

# **Environmental Education and Environmental Interpretation: The Relationships**

## **by Doug Knapp**

### **Introduction**

In 1957 Freeman Tilden wrote a seminal publication entitled *Interpreting Our Heritage*. Thirteen years later the country celebrated its first Earth Day to mark the importance of our planet and the fragility of its biosphere. These events marked the contemporary arrival of environmental interpretation and environmental education respectively. For the past twenty years both of these fields have, for better or worse, been looked upon as similar in outcomes and structure. Certainly, many have used these terms interchangeably.

Despite a similar mission of creating an environmental ethic, both of these specialties have their own unique characteristics. This reading will attempt to highlight variables that set environmental interpretation apart from environmental education. Strategies to create successful connections between the two fields will be reviewed along with ways to promote these relationships.

Interpretation, environmental interpretation, nature interpretation, nature study and environmental education are all terms that have commonalities. Some of these fields have come onto the scene in part due to social influences. For example, the advent of environmental education has its roots in events such as the Santa Barbara oil spill and the first Earth Day in 1970. To many, the assimilation of terms like environmental education and interpretation were justifiable. Many believe that there is no need to create discrete categories for these terms. Today many books, relevant articles and government agencies use the terms environmental interpretation and environmental education interchangeably (Carson & Knudson, 1996; Cornish, 1995; Ham, 1992).

However, the lack of distinction between environmental education and interpretation is detrimental to both fields. Each is a unique endeavor that can make its own impact on its particular audience. As Zuefle states: "Interpreters can educate and educators can interpret. Some folks can do both ... But there are differences. Perhaps interpreters need to reexamine those differences. After all, without a clear understanding of the work to be done, how can we possibly go about doing it?" (Zuefle, 1997, p.6). It is, therefore, important to distinguish the similarities and highlight the differences of both.

### **A Similar Mission**

The outcomes desired by interpreters are similar to the directives of environmental education. The current definition of environmental education offered by the Environmental Protection Agency can be closely linked with the behavior change goals of many interpreters:

*Environmental education enhances critical-thinking, problem-solving, and effective decision-making skills. It also teaches individuals to weigh various sides of an environmental issue to make informed and responsible decisions. Environmental education does not advocate a particular viewpoint or course of action. (Federal Register, Tuesday, December 10, 1996, p. 65106)*

The similarities in outcomes have led many to believe that environmental education and environmental interpretation are virtually one in the same (Hammitt, 1981; Mullins, 1984; Sharpe, 1982). Mullins expresses the perceived similarities between the two fields:

*The major differences between formal environmental education and interpretation lies in the premise that formal education is a societal approved sanctioning system in which participants are required to learn and demonstrate certain competencies. Interpretation often uses the same messages, with the same media, in similar outdoor settings. (Mullins, 1984, p. 1)*

Sharpe is more explicit in stating, "Separating interpretation from environmental education is difficult" (1982, p. 25).

## **Important Differences**

Although the ultimate aim of environmental interpretation and environmental education may be similar, the inherent nature of both fields create three clear contrasts. First, the structure/characteristics of both are different. Environmental education tends to be associated with formal institutions that require students to participate in a sequential learning process. Interpretation, on the other hand, tends to be voluntary and located in recreational settings. Most interpretive experiences, at best, cover a period of two hours to half a day. As Gail Vander Stoep explains, "Typically [interpretation] occurs in settings that are informal or nonformal; target audiences are voluntary; the interpretive experience is usually short term (single, standalone experiences) rather than part of a series over an extended period" (1995, p. 470). On the other hand, curriculum development in environmental education is based on the premise that a student becomes invested in environmental issues (Hungerford & Volk, 1990). This variable is predicated on a period of time longer than the average interpretive experience can offer.

The lack of time with constituents creates a significant gap in attaining the behavior change goal associated with both environmental interpretation and environmental education. Several research studies regarding environmental behavior list important variables associated with this desired change. Two of the most crucial variables are an individual's in-depth knowledge of environmental issues along with an investment of time regarding these issues (Borden & Powell, 1983; Hines, Hungerford, & Tomera, 1987; Holt, 1988; Hungerford & Volk, 1990; Marcinkowski, 1989; Sia, Hungerford, & Tomera, 1986). People need time to attain the sensitivity, knowledge and attitudes necessary for a positive environmental ethic. Time is certainly one characteristic that an interpretive experience lacks.

A second important contrast with environmental education is interpretation's lack of credible program development goals associated with behavior change. For the past 20 years the field of environmental education has been guided by a set of established principles. These guideposts (the Tbilisi Declaration) were produced at an international environmental conference in 1977 and consisted of a series of hierarchical learning objectives. The Tbilisi Principles have been the foundation for the development of several theoretical models in environmental education. These directives have laid the groundwork for research and development in theoretical and action-based models that have produced several reputable environmental curricula (Disinger, 1993).

Environmental interpretation, on the other hand, is based on six principles written by Freeman Tilden forty years ago. Although his principles are important directives, the field has not developed a "road map" to achieve some of his attitudinal/ behavior change goals. The interpretive field has offered only a handful of untested theoretical models on which to base methodology. In 1986 Cable, Knudson, and Theobald suggested the use of Fishbein's Model of Reasoned Action to aid interpretive experiences in "attitude changes and action modification"(p.21). Other leaders have utilized theories based on Kohlberg, Maslow, and Piaget to develop interpretive experiences for children. The author has also developed a behavior change model based on research in the environmental education field (Knapp, 1994). These and other paradigms must be tested to help the field of interpretation in its behavior change objectives.

A third point that reinforces the distinction between environmental education and environmental interpretation is the current research findings. Analysis in environmental interpretation has produced two major conclusions. First, interpretation can increase the acquisition of knowledge regarding ecology and other basic information pertaining to a resource site (Koran, Koran & Ellis, 1989; Lisowski & Disinger, 1988; Ramey, Walberg & Walberg, 1994). Programs offering content that involved basic awareness and information of a resource site can improve the knowledge of a visitor (Drake & Knapp, 1994; Knapp & Barrie, 1995). Second, interpretation has a more difficult time in proving its impact on attitude and behavior change (Cable, Knudson, & Theobald, 1986; Gramann & Vander Stoep, 1987; Roggenbuck, Hammitt & Berrier, 1982). It is difficult to find evidence that a short term interpretive experience can create the steward or preservationist that the profession desires (Knapp, 1996).

In contrast, research in the field of environmental education has produced considerable data that show it can impact an individual's attitude and behavior toward the environment. Although there has not been found to be one pervasive paradigm, there has been solid fundamental headway taken by several leaders in environmental education. As John Disinger describes it:

*A good deal of effort has gone into the development of prospective paradigms for research in environmental education. ...Over two decades Hungerford and his associates have refined this concept by organizing and conducting a series of focused research studies dealing with education for the development of responsible environmental behavior. They have established a functional model with a viable research pattern and consistent examples. Another candidate for 'potential paradigm for environmental education research' is action research. It too has become established as a useful and productive model.*  
(In: Mrazek, 1993, p. 23-24.)

### **Interpretation is an Aspect of Environmental Education**

The inherent structural differences between the two fields and the lack of research-based program development goals for interpretation give support to the notion that an interpretive experience should be considered an aspect of environmental education and not environmental education itself. Interpretation does not achieve the ultimate goal of environmental education. Despite our best efforts, a two hour interpretive experience does not accomplish behavior change in an individual regarding his/her actions toward the environment. On the other hand, an interpretive experience can be an essential and successful aid in achieving this behavior change goal.

Although many in the field may not find this conclusion surprising, there are those from the past and present that believe that, somehow, interpretive experiences could change behavior (Bixler, 1991; Mullins, 1984; National Park Service, 1992; Risk, 1992; Sharpe, 1982; Tilden, 1957). Statements such as the one made below characterize this lofty expectation:

*Interpretation must not only fulfill the aspirations of conservationists but also should act as a major force for the social, economic, political, and cultural good. Interpretation should encourage and motivate individuals and groups to participate in decisions concerning alternative futures and appeal to people at an affective as well as a cognitive level.* (Ballantyne & Uzzell, 1993).

This type of rhetoric regarding the hopeful outcomes of an interpretive experience can be detrimental to the actual constructive influences our specialty can accomplish. This is not to say that interpreters must not heed Tilden's call to provoke, but they should be pragmatic in their quest and understand that the most successful tactic to achieve behavior change may lie in the establishment of partnerships with the longer term process of environmental education.

### **Making the Connections**

The differences between environmental interpretation and environmental education are outlined not to place the importance of one above the other. Instead, it is to attempt to investigate optimum connections between the two to promote the terminal goal of both. In particular, the interpretive field must begin to find new and better ways to combine efforts with environmental education. The similarities between both environmental education and interpretation necessitate that the success of either is predicated on the development of partnerships.

Future trends in interpretation must avoid isolated experiences that answer a teacher's need for that once a year 'nature trip'. This will require partnerships with other local interpretive programs. "Packaged" interpretive experiences that include visits to a variety of sites during a school year could increase the power of the educational message and increase the popularity of non-formal programs. An example of this strategy would be to bring together non-formal programs such as the local nature center, a nearby resource agency, and a university to offer school districts an academic year of related interpretive field trips that could reflect the primary goal levels of environmental education.

Below is an example of a partnership between Indiana University, the U.S. Forest Service and a local school district (Wadzinski & Knapp, 1995). This cooperative project delivered all goal levels of environmental

education (as discussed in the Tbilisi Declaration) to seventh and eighth grade students using a local environmental issue (use of the region's wilderness) as the medium for the educational objectives.

This is an example of attempting to link interpretive programs with an environmental education framework. This partnership reflects the depth and long term relationship these specialties must explore to achieve the desired behavior change that both fields espouse.

Another national program that attempts to link interpretation with the formal process of environmental education is Parks as Classrooms - a nationwide program administered by the National Park Service. Its primary goal is to create sustainable partnerships between parks and schools. A key ingredient of Parks as Classrooms is a good working relationship with teachers and integration with school curricula. For example, the Everglades National Park has had a partnership with local school systems for the past 20 years. The program has received national recognition for introducing more than 250,000 student to the issues facing the Everglades. Rocky Mountain National Park has reached out to the local school systems to offer partnership oriented curricula to third through sixth grade teachers and students. These curricula include field trips to the National Park. Similar outreach partnerships have been developed at the Great Smoky Mountain National Park and Cuyahoga Valley National Recreation Area (Reilly & Tevya, 1995).

### **The Investigation and Evaluation of Issues Pertaining to The Charles Deam Wilderness Curriculum Framework: Non Formal Integration**

Phase I - Basic Knowledge of Wilderness Site: Students learned basic ecological principles regarding the wilderness and its ecosystems.

- Field trip to wilderness led by Hoosier National Forest personnel
- Project Wild activities
- U.S. Forest Service lessons from *Investigating Your Environment*

Phase II - Awareness of Problems and Issues Associated with the Wilderness: Students became aware of and analyzed pertinent environmental issues related to the site.

- Field trip to wilderness led by Hoosier National Forest personnel
- Project Wild and Aquatic activities
- U.S. Forest Service lessons from *Investigating Your Environment*

Phase III - Investigation of Wilderness Issues: Students were enabled to conduct investigations regarding the wilderness issues

- Classroom visit by Forest Service Interpreter
- *Investigating Your Environment* activities

Phase IV - Knowledge of Action Skills in Regard to Solving Wilderness Problems: Students prepared wilderness policy proposals and gave them to Forest Service officials to attempt remediation of problems.

- Classroom visit by Forest Service Interpreter
- End-of-year assembly program with Forest Supervisor in attendance

### **Evaluating the Connection**

These examples are exceptions rather than the rule. There continues to be a lack of connection between both fields. One strategy to promote more partnerships is to learn where an interpretive experience can best integrate into the process of environmental education. The figure on the following page summarizes an important question for both fields - what goal levels of environmental education does an interpretive experience best compliment. Since it has been suggested that an interpretive program is an aspect of environmental education, the query remains as to what aspect it best fulfills.

If an interpreter only has two hours with a visitor what key environmental variables should be addressed? Should these programs be general awareness-based, issue-oriented or a combination of both? Unfortunately, evaluation of the impact of an interpretive experience on environmental behavior is sporadic. Bixler (1991) following a review of research in interpretive programming summarizes an important conclusion, "Research in this area seems to be declining, and there are few researchers systematically analyzing the instructional settings and methods employed by interpreters".

One reason for the lack of practical research is the difficulty in evaluating interpretive experiences with regards to long term attitude/behavior change. Many factors come into play which makes it difficult to isolate interpretation's effect on individuals. Despite this challenge a trend in the future must be to study long term impacts of an interpretive program.

Research is currently being conducted by Indiana University to evaluate the impact of interpretive programs that are representative of each of the four major goal levels of environmental education. The quantitative findings have shown that the greatest effect on a visitor is when an interpretive program is representative of the base level goal associated with ecological foundations (Marsan & Knapp, 1996).

Research, however, must continue and expand in order to learn how an interpretive experience can best fit in the scheme of environmental education. More qualitative and quantitative methods must be explored to aid the field in knowing what really can be accomplished in an interpretive experience and how to make the best connection with environmental education.

### **Promoting the Connection: Partnership Training**

An important strategy for the future is to expand training experiences to build better connections between both fields. Environmental educators and interpreters must come together to acquire the knowledge and skills necessary to conduct successful cooperative projects.

Support for this notion was evident in the summer of 1995 when UNESCO, in cooperation with the Mediterranean Information Office in Athens, Greece hosted an inter-region workshop on environmental education. This meeting was held to prepare the central idea for the next UNESCO-UNEP International Congress on Environmental Education and Training in 1997. Its primary mission was to reorient environmental education by incorporating the concept and message of sustainable development. The event was attended by specialists from the five United Nations Regions representing Africa, Latin America & the Caribbean, Asia, the Arab countries, and Europe & North America. Many of the recommendations formulated from this meeting emphasized the importance of partnership training:

*The group believes that a critical obstacle in the infusion of environmental education is the lack of cooperation and/or communication between educators and other social institutions such as non-formal programs. ...Therefore, these prospective trainers (of environmental education) must be key people representing a variety of social institutions, must be present under one roof and participate in the extensive training of the principles of environmental education. These "base-line" produced partnerships will increase the potential for long term success of environmental education implementation. (UNESCO-UNEP, 1995, p.41)*

Developing and conducting training programs is often challenging for a variety of reasons. But it is only by this in-service strategy that accountable partnerships between interpreters and environmental educators can succeed.

### **Summary**

There are important distinctions between environmental interpretation and environmental education. Interpretation tends to be a short term process to reveal information. It caters to a non-captive audience in a "field setting". Interpretation does not have a program development paradigm; this has resulted in a lack of impact analysis. Environmental education, on the hand, has been establishing itself as an accountable educational process that entails a set of hierarchical goals and an extensive research base.

Although both contend that their ultimate mission is to promote an environmental ethic, only one has the inherent characteristics to achieve this directive. Environmental interpretation must realize its pragmatic abilities and the limitations it possesses. It must also realize its strengths and learn how to use these to enhance its relationship with environmental education. This stronger partnership will help attain the ultimate goal that both fields desire.

#### Goals for Environmental Education: The Interpretive Experience

Ecological Awareness

Environmental Issue Awareness

Issue Investigation/Evaluation

Citizenship Action Skills

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