

EVADING THE ISSUE OF BIASED ENVIRONMENTAL EDUCATION IN WISCONSIN

MICHAEL SANERA

The fact that my research reports, documenting biased coverage of environmental issues in Wisconsin schools, have drawn criticism is understandable. Because Wisconsin is recognized as a national leader in environmental education, criticism of its environmental education programs is bound to cause a defensive reaction from those with a vested interest in the status quo.



before I discuss these evasive tactics, I will briefly summarize my research in order to clarify my findings.

Restatement of My Research and Findings

I have conducted two studies of environmental education in Wisconsin. The first was a study of sixty-two 6th-10th grade science, health and geography textbooks.

This study used content analysis to assess the coverage of ten controversial environmental issues such as global warming, acid rain, ozone depletion and world population growth.¹

The point of this study was to find out what the *average student* in the *average classroom* learns about the *content* of these environmental issues. Does the content of these presentations offer basic scientific and economic information in a balanced way? If it is not balanced, what is the nature of the information which is transmitted? I was not trying to find out what stu-

But the criticisms are not as I expected. I expected critics to evaluate my research by reading the same textbooks I read and then to try to demonstrate that my evaluations of those textbooks are wrong. I expected critics to disagree with my selection of content information, which I propose is necessary to produce a balanced education on such environmental issues as global warming or rain forests. I expected critics to cite their own content studies to attempt to prove that the content of environmental education in Wisconsin is balanced. But none of these criticisms have occurred. Instead, my critics use two methods to evade the serious issues I raise about biased environmental education in Wisconsin. They attack my research methods and they attack me. But

Michael Sanera is the Director and Senior Fellow of the Environmental Education Research Institute, a Center for the New West Program, in Tucson, Arizona.

dents in environmental science courses or specialized courses such as Project Learning Tree or Project Wild were learning.

When I started my research I was amazed that I could not find studies which answered these important questions. In fact, I was amazed that examinations of the content of environmental issues were very rare.

Textbooks were selected for analysis because they are used in most classrooms. If a teacher does not rely on them as a primary teaching tool, they are available for students as a resource when researching papers or other assignments dealing with environmental issues. In addition, teachers may find them helpful as a starting point for preparation of their own lesson plans on environmental issues.

My review of these materials documented that the vast majority of them do not provide balanced information on many environmental issues. For example:

- While 22 of 23 textbooks explained that world population growth is nearing the Earth's carrying capacity, 20 of 23 *fail to mention* that the world population growth rate peaked in the late 1960s and has been decreasing since.²
- While 24 of 24 texts explain that carbon dioxide is causing global warming, 19 of 24 texts *fail to mention* the role of water vapor in the greenhouse effect. And 23 of 24 texts *fail to mention* that most of the warming which has occurred over the last 100 years took place before 1938.³
- While 39 of 39 texts explain that acid rain is harmful to lakes and streams and kills fish and trees, 38 of 39 texts *fail to mention* the findings of the largest study of acid rain ever conducted that there is little damage to trees and minimal damage to streams and lakes.⁴

My second study reviewed the materials used in twelve required environmental education courses offered to preservice teachers at eight University of Wisconsin branch campuses.⁵ To evaluate these materials, I used the national *Guidelines for Excellence* key characteristic of "Fairness and Accuracy" produced by the North American Association for Environmental Education (NAAEE), the nation's largest group of professional environmental educators. According to these *Guidelines*, environmental education materials, including textbooks and curriculum materials, must provide a "balanced presentation of differing viewpoints and theories."⁶

The findings of this study are disturbing. Only two of the twelve courses pass these *Guidelines* and seven of the courses clearly fail to provide future teachers with balanced treatment of important environmental issues. (My evaluation was inconclusive for the other three courses.) How can Wisconsin citizens and parents expect students to receive a balanced environmental education if their teachers are receiving biased education at the university level?

What is even more disturbing is that the G. Tyler Miller textbook *Environmental Science: Working with the Earth* used at University of Wisconsin-Stevens Point, an environmental education leader both in Wisconsin and nationally, not only failed to pass the NAAEE *Guidelines*, but was severely criticized by two other independent studies. The Independent Commission on Environmental Education (ICEE), comprised of ten prominent scientists and economists found that "Throughout, the author cites the published literature selectively and without proper references in order to justify his personal recommendations."⁷

A second criticism of this Miller text appeared in *The Textbook Letter*, which reviews science textbooks for accuracy and bias. This review concludes that "The [Miller] book is so

insistent in promoting its world-view that it could serve as a model for education-with-indoctrination.”⁸

Given the seriousness of these research findings, I expected an academic discussion and defense of the current teaching of environmental education in Wisconsin. Instead, I am faced with the use of evasive tactics.

**Evasive Tactic #1:
Make Unsubstantiated Charges that the
Research is Biased.**

Alan Haney, Dean of the College of Natural Resources at University of Wisconsin-Stevens Point, charges that my work is “poor scholarship” and that there are “many flaws” in my logic.⁹ Randy Champeau, Director of the Wisconsin Center for Environmental Education at University of Wisconsin-Stevens Point, charges that my research is “shallow, intentionally misleading, and extremely weak and even lacking appropriate research methodology.”¹⁰ Richard Wilke, Associate Dean of the College of Natural Resources at University of Wisconsin-Stevens Point and the Director of the National Environmental Education Advancement Project charges that “many professionals have raised valid questions about Mr. Sanera’s [research] methods.”¹¹

None of these gentlemen, who hold high positions in the Wisconsin academic community, provide any substantiation of these charges. No academic studies, reports or articles are cited to provide support for these claims. The tactic seems to be that if enough people make a claim, it must be true. For some reason, these academics feel no obligation to use an academic discussion of their charges.

They do not even bother to defend the use of a highly criticized textbook as the main text for the required teacher course at the University of Wisconsin-Stevens Point.

In the academic world, where I spent over 20 years of my life, the most effective criticism of “bad research” is to cite superior studies which prove it wrong. In this case, Haney, Champeau and Wilke could not dismiss my research by using this method because no such studies exist. In other words, there are no studies of Wisconsin course materials which document that they provide balanced treatment of controversial environmental issues. Until these studies are conducted, my research stands as the only research in this area.

Another way to discredit my research would have been to cite specific examples of materials which are balanced. Haney, Champeau and Wilke might have cited a long list of materials used in Wisconsin schools which provide balanced coverage of important environmental issues. For example, why didn’t Haney et al. give examples of textbook coverage

of the acid rain issue which included *both* the findings of scientists who say that acid rain is causing major damage to forests, streams and lakes and the findings of the scientists who conducted the largest study of acid rain ever conducted and say acid rain is causing only minor damage?¹² Or why didn’t they provide examples of balanced coverage of global warming, pesticides, world population, ozone depletion, solid waste, or natural resource issues. I suggest that they did not provide such a list because it would confirm my research findings by being so conspicuously short.

In addition, balanced coverage of competing scientific information which surrounds

*The tactic seems to be
that if enough people
make a claim, then it
must be true*

these and other environmental issues, is required by the NAAEE *Guidelines*, "where there are differences of opinion or competing scientific explanations, the range of perspectives should be presented in a balanced way."¹³ These gentlemen profess to support these *Guidelines*, but they condone their violation by using a biased and much criticized textbook in their required preservice teacher course at University of Wisconsin-Stevens Point. I suggest that their actions speak louder than their words.

Instead of using these methods of refuting my research findings, these gentlemen cite the study "Are We Walking the Talk."¹⁴ This study is a summary of "a comprehensive five-year research study conducted to determine the status and effect of EE in Wisconsin schools." It surveyed over 3,500 randomly selected 5th grade and high schools students, over 900 teachers and 1,100 school administrators.

Unfortunately for Champeau and my other critics, this report actually reinforces my research findings. While large sections of these surveys are totally irrelevant to the issue of balanced teaching of environmental issues, the cognitive questions asked 5th grade and high school students reveal that the survey designers were unconcerned with determining whether Wisconsin students were receiving a balanced environmental education.

For example, 5th grade students were asked "The population of humans on the Earth is:" correct answer "growing larger."¹⁵ While this is true, a balanced education on world population problems requires that students also know that the population growth *rate* has been decreasing since the late 1960s. Students were not asked if they knew this, and thus the survey tells us nothing about whether students are receiving a balanced education.

The global warming question asks 5th grade students: "Many people believe that the Earth's average temperature is changing. They say that one important cause of this change is:"

Answer: "using fuels like gasoline."¹⁶ Without asking students about temperature records such as the NASA temperature record which shows no warming since 1979, it cannot be determined if students are receiving a balanced education. But this question is not asked.

This is the pattern for the full range of questions asked of 5th grade and high school students on environmental issues such as acid rain, ozone depletion, solar power, solid waste, natural resources and energy. Questions are asked which determine if students know about only one side of an environmental issue, and without asking questions which determine if students know about the other side of the issue.

The survey of teachers is equally flawed. In this section, the survey fails to ask teachers *any* questions to test their knowledge about the environment or environmental issues. Instead, the survey asks them to relate information about the *methods* they use to teach about knowledge of the environment and environmental issues.¹⁷ In other words, this survey fails to determine whether teachers know anything about the content of the environmental information they teach, let alone whether what they are teaching is based on balanced science. This failing makes this report useless in answering the question whether or not environmental education taught to preservice teachers in required courses at University of Wisconsin campuses is balanced and unbiased. Therefore, my study of this issue is the only one in existence.

What is significant is that the survey was not designed to answer the question of bias in Wisconsin classrooms or in teacher training. This failing was not because of lack of money. It would cost very little to add a few more questions to this survey. There seems to be little or no concern by the environmental education leaders in the state about the bias issue.

**Evasive Tactic #2:
“Kill the Messenger”**

The second evasive tactic is to attack the messenger. Since my research findings upset the status quo and threaten the power and prestige of those who occupy positions in the status quo, the bearer of bad news must be discredited and silenced. In the same correspondence cited above, my credibility and motives are questioned. According to Champeau I am a “self-proclaimed expert who creates ideological reports.” Wilke questions my “qualifications and intentions.”

But the real attack on me and other critics of biased environmental education comes at state and federal taxpayer expense on the Web site of the National Environmental Education Advancement Project (NEEAP), hosted on the University of Wisconsin-Stevens Point Web site. In several articles, NEEAP spends time and effort countering the charges of environmental education critics, including myself.¹⁸

It is quite appropriate for an academic organization to discuss strengths and weaknesses of research and to suggest research which comes to different conclusions. Unfortunately, this Web site information contains none of this and is almost entirely concerned with using guilt by association and innuendo to discredit critics.

In what might be an unprecedented act for an academic organization, the University of Wisconsin-Stevens Point provides on its Web page dossiers on 14 different organizations.¹⁹ These documents are clearly intended to discredit the organizations listed. University of Wisconsin-Stevens Point even attacked the George Marshall Institute’s

Independent Commission on Environmental Education before the commission released its report. This outrage caused Marshall Institute Executive Director Jeffrey Salmon to write a letter to the EPA, which partially funds NEEAP, questioning the federal funding of a program which is more interested in attacking others than conducting legitimate environmental education activities which advance quality environmental education.

It is extremely unfortunate that academics working at taxpayer supported academic institutions believe it is their responsibility to spend their time and effort to attack others with smear campaigns rather than engaging in the pursuit of their academic duties within a code of academic ethics.

**Reforming
Environmental
Education in Arizona**

Problems with environmental education bias in Wisconsin might be solved by considering reforms passed in Arizona. Starting in 1994, the Arizona legislature began to reform its environmental education pro-

grams, which were at the time very similar to Wisconsin’s.

Controversies over environmental education in Arizona caused the legislature to change environmental education statutes. These changes guarantee parents and taxpayers that all environmental education in the state must be “conducted in a balanced manner, that are based on current scientific information and that include a discussion of economic and social implications.”

In other words, in Arizona it is a statutory requirement that environmental education programs teach knowledge of the environ-

*Problems with
environmental
education bias in
Wisconsin might be
solved by considering
reforms passed in
Arizona*

ment based on a balanced presentation of current scientific information. These changes were motivated by a recognition of the fundamental conflict between balanced science and economics and the temptation to teach a biased version of an environmental controversy which then leads students to political crusades on issues they are misinformed about.

In implementing this new vision of environmental education, the Arizona Advisory Council on Environmental Education (AACEE) has statutory responsibility to see that grants given to develop new environmental education programs and curricula are balanced and based on current science. These grants are funded from a special environmental license plate fund which receives a portion of the fee Arizonans pay when they buy a special environmental license plate for their vehicles. For FY 1997-98 which started July 1st, the AACEE can spend over \$500,000 on environmental education in the state. This amount places Arizona among the national leaders in spending on environmental education.

Three principal grant programs have been established by AACEE. The first grant program is for regular grants (up to \$10,000) to fund new curricula, environmental education programs at the school level, teacher training and field trips. The second grant program establishes up to four environmental education sites around the state. Each site may receive up to \$30,000. These sites will host visiting classes and teach outdoor environmental education, resource management and related issues.

The third grant program is an innovative class environmental research contest in which high school and middle school classes write balanced papers on one of five environmental topics. For the 1997-98 school year, the environmental topics concerned global warming, timber harvesting on national forests, recycling, the Endangered Species Act and urban air pollution. Winning papers must apply the latest scientific and economic research and present a balanced coverage of

these controversial environmental issues. The winning high school and middle school classes on each topic will receive a \$10,000 educational field trip. Second and third place awards are for \$5,000 and \$2,500 educational field trips, respectively.

The field trips, which are planned by the students, must be directly related to the topic of their paper. Students are encouraged to use this educational opportunity to visit important environmental sites around the state and/or visit with leading scholars on the chosen topic. Overall, students will have the chance to engage in critical thinking about some of the most important environmental issues which affect them, their state, the nation, and the world.

To inform potential grantees about the meaning of the new statutory language, the AACEE is the first official state body to adopt a modified portion of NAAEE's *Guidelines*. With some minor modifications, AACEE adopted the first key characteristic of "Fairness and Accuracy." This section of the NAAEE *Guidelines* specifies that quality environmental education materials must present scientifically accurate and balanced environmental information. This key characteristic from the *Guidelines* was adopted in Arizona in order to hold potential grantees accountable to high standards for objective and balanced science and economics.

What makes the Arizona model unique is that it has in law and in practice established a very clear goal for environmental education. In Arizona, environmental education will be first and foremost the teaching of balanced and current science and economics. Where scientific controversies exist, students will be exposed to all sides of these debates. This clearly stated goal provides guidance for those in the educational system in the state to develop the practical programs which can be measured against the goal. Arizona is moving from the constant bickering over the politicizing of children on environmental issues to a reasoned discussion over the content and

methods to teach the science of environmental issues. And I for one welcome that refreshing possibility.

Conclusion

It is truly unfortunate that environmental education leaders in Wisconsin have chosen to respond to criticism in an entirely defensive manner. Personal attacks on critics and unsubstantiated charges against research clearly do not advance the goal of quality environmental education for students in Wisconsin or in other states. Most academic disciplines have ethical standards which prohibit these methods of silencing critics. In fact, most academic disciplines welcome and encourage dissent. That is the purpose of national and regional academic meetings in almost all fields. It must be disturbing to those in positions of authority in the legislature and the university community, that there seems to be such a glaring exception to these academic norms in the leadership of the environmental education community in Wisconsin.

For my part, I welcome a continuing dialogue on these issues. I believe that environmental education is important and that all who support balanced and fair presentation of controversial environmental issues need to redouble their efforts to communicate areas of agreement and disagreement. Our children's education and future is too important to do anything less.

- 1 In addition to these, the other six issues were: American forests, endangered species, energy and natural resources, rain forests, recycling and solid waste disposal.
- 2 Michael Sanera, "Environmental Education in Wisconsin: What the Textbooks Teach," (Milwaukee, WI: Wisconsin Policy Research Institute Report 9:5, 1996), p. 29.
- 3 Ibid, p. 21.
- 4 Ibid, p. 7.
- 5 Michael Sanera, "Teaching Environmental Education to Wisconsin Teachers: A Review of University Course Materials," (Thiensville, WI: Wisconsin Policy Research Institute Report 10:7, 1997).
- 6 North American Association for Environmental Education (NAAEE), Environmental Education Materials: Guidelines for Excellence, (Troy, OH: NAAEE, 1996), p.

- 7 Independent Commission on Environmental Education (ICEE) "Are We Building Environmental Literacy?" (Washington, DC: Independent Commission on Environmental Education, 1997), p. 42.
- 8 Max G. Rodel, "The Textbook Letter." (1993), Jan-Feb, Vol. 3, No 6, p. 6.
- 9 Letter from Alan Haney to Dory Vallier, February 4, 1998.
- 10 Memo from Randy Champeau to Steve Kurth, Jackson Parker, Paul Theobald, Jack Kean, William Harvey, Joan North, John Rusch, Jeff Barnett, January 12, 1998.
- 11 Memo from Richard Wilke to Thomas George, January 2, 1998.
- 12 NAPAP, Assessment Highlights. (Washington, DC: National Acid Precipitation Assessment Program, September 5, 1990).
- 13 Guidelines, p. 5.
- 14 Randy Champeau et al., "Environmental Education in Wisconsin: Are We Walking the Talk?" (University of Wisconsin-Stevens Point: Wisconsin Center for Environmental Education, 1997).
- 15 Ibid, p. 50.
- 16 Ibid, p. 47.
- 17 Ibid, p. 77-79.
- 18 <http://www.uwsp.edu/acad/cnr/afil/neeap> "Rising to the Challenge: States Battle EE Backlash" "What's in a Name?: Watching for and Responding to Misinformation Campaigns," "NEEAP Offers Resources to Battle Criticism," "EE Criticism in the Media: What They Say and Where" "Organizations Linked to EE Criticism." This last item is a "list of alliances, institutes, foundations, and coalitions that have ties to articles and papers critical of EE."
- 19 "Organizations Linked to EE Criticism." This is a "list of alliances, institutes, foundations, and coalitions that have ties to articles and papers critical of EE."