Another Point of View

Reflections on "Alternatives to National Standards in Environmental Education: Process-Based Quality Assessment"

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During recent years there has been a growing interest in developing national standards for environmental education in the United States. Advocates for standards claim that environmental education is often poorly defined and lacks clear directions and purposes with the result that some programs offered to students are of poor quality and provide content which is inappropriate, inaccurate, or biased. In addition, funding agencies often require grant applications to state the expected results of their proposals in terms which offer measurable, quantified outcomes or other demonstrable results. Standards, it is claimed, would provide guidance to program developers and evaluators, as well as to agencies which make decisions concerning program funding.

Many areas of contemporary life are regulated by standards. We accept the need for standards governing the quality of our water, food, transportation systems, building construction, and so on. We also accept that these standards must be enforced by inspection, regulation, certification, and even by legal consequences for those who abridge them if they are to have any real meaning. Thus, it is evident that standards can literally shape areas of practice and direct the training and certification of practitioners. Given the power of generally adopted, widely endorsed or legislated standards it is of extreme importance to make sure that standards are in fact an accurate reflection of the best of current knowledge and understanding, as well as of what is practically and technically feasible. It is also important to recognise that standards can be used as a means of centralising power within a domain of practice, and of regulating and controlling those critical of current practices or of the regulators themselves. Used badly, standards can be powerful forces repressing creativity, invention, innovations,

and criticism. They can be a means of entrenching conventional wisdom and current practices.

Wals and van der Leij (1997) are to be commended for inviting a careful consideration of the issue of standards for environmental education on the part of the environmental education community. Moreover, given that trends in policy and practice in the U.S. often affect those in other countries, especially Canada, this issue is of importance outside the boundaries of that nation. In essence, the case made by Wals and van der Leij is that, first, the advocates of standards reflect a view of environmental education which is rooted in behaviourism. Second, they claim that behaviourist theory and practice is part of the problem in human-environment interactions and therefore is unlikely to form part of the solution. Third, they contend that there is a valid and practical alternative to basing standards on the behaviourist paradigm and that this alternative, termed non-behaviourist, has fundamentally different attributes from those of the former. They propose forming standards on process-based quality assessment rather than on outcome measures and they provide a set of learning enhancement criteria which might form the basis for process standards (even though they claim that it is not their intention to use the criteria as a system for program evaluation). Finally, they offer four dimensions which they believe should be reflected in quality learning processes in environmental education. Participants should: construct, transform, critique, and emancipate their worlds in existential ways.

It is essential to an understanding of both their critique and proposals to recognise that Wals and van der Leij contend that a reconciliation between the two paradigms of environmental education is not possible. They make this absolutely clear as follows: "When accepting the premise that the above 'paradigms' are ideologically different, one also accepts that they are incompatible" (p. 13).

While I believe that the authors offer some useful tools for considering the structure of environmental education program models or curriculum theories, especially in the categories of differences in emphasis which organise their Table 1, and in the learning enhancement criteria which structure Table 2, I contend that there are some serious problems both with their analysis and the prescription. Before entering into that discussion it is important to note that there is one likely area of agreement between the

advocates of the behaviourist and non-behaviourist paradigms as defined by Wals and van der Leij. I believe that both schools of thought about environmental education view our current environmental problématique as serious and see education as providing an important element of the solution. They differ about the causes of the problem and the means which should be employed in order to educate the general population regarding human-environment interactions. They have different views of the learning process, schooling, the nature of science and technology, and the nature of education itself, but they take the current state of our relationship with the planetary environment as being in serious disarray. Thus, before setting up a conflict between ideologies it may be useful to note this area of consensus.

What are some of the problems in the analysis offered by Wals and van de Leij? First, I found it interesting that while the authors apparently believe that many of the roots of the current environmental situation are to be found in habits of thought and discourse which might be broadly termed modernist, they themselves apply some of these tools or habits to their own analysis of environmental education. Thus, the authors set up a number of bipolar opposites or dichotomies between the two ideologies, or world views, which they appear to feel represent the only two significant paradigms of environmental education, or at least the most extreme ends of the spectrum of possibilities. The problem with dichotomies or binary classification schemes is that they often provide a poor representation of the diversity which actually exists, or of the range of possible options. While binomial systems of classification are deeply rooted in Western thought (Bateson, 1979) a great deal of empirical research in many fields has shown the natural world to be more complex both in state and process than can be adequately represented along two dimensions (Bohm, 1984). Even so, binary classification schemes, and the entire process of classification itself, can be useful as long as the categories are valid in the first place and all the extant categories have been identified. This becomes of even more critical importance if policy formulation is to be based on one of the options.

To turn now to the issue of whether the categories are correct in the first place, I found Wals and van der Leij's use of the term "behaviourist" or behaviouristic to be problematic. After several readings of the paper I came to understand their use of the term.

Unfortunately, their usage does a disservice both to behaviourism, as a psychological theory, and to the school of curricular thought in environmental education which focuses on student learning outcomes. To be fair, however, the term behaviourism, has taken on a life of its own quite outside the original psychological theoretical context in which it has its origins (Smith & Woodward, 1996). Any careful reading of the materials published by Hungerford and his colleagues (for example Hungerford & Volk, 1990) will reveal that while there is an emphasis on learning outcomes and objectives, sometimes termed by these authors as "behaviours" their methods of attaining behavioural change or outcomes are far removed from the classical protocols of behaviourism. While behaviourist psychologists sought to develop a model of human behaviour and learning based on stimulus-response and operant conditioning, turning away from phenomenology and meaning-based psychoanalytic theories, few educators, with the exception of practitioners of behaviour modification approaches, as described by Joyce and Weil (1986), have tried to apply purely behaviouristic approaches to school programs and curriculum designs.

The behaviouristic category as defined by Wals and van der Leij likely has origins as much in business theories such as management by objectives (MBO) or operations research (Beer, 1968) and in models of business efficiency based on time and motion studies and cost analysis. Modern education has been highly influenced by business and industrial paradigms. In fact the modern school is often structured in a manner similar to that of the industrial office or factory assembly line. Hence, it should not be surprising to find a emphasis on "bottom line" final product definitions of performance and efficiency. The current trend toward performance- or outcomes-based systems of accountability focuses on quantification and measurability. The fascination with scores on standardised tests as measures of educational merit is a clear reflection of this pattern of thinking. Saul (1995) would view these tendencies as an extension of corporatism into the education system. It is tempting for environmental educators, especially when challenged by education bureaucracies to justify the funding of their programs, to develop program proposals and descriptions which will satisfy narrow definitions of accountability. I suggest it would be more apt for Wals and van der Leij to entitle their

categories content-outcomes based versus processed-context based rather than behaviouristic vs. non-behaviouristic.

The term behaviour, as used in classic behaviourist psychological research was assigned to overt evident acts which could be unambiguously observed and directly associated with various stimuli. Wals and van der Leij, as well as Robottom (1993) and other critics of behaviourist approaches base their critique fundamentally on the claim that the so-called advocates of behavioural outcomes regard the student as a passive recipient of instruction, as an object to be manipulated, or to have behaviour changed. No matter how desirable these changes may be, because they constitute manipulation of the students in order to produce the desired changes, they must be seen as indoctrinative rather than educative. While it is certainly necessary for educators to make a clear distinction between education and indoctrination, it would be a mistake to contend that education doesn't also entail behavioural change. When Wals and van der Leij speak of students becoming critical thinkers they are speaking of a behaviour. Presumably there is a difference between a student who thinks critically and one who doesn't. Surely, thoughtful teachers reflecting on their own situations would use various cues to decide whether or not students were becoming more critical, more thoughtful, more observant and likely modify the learning situation as a consequence of their assessment. Education itself is a value. As the 1988 British Columbia Royal Commission report (Sullivan, 1988) put it, "We believe it is better to be educated than not to be." Thus, to categorize only the so-called behaviourists as interested in behaviour or behavioural change is an oversimplification. What may distinguish the two paradigms more usefully is their view of the relationship among the student, the work of learning, and the teacher.

However, there is another, perhaps more important issue concerning the classification of theories of environmental education into the bipolar, and presumably mutually exclusive opposites offered here by Wals and van der Leij. I would contend that there are at least two other valid, describable paradigms of environmental education extant today which are not included in their classification. These are the synthetic/ecoliterate paradigm, and the ecozoic paradigm (sensu Berry, 1991). The new categories can be added to the Wals and van der Leij table, applying the

categories of focus, epistemology, and so forth to them in a way which further reveals the utility of the proposed categories of description (see Table 1). Space here does not permit a full description of the additional paradigms, but each has a number of published theoretical and/or curricular descriptions. In Table 1, I list some of the authors whose works can validly be associated with each model (Berry, 1991; Quinn, 1992; Orr, 1992; Cohen, 1992; McClaren, 1989). In addition, I have assorted the paradigms along a continuum which reflects my view of their compatibility or fit with the practices and structures of contemporary North American public schooling.

It will be seen, in Table 1, that I believe the behaviouristic (content-outcomes) paradigm fits best with many current school structures, while the ecozoic paradigm presents a challenge to the assumptions of contemporary schooling. This is not to say that some of the writings of authors in the ecozoic paradigm cannot form a focus for discussion and debate within school programs, but to actually implement a total program of education reflective of the world view of the ecozoic within the public schools would require a socio-cultural transformation. However, there are alternative schools outside the endorsed public education system which are attempting to implement practice in ways reflective of the ecozoic paradigm (Maser, 1997). In my view, the other three paradigms will fit or not fit, be implemented or not, within the context of current school systems, depending on a number of situational factors or conditions. Many of these are highly context specific while others are subject to local political forces and agendas. In some communities even the most content-oriented, discipline-based, approaches to environmental education would be considered radical and subversive.

Before we assume that the only alternative to implementing a system of standards based on content and outcomes is the non-behaviouristic (process-context-based) we must consider the possibilities offered by the other two paradigms. Furthermore, given my own critique of premature categorisation, I would suggest that we need a major effort to develop a landscape view of the domain of environmental education in order too be sure that we haven't missed significant genera and species. Mrazek's (1993) NAAEE Monograph is a beginning, although that work focused on

	Behaviouristic	Non-Behaviouristic	Synthetic/ Ecoliterate	Ecozoic
Focus	Learning for Knowing	Learning for Being	Learning for Practical Action	Learning for Transformation
Epistemology	Objectivist Positivistic	Subjectivist Socially/ Historically Constructed	Synthetic: Objective/ Subjective/ Contextual	Biologically Connective
Knowledge Generated	Propositional Linear Universal	Experiential Non-linear Contextual	Universal Contextual Applied	Integrative Transformative
Structure	Subjects Disciplines	Issues Life-world	Disciplinary Historical Cases	Holistic
Teacher's Role	Expert Instructor	Facilitator Co-learner	Facilitator Tutor Co-Learner	Mentor Advisor Model**
Role of Learner	Consumer	Creator of Knowledge	Expert Researcher Critic	Communicant Celebrant
Teaching Strategies	Lectures on Theory Modular Instruction	Real-world Experiential	Experience Case Study Learning Through Action	Experiential Meditative Reflective
Research Style	Experimental RDDA-model (linear-expert driven)	Participatory R *is* D-model (non-linear-practitioner driven)	Contextual Synthetic Practical	Multi-Sensory Observation Opening
Role of Researcher	Producer of Knowledge & Solutions External Expert	Co-creator of Improvements Participant	Guide Team Member Problem Solver	Recipient Openness to Insight
Research Goal	Abstract Knowledge	Local Theory and Action for Change	Ecologically Connected Action	Enlightenment Insight Harmony
Power Relationships (PR)	Reinforces Existing PR	Challenges Existing PR	Analysis of PR Political Action	Harmony Deeper Power
Focus of Reflection	What do I now **Know?**	Who am I **Becoming?**	What is possible How to obtain it	Relaxed Open to Insight
Fit With Schooling*	Good Situational	Situational Questionable	Situational	None/Little
Principle Theorists	Hungerford & Volk, 1990	Wals, 1993; Robottom, 1993	Orr, 1992; McClaren, 1989	Berry, 1991; Quinn, 1992; Cohen, 1992

** Nature is considered the ultimate teacher.

* Fit with contemporary schooling: This category reflects the extent to which the particular model or domain of environmental education is likely to be implemented in a K-12 school system in the USA and Canada. Goodness of fit indicates that the model can be described in terms which reflect current educational terminology, could be implemented within the administrative and curricular structures of typical schools, and whether or not student learning could be assessed/demonstrated by examinations or by authentic assessment. A situational rating means that whether or not the particular model could be implemented/ adapted would depend on local/state/provincial policies, the existence and support of local champions, the interest of teachers in particular schools, and viable funding, space, time, and logistic support. In the case of the ecozoic model, there is really no fit with contemporary schooling and the model implies a new set of cultural arrangements for educational development.

Table 1. An extension of Wals and van der Leij's analysis to include two additional paradigms of environmental education

research in environmental education more than on prescriptive and/or descriptive curriculum theories (Barrow, 1984).

The second area of concern which I have about Wals and van der Leij's' critique and proposal lies in their categorisation of the behaviourist school and their view that there is no compromise possible between the two paradigms of environmental education which they identify and describe. I have commented above on their use of the term "behaviourist" or "behaviouristic." It is clear that the authors regard the advocates of this paradigm as being guilty of some serious misconceptions and defective practices. In essence their critique is that the modernist world view, coupled with free-market economics is at the root of our current environmental situation. The advocates of content-outcomes based environmental education presumably carry these mistaken views into their practices. What do Wals and van der Leij offer as an analysis and as an alternative way of thinking?

First, they claim individual human agency is not the key factor in issue solutions. Collective action is more productive. Second, they claim that the behaviourist paradigm is limited in dealing with moral and ethical issues. They propose, based partly on the writings of Habermas (1971, 1972; cited in Wals & van der Leij, 1997) that a new ground must be created for discourse in which people are free to explicate their ideas and values free of the current power structures. A new social contract must be created. Third, they claim that the behaviourist paradigm is dominated by experts who impose curriculum proposals on practitioners. The alternative to top down curriculum change is for curriculum change to be driven by practitioners struggling to understand their own values, theories, and intentions in context. It is worth noting that the juxtaposition of top-down vs. bottom up is yet another example of the use of bipolar classification schemes. Fourth, they claim that the behaviourist school of thought treats teachers and students as manipulable objects. This is contrary to a democratic society comprised of critically thinking individuals which is, by implication, a goal of the non-behaviourist model. Fifth, they contend that the behaviourist tradition is rooted in scientific empiricism requiring an objective approach to analysis and inquiry. Thus, if, as they claim, "there is no objective way to study human phenomena," then the behaviourist orientation is clearly off the track. This line of argument is extended by their sixth claim that it is

counterproductive and dangerous to objectify the world. Finally, they note that there is more than one way of thinking and knowing. By implication this would suggest that the behaviourists are so committed to scientific rationalism that they devalue or reject other traditions of inquiry and knowledge.

It is often common practice in a debate setting, especially if there is to be a winner and a loser, to stereotype an opponent by assigning attributes to him or her, and then setting your position in stark contrast. I have already argued that there are more paradigms of environmental education than are represented in Wals and van der Leij's' description, as useful as their descriptive categories may be. However, I also believe that their characterisation of the behaviourist (content-outcomes) paradigm is a considerable stereotyping, to the point where it obscures our understanding of the real positions held by the two schools defined by the authors. The curriculum writings of Hungerford and Volk (1990), Hines, Hungerford, and Tomera (1986/87), and Monroe (1988) which are cited by Wals and van der Leij, as well as many other works which might fall within the behaviourist category, reveal a complexity of positions concerning the role of teacher, role of student, nature of learning experiences and teaching methodology, and stance toward discussion of ethics and values which is not reflected in the bipolar characterisation offered here. This may simply be because a number of the programs actually fall more in the ecoliteracy/synthetic category than in the behaviourist (content-outcomes), or it may reflect the reality of educational practice. The experience of myself and others who have worked with practising teachers for many years is that most practitioners live in the vortex of the work in progress. While theoreticians on either side of a debate may see their approaches as incompatible, practitioners readily blend them as required by their situation and context unless they are so indoctrinated to the impossibility of compromise as to be unable to synthesise approaches, or are forbidden by a power structure with a vested interest in the maintenance of only one form of practice. Wise practitioners in all fields of human service, and for that matter in fields with definite product outcomes, soon learn to fit theory to the realities of their actual situation. This is the metacurriculum of developing practical competence. To deny it is to impoverish our understanding of practice.

I also suggest that there is a need for a very critical analysis of the seven elements of the summarised critique of the behaviourist paradigm as attributed to Jickling, 1995; Robottom, 1993; Robottom and Hart, 1993; Stevenson, 1993; and Wals, 1993. Consider for example, the claim that, "Individual human agency is not the key factor in issue solutions; environmental issues are almost always political struggles and therefore collective action is more productive." Similarly, the view that scientific objectivity has outlived its usefulness and should be abandoned in favour of subjectivity is perhaps a distortion both of the oft-quoted (and misinterpreted) uncertainty principle in physics, as well as a simplified view of the status of contemporary scientific philosophy. Bronowski (1978) examined these issues in some depth. Therefore, I again question whether the divisions between the two paradigms offered by Wals and van der Leij are as valid and absolute as they claim. Moreover, I am unconvinced that adoption of the non-behaviourist (process-content) model will provide a more valid basis for the formulation for standards. Instead, I would suggest that a valid and useful source of descriptive and prescriptive curriculum theory for environmental education is more likely to arise from a synthesis among the compatible elements in the four paradigms arrayed in Table 1 of this commentary. The effort to seek such a synthesis will not resolve all differences among these world views, but it may be more useful to the overall purposes of environmental education that an extended battle between opposed camps.

Before the environmental education community defines standards of practice it should be sure that it has a full understanding of the range of possibilities and challenges which might nurture a transformation in human-environment relations. Berry (1991) contends we have a choice: we can either advance into a new state of affairs, possibly the ecozoic era as he terms it, or perish in the desert. While things may not be as he suggests, it may well be that it is not that we do not know what to do as much as we do not do what we know.

Notes on Contributor

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