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Environmental Education: A Tool for Making Education Reform Work

Many of the goals of environmental education and education reform are strikingly similar: Students who are knowledgeable and skilled thinkers...able to put their knowledge, skills, and creativity to work solving problems...practiced at working collaboratively and independently...prepared to take their role as responsible citizens. Yet there has been little collaboration between the educators and organizations that promote the two endeavors.

To foster dialogue and collaboration among the environmental education and education reform communities, the EdGateway website at www.edgateway.net/ suggests several areas of overlap between the interests of the two.¹ These areas of convergence form the basis of the following discussion of environmental education as a tool for making education reform work.

Curriculum

Many reform efforts focus on the curriculum - the knowledge and skills we want students to learn. In large measure, the current educational reform movement hinges on setting standards for learner achievement. Voluntary national standards have been put in place for disciplines from science to English language arts to fine arts to mathematics and many states have adopted their own standards for student achievement.

Environmental education can be a tool for meeting these standards. *Excellence in Environmental Education-Guidelines for Learning (K-12)*, published in 1998 by the North American Association for Environmental Education (NAAEE), makes these links explicit. Developed through a national process of review and comment involving over 2500 individuals and organizations, *Excellence in Environmental Education* covers the core concepts and skills that environmentally literate citizens need. Guidelines and performance measures are suggested for the fourth, eighth, and twelfth grades. Each guideline is linked to related discipline-based standards.

Excellence in Environmental Education is based on a vision of a curriculum that is in keeping with education reform goals: Emphasizing higher order thinking skills over memorization and repetition, linking to the world outside the classroom, and using the environment as an integrating theme that links disciplinary studies together. There are several model efforts underway to use the environment as an integrating concept in schools around the nation².

Instruction

Education reform also targets instruction - the ways in which we expect teachers to teach and students to learn. The emerging vision of instruction crosses disciplinary lines, is hands-on, guided by student interests and responsibility, and often collaborative. Based on a similar instructional vision and supported by hundreds of high-quality instructional materials, environmental education offers tools for implementing education reform.

Environmental Education Materials: Guidelines for Excellence, a 1996 publication of NAAEE, recommends guidelines for selecting, evaluating and producing top-quality environmental education lesson plans, curricula and other instructional materials. Using these guidelines, educators and content specialists reviewed hundreds of educational materials and NAAEE published their reviews in four resource reviews designed to help educators identify resources to meet their needs³.

The instructional vision that environmental education and education reform efforts share requires a new level of professional development from teachers. NAAEE's *Guidelines for Excellence in the Initial Preparation of Environmental Educators* (forthcoming), will offer a set of recommendations about the basic knowledge and abilities educators need in order to provide high-quality environmental education⁴.

The School Site

Education reform must be successful at each individual school if it is to work at all. There are many reform efforts that focus on changing how the school site itself is used and how it relates to the larger community. Environmental education offers the opportunity to use the environment as a learning context-starting from the school grounds and extending out to the community and beyond. This approach could be as simple as students conducting an environmental audit of the school and school grounds. Or it could be more comprehensive, such as an environmental "magnet school" or a school that uses the environment as a in integrating concept⁵ Environmental education also promotes parent and community involvement⁶.

Assessment

If we change our ideas about what students should learn and the kind of instruction that will best help them do that, then we'll also need to change how we measure student success. Education reform efforts promote alternative assessments such as performance assessments that tend to measure whether students have mastered and

can apply knowledge and skills-rather than simply perform rote techniques or repeat memorized facts.

Environmental education lends itself to using student projects, portfolios and other tools that assess a wide range of skills. *The Guidelines for Learning* include sample performance indicators for each guideline at the 4th, 8th and 12th grade levels. These illustrate some ways in which learner achievement might be demonstrated. And assessment is one of six thematic areas in NAAEE's forthcoming guidelines for the preparation of environmental educators.

References

1. EdGateway is an internet-based information resource for educators and their organizations, sponsored by the WestEd Eisenhower Regional Consortium for Mathematics and Science Education.
2. See, for example, descriptions of ten school prototypes integrating curriculum around environmental education at <http://cisl.ospi.wednet.edu/CISL/ENVED/MDLINKS.html> (the "Creating Model Links: Environmental Education and Education Reform in Washington State" website).
3. The Environmental Education Collection - A Review of Resources for Educators (Vols. 1, 2 & 3), North American Association for Environmental Education, 1997 and 1998. The Biodiversity Collection - A Review of Biodiversity Resources for Educators, North American Association for Environmental Education, 1998.
4. Guidelines for Excellence in the Initial Preparation of Environmental Educators (working title), North American Association for Environmental Education, forthcoming.
5. See note #2 above. Also see the State Education and Environment Roundtable website at www.seer.org/ SEER's mission is to aid state education agencies in their efforts to improve learning by using the environment as an integrating concept. SEER has available an Interim Report of Case Research studying 41 schools that use environment as an integrating concept.
6. For example, Washington State's prototype program (see note #2) incorporates community involvement and partnerships.

Need more resources?

Other resources are available to help educators and others use environmental education as a tool to accomplish the goals of education reform. There are a number of other resources available to help educators use environmental education to help create a comprehensive social studies curriculum. Some of them are listed above as references to this information sheet. Others are available on the databases of Educational Resources Information Center (ERIC) and Eisenhower National Clearinghouse (ENC). On line, these resources can be

accessed by typing

<http://www.eelink.net>

Page down to CLASS-RESOURCES DIRECTORIES, to EE-RELATED EDUCATION SITES that will lead you to ERIC or ENC. You will then be able to search ERIC and ENC databases by following the appropriate pointers. Some resources from the two databases are identified below.

From ERIC

O'Neal, E. C., Kirk, P. A. C. 1992. *Effects of Educational Reforms on Pre-Post Reform NTE Scores of Physical Education Majors*. Paper presented at the Annual Meeting of the Mid-South Educational research Association (Knoxville, TN, November 11-13, 1992). ED 353325.

After a review of the recommendations of national reform reports in the 1980s concerning teacher education programs and legislations enacted and regulatory systems established in Mississippi to facilitate educational reforms, this paper describes a study of the American College Test that predicts academic success in college and National Teacher Examination (NTE) that measure the knowledge base for teaching and predict academic competency.

Cole, A. L., Elijah, R., Knowles, G. J. (Eds.) 1998. *The Heart of the Matter: Teacher Educators and Teacher Education Reform*. San Francisco, CA: Caddo Gap Press. ED 425153.

This collection of papers examines the role of teacher educators in teacher education reform. Divided in four parts, Part 1 focusses on the reform context, Part 2 on self-study as teacher education reform, Part 3 on Teacher educators and the reform of teacher education, and Part 4 on deans of education and college reforms.

From ENC

Futrell, M. H., Lynch, S., and Hinter-Boykin, H. 1996. *Reaching all students of diverse needs and cultures*. (ENC-007671)

This paper cites methods and curriculum materials that can be used by teachers to implement science and mathematics education reforms while accommodating students of diverse needs and cultures. Full text of this document can be accessed at

<http://www.enc.org/reform/journals/102884/2884.htm>

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EETAP Resource Library is a project of Environmental Education Training and Partnership effort. The goal of the Resource Library is to increase educators' access to and use of databases such as ENC and ERIC. This information sheet may be freely reproduced for educational purposes.