School Administrator Perceptions of Environmental Literacy in Their Districts

Ann C. Gaudino, Ed.D.

Nanette Marcum-Dietrich, Ph.D.

This project was funded by the National Oceanic and Atmospheric Administration (NOAA) Bay Watershed Education & Training (B-WET) Program. The Environmental Literacy Indicator Tool (ELIT) is administered by NOAA in partnership with state departments of education and their partners (OMB Control No. 0648-0753). The results are used to track progress towards the Environmental Literacy Goal of the 2014 Chesapeake Bay Watershed Agreement (https://www.chesapeakeprogress.com/engaged-communities/environmental-literacy-planning).

School districts in the Commonwealth of Pennsylvania were given the opportunity to respond to the Environmental Literacy Indicator Tool (ELIT), developed by the National Oceanic and Atmospheric Administration's (NOAA) survey regarding environmental literacy. The ELIT report details the number and percentage of school districts responding. Districts could expand on their quantitative responses with qualitative comments detailing their perceptions. Respondents included teachers, principals, curriculum supervisors/coordinators and central office administrators. Thirty-six of the 144 responding districts provided at least one comment, while most provided comments to multiple prompts. Responses ranged from one-word answers to multiple sentences with precise details.

These comments provide a glimpse into the perceptions of the respondents about how, if at all, environmental literacy is being taught in their schools. Comments represent approximately one-fourth of the districts that responded to the survey. While they are not generalizable to either regions or specific demographic subgroups, they represent an initial exploration into the perceptions of various school administrator employee constituents into the state of environmental literacy in their district. Further qualitative study may be helpful in garnering additional and more detailed responses.

The follow pages provide a summary of the findings and recommendations for each of the Six Elements of Environmental Education Preparedness.

Sincerely,

Ann Cancilla Gaudino, Ed.D.
Associate Professor of Education and Educational Leadership
Millersville University of Pennsylvania
Email: ann.gaudino@millersville.edu

Nanetee Marcum-Dietrich, Ph.D.
Professor, Educational Foundations
Millersville University of Pennsylvania
Email: Nanette.marcum-dietrich@millersville.edu

Six Elements Used to Determine School District Preparedness for Environmental Literacy in the Commonwealth of Pennsylvania

A) An established program leader for environmental education (providing effective, sustained, and system leadership)

Findings from comments:

Comments reveal that no districts have an established program leader for EE. Several districts have "curriculum coordinators", "supervisors", or "department chairs" who oversee science education in general, but not environmental education specifically. Several comments indicate that the curriculum "includes EE", however, but no comments indicated the extent to which or how science education incorporates EE.

Recommendations:

As stated, it is unclear if districts are truly teaching EE and if coordinators are truly overseeing such efforts. If a follow-up study is conducted, it should include more detailed and probing questions about how EE is specifically incorporated into the positions of these supervisors and how they, in turn, ensure EE is incorporated into the curriculum.

B) An integrated program infusing environmental concepts into appropriate curricular areas.

Findings from the comments:

Comments reveal that districts "cover" or "implement" EE within various curricula (including science, social studies, and ELA). Several districts give specific examples of 'activities' or 'locations' that they believe represent such coverage/implementation. These include, "environmental kits", "greenhouses", "outdoor classrooms", and collaboration with area "environmental centers and "Audubon Society" although one district acknowledged that these activities/locations do not represent a "full implementation" or is not "fully embedded."

District A (pseudonym) gave what was the most aligned response stating:

All PA Environment and Ecology standards are fully aligned/embedded in our elementary and secondary science curriculum along with PA Science standards.

However, no specific examples of this alignment were stated.

Recommendations:

Some districts appear to have some level of EE integration into the curriculum at various levels from elementary through high school. Yet, from the comments, it remains unknown the extent of this integration beyond simple activities or facilities/equipment. Follow-up studies should

utilize qualitative questioning to determine more precisely the exact implementation and how, if at all, the responding administrators/teachers believe that the implementation is affecting student environmental literacy. Additionally, a mixed methods study with student subjects utilizing prompts focusing to specific standards-based questions could reveal the level of student understanding as well as their perceptions.

C) Regular communication among staff responsible for environmental education curriculum and program implementation.

Findings from the comments:

Responding districts indicate that communication occurs "within departments" or "at grade levels at a single level (elementary, middle or high school)" or "vertically within departments (for example K-12 science)". No comments indicated the presence of both vertical and horizontal alignment K-12. Some conversations include external agencies that have an environmental interest (Audubon society, Game Commission).

Recommendations:

Effective curriculum is aligned both vertically (among consecutive grade levels K-12) and horizontally (across a department and grade level). Districts should work to achieve regular communication and planning among staff both vertically and horizontally surrounding their curriculum. Districts should consider implementing curriculum mapping K-12 with fidelity (reference Heidi Hayes Jacobs, Jay McTighe, Grant Wiggins). New training for administrators and teachers to achieve this task may be necessary.

D) A support system in place that enables teachers and administrators to engage in high quality professional development in content knowledge, instructional materials, and methodology related to environmental education.

Findings from the comments:

Respondent comments indicate that teachers and administrators do not engage in meaningful, sustained professional development surrounding environmental literacy. Some districts indicate that such "PD on EE is optional" while others indicate that "teachers and administrators must voluntarily seek out such [EE] training" if they desire to have it. Several districts reference "trainings" provided by local agencies that support use of facilities or activities. No districts indicate the belief that more training was needed, however, this lack of response may have been due to the wording of the prompt (which did not ask respondents if they felt that more training was needed).

Recommendations:

Districts should provide meaningful, sustained professional development for teachers and appropriate administrators surrounding environmental literacy. Such training could be offered en masse through the Intermediate Units (IU) or PATTAN with applicability to a larger region. The

overall stated lack of professional development on environmental literacy further calls into question the extent to which respondents could accurately respond to survey prompts. The reliability of responses should be considered. Once sustained and meaningful PD is provided to constituents, the study could be conducted again with the same prompts; comparing responses pre and post PD.

E) A plan to ensure opportunities for all students to engage in meaningful watershed educational experiences (MWEEs) at the elementary, middle and high school levels.

Findings from the comments:

Respondent districts indicated a variety of watershed experiences, however, there were no discernable trends among responses. Some districts have no MWEEs while others have them at only one level (elementary, middle of high school), while others have MWEEs at all levels. In some cases, MWEEs were interpreted as activities provided by outside agencies. Some districts indicated a lack of funding to provide MWEEs.

Recommendations:

As there were many interpretations and a variety of responses to this prompt, it may be helpful to further define what is meant by "meaningful watershed educational experiences." With all districts responding with the same understanding of the prompt, it is possible that new findings would arise.

F) Established community partnerships for delivery of environmental education, including implementation of MWEEs

Findings from the comments:

Most respondent districts are engaging in establishing community partnerships and connections to deliver environmental education. Partnering institutions included local universities, environmental agencies, and other environment focused nonprofits/organizations (FFA, Audabon, DCNR etc.).

Recommendations:

Based on the comments from districts, most have a single partner providing a specific area of focus. Districts could expand to having a variety of partners each focused to a different aspect of environmental literacy.