

# OUTDOOR PEDAGOGY

**T**he teaching techniques used by outdoor educators mirror the diversity of the natural world. Currently, an excellent selection of instructional activities is available for use in a variety of natural settings. The past 20 years have seen an explosion of environmental/outdoor education curriculum materials. It is now possible to find books and materials with lessons for groups from preschool age to adults. Excellent wildlife-related materials are available through Project WILD, Project WILD Aquatic, WILD About Elk, and Taking Action. Project WET focuses on water resources, while Project Learning Tree (PLT) includes lessons on plants and their habitats.<sup>1</sup>

Threads from many learning models are interwoven like a tapestry throughout most of the published outdoor education activities. Educators who use these lesson materials will recognize techniques drawn from the Information Processing, Personal, Social, and Behavioral models described by Bruce Joyce and Marsha Weil.<sup>2</sup>

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ing opportunities. Lawrence E. Hillman's *Nature Puzzlers*<sup>3</sup> provides stories from the natural world that teachers can use for inquiry learning. Outdoor educators can also use actual outdoor puzzlers to stimulate the inquiry process. When children see barbed wire that appears to be growing out from the center of a tree trunk, this presents a great opportunity for an inquiry learning experience focusing on tree growth, healing adaptations, local history, and human impact on nature.

By Gary Longfellow

# ***From rocks that float to unusual plant forms, the natural world offers paradoxes that stimulate curiosity and offer learning opportunities.***

The unknowns and apparent problems that occur in the natural world offer constant sources for investigations requiring science inquiry and inductive thinking.

Outdoor investigations can be as simple as testing tidal phenomena and hypothesizing about tidal changes along a beach. Does the wave action change or stay the same? Have the students place a stick in the sand to mark the high point of wave action and later come back to record what happened. Is the stick still there? If so, where is the water relative to the stick? Another group could engage in inductive inquiry as they collect information about the insect larvae in a small river. By sorting the data and indexing key species that are sensitive to environmental disturbances (i.e., pollutants or siltation), they can judge the stream's health.

As children begin to understand the inquiry process, they can collect data for established research projects. A number of state and federal agencies (U.S. Fish and Wildlife Service; Shorebird Sister Schools Program), nonprofit groups (National Audubon Society; Project Feeder Watch), and universities have enlisted teachers and students in data gathering for ongoing projects that range from water and air quality records to migratorial bird counts.<sup>4</sup>

## **The Importance of an Outdoor Setting**

Regardless of the type of investigation, it is important for children to conduct such studies in an outdoor setting. Too many children grow up learning about science only through textbooks and indoor laboratories. They never experience the unique challenges and rewards found in discovering new knowledge firsthand in the outdoors. They may also miss the opportunity of making discoveries about the Creator through their study of the natural world. "Many illustrations from nature are used by the Bible writers, and as we observe the things of the natural world,

we shall be enabled, under the guiding of the Holy Spirit, more fully to understand the lessons of God's word. It is thus that nature becomes a key to the treasure house of the word."<sup>5</sup> As educators, we must pass them the key!

**O**utdoor studies have also added new dimensions to concept-attainment methods. The natural world provides a rich source of living and non-living materials that can help students understand various concepts. Instead of using adjectives or nouns, one can use objects from nature to represent a concept's essential attributes. For example, if the group is exploring a forest habitat, the leaves and needles of the trees may serve as exemplars of deciduous trees or evergreens.

## **Emotional Response**

Interacting with natural and manmade environments tells us about who we are and what we value. Experiencing wild places helps increase learner awareness. Features of the outdoors that both inspire and intimidate the explorer can be used to generate greater self-awareness. Most outdoor-education programs help participants experience the natural environment and to process their personal reactions. This is accomplished by combining interaction with the outdoors with opportu-

nity for personal reflection in the form of creative writing, visual arts, or discussion activities.

The beauty and diversity of God's creation naturally generates an emotional response. Visitors to parks and wild areas commonly experience a sense of joy, appreciation, peace, and belonging. A variety of blindfold activities can be used to help students rely on senses other than sight. Scent walks, sound mapping, and experiences that explore texture or taste can help participants to practice different ways of gaining understanding. Reflective activities then allow them to process their experiences.

## **Using Fear for Self-Awareness**

Some outdoor experiences use the fear

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that arises from certain interactions in the natural world to increase self-awareness. These programs commonly serve older audiences because of their physical danger and demands. Adventures such as rock climbing, whitewater rafting, and survival programs like Outward Bound Schools<sup>6</sup> are frequently used to build self-esteem, leadership skills, and team cohesiveness.

Younger children can also gain from challenge experiences in the outdoors through games and low rope activities. Many of the resident outdoor education programs use challenge courses, blindfold trust walks, and solo night walks to build self-esteem and group cohesiveness. If these activities are approached in a safe and supportive way, every participant can gain positive experiences.

**T**he outdoors offers countless opportunities for developing creative thought. In his work as a creativity consultant, Roger von Oech suggests that “being an artist is all about: changing patterns, looking at things in different ways, and experimenting with various approaches.”<sup>7</sup> In the outdoors, each strange and unusual life form forces us to look at creation in new ways. In addition, by using some simple viewing equipment such as a magnifying lens or a square piece of glass, the ordinary can become extraordinary. Many children have found millipedes or centipedes under logs or rocks around their homes. By using a piece of clear glass to view the creature from below, this becomes a delightful study of an animal movement. How could

so many legs move in such patterned unison? This experience also lends itself to spiritual lessons about the way the Lord views each of us. Outdoor discoveries provide lifetime memories for many children. Whenever they see another many-legged arthropod, they will think about their Lord’s love.

Roger von Oech suggests a number of approaches to aid the creative process<sup>8</sup> such as “Ask What If?” What if this spider could fly? What would animals do if it snowed all summer? The wide range of responses will provide clues about each student’s mastery of a particular subject, while stimulating creative thought.

The diverse array of living and non-living things found in the natural world readily serves as a source of analogies and

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metaphors. Project WILD Aquatic includes an activity called “Marsh Metaphors” in which the students use standard household utensils to create metaphors related to the environmental processes of a marsh. For example, a kitchen strainer could represent the cleansing and filtering process that marshes provide. Other lessons involve the children in skits or games by asking them to imagine being an animal or part of some phenomena.

A number of resident outdoor education programs use the “Classroom Meeting” model to encourage their students to assume responsibility for shaping experiences and living environments. These meetings help to encourage appropriate behaviors and the use of problem-solving skills while involving the children in the democratic process.

## **The Social Family or Cooperative Learning**

Outdoor explorations offer a wonderful setting for use of cooperative student groups. Small-group explorations can be used in a variety of settings and in combination with other learning models. The scientific inquiry and inductive training models work well with cooperative learning techniques.

Action projects have found popular application in the field of outdoor education. These activities give students a wholistic exposure to the issues associated with a project, while involving them in a valuable community service experience.

Students are often naturally drawn to environmental issues and problems. Suc-

cessful groups receive a strong sense of empowerment. A number of class groups are adopting endangered species, conducting habitat clean-up projects, or implementing community education programs.

A few years ago, students in the Ross Valley School District of Marin County, California, received national recognition by adopting the endangered California freshwater shrimp. They created a club and designed T-shirts for the fundraising campaign. Their goal was to restore creek habitat for the shrimp by reducing erosion

and facilitating the flow of clean water. Their teacher, Laurette Rogers, authored a book on the project.<sup>9</sup>

In response to the growing interest in such learning experiences, Project WILD developed a guide entitled *Taking Action* to help teachers plan environmental action projects. Some corporate organizations are supporting project-based curriculum because of its social and interdisciplinary components.

“Ethi Reasoning,” an activity from Project WILD, incorporates Socratic dialogue in its procedures. The students are arranged in small groups and given diffi-

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cult ethical problems and possible solutions. They may choose one of the solutions or create their own and state the reasons for their decision. The other students in the group rate the choice made by the first student, and give reasons for their own choices.

#### **The Behavioral System**

Simulations are the behavioral model most commonly used in outdoor education. A number of outdoor games simulate different ecological processes. One predator/prey game from Outdoor Biological Instructional Strategies (OBIS)<sup>10</sup> incor-

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porates popcorn as the energy or food source, and paper bags to represent the animals' stomachs. Students are either prey animals, predators, or both. Prey species get their food (popcorn) from the ground, while predators obtain their energy from eating the prey species. When a prey animal is captured and eaten, it must give up the contents of its bag to the predator. Predators can survive only if they can glean enough food from prey species. With each round, the students discuss results and adjust predator and prey populations before the next round. The classic Project WILD activity is "Oh Deer!" This

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lesson focuses on the importance of food, shelter, and water as children simulate the effects of resource shortages on the deer population.

#### **Putting It All Together**

Regardless of the learning methodology, the primary focus of outdoor educators should be to help students learn by immersing them in God's creation. Just as they would in the classroom, educators working out-of-doors must use a diverse selection of techniques and activities drawn from the natural world. Students need to experience the wonders of creation from many different perspectives. These experiences will provide them with a new view of truth.<sup>11</sup>

If you have had no experience working in the outdoors, start by using any resource available to you. If the conference operates a resident outdoor school, seek in-service training and support from the specialists who run the program. Ask for advice from other teachers who have used the outdoor laboratory. Develop teaching

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activities that tie into established curriculum materials. As you prepare these activities, seek to make connections with spiritual lessons.

Start small. Join your students in exploring the classroom, school yard, and/or local parks, then plan field trips to more rural habitats. Those early investigations will help prepare you and the students to make the most of each experience. Often,

the lessons will unfold in the way you have planned, but look forward to the unexpected discoveries that will come your way. ✍

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#### REFERENCES

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Project WET: Sandra DeYonge, Director, 201 Culbertson Hall, Montana State University, Bozeman, MT 59717; Phone: (406) 994-5392; Web site: <http://www.montana.edu/wwwwet/>.

Project Learning Tree (PLT): American Forest Foundation/Project Learning Tree—Yolanda Jacobs, 1111 19th St. NW, Suite 780, Washington, DC 20036; Phone: (202) 463-2464; E-mail: yolanda\_jacobs@plt.org; Web site: <http://www.plt.org/>.

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Project Feeder Watch; National Audubon Society and Cornell Lab of Ornithology: Margaret Baker; Education Outreach Coordinator; Cornell Lab of Ornithology, 159 Sapsucker Woods Rd., Ithaca, NY 14850; Phone: (607) 254-2427; E-Mail: mab27@cornell.edu; Web site: <http://birdsource.cornell.edu/pfw/>.

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