

# Investigations

## RESEARCH IN ENVIRONMENTAL EDUCATION

The ERIC Center for Science, Mathematics, and Environmental Education, at Ohio State University, Columbus, has available a number of publications of interest to biology teachers:

1. *A Directory of Projects and Programs in Environmental Education for Elementary and Secondary Schools*, compiled by John F. Disinger and Beverly Lee in 1973, lists representative current environmental projects and programs in the United States. Information in the directory was gathered through a generalized questionnaire mailed to all environmental education projects known to the ERIC Center. When available to the compilers, the following information is included for each of 297 projects: title, director's name, address, and telephone number; project headquarters; principal staff; project history; objectives; materials prepared in the project; materials implementation list; teacher preparation, if any; summary; and future plans. Projects are indexed according to state and location within the state. The directory allows the reader to determine which projects are of special interest to him, and project directors may then be contacted for additional information.

2. *Affective Instruments in Environmental Education*, by John H. Wheatley, is a 27-page mimeographed publication describing several affective instruments currently available and some of the test data these instruments have produced. This publication would be useful to researchers in environmental education because the instruments have been screened. One of the very real problems in research studies is the preparation of an instrument. If an affective instrument is needed, Wheatley lists several, with appropriate descriptive material, from which a researcher may choose.

3. *Environmental Education Information Report*, is a three-volume set. In volume 1, *A Review of Environmental Education for Elementary and Secondary Teachers*, of greatest interest to the researcher is the summary statement concerning programs and materials. For example, there are many environmental education programs in schools in the U.S.; yet, if one compares the number of programs to the number of school districts (some 38,000 in the nation), it is clear that few schools have functional programs for environmental education. Considering the small number of K-12 units, the proportion of programs in these situations is very small indeed. The report points out that environmental education programs survive, in general, only as long as outside funding is available. Too frequently, successful school programs have been dependent on the leadership of one dedicated person and, as a

consequence, have survived only as long as that person remains an active leader in the school district. Few programs have employed organized evaluation procedures. Volume 1 also includes descriptions of programs in environmental education.

Volume 2, *A Review of Environmental Education for Teachers of Urban Disadvantaged*, indicates that relatively few urban schools have developed environmental education programs with emphasis on the urban area or have included community involvement as a technique. The portion of volume 2 of interest to researchers who are attempting to locate examples of urban environmental education programs is the description of active programs. Where available, descriptions of urban programs include the name of the director, the program address, grade level, subject area, overview, rationale and general objectives, evaluative data, locations of sites, and materials prepared by the program and their cost.

Volume 3, *A Review of Environmental Education for School Administrators*, includes, in abbreviated form, much of the material in the other two volumes.

4. *100 Teaching Activities in Environmental Education* is for the searcher rather than researcher, that person who wants a ready description of activities for teaching environmental education. Each activity has been classified according to grade level, subject matter, environmental concept involved, and environmental problem area. For each there is a statement on how the activity may be used and a reference to a source for more details on the activity and variations.

For the researcher who is beginning to compile information about environmental education in the U.S., these publications are good beginning sources of data.

H. Seymour Fowler

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## WHAT ARE FACTS?

Too often students unquestionably accept things they read or hear as facts. It is an accepted fact that the center of the earth is composed of molten lava—or is it? It is an accepted fact that the planet Pluto is extremely cold—or is it? Has anyone ever been to the center of the earth or to Pluto?

At the beginning of the school year, I do an exercise that deals with so-called facts. I place a piece of chalk in an empty box and bring it into the classroom, giving the students the impression that the box is very heavy. Then I ask the class to hypothesize about what is in the box and I write their suggestions on the blackboard. I suggest