

ENVIRONMENTAL EDUCATION IN WISCONSIN:

A TEACHER SURVEY, TEN+ YEARS LATER

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INTRODUCTION

Wisconsin is one of the few states in the United States that has mandated EE teacher education and curriculum development. Rather than requiring the development of a separate course or discipline, the Wisconsin Department of Public Instruction recommended infusing environmental topics into the curriculum (1985).

In the early 1990s, professionals in the field were proud of Wisconsin's EE mandates; they hoped that the mandates ensured the infusion of environmental concepts into subject area disciplines. All the bases were covered: the teachers were being trained and the districts were to develop an infusion plan. However, even in this time of hope there was evidence of failure; teachers were unsure about their professional development experiences and unaware of district curriculum plans (Lane 1993). In 2006, Lane conducted an additional study to provide further insights into the implementation of EE in Wisconsin and the influence of legislative mandates. This paper highlights some of the study's findings.

RESEARCH QUESTIONS AND METHODS

Following is an outline of methods used to address the research questions of the investigation:

- To gain an understanding of professional environmental educators' opinions as to how EE should be implemented in Wisconsin, including their conception of infusion

Seven professional environmental educators were interviewed to ascertain their conception of environmental education infusion. These individuals were selected because they have played significant roles in the history of EE implementation in Wisconsin.

- To investigate the reality of environmental education implementation, including infusion, into subject area curriculum in Wisconsin

Eight teachers in Wisconsin participated in in-depth interviews to analyze the EE implementation strategies. The study also included a classroom observation and post-observation interview.

For this project, the following steps were taken to validate the data collection and analysis:

- Professional environmental educators who had expert knowledge and experience in EE were selected to share their views and opinions.
- Criteria were established to identify a sample of teachers who could provide trustworthy insights into their own EE teaching experiences as well as their perceptions of the state of EE in their school and district.
- A variety of methods were used to collect data from the teachers including in-depth interviews, observations, and document analysis.
- Interviews were recorded and extensive field notes were taken during the interviews as well as during the observations.

- As needed, the researcher followed up with the environmental educators as well as the teachers to confirm or disconfirm ideas and conclusions as well as to provide supplementary information.

Analysis of the data gained from the interviews, observations, and documents was inductive and emergent. Data was accumulated through a series of interview sessions and supplemented with observations and document analysis. The expert insights were used to develop overarching concepts that were checked against subsequent interviews with both professionals and practitioners for clarification, confirmations, and disconfirmations. This reiterative process helped to develop generalizable insights. The professional environmental educators and teachers served as co-researchers who helped explain the reality of EE implementation in school districts in Wisconsin.

RESULTS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Purpose One: To learn how professional environmental educators perceive EE should be implemented in Wisconsin, including their conception of infusion

Results. Although EE mandates have been passed that require preservice EE preparation and EE curriculum development, the professional environmental educators regret that these mandates are no longer enforced by the Department of Public Instruction and suspect that neither teacher education institutions nor school districts are complying with them. They were asked what they thought contributed to EE not being a priority in K-12 school systems. The lack of DPI support as discussed above was frequently cited as a cause of a decline of district interest in

EE. The pressure to address the standards in core subject areas of Language Arts, Mathematics, Science, and Social Studies was mentioned several times during the interviews.

It almost seems that despite the evidence of decline and even resistance to EE, the professionals have confidence in the strong undercurrent of support for education about the environment. Despite challenges and some pessimistic outlooks, the overall conclusion of the interviewed EE professionals is that more EE is being implemented in Wisconsin schools than 20 years ago. They credit the mandates, especially preservice teacher education in EE, for fueling this increase.

Recommendations for future research. EE professionals from institutions within and outside of Wisconsin should be interviewed to investigate if their perceptions confirm or disconfirm insights from this study. Some of their views can be found in the literature which shares the findings and practices of contemporary researchers in EE.

Purpose Two: To investigate the reality of environmental education implementation, including infusion, into subject area curriculum in Wisconsin

Results. As part of the investigation, teachers were asked to explain and demonstrate how they infuse or integrate environmental concepts into their curriculum. These observed lessons involved direct teaching about the environment. Rather than infusing environmental concepts into the unit of study for their discipline, they taught about the environment directly and used that context to address content and skills in their subject area. It almost seems that they infused their content area into EE!

There were a variety of reasons teachers in this study include environmental concepts in their lessons. The strongest rationale was their passion for nature and their desire to increase student awareness of the environment and issues that affect it. The participants also mentioned that students are interested in their environment, natural and human-built, and EE makes subject area content more relevant to students. While the main objective is to increase student awareness of the outdoors and the natural world, they want to encourage students to become more environmentally responsible. It appears the goals of EE as outlined in the Department of Public Instruction's *A Guide to Curriculum Development in Environmental Education* are being addressed. However, one still must ask how thoroughly or cohesively they are being considered on a district-wide basis.

Recommendations for research. A more thorough investigation into competent and exemplary EE teachers is needed. This investigation can be accomplished in a number of ways. It can be conducted through a collaborative project with an ethnographic researcher, through an extensive case study, or by having teachers examine their own practice through action research. This study has shown that there are teachers in non-science disciplines who include EE in their subject area. These teachers can serve as role models, demonstrating how EE helps them address their subject area standards and make learning relevant to students.

SUPPLEMENTARY FINDINGS AND CONCLUSIONS

EE Mandates: To Enforce or not to Enforce

The participants in this study believe that these mandates are not being enforced. Without a DPI consultant for EE, it is unlikely the enforcement approach will work. Therefore, a

different strategy will need to be identified, applied, and evaluated. The EE mandate regarding curriculum development was created before the EE standards were created and application of these standards could affect decisions on whether and how to promote the EE mandate. More than one participant of this current study pointed out the irony of having a separate set of EE standards when the aim of EE was to be interdisciplinary. Requiring (mandating) a separate curriculum plan for EE is not conducive to integrating EE into other subject areas. Even if the mandate is reinterpreted to have EE concepts identified within existing curriculum (rather than a separate plan), this revised approach would still need enforcement. Consequently, encouraging an integrated plan for EE needs a different approach than the state mandated effort.

Redefining EE in Wisconsin?

One area that needs examination is the idea of pre-determined goals and sub-goals for EE that all students are expected to achieve. Perhaps like many disciplines, there can be levels of expertise and concentrated study in the field of EE. What is the reasonable and necessary level of environmental literacy for *all* students, and what are the expected competencies of students who specialize in environmental education?

Another dilemma with EE is that it still is commonly equated with Outdoor Education along with Nature Studies. How much should EE continue to distinguish itself from these fields? Should the discipline “evolve” to focus more on sustainability?

While it would certainly be worthwhile for EE professionals to engage in a critical investigation of EE in Wisconsin, teacher involvement would enhance these studies. Having teachers implement true action research projects in EE can lead the way to broadening the

research base of EE in Wisconsin. Out of the efforts of these teachers to implement and examine EE in Wisconsin, a definition could arise of EE grounded in the real-world needs of teachers and students. EE professionals could support the creation of this definition by researching and providing theoretical frameworks and relevant professional development opportunities.

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