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Better Test Scores Through Environmental Education?

Washington Assessment Project Plans to Prove It

If you've wanted to prove that environmental education is effective, a new study may help you document improved test scores in subjects as diverse as math, biology and civics. How? Through an integrated, performance-based approach focusing on specific learning outcomes.

By Lynne Ferguson, Tony Angell and Margaret Tudor

Ask a roomful of teachers how they'd go about raising student test scores in reading, math, science and critical thinking skills, and maybe one or two would suggest environmental education.

Yet, early data shows that's exactly what a well-designed, integrated EE program can do. The Environmental Education

Assessment Project will quantify just how dramatically student skills improve. This fall a pilot study will take place around Washington State.

The Assessment Project began in 1998 as a consortium of environmental educators – people who knew at a gut level that EE was not just good for kids, but also resulted in across-the-board skill improvements. Participants now include classroom teachers and representatives from eight

school districts, two institutes, one residential EE learning center, educational service districts, several state agencies, national environmental education programs, and the business community. The Project's goal is to deliver statistically sound evidence of improved student learning in classrooms using the environment as an integrating context for learning. Support comes through grants from the National Environmental Education and Training Foundation, The Discern Charitable Foundation, and Washington Mutual Foundation.

An ongoing source of inspiration has been Dr. Gerald Lieberman, director of the State Education and Environment Roundtable (SEER) and a pioneer in assessment studies in environmental education.

Dr. Lieberman's research, published as *Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning*, indicates far-reaching benefits when the environment is used as an integrating context for learning. His findings include higher scores on standardized tests, greater enthusiasm among teachers for instruction, and dramatically higher student attendance records in classrooms where the environment is used as the context for learning.

Delivering Data on Efficacy

Why should classroom teachers care about new assessment instruments? Simple. Educators everywhere are under pressure to improve test scores. So teachers, districts, and environmental education programs need reliable assessment tools to justify curriculum choices. This is exactly what the Assessment Project will provide.

The Assessment Project contains four practical components that teachers can put to immediate use in the classroom:

- a) Benchmarks that establish standards for measuring student performance.
- b) A package of model performance tasks based on integration of core knowledge, skills and understandings in language arts, reading, writing, history, civics, math, natural and social sciences, and the arts.
- c) Scoring criteria for evaluating quality of student work.
- d) Guidelines for implementing performance-based assessments.

The performance tasks come in two packages. The first, developed with the Office of the Superintendent, offers



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document improved student learning thereby demonstrating the efficacy of environmental education.

From Three R's to Analytical Thinking

What makes the Assessment Project so unique is its integrated approach. Just because state departments of education test children in discrete subject areas doesn't mean that skills are best taught separately. Nowhere is this more evident than when the environment is used as an integrating context for learning.

Diverse skills in various subject areas can be addressed at the same time — a much different approach than the fragmented instruction prevalent today. Teachers and students become partners in the learning process, selecting real-world subject matter for study such as wetlands, rivers, forests or watersheds. The environment then becomes a focal point for instruction and learning that draws from science, social studies, health and the arts, making learning more relevant and increasing student understanding. Students are challenged to synthesize new knowledge and skills, giving deeper meaning to what they have learned.

Cumulative Learning

The Assessment Project demonstrates how using the environment as an integrating context for learning builds upon student knowledge year after year. For instance, students may experience and learn about the lifecycle of salmon in a fifth grade biology class. In ninth grade, they may study salmon's role in shaping the past, present, and future of Washington State. During tenth and eleventh

grades, students might then explore how policies at the state, tribal, federal, and international level influence decision-making regarding the future of salmon. By graduation, students should have an in-depth understanding of many environment-related areas of study. Thus the Assessment Project will document that students know how to think through complex issues, providing them with life-long decision-making skills to be applied in all areas of their lives, including the environment.



Washington's pioneering efforts may very well prove to be a model for assessing environmental education nationwide.

More Than a Fish Story

The Assessment Project will also provide tools to assess how well students can analyze a complex, controversial issue and develop a plan of action to assist in the resolution of the issue. Consider this example. One question on the WASL-like test for tenth graders involves salmon recovery issues. Students read editorials that appeared recently in newspapers by the Seattle mayor, King County executive, president of the Greater Seattle Chamber of Commerce, and executive director of Long Live the Kings, a group of environmental activists. Each of the writers represents a starkly different perspective on the complicated questions surrounding salmon in the Pacific Northwest.

Students are asked to complete a table explaining the concerns, values and expectations of each writer. Then students are asked to step into the role of leading either a Business Club or an Environmental Club. Students must devise a plan of action based on sound scientific and economic research that will help the salmon recovery effort. The plan needs specific objectives, tasks to undertake, products to be created, timelines, measurement criteria and division of labor.

Using scoring criteria, test answers are evaluated based on the Essential Academic Learning Requirements (EALRs), which serve as Washington's new standard for learning. In this example, student learning would be assessed in reading, science, geography, writing and civics.

What's Next?

This summer, individual assessment tools have been refined, so the pilot can be delivered to participating districts. In October, the Assessment Project will conduct a small K-12 pilot program with several partnering school districts to get feedback on the draft of the assessment tools. In the spring of 2002, the final draft of assessment tools will be delivered to an independent firm, who will conduct a rigorous, large-scale field test across Washington. This will ensure the validity

and reliability of assessment tools.

By fall of 2002, the Assessment Project will be ready for dissemination to school districts. Interested teachers throughout Washington State will have the opportunity to participate in professional development workshops. They will also get ongoing support from project leaders so that they use assessment instruments correctly. This will help ensure that test scores are reliable.

The Nation is Watching

Washington's pioneering efforts may very well prove to be a model for environmental education assessment that could be adopted nationwide. The twelve other states in the State

Environmental Education Roundtable are tracking the Project's progress with great interest and are considering implementation. Similarly, one member of the Project's sponsoring consortium, the national Project Learning Tree program, represents state sponsored programs across the nation. The National PLT Program has been a vital part of this effort and helped the project gain support from National EE Training Foundation, The Discuren Charitable Foundation and Washington Mutual Foundation. Kathy McGlaufflin, a strong advocate for the project and the National PLT director plans to encourage other PLT states to consider use of the project.

Hopefully Washington State's Environmental Education Assessment Project will give teachers something they have eagerly awaited, namely a way to prove that using the environment as an integrating context for learning achieves measurable results. At the same time, it should confirm what we've known for a long time. Students acquire more skills and information — and they learn more deeply — through integrated studies about the environment.

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