

Towards School-level Curriculum Inquiry in Environmental Education

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Introduction

This paper is an outgrowth of my work for the Bicentennial Australian Studies Schools Project (BASSP) for which I wrote the booklet, *Education for the Australian Environment* (Fien 1988). This was one of ten booklets on Australian Studies distributed to every primary and secondary school in Australia early in 1988. The purpose of *Education for the Australian Environment* was to provide guidelines for injecting an Australian Studies perspective into environmental education. In the final chapter of the first draft of the booklet I sought to provide a framework for the development of an environmental education policy through a process of curriculum inquiry at the individual school level.

In part, I was moved to include a framework for school level curriculum work in environmental education by concerns expressed by Gough (1987) and Robottom (1987a) about the value of centrally-developed policy statements on environmental education. While the 1977 Tbilisi Declaration urged UN member states to prepare policies "to introduce environmental concerns, activities and content into their education systems", Gough and Robottom urged caution over the use of centralised policies as instruments for educational change. In summary, the reasons for their concern stemmed from the potential danger that centrally developed policies might foreclose debate over the nature, goals and practices of environmental education and, thus, supplant local innovations and variations in environmental education with uniform prescriptions. They also expressed concern that the hierarchical pattern of authority embedded in centralised curriculum decision making was inappropriate to environmental education and that it could easily lead to the deskilling and disempowerment of environmental educators at the grassroot levels.

The other influence on my decision to provide guidelines for developing a school-level environmental education policy was more pragmatic and subversive. Given the bureaucratic history and current modes of operation in the various State education systems around Australia (Porter 1989), I knew that it was possible that Gough's and Robottom's cautions could fall on deaf ears in the bureaucracies. The New South Wales, South Australian and Queensland Departments of Education were developing new environmental education policies at the very time that Gough and Robottom were writing (Greenall, 1987). Indeed, it seems that such developments motivated their warnings about the potential dangers of centralised policies (see *AAEE Newsletter*, No. 30, 1987).

Thus, at the pragmatic level, I was concerned to provide some ideas for schools and teachers for translating potentially remote, centrally developed policies into goals and practices that had local meaning and application. At the subversive level, I was concerned to provide ideas for establishing socially

critical practices in environmental education at the local level as it was likely that they may have been diluted, or even censored, in the government produced documents. After all, I thought that there was little chance that government policies would support environmental education in its socially-critical education for the environment form, if it is really counter-hegemonic as Greenall (1981) and Maher (1982, 1985) have claimed.

In fact, these suspicions have been confirmed by at least four State environmental education policies that have been published since 1987. For example, the Queensland Department of Education (1989) policy includes the aim of helping "students understand the need for sound management of the environment *to produce a sustainable yield*" (my emphasis) and fails to contain a section on social action for the environment. The South Australian policy does contain a section on issues teaching and action learning but they are premised on such relatively lame and uncritical conceptions of social and environmental action as "writing to local newspapers, drawing the attention of relevant parties to an environmental issue, volunteering to assist in a local environmental project and making changes to personal lifestyles" (Education Department of South Australia, 1987, 18). In terms of environmental education as a counter-hegemonic activity, all the recently published State environmental education policies, including the otherwise comprehensive ones from New South Wales (Directorate of Studies, 1989) and Victoria (Ministry of Education, 1990) fail to advocate engaging students in a critique of dominant material and ideological forces, especially the capitalist mode of production, and the technological rationality that shape environmental decisions and produce inequalities in environmental conditions and social well-being at local, national and global levels.

While history has confirmed my suspicions, back in 1987 when I was working on the Australian Studies project, it was *my* work that was censored because the first draft of the Australian Studies environmental education paper was returned to me by the Curriculum Development Centre, the BASSP managers, as being too long and not "readable enough" for classroom teachers. It was suggested to me that the final chapter, the one which contained the framework guidelines for developing a school-level environmental education policy, should be deleted because the suggestions were too generalised and could refer to all areas of the curriculum, not just environmental education. The point made throughout the draft and in the published booklet that environmental education *is* a cross-curricular concern did not seem to have been understood.

A framework for curriculum enquiry

The purpose of this paper is to take advantage of the opportunity for the dissemination of ideas provided by a national journal to present a revised version of the guidelines for developing a school level environmental education policy. These guidelines are framed upon seven principles of environmental education that have been developed from international and national documents (e.g. UNESCO, 1977, 1980; Greenall, 1980; Huckle, 1988) which have sought to outline the key characteristics of environmental education as a socially-critical practice. The rationale underlying the principles and an evaluation of their

curriculum implications may be found in such documents and in books such as *Environmental Education: Practice and Possibility* (Robottom, 1987) and *Education for the Australian Environment* (Fien, 1988).

By way of a brief review, however, the key ideas of environmental education in its socially-critical form can be conceptualised in the expression "education *for* the environment". Education *for* the environment seeks to promote a willingness and ability amongst learners to adopt lifestyles that are compatible with the socially and ecologically sustainable use of environmental resources. In so doing, it builds upon education *in* and *about* the environment to help develop an informed concern and sense of responsibility for the environment through the development of an environmental ethic and the motivation and skills necessary to participate in environmental improvement. Education *for* the environment may be located within the socially-critical traditions in education because of its concern for social criticism and reconstruction (Greenall Gough, 1990). As the final report on the Tbilisi conference (UNESCO 1980) stressed, environmental education must be based upon a search for answers to a number of critical questions:

As decisions regarding the development of society and the lot of individuals are based upon considerations, usually implicit, concerning what is useful, good, beautiful, and so on, the educated individual should be in a position to ask such questions as: Who took this decision? According to what criteria? With what immediate ends in mind? Have long-term consequences been calculated? In short, he (sic) must know what choices have been made and what value-system determined them. (p. 27)

Translated into classroom activities, education *for* the environment involves engaging students in the:

... critical appraisal of environmental (and political) situations and the formulation of a moral code concerning such issues, as well as the development of a commitment to act on one's values by providing opportunities to participate actively in environmental improvement. (Stevenson 1987, 69)

The ethical and environmental action dimensions of education *for* the environment were explained in *Education for the Australian Environment* as the key aspects of environmental education. The guidelines for developing a school-based environmental education policy provided in *Education for the Australian Environment* were based upon this socially-critical approach. This paper now presents a revised version of these guidelines. The present guidelines differ from the original framework only insofar as they reflect a more global orientation in environmental education than was possible in the 1988 booklet which was required to provide a distinctively Australian Studies orientation.

The guidelines are based upon the following seven principles for a socially-critical approach to environmental education in Australian schools:

1. Environmental education should help young people develop an awareness of global interdependence and an informed concern for the quality and sustainability of the global environment.
2. Environmental education should help young people to develop a sense of place and identity from their experiences in, and understandings of, the Australian environment.
3. Environmental education should help young people develop an environmental ethic that reflects a concern for our global natural and cultural heritage, the conservation of resources and sustainable development. Such an ethic is integral to the development of a sense of place and identity and a sense of interdependence with people and environments in other parts of the world.
4. Environmental education should help young people recognise that the future of the Australian and global environment will be influenced by our changing history of environmental visions, by the visions that are predominant now and in the near future, and by economic and political events and processes.
5. Environmental education should begin with the environmental experiences, perception and feelings of students and should explore questions, issues and problems of relevance to them and which can be demonstrated to affect their right and ability to live in harmony with the Australian and global environment.
6. Environmental education should help young people develop the skills and concepts of environmental citizenship. An approach to environmental education that has political literacy as its central goal is the approach best able to develop the full range of knowledge, skill, attitudinal and action objectives of education *for* the environment.
7. Environmental education calls for an *ecological* approach to curriculum and learning which is sympathetic to both the interdependence of people and environment (and does not attempt to divorce and compartmentalise them) and to the ethical and practical dimensions of learning to live in harmony with the environment.

While these principles are generally self-explanatory, *Education for the Australian Environment* did provide case study exemplars of the principles in operation in different schools, as well as details of objectives, strategies and resources that may be used to develop each one. Readers are referred to *Education for the Australian Environment* for this elaboration of the principles because, unfortunately, there is insufficient space in this paper to repeat that information here.

The following framework for developing a school-based policy in environmental education is based on these seven principles. They are not intended to be prescriptive or exhaustive. Rather they are suggestive of a framework for curriculum inquiry through which a school - or a small group of teachers, students and community members - could develop its own policy on environmental education and some of the issues which might be addressed in order to implement such a policy. The reason for developing such a policy is to provide a framework for a co-ordinated approach to environmental education in the curriculum, supported by appropriate curriculum structures, programs, practices and resources.

The guidelines are expressed in question form to facilitate the process of curriculum inquiry towards such an end. For each of the seven principles for environmental education, some leading curriculum and policy questions are asked and some curriculum ideas suggested.

Principle 1: Developing a concern for the global environment

A. Some leading curriculum and policy questions

1. What priority is given to promoting a critical understanding of the global interdependence of natural and social systems?
2. How many teachers have heard of (or read) the Brundtland Report? School administrators? Parents? What relevance does it have for curriculum development in your school?
3. What global environmental issues are studied by students in your school? Are they core studies or are they part of the elective curriculum? Do students have an opportunity to return to the study of global issues at increasing levels of complexity as they progress through the school?
4. In what ways are the study of global issues linked to local and national concerns and case studies?
5. To what extent does the curriculum in your school enable students to appreciate the links between poverty, human rights, peace and environmental sustainability in an interdisciplinary way?
6. How can learning experiences be organised to encourage students to reflect on the relationships between their lifestyle decisions and the quality of environments and lifestyles in other countries?
7. What learning experiences are best suited to promoting empathy with the lives of people in countries whose culture and environmental experiences are very different from those of students in your school?
8. What sort of issue and action-based studies can be used to foster concern for the global environment without the risk that students might feel powerless to change anything at a global scale?

B. Some curriculum ideas

1. Analyse the environmental beliefs and practices associated with a number of world religions.
2. Participate in international school links projects through pen-pal schemes organised by the United Nations Association of Australia.

3. Examine alternative economic systems and forms of political decision-making in the world and evaluate the impacts of these on people, resource consumption, environmental management, and ways of resolving environmental conflicts.
4. Study patterns of social well-being around the world and evaluate whether a redistribution of wealth and greater equality in society would assist a transition to ecologically sustainable patterns of development, production and consumption.
5. Form a "Brundtland Club" in your school to promote school and community understanding of the links between poverty, human rights, peace and environmental quality.
6. Evaluate the contribution of the ideas of traditional, minority and alternative cultures to an understanding of the ecologically sustainable society.
7. Focus on success stories in sustainable development in teaching global environmental issues, compare the strategies used in the different examples, and evaluate their significance for sustainable development elsewhere in the world, especially locally.
8. Plan for an action outcome of all studies of global issues based on the imperative to "think globally; act locally".

Principle 2: Developing a sense of place and identity in the Australian environment

A. Some leading curriculum and policy questions

1. What priority is given in your school to educational goals and activities that promote a sense of place and identity with the environment? Are staff, parents and students comfortable with the present level of priority?
2. Is it possible to promote pride in one's country and a sense of national identity but avoid the problems of jingoism and commercialised nationalism?
3. Where in your school curriculum is the environment, not just literature and history, used to promote awareness of, and concern for, what it means to be Australian? How is this related to global concerns?
4. What Australian symbols and monuments do students identify with? Are any of these heritage landscapes and buildings? Are there any sites in the local environment that students could consider parts of their national heritage?
5. Can a positive national identity be fostered if students are encouraged to explore the mistreatment of the environment as well as instances of wise management?
6. Does the environment of the school and its neighbourhood encourage a sense of oneness with the environment and pride in the way it is cared for?
7. How often is the task of caring for the school grounds and buildings used as a punishment or left as a task for grounds staff? What positive incentives are or could be provided to develop student responsibility for the quality of the school and local environment?

B. Some curriculum ideas

1. Explore students' mental maps of the national landscape, their recognition and perception of national symbols as significant parts of Australian culture.
2. Access the public computer database of the Australian Heritage Commission to explore heritage listings in areas known to students and enter listings researched and prepared by students.
3. Study contrasting visions of place and identity in Australian and other cultures through extracts from literature, art and film.
4. Ensure that students understand the values behind the processes and interests working for environmental exploitation, but that there are many Australians who are trying to counter these processes to conserve the environment for us and future generations.
5. Use Australian landscape paintings (or prints) as interior decoration in school buildings and as a focus of the art curriculum.
6. Develop the skills involved in reading and appreciating the landscape, and the skills of landscape drawing, painting and photography to foster creative expressions of ourselves and the environment.
7. Develop a school policy for the care, cleaning and maintenance of school grounds and building that encourages staff and students to participate willingly.
8. Participate in Greening Australia projects and activities of the educational programs of The Gould League and the Australian Trust for Conservation Volunteers.

Principle 3: Developing an environmental ethic appropriate to life in a conserver society

A. Some leading curriculum and policy questions

1. What school aims identify a need to foster the development of an environmental ethic?
2. To what extent do the school's use of resources and its treatment of wastes support consumer and/or conserver values and behaviour?
3. How can the curriculum be organised so that the relationships between human actions and the quality of the environment are central to the studies of all students at some point at each grade level?
4. How important is teacher modelling of the conserver values of stewardship, social justice, democracy and co-operation in students' developing an environmental ethic appropriate to life in a conserver society?
5. To what extent are the environmental values of the Aboriginal land ethos and the growing social ecology vision evident in the wider community of your school? How can the contradictions between some predominant consumer community values and conserver values be explained and overcome? Is an environmental education outreach program possible in your school community?

B. Some curriculum ideas

1. Examine the aims, content and learning experiences in the work programs for each subject in your curriculum to establish where opportunities are being taken and missed to develop an environmental ethic.
2. Explore the way visions of the Australian and global environments have changed over the years, the attitudes and values supporting each vision, and the resulting impact of people on the environment.
3. Study water and energy use in the home and school and opportunities for the conservation of water and energy and the recycling of wastes, especially cans, food and paper. Plan and implement strategies for successful conservation and recycling at home and school.
4. Follow the principles of "green consumerism" in the purchase, use and recycling of all materials used in the school.
5. Encourage birds to the school grounds by establishing feeding and bird-watching stations. Keep plants and animals in the classroom for both nature study and for students to care for.
6. Run a "best-cared-for-environment" competition for industries, shopping centres, parks and gardens in the local area with students as judges.
7. Run special programs for environmental events such as Arbor Week, One World Week, World Environment Day, World Town Planning Day, and Bushfire Prevention Week.

Principle 4: Understanding controlling interests in the Australian and global environments

A. Some leading curriculum and policy questions

1. What is the level of awareness of issues of political economy and environment among staff and the local community?
2. Where are the origins, strengths and impacts of the "development is progress" ethos explored in your curriculum?
3. What connections between overseas countries and companies are evident in your local area? How can these connections be used to illustrate the incorporation of Australia into the world economy and the resulting impacts on the environment?
4. What is the value base of the consumer education program offered by your school? Does it focus too much on individual consumer behaviour, wise budgeting and spending habits and not enough on broader social and environmental consequences of consumerism?
5. What is the environmental policy and attitude to environmental education in the mining, forestry, farming, manufacturing and retailing industries in areas near your school?
6. How can the sometimes difficult and values laden concepts of political economy be explored even with the youngest of students?

B. Some curriculum ideas

1. Use a local business directory to make a study of "Our Community in the World: The World in our Community"
2. Draw "commodity flow" diagrams for several products consumed regularly by students, e.g. canned fruit or jeans, to estimate their "real cost". Make a list of all the resources needed to produce them, where they come from, the jobs involved at different stages in the production process and what happens to the waste products at each stage.
3. Revise your consumer education program so that students examine and evaluate issues related to the finite nature of resources, the ownership and control of Australian industries, the role of the advertising industry in creating consumer tastes, overpackaging, recycling legislation and ethical investment.
4. Debate the proposition, "The balance between development and conservation sought in the National Conservation Strategy for Australia is a worthwhile goal - but an impossible one."
5. Study the degree of overseas ownership and export orientation of industries in your local area compared to the Australian pattern? What are the costs and benefits of the situation in your area?

Principle 5: Recognising and building on students' perceptions and experiences of the environment

A. Some leading curriculum and policy questions

1. To what extent are the goals of your school learner- or subject-centred? How well are they carried out?
2. Do students and parents see your choice of content and learning experiences as learner-centred?
3. What recognition is given to students' thoughts and feelings about their experiences in the environment?
4. How do the environmental experiences, knowledge and feelings of students change with age?
5. Are there gender differences in the range and intensity of students' environmental experiences and feelings? Why?
6. How can the range of students' environmental experiences be expanded?
7. What is the relationship between students' perceptions and experiences of the local environment and their understanding of the shaping of the environment at wider regional, State, national and global scales?
8. What facilities, resources and training do staff in your school have and/or need to increase their capacities to respond to the environmental experiences, thoughts and feelings of students?

B. Some curriculum ideas

1. Adopt a classroom style based more on "sharing and doing" than on "showing and telling".
2. Explore the possibilities of using Van Matre's "acclimatisation" or "Earth Education" philosophy and strategies for learning about the environment

- through experiences and feelings in short sessions at school and for longer periods on school camps.
3. Plan art and language activities in which students describe their environmental experiences and feelings, e.g. ask students to make a collage of their environment using materials collected in the environment.
 4. Draw and analyse maps of the local environment based on student identification of favourite places, least-liked places, dangerous places, out-of-bounds places etc.
 5. Draw and analyse maps of resources used by students in the local environment. How do such maps differ from an "adult" map of the economic geography of the area?
 6. Make a study of a place that people visit for weekend outings. How picturesque is it? Why do they go there? What do they do? How would the place feel having people there? How might it want people to alter their behaviour there? Why?
 7. Study the places students can visit within a 30 minute walk of their homes. Draw time-distance maps of these places with home as the centre. Explore how these maps might differ if drawn by a blind or elderly person.
 8. Make a study of the rules students believe apply to different places, e.g. bus stop, school office, students' bedrooms, snack bar, car park, etc. Are there different rules for different places? Are they written or unwritten rules? Who makes them? How are the rules communicated and enforced? What happens if the rules are broken?

Principle 6: Making environmental citizenship the primary goal of environmental education

A. Some leading curriculum and policy questions

1. Who makes and enforces the rules for the care of the school grounds and buildings? How can all students play a bigger role in this?
2. What curriculum provision is provided for students to be positive and assertive in their opinions and actions but respectful of the rights and sincerity of intentions and actions of others?
3. What opportunities exist for students to study environmental issues and problems? What is the degree of community support for issues-based teaching?
4. What degree of co-ordination is there between the teaching of political concepts, legal studies, ecology and geography in relation to how environmental issues are taught in your school?
5. What policy does your school and education system have about teaching environmental issues? Does it uncritically advocate "neutrality" and "balanced" but ignore the need for teachers to adopt a variety of approaches to teaching about controversial issues?
6. What policy does your school and education system have in relation to guest speakers visiting school and/or students going out to visit community groups involved in an issue?

7. Are the resources used to study all sides of an issue equally well prepared and presented, or could students be confused by the hidden curriculum of attractive glossy brochures and videos from one interest group compared to cheaply produced leaflets from a less financial group?
8. What constraints limit the opportunities for students to act on their conclusions from the study of an environmental issue and engage in projects to put their beliefs into practice? What interests in the school community can be used to minimise these constraints?

B. Some curriculum ideas

1. Start with environmental issues that are close to students so that they can exercise some influence in decisions on the issue, e.g. energy use and conservation or waste recycling practices in the school, a tree planting campaign, bikeway planning etc.
2. Monitor local newspapers to collect details of environmental issues and problems in the local area. Study some of these issues using an action or community-based model.
3. Study past environmental issues to explore the ways issues are resolved and the values that seem to underlie the way decisions are made.
4. Use role play techniques to enable students to explore and experience issues from a variety of perspectives.
5. Study the environmental policies of political parties in relation to general issues and particular issues and problems of interest and relevance to students.
6. Select some issues for study that show students the complexity of environmental politics, e.g. the difficulty of reaching environmentally sound decisions when three levels of government with different priorities and viewpoints and conflicts between short-term expedience and long-term benefits are involved.
7. Compare the environmental management programs and methods of handling controversial environmental issues in other States and countries. Explore their advantages and disadvantages in relation to these matters in your State and country.

Principle 7: Adopting an ecological approach to curriculum development and teaching

A. Some leading curriculum and policy questions

1. To what extent do the goals of your school emphasise the development of perceptual skills and practical knowledge rather than cognitive skills and the transmission of subject-based knowledge?
2. What sections of the school are interested in environmental education? Is this interest widespread or expressed by individual staff or departments only?
3. What has been done to foster interest in environmental education? What else can be done? What resources and staff training might be needed to further develop interest and involvement in environmental education?

4. What level of integration exists in the environmental education program across the school curriculum? What has been done to promote integration in the past? What else can be done? What resources and staff training might be needed to achieve an across-the-curriculum approach to environmental education?
5. How can environmental education be evaluated and assessed in terms of the success of the program and the work students have done?

B. Some curriculum ideas

1. Emphasise the development of perceptual skills and practical knowledge not just cognitive skills and the transmission of subject-based knowledge?
2. Design the curriculum around questions, issues and problems arising from the needs of students, society and the environment. The basic questions to ask are "What needs to be done in this environmental situation?" and "How can this school or group of learners do something about it?" Such questions should not be left as the last ones in an enquiry.
3. Plan learning experiences so that students are encouraged to learn by deliberating upon the resolution of practical problems rather than remembering details about them only?
4. Use the confluent teaching model to structure teaching units on both the cognitive and the affective domain in order to promote the education of thinking and feeling people.
5. Use descriptive, work-based and non-competitive approaches to the assessment of student learning.

Conclusion

School-based curriculum inquiry along lines such as suggested in these questions may help a school community to develop its own environmental education policy or to translate (and enrich) a centrally produced policy into an action program adapted to the individual needs of schools and their environmental and community contexts and the requirements of different education systems. Additionally, such curriculum inquiry may provide the following benefits to a school:

- The development of an environmental ethic shared between teachers, students and the community that legitimates an action orientation to environmental issues and problems and encourages all to participate in their resolution.
- The development of an interdisciplinary approach to teaching and learning - through a co-ordinated across-the-curriculum approach and through curriculum development in particular disciplines or subject areas to incorporate an issues-based interdisciplinary approach and, perhaps, through the design of a new environmental education course that displays these characteristics.
- The acceptance and development of a wider range of curriculum structures and teaching methods than presently found in some schools to promote learner-centred, issues based and action oriented approaches to teaching and learning.

While these benefits to the curriculum and life of a school can flow from the approach to curriculum enquiry at the school level suggested in this paper, they also carry the potential to contribute to the professional development of all participants. Indeed, the process meets the criteria suggested by Robottom (1987b, 114-5) that professional development in environmental education should be enquiry-based, participatory and collaborative, focus on the ideas and work of teachers, and engage them in a critical analysis of environmental and educational values and problems.

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