Another Point of View

Textbooks, Teachers and Full-Colour Vision: Some Thoughts on Evaluating Environmental Education "Performance"

Pamela Courtenay-Hall, University of British Columbia, Canada

With noteworthy emphasis on the importance of open-mindedness in environmental education, Michael Sanera criticizes the "actual performance" of grassroots environmental education practitioners for falling objectionably short of the "promise or good intentions of the field" as "represented in the key documents established by the discipline." The central problem he alleges is a problem of bias—environmentalist bias—in the teaching of environmental issues.

I will respond to Dr. Sanera's article first by discussing the problem of bias, and then by critiquing his approach to evaluating environmental education "performance." I believe there are serious problems with Dr. Sanera's research methodology and with the understandings of teaching, environmental education, and educational research reflected in his essay. Together, these problems call into question the barest outer validity of his central argument. Even worse, Dr. Sanera's article seems to throw a patent two-level insult at teachers . . . as the pervasive quest to evaluate teaching in easy, quantified, generalizing ways takes a turn that even its most pessimistic critics would not have predicted.

Nevertheless, it is important to raise to view the problems of bias in environmental education curriculum materials which Dr. Sanera so directly addresses. Thus his extensive efforts in the domain of evaluating environmental education curriculum materials are to be commended. In what follows, I will argue that there are considerations crucial to expanding Dr. Sanera's ongoing program of critical evaluation beyond its present limits. First, if we want to test for problematic bias in environmental education, we need to look in more than one direction. Second, if we want evaluate "actual performance" in environmental education, we have to do a lot more than evaluate environmental education curriculum materials.

The Problem of Monochrome Vision.

Mention the word "bias" in connection with environmental education, and most people will first think of bias of the pro-environmentalist sort. They will envision teachers, programs or curriculum materials whose aim, whether overt or covert, is to transform *students* into *committed environmentalists*. On the other hand, people who are themselves committed environmentalists are more likely to think first of bias of the pro-development sort. They may think of teachers, programs or curriculum materials which systematically miss, ignore or downplay environmental concerns, and which set environmental protection and economic progress at odds with another.[1]

In both cases, the missing perspective, the perspective that usually surfaces as soon as a person has had the chance to think about it, is that bias in environmental education comes in both stripes. Indeed, it comes in *many* stripes. In environmental education programs in Canada, as in the U.S. and elsewhere, there are a range of environmentalist biases as well as a range of pro-development biases that you might encounter. There are also many related biases of underlying ethical frameworks, gender, class, race, culture, sexual orientation, ability, and age. (Courtenay-Hall & Sutherland, forthcoming). But all too frequently, the dominant reflex attitude to the question of bias in environmental education seems to be to see it monochromatically, and in one of two sharply "opposing" colours, *either* environmentalist or pro-development. And so it goes. *Bias in environmental education*? *Must be those darn environmentalists getting their propaganda into the curriculum*. Or: *Bias in environmental education*? *Must be that old familiar problem—the privileging of resourcism over alternative views of how humans should relate to nature*.

With this anti-(one-or-the-other) outlook, the question of bias in environmental education is not a question of what kind(s) of bias there might be in a particular program. It is only a question of how subtle or how strong the bias might be, bias being visible to the analyst in only "one colour." Of course, it should come as no surprise that people of an instrumentalist bent are more sensitive to bias of an environmentalist sort, or that people of an environmentalist bent are more sensitive to bias of a pro-development sort.

That's just human nature. But it's also something to watch out for. Because this initial sensitivity can become a sustained focus that systematically seeks out "enemy bias" and comes to imagine that this is the only bias one need worry about in a given educational program. This is worrisome, because this sort of focus can engender large blind spots. Ultimately, it can transport us into creating the very sort of biased agenda in our own work that we are seeking to expose in the programs we are critiquing.

I think that something like this has happened in Sanera's analysis of bias in environmental education . . . because nowhere in his article do we hear of bias in any form other than environmentalist. And nowhere does he reckon with the institutional and historical context of most environmental education programs; namely, that they are trying to introduce considerations and perspectives that have been absent from mainstream schooling in western societies for decades if not forever. Neither of these conditions—neither the presence of pro-development bias in environmental education programs today nor the history of pro-development bias in western education generally—makes it acceptable for an environmental education program to proceed in ways biased in favour of environmentalism. My point is simply this: *Environmentalist bias* is the only bias that Sanera seems to be searching for, and *this* . . . is problematically biased!

Sanera's neglect of other directions of bias is particularly hard to understand because we are living at a point in the history of Canadian and U.S. schooling when corporate funding of curriculum development is increasing at every level from preschool to graduate school. Indeed, with continuing cutbacks in public spending on education, the spectre of curriculum being guided by those who have the funds to support it is one that cries out for critical attention in any study of bias in curriculum.[2] So the study of problematic bias in environmental education is important for many reasons, and it is important that it be done with full-colour rather than "one-colour" vision.[3]

"Biased"! Isn't everything biased?

I want to zoom in on a problem that I think is even more serious than this problem of bias in Sanera's article, but first, having gone on for several paragraphs talking about bias, I had better make an effort to clarify my use of this term! —Because bias is an inescapable part of inquiry, our efforts to overcome it notwithstanding. We all come from particular backgrounds and particular social locations that intersect in various ways with questions of the sort we explore in environmental education research. Each of us has some particular set of agendas to accomplish, loyalties to honour, issues to resolve, bridges to secure, stones to polish, axes to grind, and so on. And it is impossible to detach our thinking from every potentially "biasing" aspect of our life experience and social identity.

But we *can* be wary of the problem of bias, we *can* try to imagine what questions might be asked, what answers constructed, from other points of view, and *most importantly*, we *can* seek active collaboration with people occupying a variety of different standpoints, especially marginalized standpoints, to move our collective inquiries as close to "objectivity" as we are capable of getting. These considerations are part of standpoint epistemology as discussed, by Sandra Harding (1993). My point in mentioning them is to illustrate that there is a world of difference between the unavoidable fact of human bias, and the avoidable flaw of problematically biased inquiry. Thus, most of my references to "bias" in this article are shorthand references to "problematic bias."

I will turn now to the problem of methodology in evaluating teaching that I mentioned at the start, beginning first with some general reflections on Dr. Sanera's research methodology as evinced in his article.

Research Methodology: Some problems at the outset

Research methodology is a fancy term for the basic questions, concepts, assumptions and bounds that constitute the framework (or *framing*) of any particular research project. Sanera's project as explained in his article seems to be to scout out the basic criteria against which environmental education practices ought to be evaluated, and then to consider whether the "actual performance" of

"grassroots practioners" measures up to these criteria. But both of these key terms are vague and are left undefined throughout the article, leaving us to assume that "actual performance" means the programs and teaching practices that environmental educators engage in. "Grassroots"? That's anyone's guess!

Sanera's focus, as he tells us, is on "the content of environmental issues" covered in environmental education textbooks, library books, popular books, and other curriculum resources (though his concluding statements frequently refer to environmental education simpliciter, a generalization worth questioning). His subsequent characterization of environmental education as being primarily about knowledge acquisition, and indeed, about the acquisition of *scientific* knowledge, is an assumption that underlies many of the problems I will discuss below.

Sanera's approach seems to be to gather together the results of various studies of environmental education materials to determine whether the materials are fairly inclusive of "all major positions" on a given environmental issue. But there are key aspects of his research design that go unexplained, even unaddressed; for example, the selection methods and tools that he uses, the geographical and educational scope, and the limits of his study. This latter omission leaves us to make the default assumption that his target is "the actual performance of grassroots EE practitioners" across age levels, across educational settings, and *across the U.S*. This is unfortunate. The U.S. is a big place, and environmental education happens at all levels of education, in informal as well as formal settings, from daycares and preschools to retirement centres and universities. No doubt the articles Sanera cites provide more in the way of making clear the range of environmental education practices he is addressing, the sample vs. population size and selection procedures, what was omitted from the study, and how issues of generalizability were dealt with. But . . . ***we need that here!*** And what we have instead is a casual gathering together of the following studies, *none of which* is critically assessed, nor its method of selection specified in:

- the results of Sanera's study of 62 geography, health and science textbooks used in Wisconsin in grades 6 through 10,
- the results of an unspecified study by Sanera based on applying NAAEE guidelines to six environmental science textbooks used at the University of Wisconsin (Sanera, 1997),

- a review of 120 "kids'" environmental books popular in the U.S. and 130 environmental textbooks (Sanera & Shaw, 1996),
- a review of environmental education materials by an Independent Commission on Environmental Education (ICEE, 1997); (Funded by whom? Reporting to whom? Staffed by whom? What mandate? What purposes? What research basis?),
- a review of environmental education materials in the environmental magazine *Garbage* (Poore, 1993),
- short articles published in *Audubon* and *E Magazine* (Cardozo, 1994; Weilbacher, 1994), or
- a brief discussion of an unpublished paper by Paden, Pickering, & Volk (1996) arguing against the inclusion of studies that have been misdirected for political purposes.

Sanera seems to believe that these seven sources together deliver an indictment of the "actual performance" of "grassroots" environmental educators. Now, many important questions need to be raised against this line of argument, including:

- Do these studies provide an adequate basis geographically, as well as across settings and across grade-levels, to support an unrestricted criticism of the "actual performance" of "grassroots environmental educators" in the U.S.?
- Is a focus on the coverage of environmental issues adequate to ground an evaluation of problematic bias in environmental education, or are there key dimensions of environmental education being overlooked in this report?

The first question needs no comment. The second question is complex. For now, I will say only this: Sanera recognizes that the study of environmental issues is only one part of environmental education, but the only other part he explicitly recognizes is "basic nature studies." We see throughout his article an emphasis on *environmental education as science education* and *education as the transmission of knowledge* and *knowledge as familiarity with the latest scientific report* that I think is one of the flaws of this study in its present form.

These issues need much more exploration, but I wish to get at last to the question I take to be even more fundamental and problematic to the claims that Sanera makes in this article. It is a question about what is being measured.

Textbooks and Teachers

Take a look. Those studies that Sanera cites are all studies of written materials—textbooks, popular books, and other curriculum resources. *Not one of them* is a study of what environmental education teachers ***actually do*** with their students, nor what they do with these materials, if indeed they use them all or at all. And this is almost outrageous. We have to ask:

- How could a collection of studies of textbooks and curriculum materials give us any clear, full and reliable indication of the "actual performance" of "grassroots environmental education practitioners"?

Isn't this approach a bit like judging the quality of someone's cooking by judging the quality of the vegetables and other basic food items available at nearby grocery stores?

Sanera's article provides something of an answer to this question (the teaching question, not the cooking question), but it's an answer that really only makes things worse. Employing the dubious construct of "a hypothetical average teacher,"[4] Sanera claims that this teacher—if she is to do her job according to "the basic definition of environmental education as established by the leading authorities in the field"—will have to know chemistry, psychology, political science and economics all at the level of one who regularly reads peer-reviewed scientific journals. In passing, we might wonder why biology, ecology, geography, history, ethics, epistemology, sociology and cultural theory are left off this list. But the most serious problem at this step of the argument is the conception of teaching that (dis)informs Sanera's analysis. What seems to underlie Sanera's description of the "hypothetical average teacher" is the view that being a competent environmental education teacher is all about having the latest expert scientific knowledge of environmental issues, and helping one's students to acquire such knowledge. This assumption becomes one inference short of explicit at the end of the article, where, after pages of criticizing environmental education curriculum materials for neglecting one or another of the latest crisis-denying scientific studies of environmental issues, San-

era affirmingly quotes the mysterious Independent Commission on Environmental Education (1997): "Environmental educators should place primary emphasis on the acquisition of knowledge" (p. 3). What kind of knowledge? The preoccupation of the preceding pages suggests: only scientific knowledge (read: natural science). Should students "acquire any knowledge" of ethics? Epistemology? History? The article evinces little if any concern about these fields.

After describing in these hyperbolic terms the hypothetical average teacher's need to acquire expert scientific knowledge, Sanera next asks, "Where does the average teacher get help with this problem?" This step is crucial to Sanera's argument. It's the step that makes "unbiased" textbooks and school library holdings the *sine qua non* ("without which, nothing") of "unbiased" teaching. Teachers are dependent solely on standardly available curriculum materials (whether in their teacher education courses or in their own schools) for whatever knowledge they are to share with students, and students are dependent solely on teachers and standard curriculum materials for whatever knowledge they are going to acquire about environmental issues. Once this principle is in place, then evaluating bias in teaching solely by evaluating bias in readily available curriculum materials might seem a possibly reasonable thing to do, especially if these materials are mandated. But should this principle be in place? Is teaching best conceptualized in terms that set up the teacher and textbook as authorities? Advocates of critical thinking, critical pedagogy, feminist pedagogy, enactivist approaches to education, and other 20th century reform movements have argued that such a conception of teaching is built upon a conception of learning that is epistemologically, psychologically, and morally problematic.[5] Various models of teaching have supplanted the authority model, including teacher as facilitator, teacher as advisor, and teacher as co-inquirer (see for example, Briskin 1990; Gough 1989; McLaren 1997).

Furthermore, teachers are not slaves to textbooks, even mandated ones, and their additional curriculum resources are not limited to school library books. Many teachers supplement their curriculum with resources and information from various sources. And many teachers either *skip* or encourage students *to challenge* curriculum materials that are problematically biased. In fact, this latter approach, encouraging students to think critically about what they read, can thrive where biased textbooks are readily available. They

are a handy source to provide occasions for practising critical thinking. In the intermediate grades, students who don't already know it are most often fascinated to learn that the books they use in school could be mistaken in what they tell us, and that they themselves are capable of doing investigations of this sort. And in the secondary grades, students love to challenge textbooks given the opportunity. So whatever the ideology, its presence in biased form in educational resources is *no guarantee* that it successfully makes its way at all or in uncriticized form into teaching practices.

Thus, ***clearly***, any researcher who wants to evaluate teaching practices has to *observe* teaching practices to do so. You can't evaluate teaching performance by evaluating the curriculum materials that the teacher ***might*** use in her classes. You have to both observe and *interview* teachers to understand what they are trying to accomplish, how they go about it, and how they make use of whatever curriculum materials they actually do use.

And you need to use informed qualitative methods. Evaluating teaching performance is a complex task. So it is unfair and unreasonable and disrespectful—indeed, invisible-rendering to teachers—to presume to judge environmental education "performance" on the basis of a critical evaluation of selected environmental education textbooks and resources. It would be like evaluating a painting on the basis of the paint missing from the tubes that the artist used. Only Sanera does even worse than this: he doesn't even establish that the paint he is evaluating is indeed paint that the artist used. In any case, just as with paintings and paint tubes, a teacher's pedagogy is much more than the curriculum materials that she uses—especially in the case of teachers who use a critical thinking approach to curriculum materials.

Perhaps Sanera would reply that critical thinking approaches are stymied when students don't have access to the latest scientific studies. But I would wonder if this overweening concern with "latest studies" is eclipsing the more important educational goals of helping students to develop a practical and critical understanding of how the characterization and management of environmental issues are influenced by existing research programs, by particular research methodologies, by research and communication funding, by larger economic and political structures, by media coverage, by democratic and other forms of decision-making, by differing understandings of human-nature relationships, etc.

The Real Upshot of Sanera's Study

Suppose that Sanera's charge of bias in environmental education curriculum materials is entirely correct and well-founded, focusing for the moment just on the case of Wisconsin, grades 6 to 10, where it seems most of his own original research efforts have focused. What connections might there be between bias in curriculum materials and bias in teaching? I suspect only this: that for any Wisconsin teachers who failed to notice the bias ***or*** who lacked the time, the desire, or the ability to gather together their own supplementary curriculum materials ***or*** to develop critical thinking approaches to curriculum materials, the environmentalist bias of curriculum materials would likely permeate into their classrooms to various extents. But what percentage of teachers fall into this category? Sanera offers no data on this; he doesn't even raise the question.

Sanera also suggests that pre-service teacher training might well have misled our hypothetical average teacher (sic.) about major environmental issues . . . . ***If***, that is, our hypothetical average teacher (sic.) took a college course "which used one of the (six) major environmental science textbooks which I have reviewed." This is hardly the way to assess environmental education bias in teacher education programs. We need to find out what curriculum materials are actually used, and more importantly, how they are used, and what else goes on in teacher education programs related to environmental education. If the situation in the U.S. is anything like the situation in Canada, then the greatest problem is not that the environmental education learned in teacher education programs is biased, but rather, that in explicit form, it is vanishingly small. And if it is true that all education is environmental education, then the problem of bias in environmental education that this suggests is quite different from the "one colour" that Sanera is worried about.

Sanera diagnoses environmental education's "hypothetical average teacher" as suffering from goal displacement:

> "Individuals confronted with [a] complex and diverse goal are likely to select only part of it. For example, some will concentrate on teaching knowledge, others will work on student attitudes and be-

haviors, while still other teachers will emphasize . . . student action . . . ."

I find this diagnosis confusing and ironic. It is confusing first because the phrase "teach knowledge" seems to suggest that knowledge is some kind of detachable, utterly reproducible commodity that the teacher transmits from her mind (or from her journal collection) to the student's mind. (This transmissive paradigm of education is critiqued in Gough 1989; Lipman 1991; Luke & Gore 1992; Osborne 1991). It is confusing second because we cannot "teach knowledge" without at the same time encouraging certain attitudes, encouraging certain behaviours, and implicitly either encouraging or devaluing student action. Finally, the diagnosis is ironic because it characterizes to a "T" what Sanera has done in this article. Taking on the "complex and diverse goal" of evaluating "grassroots environmental educators' performance," Sanera selects only a small part of this goal and mistakes this small part for the whole. The key, I think, is to rethink what it would take to accomplish the goal, and to recognize and acknowledge that what Sanera has selected and achieved is only a small part of it, an important part—though we have yet quite a lot to hear about certain details and issues of research design.

Notes on Contributor

Pamela Courtenay-Hall teaches philosophy, feminist theory and environmental education in the Department of Educational Studies at the University of British Columbia. Her Ph.D. thesis was a critical examination of "the ecology connection," exploration of ethics, ecology and ecorealism in contemporary environmental thought (University of Toronto, 1995). Her ongoing research projects include "Beyond the three R's: Ethics and narrative in primary environmental education."

Notes

[1] This, at any rate, is something I have noticed in my discussions of environmental education with teachers and parents in B.C. and Ontario over the past six years.

[2] See e.g. Lisa Korteweg's study of funding influences on curriculum development in the study of mining (Korteweg, 1996).

[3] In Courtenay-Hall 1997, I explore several ways in which people have assumed that the sciences of ecology or economics provide a warrant for what are really indoctrinative approaches to environmental education.

[4] Why is it objectionable to speak in terms of a hypothetical average teacher? First, because it is so obviously a mask and substitute for questions not asked, research not done. Second, because instead of acknowledging these questions and respecting their importance, this construct pretends that the questions can be dismissed by means of unsubstantiated generalizations and speculations. And third, because the phrase sounds too uncomfortably much like, "your average teacher," "your average tax-payer," "your average home-maker," "your average truck-driver," "your average researcher"—all phrases that typically lump together and refer disparagingly to large and diverse groups of human beings who cannot fairly be represented by a conglomerate of averaged-out opinions and characteristics.

[5] See e.g. Dewey 1902, Lipman 1991, Bailin, Case, Coombs, & Daniels 1993, Osborne 1991, Luke & Gore 1992, Briskin 1990, Gough 1989, Hocking 1997. Briefly, the epistemological point: knowledge isn't the sort of thing that can be transferred from one person to another. The psychological point: students learn best when they are actively engaged in helping to define their own learning paths, and when these paths are part of some larger socially-engaged project. The moral point: to limit what is recognized as knowledge to the knowledge of the teacher, the knowledge contained in the standard curriculum, or the knowledge contained in the latest scientific studies is to contribute to the marginalization of other sources and agents of knowledge production, including the student!

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