Environmental Education Research News

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INTRODUCTION

According to Kirk (1983), the first known use of the term *environmental education* occurred at a 1948 conference of the International Union for the Conservation of Nature and Natural Resources (IUCN) in Paris when Thomas Pritchard, at that time Deputy Director of The Nature Conservancy in Wales, identified a need for an educational approach to the synthesis of the natural and social sciences; he suggested that such an entity might be called 'environmental education'. Apparently no further definition was provided on that occasion.

In the 36 years since, the term has become widely used, frequently with less definition than offered by Pritchard and often with manifestly different connotations. A continuing problem is the semantic one—"I hear what you are saying, but I have no idea of what you mean"—that perforce results when the same terminology is used by different individuals or groups maintaining non-identical perspectives. In some situations, no readily decipherable clue is offered as to intended meaning. Those who profess interest in environmental education often avoid definitional discussion purposively, to avert confrontation or unproductive debate with others whose stake in it appears to be different. The feeling is an apparent mixture of two sentiments—"We are really talking about the same things, we're just using different vocabularies", and "We are all interested in the environment, so let's not quibble about the details".

A good deal more has been written and said, explicitly and implicitly, about the meanings of the term environmental education than is supported by a research base or other rigorous documentation, but several efforts toward the development of such underpinnings have been reported. This summary deals briefly with various definitional threads as have been advanced in the recent past, then discusses promising research-based approaches toward resolution of the definitional problem.

RELATIONSHIP TO CONSERVATION EDUCATION

Brennan (1957, 1964) was an early user of the term environmental education in the United States, but intended it as a synonym for the older term conservation education as defined by himself and Brandwein:

> "(Conservation education is) the recognition by man of his interdependence with his environment and all of life and his responsibility to maintain the environment in a manner fit for life and fit for living." (*Proceedings*, 1967).

At that time, Brennan and Brandwein were involved through the Pinchot Institute for Studies in Conservation in the development of "Total Education for the Total Environment", utilizing a conceptual framework combining the biological and physical sciences, the behavioral sciences, and the social sciences, and directed toward the production of curriculum materials "relevant to the kind of world now in the making" (Brandwein, 1966). It should be noted that their approach was appreciably broader and more rigorous than most earlier conservation education efforts in the United States, which

had focused on renewable natural resources with an agrarian frame of reference. The difference between traditional conservation education and the newer entity was summarized by Archbald and Gundlach (1970): "(Environmental education) is not simply contour plowing, white-tail deer management, the life cycle of plants, etc., traditionally known as conservation education, but the study of man and his total relationship to his environment...".

THE STAPP DEFINITION

Perhaps the most influential definitional statement for environmental education, and the one which most clearly signalled a break with the past, was provided by Stapp *et al.* (1969):

> "Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve those problems, and motivated to work toward their solution."

This statement presents a different perspective from earlier ones, and from most educational goal statements, in that it calls for appreciably more than teaching and learning about the environment, the typical focus of most formal (school-related) educational programs. Clearly specified are the additional objectives of teaching and learning how to deal with environmental problems (i.e., developing requisite skills) and of, in the final analysis, purposefully developing motivation within learners to do so, in an active sense. This statement carried a call for what C. Roth (1978) termed, in a related but different context, advocacy education. Also, the audience identified for environmental education by the Stapp statement ultimately is the entire human population of the earth-in-school, out-of-school, youth, adults, decision-makers, community leaders, everyone.

The Stapp definition had immediate impact, perhaps because of its conciseness and its appearance at the moment of most intense environmental concern, but certainly because of its appeal as an educational response to a generally perceived global problem. It has had longlasting impact in that it has permeated, in various forms, many definition and goal statements since then, both in the United States and throughout the world. For example:

> "...the basic aim of environmental education as defined by the participants of the 1977 Unesco-UNEP Intergovernmental Conference on Environmental Education is to succeed in making individuals and communities understand the complex nature of the natural and built environments resulting from the interaction of their physical, biological, social, economic, and cultural aspects, and acquire the knowledge, values, attitudes, and practical skills to participate in a responsible and effective way in anticipating and solving environmental problems, and in the management of the quality of the environment." (Stapp *et al.*, 1979).

RESEARCH STUDIES

R. Roth *et al.* (1970) provided an early research-based analysis of environmental management education which produced a set of key concepts for formal (school-based) settings, in the process producing a modification of the Stapp definition which additionally stressed the sociocultural environment and emphasized an environmental management dimension. Brennan (1977) noted that the Roth study provided validation of the conceptual structure of the "Total Education for the Total Environment" approach. Bowman (1972), R. Roth (1973), and Townsend (1982) have advanced further refinements of the Roth model.

Relationships between and among the goals of environmental education, ecological education, outdoor education, conservation education, environmentalized education, and general education were evaluated in a 1977 study by Johnson. Using goal statements from the literature of each field and a Q-sort procedure, 65 selected individuals representing the six areas rank-ordered the statements. Goals describing man's relationship to and utilization of the environment were ranked high by all groups; environmental educators, environmentalized educators, and conservation educators ranked many of the same goals highest. A model developed to illustrate the relationships between and among the six groups showed environmental education overlapping the other five areas, with especially strong overlaps with conservation education and environmentalized education, which had been defined by McInnis (1975) as involving direct encounters of learners with the environment being studied and maximizing the learner's potential capacities to function successfully as an intelligently integrating multi-sensory organism. Johnson's study also illustrated the uniqueness of ecological education, general education, and outdoor education.

A perceptive analysis of the dimensions of environmental education in terms of its perspectives was reported by Lucas (1972). Based on a detailed study of the early liter-

ature of the field and enhanced by rigorous application of the principles of logic, he argued in a 1980–81 summary that:

> "...uses of the term environmental education can be classified into education about the environment, education for (the preservation of) the environment, education in the environment, and the classes formed by the combinations about and for, about and in, and about, for, and in. Education about the environment, which is concerned with providing cognitive understanding including the development of skills necessary to obtain this understanding, and education for the environment, which is directed toward environmental preservation or preservation for particular purposes, are characterized by their aims; education in the environment... is characterized by a technique of instruction. In the in case, environment usually means the world outside the classroom, and in the other usages it usually refers to the biophysical and/or social context in which groups of people...exist..."
>
> "The Belgrade Charter adopted... in 1975 includes a statement of the goal of environmental education which is very clearly for the environment..."

A study by Harvey (1976) attempted to determine if a generally accepted definition and a generally accepted model or delineation of substantive structure of environmental education existed. Based on a thorough review of the literature to that time, he determined that neither was extant, so he undertook their development. Through use of key word and key phrase analysis of existing definitions, the following 'mediating definition' was constructed:

> "(Environmental education is) an interdisciplinary, integrated process concerned with resolution of values conflicts related to the man–environment relationship, through development of a citizenry, with awareness and understanding of the environment, both natural and man-altered. Further, this citizenry will be able and willing to apply enquiry skills, and implement decision-making, problem-solving, and action strategies toward achieving/maintaining homeostasis between quality of life and quality of environment."

Harvey employed a similar procedure in constructing a generic substantive structure, employing three basic components—philosophy, precept, and expected outcome—to subsume those elements identified by 49 models purporting to describe environmental education and/or its facets. The first component, philosophy, was perceived to be 'Spaceship Earth', with a lifeboat concept frame of reference. As detailed by Harvey, Spaceship Earth includes man, environment, and relationship as major components, while the lifeboat concept provides a values/ethical orientation.

The second component of Harvey's structure, its precept, is conceptualized as the people-environment relationship (PER), operating in a values-laden context. PER is defined as:

> "... the consideration of, planning for, and implementation of natural resource use by human beings; the resultant products and processes; and implications for impact on the environment reflected in each person's perception of an acceptable quality of life."

Harvey identified as the expected outcome of environmental education 'environmental literacy', which he defined at three levels—environmentally literate, environmentally competent, and environmentally dedicated. These levels may be interpreted as being comparable to Stapp's 1969 three-part statement of objectives.

As an interesting outcome of his study, Harvey (1977) concluded that the term environmental education is a misnomer, based on his observation that the terminologies most often appearing in the professional literature would lead to person–environment relationship education (PERE), defined thusly, as the appropriate term:

> "(PERE is) the process of developing an environmentally literate, competent, and dedicated citizenry which actively strives to resolve values conflicts in the person-environment relationship, in a manner which is ecologically and humanistically sound, in order to reach the superordinate goal of a homeostasis between quality of life and quality of environment."

He further noted that much of the environmental education literature is not about the person–environment relationship as defined, but about 'person–environment relationship foundations' (PERF), which are:

> "... topics which provide learnings (psychomotor, cognitive, or affective) about the people-environment relationship, in a non-values laden context, which are prerequisite, or complementary, to PERE."

In expansion of his definition of PERF, Harvey indicated that "People-focused foundations are topics which have as a main focus the human being, either individually or collectively", "Environment-focused foundations are topics which have as a main focus the biophysical environment and its systems", and "Relationship-focused foundations are topics which have as their main focus the relationship between human beings and the earth, as well as the products/processes resultant from that interaction... in a non-values-laden context."

More recently, Hungerford *et al.* (1980a, 1980b) reported the development of a set of goals for curriculum development in environmental education, for the purpose of bringing Harvey's work and the Tbilisi objectives, which were couched in general terms, into an operational frame of reference. They proceeded from the assumption that the

Tbilisi objectives were compatible with Harvey's definition and model. Using a restatement of Harvey's superordinate goal (homeostasis), they presented goals for curriculum development at four levels: ecological foundations, conceptual awareness-issues and values, investigation and evaluation, and environmental action skills-training and application.

SUMMARY

It appears that Harvey's mediating definition and structural model have in fact subsumed the substance of earlier definitions and models; it also appears that no definitions or models proposed since the completion of his work in 1976 are at variance. The same might also be said about Lucas' in, about, and for analysis, and to Johnson's definitional study. But these works do clearly lie 'mostly unattended by professionals' (Hungerford *et al.*, 1983).

The basic problem apparently is one of communication—either those concerned are not aware of what each other are saying, or they choose not to acknowledge, discuss, or debate it, for what they must assume are sufficient reasons. A number of apparently viable definitions and models have been advanced; Harvey has provided an analysis of most, and proposed a middle ground. A basis for resolution exists.

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