Environmental Education:
A Look at its Purpose, Methods, and Effectiveness

Erin Henegar
Introduction

As the United States forges ahead into the 21st century, it is faced with many prominent environmental problems and issues. Although not everyone agrees about the severity and solutions to the problems, the dwindling of fossil fuels, forests, biodiversity, and aquifers can no longer be denied. It is logical, therefore, to begin educating the public about the looming environmental issues and the natural and man-made environments that exist in order to counteract some of society’s many mistakes regarding treatment of the environment and pose possible solutions. Environmental education can play a key role in encouraging current and future generations to be involved in the decisions that are facing the United States, exhibit more environmentally responsible behaviors, and take steps towards supporting their beliefs. However, the effectiveness of environmental education is often questioned. Proving a change in environmental knowledge and attitudes is difficult to measure, but it is something that must be determined if environmental education is to increase its support and utilization in the future.

What is Environmental Education?

The word ‘environmental education’ was first defined by Dr. William Stapp of the University of Michigan in 1969. He wrote that, “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 the problems, and motivated to work toward their solution” (NAAEE). His definition is important, for it includes the three elements that all environmental education (EE) programs strive towards. First, increase individuals’ knowledge of the environmental and the problems facing it, then educate
them on the possible solutions to these problems. The third, and most important aspect of environmental education, is instilling in the individuals the desire to take action in working towards these environmental solutions. If people have knowledge of the issues, but are not motivated to work towards solving them, then the education has not been completely successful.

UCLA Professor Cornelius Troost agrees with Stapp’s definition in his own description of the goals of environmental education. He also believes the goal is to “produce an active environmentally-oriented citizen”. Active describing someone who is personally involved in decisions and practices regarding human interaction with the environment, and environmentally-oriented meaning a person whose values and attitudes are sympathetic to responsible use and management of earth’s resources (Troost 1972). Clearly, environmental education is interdisciplinary in nature, involving subject matter from both the natural and social sciences.

Within the realm of environmental education, there are many types of programs. All of these programs, however, can be defined as formal education, non-formal education, and sometimes a mixture of the two. Formal environmental education occurs most commonly in schools or certified environmental education centers when specific guidelines and curriculum are involved. In schools, it is targeted on specific student-teacher relationships and often is designed to fit within state school regulations regarding curriculum content. A non-formal system is less definitive and structured and is typically directed at the public at large, or particular segments of the general public (Troost 1972). It normally takes place at environmental education institutes and summer camps, non-
profit environmental organizations, or other environmental groups that aim at educating the public on environmental issues.

In a 2004 study by Shih-Jang Hsu of environmental education effects on college students, results showed that formal environmental education can effectively promote environmentally responsible behaviors. However, educators cannot assume that several years of formal education will ensure students gain all the knowledge and skills necessary for environmental literacy and continue to retain them after graduation. Logically, if the behavior is not enforced, it will erode over time, and it is here that non-formal environmental education emerges. Non-formal education should provide some sort of intervening function for maintenance and reinforcement of environmental knowledge gained through school. As a result, environmental educators should seek ways to foster non-formal environmental education out-of-school experiences, such as creating opportunities for students to interact with non-formal institutions (Hsu 2004).

**Brief History of Environmental Education**

As previously stated, environmental education first emerged when it was formally defined by Dr. Stapp in 1969. During the 1960s and 1970s, environmental issues began receiving more national attention, and environmental education seemed to have a very promising future as laws and programs began to be created in support of the subject area. The Environmental Education Act of 1970 was a positive action for the program, establishing the Office of Environmental Education within the Office of Education in Washington, D.C. to administer the act. Walter E. Steidle, the Legislative Planning Officer in the Bureau of Elementary and Secondary Education in the U.S. Office of Education at the time the act was created, was very optimistic about the act. He stated
that the act would “provide for making grants to and contracts with state departments of education, local school districts, organizations, and institutions to support research demonstration and conduct pilot projects designed to educate the public about problems of the environment” (Steidle 1977). The Belgrade Charter of 1976 formed a global framework for environmental education and began to define its goals and objectives. Then, the following year, the Tbilisi Conference further stated the objectives of environmental education as awareness, knowledge, attitude, skills, and participation.

As environmental education developed over the years, a need for specific guidelines explaining what individuals should know and be capable of doing after their education was growing. In response to this lack of structure, Hungerford, Peyton, and Wilke devised the “Goals for Curriculum Development in Environmental Education” in 1980. Four goal levels are outlined in their article, including Ecological Foundations, Conceptual Awareness, Investigation and Evaluation, and Issue Resolution Skills. Each of the four areas outline the ideas and concepts for that section that individuals should know after receiving environmental education (Hungerford 1980). To go along with the emergence of specific guidelines was the educational program Project WILD that was developed in 1983. WILD was among the first environmental and conservation education programs for teachers of kindergarten through high school aged students. It features materials, guidebooks, activities, and other curriculum related resources to help teachers plan environmentally-oriented activities in their classroom.

Twenty years after the initial act, the National Environmental Education Act was passed in 1990. This act formed the Office of Environmental Education within the Environmental Protection Agency, provided grants to schools, and authorized training
programs for educators. The focus on improving training programs continued, as the Environmental Education and Training Partnership was formed in 1995 by the North American Association for Environmental Education (NAAEE). This organization provides environmental education training and support for professionals and is operated by colleges and non-profit organizations varying from year to year. As time as passes, the importance of having qualified, prepared educators in the environmental education field has become more and more evident. Thorough preparation of professionals is essential to delivering quality environmental education programs and gaining the proper result. Guidelines for Initial Preparation of Educators, also produced by NAAEE, was introduced in 2000, supplying professionals with procedures to follow while training for environmental education (NAAEE 2005).

**Types, Methods, and Effectiveness of Environmental Education**

While there are many places where environmental education is implemented, the most common locations are schools and centers/institutions. Schools play a vital role in the process of helping children learn environmental awareness. A study done by Laura Barraza showed that school was the place where children most commonly reported learning environmental concepts and issues (Barraza 2004). Science class is the subject area most commonly integrated with environmental concepts and education. For children, an important part of learning science is learning about its nature and organization. They should learn about the nature of science both through their experiences and through discussion. The pursuit of science is first characterized by the exploration of the world, and, therefore, leading students to observe and describe their surroundings is an especially important part of elementary school science (Carin 2001).
According to elementary school teacher Abby Bergman in her article “Environmental Education for Early Childhood”, a careful study of the environment is an appropriate undertaking for children at the nursery and K-2 levels. Through it they can meet two broad objectives of both early childhood education and elementary school science: broadening and deepening the child’s knowledge of his world and increasing the child’s intellectual competencies and achievements (Bergman 1977). Some schools do not offer specific environmental education programs, and, instead, add an environmental emphasis to certain classes. Through implementing an environmental emphasis, connections between the specific subject area the class is focused on and the environment and its relating issues can be made. Even if the class is not science or social studies based, it can be related to the environment by an environmental emphasis approach.

Environmental centers and camps are the next most common locations for environmental education to be conducted. These institutions usually offer non-formal education with more of an outdoor component, as many offer outdoor education or are situated on areas surrounded by natural landscape. School groups and individuals can visit these centers year-round; however, summer is commonly the busiest season, offering day camps, residential camps, and other special programs. An important element often offered at these institutions is citizen science, in which typical, everyday individuals are utilized to conduct research that has the same impact and notoriety as a project done by a qualified scientist. The information and data collected by the public, or “citizen scientists”, valuably can contribute to both local and national research projects, thereby involving them directly in scientific data collecting. Citizen science is an
important part of environmental education as it directly involves the public in current environmental events.

**Experiential Learning/Hands-on Learning**

The way in which kids learn environmental issues seems to be important in the process of understanding ecological concepts. Children’s familiarity and understanding of environmental concepts is in most cases related to their experience and exposure to them. Children tend not only to remember but to understand and explain what a word means in relation to their direct experience of it (Barraza 2004). Piaget, well-known for his theories on education, came to the conclusion that the knowledge and thinking of children and adolescents develop across a series of stages, the last of these stages being equilibration. Equilibration is unique to Piaget’s system and emphasizes the importance to development of curiosity, alertness, risk, effort, and persistence. For Piaget, it is equilibration that drives the knowledge construction process, and hands-on inquiry science is an excellent way to promote equilibration (Carin 2001). In a study of the effects of conservation camp programs upon children performed by Cara Kruse and Jaclyn Card, hands-on learning was found to be beneficial. At all camp levels, posttest knowledge ratings were similar for all campers. Children reported high knowledge scores regardless of the level of information expressed in each camp program. Despite the actual amount of data presented, all campers were gaining from the hands-on learning experience (Kruse 2004).

**Outdoor Classroom/Repeated Programming**

Utilizing outdoor classrooms is also a method that is common in environmental education. By exposing children to the environment outside their classroom and homes,
they can become more aware of and comfortable with the natural world around them. One of the main purposes of outdoor learning centers is to provide science activities that will enable students to construct greater knowledge and appreciation for their immediate environment. Carin says outdoor science extends the classroom walls. Students can “enlarge their science studies by taking nature walks, doing data collection and scientific analysis in the real world, and feeling that science is not something relegated to a schoolroom” (Carin 2001). A study by Smith-Sebasto and Semrau in environmental education assessment showed that when classes consist of outdoor component, students begin to feel comfortable outdoors. Seeing wildlife or signs of wildlife piques their interest (Smith-Sebasto 2004). Even the most concrete-covered urban environment is rich in science possibilities. Children can enjoy watching the insects on the sidewalk outside their school just as much as seeing a large mammal, such as a deer, in the wild.

While these methods are important, equally as important is the frequency of the methods, according to studies conducted. Kruse and Card found that repeated and reinforced positive conservation education programming is needed for previous educational experiences to have an effect on future conservation attitudes and behavior concerning conservation. Campers with previous camp experience had higher self-ratings in knowledge than those without prior camp experience (Kruse 2004). Though much knowledge may have been lost before returning to camp, previous campers showed that the amount of information retained was enough to indicate more knowledge than first time campers (Figure 1).
Assessing Program Effectiveness

When assessing the effectiveness of education, there are two kinds of assessment: informal and formal. Informal assessment includes general conjecturing, such as ‘What if..?’ questions, directed at discovering what individuals have learned from their responses. More commonly used by educators is formal assessment. This assessment can be in the form of a journal, learning logs, quizzes, rating scale, and other forms of instruments (Sherman 2000). The Children’s Attitudes Towards the Environment Scale (CATES), formed by Musser and Malthus, is an example of this sort of formal assessment. It was created to measure environmental attitudes and evaluate environmental education programs. In order to ensure its use, it was made to be relatively quick and easy to administer, score, and interpret. Within the assessment, multiple statements using the language of school-age children are made relating to recycling, conservation, animal rights/protection, nature appreciation, and pollution (Figure 2). The previously mentioned curriculum development goals by Hungerford are also a key tool in assessing what has been learned from environmental education instruction. Teachers can use this assessment when planning their classes and programs in order to ensure an effective teaching strategy.

Great Smoky Mountains Institute at Tremont – My Experiences

During the summer of 2004, I worked as a Summer Teacher/Naturalist at the Great Smoky Mountains Institute at Tremont (GSMIT). GSMIT is a residential environmental education center, located in East Tennessee within the Great Smoky Mountains National Park (GSMNP), that offers yearly programs to schools, the public, and individuals. While I was qualified to work as a naturalist based on my past jobs and
experiences, this job was also helpful in my study of environmental education and how it is carried out. The ‘Tremont Environmental Education Center’ was opened in 1969 as a joint partnership between Maryville College and the National Park Service. In 1979, Maryville College withdrew from the collaboration, leaving Tremont closed until the new GSMIT opened in 1985. Tremont’s mission is “connecting people and nature through in-depth programs designed to nurture an appreciation of GSMNP, celebrate diversity, and foster stewardship” (GSMIT 2005). Summer employment, grants to graduate students, and job shadowing opportunities are all programs offered to educate the public and further environmental interest among students. There are also programs available for adults, college students, and elderhostels, in addition to youth programming that I focused on this summer. From the months of August to May, school programs are and, from June to August, summer camps and programs are available to youth from all over the country. Five different summer camps exist at Tremont, ranging from ages nine to seventeen and focusing on field ecology, natural history, backpacking, ‘Leave No Trace’ skills, and general environmental issues such as waste reduction.

As a Summer Teacher/Naturalist, I experienced a high level of environmental education as I learned the requirements of my job and role in which I would play at Tremont. Writing newsletter articles for the Tremont newsletter allowed me to reach members of the public by describing my experiences at GSMIT. While my job included various typical camp duties, one main aspect was developing and teaching natural history programs to the youth, college students, and adults that visited the institute. In the first two five-day camps titled “Discovery Camp” for nine to twelve year olds, I designed and taught “Nature Clubs” that the campers signed up for upon their arrival. Each club had a
specific layout, with a list of materials needed, location, and specific steps that I would follow as I taught. I create three clubs, focusing on beetle location and identification, nature poetry, and stream ecology as my subjects (Figures 3 & 4). Typically, I taught each club once or twice in each camp. During the first “Discovery Camp”, a senior staff member would attend my club, shadowing me just to watch me instruct the campers and help if any problems arose. This habit reflects Tremont’s devotion to effective environmental education and attentiveness to properly training their employees.

The next two camps were eleven-day camps for eleven to thirteen year olds called “Naturalist Expeditions”. For these camps, I created one three-day program, “Smokies Extravaganza”, and assisted in planning a second program, “Arthropods”, with a fellow employee. These programs are led jointly by two naturalists as a result of their intensity and length. Throughout my teaching of programs and clubs at Tremont, the goal of every event was to help campers learn more about the specific subject, gain experience in the outdoors, deepen their awareness and appreciation of nature, and ensure their safety and enjoyment during the program (Figure 5). The clubs that I created incorporated two of the three effective methods that were previously mentioned. For example, within the beetle Nature Club “Long-horned, Tiger, and Dung Beetles…Oh My!”, campers searched along a hiking trail at various intervals for beetles, stopping every so often to listen to a brief description of a specific beetle species. In using laminated information sheets, having discussions along the trail, and searching for beetles outside, I was able to utilize the outdoor classroom. The participants were also involved in citizen science, for they used real research equipment, such as beating sheets, sifters, and aspirators, to collect the insects. Their direct involvement with collection and beetle identification is also
considered hands-on learning. My other two clubs also incorporated the above mentioned methods in various ways.

In an effort to assess the programs available at GSMIT, I developed a post-camp survey for campers to fill out and mail back to Tremont. As an incentive, Tremont proposed giving a percent-off coupon for the Tremont store to those who returned the survey. However, due to problems within the office, the surveys were not sent out at the end of summer; yet, they were saved to be used at another time to aid assessment. Two surveys were developed – one for older campers and another for younger campers and their parents to fill out. Both questionnaires featured open questions about their experiences at camp, such as “What was your favorite/least favorite part of camp?”, “What was most memorable?”, and “Which nature club/expedition was your favorite and why?” and a section involving rating camp activities. The parents’ section featured questions about their children’s attitudes and behaviors after camp, such as “What aspect of camp made most impression on them?” and “What did your child talk about most when arriving home from camp?”. Older campers answered these questions themselves and also indicated if they would like to attend camp at Tremont again. The surveys were also designed in ways to make them visually pleasing to youth and easy to fill out, using shapes, pictures, and colors.

**Other Relevant Studies**

**Kruse and Card**

Cara K. Kruse and Jaclyn A. Card conducted a study of the effects of a conservation education camp program, offered by a zoo education department in Florida, on youth who attended the camps. Youth between the ages ten and eighteen attended the
summer education camp in the summer of 2002. Four different camp programs were offered, including Zooventures, Terratrekkers, Adventure Terratrekkers, Zoo Careers, with the amount of animal husbandry involved increased as the age-level for each program increased. The idea behind the conservation camps was to educate youth about importance of wildlife, habitats, and behaviors so that they will be conservation advocates as youth and later as adults (Kruse 2004). Campers rated their conservation knowledge, attitude, and behavior prior to, immediately after, and one-month after the camp experience. Pretest, Posttest, and delayed posttest questionnaires assessed three characteristics of conservation education programs: knowledge gained and retained, attitude change, and behavior modification. Results indicated that conservation knowledge scores increased over the study period, as did attitude and behavior. Initial self-ratings revealed that campers with previous camp experience did not perform environmentally responsible behaviors more often than those attending camp for the first time. This supports the idea that successful behavior change requires repeated and reinforced positive conservation programming (Kruse 2004). An increase in the attitude category indicated that the lasting effects of repeated participation in conservation education programs may further the advancement of conservation-oriented attitudes. The overall trend of the results showed that as the level of advancement in animal husbandry increased, the conservation-oriented behavior of campers also increased (Kruse 2004).

Smith-Sebasto and Semrau

This study conducted by N.J. Smith-Sebasto and Heidi J. Semrau focused on the evaluation of the residential environmental education program offered by the New Jersey School of Conservation (NJSOC). They wanted to assess the effects of selected sessions
on students’ attitudes toward the environment. Sixth grade students from three different middle schools participated in the programs at NJSOC for four days and three nights in Fall 2002 (Smith-Sebasto 2004). The students participated in seven selected NJSOC lessons, all of which consisted of an outdoor component. The lessons were conservation, recycling, animal rights/protection, nature appreciation, pollution, ecological relationship adaptations, and natural resources use. CATES was used as the pretest and posttest, in which an overall score is given to each student by summing across each of three domains – affect, behavior, and beliefs. Scores were analyzed both collectively and for each school (Smith-Sebasto 2004). The intervention was assessed by the instrument as ineffective in altering students’ overall attitudes, but was assessed by the instrument as effective in increasing environmentally responsible behaviors (ERBs). The authors found the study to be limited because it included only public school children as subjects and focused only on a few specific classes offered at NJSOC (Smith-Sebasto 2004).

**Barraza and Cuaron**

Laura Barraza and Alfredo D. Cuaron analyzed the familiarity and understanding of ten environmental concepts amongst Mexican and English school children aged seven through nine. This age group was chosen because at this stage the child’s mind undergoes a developmental change, both intellectually and socially (Barraza 2004). Barraza wanted to discover if, during this developmental process, children gain an adequate level of environmental knowledge. The purpose of the entire study was to “investigate whether the education system and the environmental ethos of a school have an effect on the acquisition of environmental knowledge and identify sources of environmental information for children” (Barraza 2004). The environmental concepts
used were words included in the National Curriculum of both countries. They included habitat, pollution, recycling, global warming, deforestation, solar energy, endangered species, extinction, nuclear power station, and ozone layer (Barraza 2004). Two countries with differences in their cultural and structural education systems were chosen purposely. The English primary system has students engage often in practical work, but does not as extensively use textbooks. Oppositely, Mexican teachers use textbooks centrally in their teaching. Five primary schools in Mexico and three in England were chosen that varied in the level of environmental policy. Some schools had an environmental policy, some had a small amount of policy, and the rest had no environmental policy at all.

Two assessments were performed during the study, including the source familiarity with environmental words and the correct word definition of environmental words (Barraza 2004) (Figure 6). Results showed that there was a strong correlation between children’s familiarity with the words and their understanding. Children who were familiar with more of the terms tended to know more of the meanings. Children from more environmental schools were more familiar and had better knowledge about the assessed concepts than children from other schools. This shows that school ethos is important. Environmental programs in schools can help children to develop a better understanding of the world and to acquire positive attitudes towards the environment (Barraza 2004). Overall, children ages seven to nine have a low to moderate level of environmental understanding, judged against expectation of National Curriculum in both countries. The study also suggested that the experience of a new-word through hands-on activity is more likely to result in understanding than the use of a textbook. Similarly,
English children, who are educated more through activities rather than textbooks, tended to have more even familiarity and understanding of terms. School and television were the most frequent choices made by children when asked to select how they had heard the specific terms (Barraza 2004).

**Conclusion**

Much more research is needed in studying the effectiveness of environmental education. Developing more research projects provides evidence for the need for environmental education, thereby ensuring future efforts in the field. There is no question that the need for environmental education is increasing. As non-renewable resources run out and the subject of sustainable living becomes more and more prominent, the need for individuals knowledgeable in environmental issues and decision-making grows. Schools and environmental education institutes remain important sources of environmental information for students and individuals. Non-profit environmental organizations are also providing assistance by educating the public about local, national, and worldwide issues concerning the environment and resource issues. As an individual who has participated in environmental education programs both as educator and as student, I have experienced the effect my education has had on my views of the world and life in general, as I go on to pursue environmental education in graduate school. While there is no way everyone will share the exact same opinions regarding environmental issues, it is important to simply get individuals involved. Through environmental education, people will be able to understand the natural world around them, the current issues regarding it, and make an informed decision about its fate for themselves.
Bibliography


26. 

North American Association for Environmental Education. EE Link: Events that have Influenced Environmental Education in the U.S. NAAEE. 25 Apr. 2005

http://eelink.net/perspectives-timeline.html


Appendix

Figure 1. Results from Kruse and Card study that show benefit of previous camp experience.

<table>
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<th>Camp type</th>
<th>Knowledge Without</th>
<th>With</th>
<th>Attitude Without</th>
<th>With</th>
<th>Behavior Without</th>
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<td>Zooventures</td>
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<td>20.60</td>
<td>28.70</td>
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Advanced

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<th>Attitude Without</th>
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<td>31.11</td>
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Total

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<th>Attitude Without</th>
<th>With</th>
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M

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<th>With</th>
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Figure 2. Questions from CATES

Some kids like to leave water running when they brush their teeth A (a lot like children described) B (little like children described)

But other kids always turn the water off while brushing their teeth A (a lot like children described) B (little like children described)
Nature Club Proposal

Name Erin Henegar

Program Title Long-horned Tiger, Dung Beetles... Oh My!

Topic Beetles

Theme Beetles are found in almost every habitat; some come in all shapes & sizes.

Audience Discovery Camp 1

Location/Trails Meet in Science Room; stay until Beetle searching activity.

Materials Needed

- Beetle sheet
- Inkblot
- Pocket magnifying glasses
- Scissors
- Markers/Markers
- Glue

Blurb

Did you know that some beetles can shoot blood out of their joints when threatened? What beetle can launch itself into the air to frighten its predators, while making a resounding ‘cliquk’ noise? Come and discover the fascinating habits of beetles inside the Great Smoky Mountains National Park. While hunting for insects along the trails, we will learn simple, fun research methods that everyone can do! Let the environments below your feet and above your head be revealed as you explore the world of beetles!

Outline/Description of Program

1. Begin with telling group several intriguing facts about beetles, i.e. make up the largest order of living things, great adaptability, etc. 5 min
2. Using white board/chalkboard, draw & explain life cycle - complete metamorphosis 5 min
3. Ask various students to read 'Spotlight' sheets - these small posters will focus on one specific beetle each, providing a picture, a few facts, facts about their habitat, all examples will be native to GSNP - will give campers an idea of the diversity of beetles in appearance, activities, & habitat within the Smokies 15 min
4. Explain equipment that will be used to find beetles (i.e. how to use each item - beetle sheet, sitters, aspirators - form pairs or groups of 3 to use equipment) 10 min
5. Leave for Lumber Ridge - hike 1.5 mi up trail, while stopping to look for beetles; hike back to Science Room (1 hr 35 min) (read Spotlight sheets along trail)
6. Discuss kinds of beetles found - Make & Create: Your Own Beetle Activity - Campers use pre-cut shapes of leaves, heads, wings, antennae, markers, scissors to form their beetle - concluding activity 30 min
7. Question campers about what they have learned or found interesting 5 min

Total time - 2 hr 45 min

Figure 3. Example of Beetle Nature Club proposal.
Nature Club Proposal

Name: Erin Henegar

Program Title: “Look, Listen, & Feel”

Topic: Nature Poetry

Theme: Nature inspires wonder and appreciation in people that can be expressed through poetry.

Audience: Discovery Camp - 9-12 yrs

Location/Trails: Meet in Friendship Circle and conclude there; taking observation hike in between up Cemetery Loop & sitting on Girl Scout Island (if time)

Materials Needed:
- Notebook paper
- Markers/crayons
- Construction paper
- Glue/tape
- Scissors
- Pencils

Blurb:
Discover how to learn more about the natural world around you when you join me for Nature Poetry! We'll find out how to sharpen our observation skills by using our senses to view the animals and plants of the Great Smoky Mountains. Using our observations, we can create a nature journal through writing poems and decorating them.

Outline/Description of Program:

1. Name game - quick introductions so group somewhat familiar with each other
2. Discuss purpose of hike - using observation skills, senses; recording what is observed; rules of trail, etc. Pass out paper, pencils
3. Leave for West Prong Cemetery Loop, stopping periodically and observing (using senses) while recording observations
4. Visit Girl Scout Island for observation (depending on time)
5. Return to Friendship Circle; explain cinquain & diamante using posters; write group diamante (after showing some examples)
6. Allow campers to choose which poem they would like to write using their observations
7. Poems can be cut out and/or decorated by campers - the concluding activity

Figure 4. Example of Nature Poetry proposal.
Figure 5. Some of the campers and I by the game field.

Figure 6. A few of the questions from Barraza’s questionnaire given to 7-9 yr old children.

1. HABITAT
   a) A place where you learn good habits.
   b) A place where you keep tools.
   c) The place in which an animal or plant lives.
   d) A place where you store things.
   e) Don’t know

2. POLLUTION
   a) Unwanted waste.
   b) An optical illusion.
   c) Voting at an election.
   d) Place where you pay the poll tax.
   e) Don’t know.

3. RECYCLING
   a) Cycling most of the time.
   b) Throwing things away after using them.
   c) Cleaning things all the time.
   d) Using things over and over.
   e) Don’t know.