Rejoinder

Alternatives to National Standards for Environmental Education: A Response to Roth and McClaren

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> [T]he environmental education movement is based on flawed information, biased presentations and misguided objectives. At worst . . . impressionable children are being browbeaten into an irrational rejection of consumption, economic growth and free market capitalism. (Cushman, *New York Times*, April 22, 1997, p. A8)

When the editor asked us to lead-off a debate in this journal on the notion of national standards in environmental education, we could not resist. At a time when everybody in the academic world is pushed to publish (outcome-based), and hardly anyone has time to read, reflect, and engage in dialogue (process-based), it is quite rare that authors get two experienced and highly respected professors in the North American environmental education scene to take the time to critique their ideas. At the same time, we are pleased to learn that two researchers from a neighbouring country seem to support our line of thinking. Judging from the three responses, we do believe that we have succeeded in starting a lively debate on the subject. We welcome the opportunity to clarify our position somewhat, and to justify some of the choices we made—choices which Roth and McClaren critique, but Croizer and von Frenckell seem to support.

First of all we are pleased to note, along with Roth, that the North American Association for Environmental Education's (NAAEE's) goal of establishing national environmental education standards has fallen of its own weight. The NAAEE now speaks of guidelines for excellence (1996) which seems more in line with our plea for process-based quality assessment. However, the subtitle of a more recent (draft) document, "Environmental Education Guidelines for Excellence: What School-age Learners Should Know and Be Able to Do?" (NAAEE, 1997), still suggests an emphasis on

predetermined, expert-based learning outcomes with little regard for local circumstances and differences. Nonetheless, there appears to be a shift towards emphasizing the quality of the learning process. Hopefully this shift is the result of constructive criticism from environmental educators both within and outside of NAAEE. It is clear that there is a need for quality improvement and assessment in environmental education to counter the kind of criticism that can now be found even in mainstream media sources such as the *New York Times* (see the quotation above) and *CNN* (for example as expressed by Michael Sanera of the Claremont Institute, a conservative California-based research institute, in an interview which was broadcast world-wide on Earth Day).

There are many issues that could be addressed in this rejoinder, but three demand an immediate response: 1) the polarization of schools of thought in environmental education, 2) our suggested misunderstanding of behaviourism, and 3) the compatibility of non-behaviouristic and behaviouristic approaches to environmental education.

Polarization of Ideas

Of course McClaren is right when he says that we over-simplify by introducing three paradigms in environmental education (behaviourist, interpretive, and critical) and by lumping the last two together under the label "non-behaviourist." As we stated, we did this for the sake of debate. The price we pay for doing so is that we lose some of the nuances, subtleties, commonalities, and diversity of points of view. But, by highlighting differences and distinctions, we try to show that we are dealing with paradigmatic positions rooted in ideologically different world views. Let us not forget that making distinctions is an important philosophical task which enables us to see old territory in new ways and to expose previously hidden meanings. Besides, Roth and McClaren must recognize that it is not our intention to polarize environmental education. In the discussion section, for instance, we state (1997):

> Any attempt to standardize people's realities into one universal world view, or to a few at best, will indeed make environmental education vulnerable and fluffy. Instead, differences and unique

> qualities should be highlighted and celebrated to allow for the learning process to become existentially relevant and meaningful. Strength through diversity should be a core theme, not only in multi-cultural education but also in environmental education. (p. 24)

Incidentally, we do value McClaren's broadening of Table 1 to include two additional paradigms, although it, too, can be regarded as the stereotyping of positions of which both the absoluteness and the validity can be questioned.

Interpretations of Behaviourism

McClaren is somewhat bothered by our use of "behaviourism." After several readings of our paper he distilled our interpretation of behaviourism, and apparently does not share our view. We argue that behaviourism takes on a positivistic instrumental view of behaviour. In our view, knowledge and human interests are interwoven as reflected in the choice of methods and the ends to which such methods are put. The idea that there is a world that can be totally analysed, predicted, and controlled—the world of positivistic science, and, indeed, behaviourism—we find frightening. Unless we reflect on the ends to be served by science, we risk that prediction and control, and their associated methods, might exclude other ends such as: improved understanding among people, release of human potential, and formation of a sustainable relationship with our surroundings.

Many researchers have tried to structure environmental education content, and the way it is presented to students, using hierarchical levels of universal goals and objectives. Outside experts: determine what students need in terms of knowledge, attitudes, values, and skills; design a curriculum that consists of measurable/quantifiable goals and objectives; implement the program; test to what extent the goals and objectives are realized; modify the program and reinstruct the teacher. In a worst case scenario, the students become a database, and the teacher an implementation instrument, while only the researcher, who gets an article published in a scientific journal and a research grant to pay his/her salary, stands to benefit (Wals, 1990).

This widely used positivistic approach to education research and development often results in the ignoring of students' ideas, experiences and mini-theories, as well as the teacher's own classroom experiences and expertise. Teachers and students are not considered capable of determining the content of their own education, setting their own goals and objectives that are compatible with the community they live in, and finally, are not allowed to evaluate their own teaching and learning. Alienation between researchers and school community, and dis-empowerment of teachers and students who have been denied a role in shaping and evaluating their own education, is often the result.

McClaren argues that while there is an emphasis on learning outcomes in Hungerford's approach to environmental education, his methods are far removed from the classical protocols of behaviourism. Despite good intentions and an impressive body of research, we conclude that the science behind the work of Hungerford, and his many colleagues, is still behaviouristic in nature, and their methods represent contemporary protocols of behaviourism (behaviourism in disguise, so to speak). The following quotations (Hines, Hungerford, & Tomera, 1986/87) illustrate our point:

> Behavioral intervention strategies consisted of the employment of some type of behaviour modification technique aimed at increasing the incidence of a particular target behaviour. (p. 6)
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> Thus, in situations in which individuals do not posses those personality characteristics which would lead to the development of a desire to help alleviate environmental problems, these individuals may be enticed into behaving responsibly toward the environment by the application of behavioral intervention strategies. (p. 7)
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> It is not known at what point a person will forego economic and other personal benefits to do what preserves the integrity and stability of the environment, . . . it may be more efficacious, in the case of certain environmental problems, to manipulate situational factors in order to produce desired behavioral changes. (p. 8)

In a recent issue of the *Journal of Environmental Education*, Knapp, Volk, and Hungerford (1997) provide a framework of goals for environmental interpretation which has a heavy emphasis on

manipulating variables in order to develop responsible environmental behaviour. This is quite all right to those who believe that there is some merit in behaviouristic approaches to environmental education as both McClaren and Roth seem to think. It is quite troublesome, however, to those who believe that the world of positivism in the sciences, and more specifically the world of behaviourism in the behavioural sciences, lies at the very root of the exploitation of people and "natural resources." Our point is that before uncritically accepting the dominant positivistic paradigm, we have to consider alternatives. It is our belief that it is the same world of positivism that allowed for environmental deterioration at its current pace and scope in the first place! This brings us to the next issue we wish to address.

Compatibility of World Views

More fundamental to this debate is the question of compatibility. Can we, for instance, be eclectic and mix methods of inquiry and epistemologies depending on the situation in which we find ourselves? In other words: can we enjoy the best of both worlds? Can one be a behaviourist in the morning and a critical theorist in the afternoon? Or, do these world views represent ideologically different positions about the nature of being, the role of science, and the nature of relationships (between people, and between people and their environment). Roth argues that behaviouristic and non-behaviouristic strategies are both needed. Our argument regarding this point is that environmental crises are rooted in positivist thinking and that solutions to these crises demand new ways of thinking. Taking also into consideration our strong reservations towards a behaviouristic approach in environmental education, an alternative approach is needed.

Roth states that it can be argued that the "behaviouristic" paradigm can also be participatory and process-based, lead to value clarification, and encourage students to take a critical stance by promoting discourse, debate and reflection. He argues that, in short, "critical thinking is a goal of education with which the process/product spiral of the scientific enterprise is intimately linked" (p. 31). One trend we notice among environmental education experts is the instrumental use of the word "skills." Today the skills

bank includes, for instance, action taking and problem solving which are cut-up instrumentally in steps to be followed in a particular sequence. Max van Manen argues that critical thinking—yet another popular skill—is often regarded as being synonymous with cognitive skills represented by terms such as "good thinking," "thinking straight," "logical reasoning," or with "problem solving skills." Van Manen (1975), concerned with emancipatory education, suggests that all these abstractions are part of the empirical analytical tradition which lacks a more reflective reference frame:

> The theoretical base of empirical-analytical science is too narrow, not taking into account a more complete concept of social science inquiry, and it is inappropriate simply for reasons that it is essentially not critical in a more emancipatory sense. Emancipatory awareness leads to the possibility of self-determination with some degree of freedom from blind psychological, political or economic compulsions . . . . It involves inquiry into the social origins, consequences, and functions of knowledge. (p. 17)

The above reasoning again suggests that environmental education should not be defined in terms of desired behavioural outcomes and that the *for* part of Lucas's (1980) widely cited article "The Role of Science Education in Education *for* the Environment," should be re-examined. Defining and standardizing environmental education would thus becomes problematic and undesirable if they were to require universal goals and objectives that would be imposed upon schools and communities regardless of the contextual realities that challenge them.

Roth embraces a behaviourist outlook when suggesting that environmental education should lead to an improvement in "the quality of life" and that there are sets of indicators which define "responsible environmental behaviours" (Roth, 1997) or "citizenship behaviour" (Hungerford & Volk, 1990). First of all, "quality of life" is an ill-defined concept in that it is value-laden, aspecific, and can be interpreted in many ways. If so-called experts get together and determine how to define and measure such a concept, and how to create "intervention strategies" to promote this concept, then the difference with Skinner's S-R models may be less than imagined, and we will be dealing with environmental conditioning, or training, but not with education. As we argued, the prescription of a particular outlook conflicts with the development of autonomous

thinking (see also Jickling, 1992). This is not to say that we should not educate *for* something or that environmental education is only process and no content. Educating *for* the environment is needed to prevent this planet from deteriorating. The issue here is: How do we go about teaching *for* something, and who decides what we should be for? In schools, are teachers, students and community resource persons involved in deciding what is good for the community and the local environment? Or, are those decisions made by so-called experts? In our view, the academic researcher will have to become both a resource for the community, a facilitator of school-based and learner centred curriculum development, and a bridge between theory and practice.

In Closing

As with McClaren and Roth, we believe education is not an "all or nothing" game and that there is merit in being exposed to a wide variety of points of view and ways of thinking. This is one of our main arguments *against* the notion of national standards and *in favour of* emphasizing non-behaviouristic approaches.

We never meant to suggest that people learn in a smooth linear fashion, as Roth suggests. On the contrary, in Table 1 (Wals & van der Leij, 1997, p. 14), we suggest a shift from linear knowledge acquisition to non-linear, spiral learning. Research has shown repeatedly that in real life situations people learn in non-linear ways and that there is no linear connection between changes in attitudes, values and awareness and behavioural change. Again, this seems to suggest that it may be rewarding to explore non-behaviourist approaches and to look at criteria that environmental educators can use to improve the quality of environmental learning from an environmental *education* perspective, as opposed to an environmental *behaviour* perspective. We still believe that environmental education should comprise a four dimensional learning process that seeks to enable participants to construct, transform, critique, and emancipate their world in an existential way. Working within these four dimensions is incompatible with the idea of setting national standards for environmental education. However such work may well be compatible with the idea of developing guidelines for excellence as long as we utilize teachers',

students' and school communities' own knowledge, ideas and concerns. And, if we allow for diversity in guidelines for excellence to reflect contextual differences. The question ought not to be, "What learners should know and be able to do?," but rather, "How can we create the right conditions for learning to take place?" and "What comprises a high quality learning process?" The four dimensions for environmental education we distinguish can become focal points for further reflection and research in order to generate guidelines for excellence that are meaningful to the students and enhance their learning.

As always, a lot of work is still to be done. But, as long as discussions and debates like these continue to engage the environmental education (research) community, the field will advance and become better able to withstand the inevitable criticism it will draw.

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