations among colleagues.

The project was not without problems, of course. Some of these arose from the project's complex structure and multiple institutional membership. Objectives and activities tended to line up with personal and institutional agenda and, where these agenda came into conflict with the spirit of the project, some partners responded by withdrawing from the project. Another lesson learned in this project is that language is very important. With the best of intentions, the phrase "research capacity building," that was present in our original brief and proposal, was used early in the life of this

project. It soon became evident that this phrase itself carried connotations that were linked with the very problem that the project sought to redress. The phrase “research capacity building” implies that there is a characteristic previously absent which can be built in South Africa from scratch by the Australian project participants. It soon became evident that researchers in South Africa already possessed significant research capacity, and that the Australian partners were also gaining significantly from the experience of being involved in research in South Africa. Project participants ended up feeling strongly that the term “research capacity enhancement” more accurately described the mutual benefits accruing from the experiences gained in this project. These two points illustrate the kind of problems (competing partner agenda; the politics of language) that can arise in participatory research that not only admits but in a sense celebrates contextuality, interests, and values.

Further descriptions of the AusLinks project, and an account of emerging issues associated with this approach, are presented in Lotz and Robottom (1998), and in LeGrange et al. (1999).

### **Emerging Issues Concerning Participatory Research-based Professional Development**

There is of course a need for balance within a range of alternative approaches to curriculum development and professional development in environmental education, and the same can be said about the role that research plays in such development. It is probably fair to say that professional development in environmental education is still dominated by materials-based, centrally coordinated “Research, Development, Dissemination, Adoption” approaches (and minor variations on and derivatives of this theme), and the above two projects are useful in indicating how difficult it is to be free from the assumptions, processes, and interests of Research, Development, Dissemination, Adoption approaches. In particular, we will draw attention to the interplay of contextuality (the preservation of which is an interest of participatory research and environmental education) and universality (an interest of Research, Development, Dissemination, Adoption approaches).

#### *Starting Points for Curriculum Development in Environmental Education*

Among environmental educators today it is broadly recognized that environmental issues are best conceived of as social constructions, whose meaning and significance are constructed by individuals and social groups in relation to complex environmental contexts. Ultimately, environmental

issues amount to differences of opinion among alternative stakeholders in environmental management, and hence are socially constructed in nature, rather than possessing an objective ontological existence. Another way of putting this is that individuals and social groups with different values systems and interpretation patterns as a background make different sense out of what they recognise or what they are told about environmental impacts. On this view, environmental education entails an exploration of local issues, the positions that different people adopt in respect of these issues, and a questioning of the assumptions, values, and interests that shape the positions adopted by a range of stakeholders.

For this reason, contextuality is an important characteristic of environmental education. Curriculum development in this field, based as it is on the investigation of environmental issues, requires a recognition of the value positions of stakeholders and the physical, social, political and cultural background against which the positions of stakeholders are made intelligible. Any process of abstracting generalised knowledge from specific contexts has then to proceed carefully (if at all) with due recognition of the contextual complexity of environmental issues. To this extent it is important that the starting point of curriculum development in environmental education be environmental issues with geographical proximity to both the people developing the curricula and the people who will be studying the curricula. The diversity of the case studies of environmental education that resulted from both the AusLinks and Environmental and School Initiatives projects reflects the strong relationship between curriculum and context; participants in the AusLinks project drew on environmental issues that they actually lived within. It is important that the process of professional development adopted in environmental education recognises the implications of the necessary contextuality of environmental issues and therefore of environmental education curricula.

#### *The Role of Central Curriculum Development Agencies: The Colonialist Dilemma*

Given this strong relationship between curriculum and context in environmental education, a dilemma arises when central agencies seek to become involved in curriculum development, especially when they have an interest in disseminating widely a particular substantive message—such as “sustainability.”<sup>1</sup> The dilemma faced by high profile international agencies is how to produce materials designed for international dissemination without leaving themselves open to criticisms concerning the colonialist impact of these materials. Put another way, the dilemma is how to present

and disseminate widely a worthwhile, fairly unitary substantive message without being seen in colonialist terms as privileging certain cultural subject matters (and the social contexts they are embedded in) over others.

A solution adopted in some circumstances is to embed these centrally produced materials within a discourse of research-based adaptability and trialling processes that ostensibly confers a degree of “cultural sensitivity” to the materials. But the problem is that “cultural sensitivity” is not a commodity that can ever actually imbue materials that are still destined for universal dissemination; materials can only really be said to be culturally sensitive when they are culturally embedded through being conceptualised, developed, and implemented within particular cultures. This is why the notion of “starting point” in curriculum development is so important. And this is also why processes of universal dissemination of centrally-produced curriculum packages is problematic in environmental education—the universalising interest of Research, Development, Dissemination, Adoption approaches compromises the necessary contextuality of environmental education curriculum.

### *Role of Materials*

One of the factors that can confound attempts to avoid the colonialist problems of centrally produced materials developed on the Research, Development, Dissemination, Adoption model is the distracting influence that the curriculum package itself can have. Once the curriculum package itself becomes central to the process of dissemination and (re-) development (once the starting point for curriculum development is adaptation or adoption of an existing curricular entity), then the origin, status and appearance of the package itself become important in ways that can militate against the interests of environmental education as a form of contextualised curriculum. It can be seen as easier to simply adopt the existing package, or to adapt it only in minor technical ways, than to engage in participatory research-based development of original, contextual curriculum materials.

To some extent this dilemma is exemplified in a recent curriculum package currently promoted by UNESCO. The Learning for a Sustainable Environment: Innovations in Teacher Education Project (LSE) began in the first half of 1994 with the primary goal of assisting teacher educators in the Asia-Pacific region to include the educational purposes and innovative teaching and learning strategies of environmental education in their programs (Fien & Corcoran, 1996). The project sought to develop an action research network of teacher educators in the region, the purpose of which in 1996 was stated as being to “support teacher educators who wish to share in the writing of

carefully researched and evaluated and culturally sensitive workshop modules for use in pre- and in-service environmental education programs” (p. 232). Fien and Corcoran summarise the process of the project as follows:

The network supports a dissemination programme which assists teacher educators to critique and adapt these modules in accordance with local cultural and educational needs and to prepare action research case studies of their use of the materials in their own continuing professional development. Thus the project aims to create a growing, active network of innovative teacher education practices and practitioners in environmental education. The purpose of this professional development process for teacher educators is to assist them to incorporate into their programmes knowledge and skills which can help teachers to introduce and improve environmental education in their classroom. (p. 232)

The LSE package comprises materials packaged in a glossy, expensive-looking publication edited by acknowledged international experts in the field and endorsed by several important and highly visible international agencies. They come complete with an account of the lengthy, thorough, and expensive process of their development to this stage (according to Dillon [1999] the development of the package involved over 100 people working in over 20 countries at a cost of over half a million dollars). These features create a non-subtle impression of status and authority that can be quite intimidating to prospective users, and actually diminish the likelihood that real adaptation will occur—despite the well-argued case for adaptation presented in the materials themselves. In this sense it is possible for curriculum packages like these to be victims of their own self-importance.

Even if there is a built-in process encouraging critique, revision and adaptation (as is clearly the case in LSE), such adaptation in the face of a formidable package can tend to focus mainly on relatively minor technical matters such as:

- the use of boxes to highlight certain messages,
- re-ordering (prioritisation) of objectives statements,
- the use of diagrams and matrices to enhance presentation,
- the need for consistency of style,
- inclusion of a glossary,
- restructuring content into shorter discrete sections, and
- ensuring that the titles and objectives of modules are relevant to and accurately reflect the content of the modules,

rather than addressing more substantial and significant issues such as appropriate authorship of modules on indigenous knowledge. Even seemingly minor technical suggestions like consistency of style, language and

format in a range of modules destined for international dissemination may be counterproductive since such consistency may actually be at odds with the diversity implied by an interest in cultural sensitivity and contextuality. Clearly this is a matter of balance: there is a tension between the effect of the impressiveness of the package in its presented form and the effect of the invitation for local adaptation. Dillon (1999), in a recent review focusing directly on LSE, acknowledges that curriculum packages like LSE can indeed have a major positive influence “as long as the supporting network can stimulate and value alternative pedagogies and encourage real local adaptation” (p. 225). However, as Dillon points out, there is the danger that when coercion and imposition of process and content are evident in a centrally produced curriculum package that is avowedly aimed at international dissemination, the dangers of colonisation are only too present. He concludes his review of LSE with the statement “let the user beware, colonisation comes in many forms.”

### *The Role of Participatory Research: The Importance of Process*

Participatory research (usually in the form of action research) is central to the two projects described earlier in this article, and indeed to LSE, the third project described. In the Environmental and School Initiatives project action research was used as a means for teachers to develop curriculum strategies which involve students in a dynamic learning process focused on concrete environmental problems and issues encountered in their own communities at the local level. According to John Elliott (1995) learning on concrete problems poses a number of educational issues:

Handling the controversial and complex values issues which surround human actions towards the environment in an educationally worthwhile way; the role of the disciplines in generating useful local knowledge about concrete environmental problems; the development of dynamic rather than passive qualities in students which enable(d) them to accept responsibility for their environment and motivate(d) them to search for and develop solutions to complex problems. (p. 65)

Those educational issues cannot be handled simply in terms of planning by objectives but rather by a (re-)searching process promoted by action research. The corresponding model of curriculum development depends on the quality of teachers' judgements of what constitutes an educationally appropriate curriculum and this:

will be heavily dependent on the ability of teachers to systematically reflect on their pedagogical practices. Hence the significance of teachers undertaking action-research in the context of developing curricula which support the realization of educational process values. (p. 65f)

In all three projects, participatory research is the medium by which participants research their own geographical, social, and educational contexts in developing case studies for use in their own curricula in environmental education. In each project, this process has yielded valuable instances of homegrown contextual environmental education. Each project demonstrates the positive role that participatory research can play in the original development of environmental education programs in particular settings.

The issue of the tension between universalism and contextuality turns on what happens from this point of original development. In the Environmental and School Initiatives and AusLinks projects, the main purpose of participatory or action research concludes in the development of localised programs. In other projects, for example LSE, the purpose of the research extends to serving as a mechanism for wider dissemination of such programs beyond the context of their development. In LSE, the role of action research was expanded to include the process of disseminating a curriculum package made up of a certain number of case studies of curriculum practice for more universal adoption or adaptation. The difference between the first two projects and the LSE project is indicated in the quotations below. The chief editor of the curriculum package states that:

Environmental education is responsive to local contexts. This means that local environmental questions, issues and problems should provide a focus for the development of environmental education projects. This means that materials produced in one country will need to be adapted by others in response to local cultural and educational requirements (Fien, 1998, p. 21)

The sentiments of the first two statements (responsiveness to local contexts; local environmental issues as a focus for environmental education) would be endorsed by all three projects. But the conclusion that “this means that materials produced in one country will need to be adapted by others . . .” is not one that is drawn by, nor has any interest for, the Environmental and School Initiatives and AusLinks projects. These projects seek to share experience in order to encourage teachers and students to take responsible initiatives in their own specific cultural contexts. That the conclusion about adaptation is drawn at all points to the perceived centrality of the curriculum package itself and to the dissemination agenda of the organising agency. The same assumption of importance of the curriculum package in the process of research is also evident:

Collegial and collaborative approaches underlie successful professional development. Hence, a system of critical friends should be established to review and trial early drafts of all prototype materials and to advise on their development . . . (p. 21)

While one can agree with the participatory/action research principle about collaborative professional development articulated in the first statement, the conclusion drawn is intelligible only within the context of a process in which the development of a single, universal curriculum package is a central aim. The Research, Development, Dissemination, Adoption-like orientation of the overall process is also evident in the statement below:

Existing networks in the region must be used and strengthened to facilitate the diffusion and dissemination of the innovative approaches developed by participants. (p. 22)

Juxtaposition of the experiences of these projects shows some of the tensions between an interest in preserving the contextuality of environmental education including judgements about valuable educational issues through the adoption of participatory action research as a means of curriculum development, and an interest in universal dissemination that tends to be exhibited by international development agencies. When the status of the curriculum package exceeds that of the process of its development, contextuality can be compromised.

### Conclusion

We have argued that in environmental education, the most appropriate starting point is the issues of interest and concern to participants themselves—be they environmental issues as in curriculum development or environmental education issues as in professional development. Environmental education is essentially contextual. We have further argued that participatory research, by virtue of its praxiological approach, is an appropriate form of research to inform curriculum/professional development in the essentially contextual field of environmental education. In developing these arguments, we reflected initially on two approaches to professional development in environmental education. These projects adopted participatory research as a medium or process for critically reflecting on the meaning and significance of practice and practical settings and sought to recognise identity, biography and context in their method. In the AusLinks project's Activity 2, "praxis" was defined as "a reflective interaction between personal professional theory, personal professional practice and the professional settings within which these are intelligible." The matching of a contextualised methodology with what was perceived as a contextualised subject matter was an important feature in the rationale of these two projects, which both emphasised the praxis-based process of curriculum



development of particular case studies above an interest in widely disseminating these case studies for adoption and adaptation elsewhere.

The projects considered here have demonstrated the feasibility and appropriateness of employing participatory research in the development of case studies reflecting practice-in-context. A dilemma arises, however, if projects perceive the development of such case studies as merely an intermediate moment in an ongoing process whose main aim is the eventual wider dissemination of a curriculum package made up of those case studies. It has been argued that for curriculum/professional development projects, whether or not they are based on participatory research principles, to aspire to universal dissemination is to compromise the necessary contextuality of environmental education, and perhaps to leave themselves open to being interpreted in colonialist terms as privileging certain cultural subject matters (and the social contexts they are embedded in) over others (see Dillon, 1999).

It has to be admitted that a participatory research approach to local curriculum development is a highly demanding process. Our experience in both the Environmental and School Initiatives and AusLinks Projects reveals that teachers need a supporting network providing them with a platform for professional debates. Written proposals encouraging teachers to use action research methods do not alone seem adequate. A coherent approach would seem to be for teachers and learners to engage as a team in the generation of culturally-derived (and therefore culturally-embedded) knowledge through inquiries into local environmental and environmental education issues perceived as being meaningful and significant in their own personal, professional, and environmental contexts and to set aside aspirations towards universal dissemination.

### Notes

<sup>1</sup> As a substantive topic, “sustainability” is itself problematic. Sustainability is often discussed as an idea, a vision towards which the pathway is not really known. What is accepted is that significant social transformation processes are needed on all levels of society. Promotion has to be initiated in various social contexts respecting existing possibilities and constraints. Sustainability is not meant as a directive instrument for changing the world from one day to another. It has rather to be seen as a set of processes that have to be developed in every singular context in its own specific way—influencing social structures and on the other hand being influenced by them (see Kyburz-Graber & Högger, in press).

## Notes on Contributors

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