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On Evaluating Environmental Education

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It is easier to *assert* than to *demonstrate* conclusively that nature is of great importance to children. Undaunted by the difficulties, a number of researchers have developed interesting ideas about the role that outdoor environmental experience (of the right sort) plays in children's physical, emotional and mental development. Some of these ideas have been around for a long time and in the early 1900's led to the publication of the Cornell Nature Pamphlets. Other more contemporary ideas come from disciplines as diverse a psychology and biology. Professor E. O. Wilson, Harvard biologist and author (*The Biophilia Hypothesis,* 1981), wrote that he is convinced that humans have an innate attraction to life and living systems. My own experience as an outdoor environmental educator supports Wilson's observations and convinces me that this "attraction" is not a matter of aesthetic appreciation, a kind of cognitive skill. Rather, our profound affiliation emanates from our complex perceptual systems. These perceptual abilities developed as a function of human life spent in the natural world over the eons. The various modes of perceiving and experiencing—hearing, smelling, touching, seeing, feeling, thinking and intuiting—have always been essential to our organismic survival. Our sensory efficacy is amply proved by our success (overpopulation) as a species and by the variety of environments in which we thrive.

Psychiatrist H. Searles argues that the relationship of children to the world around them figures significantly in their development. He maintains that the non-human environment is more important psychologically than theory has yet acknowledged. Pearse, another psychologist, asserts that children normally move from the mother-matrix to the environmental-matrix around the age of eight and focus their emotional energy on building bush huts and dens in "vacant lots" as a way *through play* of developing a sense of independent life. Pearse sees immersion in the environmental-matrix as a necessary stage in children's growth. Space limitations restrain me from discussing numerous other researchers, authors, and child development specialists who have developed important insights into the kinds of attachments children make to the non-environment and the kind of benefits forthcoming from this relationship. However, each writer adds something to our understanding of the meaning of "nature" to the individual.

How then are we to evaluate the significance of experience in the natural world for children? Anna Freud wrote of the difficulty of finding out what children think and feel, because they don't and can't express themselves adequately in words. Written evaluation instruments, prepared by environmental educators and others, are supposed to provide children with words to express their reactions to the outdoor education experience. The questions on the form are usually very hard for children to answer truthfully, because the forms don't take into account ambivalent feelings. In fact, they often reflect the bias of the creators of the "measure." It's hard to find evaluation instruments for outdoor "natural history" type programs that actually find out what children really think. Could we, for example, expect a child to be able to truthfully answer such a statement as "I would rather go to the woods than visit the mall": agree, disagree, strongly disagree? Many adults would have trouble choosing a response, yet the statement comes from an actual evaluation document that was devised by a professional evaluator. Experience outdoors is so largely qualitative that even adults would be hard-put to describe more than a small fraction of it.

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Yet the question remains and needs to be addressed: Are we doing what we think we are doing in our outdoor environmental education programs? We need answers in order to improve our programs, as well as to convince funding organizations that we deserve their money. Although most funding agencies know how difficult it is to evaluate qualitative experience, they still ask us to try. I think that children's art can provide such a tool. Although many people are not at all familiar with interpreting children's art, the skill is not difficult to learn, and the artwork reveals a great deal.

Children's art can be analyzed for indications that important learning/growth experiences are taking place in the environment. The drawings truthfully illustrate children's varied and individual ways and levels of grappling with important aspects of the natural world. Through observing children or examining their artwork, one can get a good idea of (for example) their:

- readiness to undertake the activity or project;
- enthusiasm about discoveries;
- heightened curiosity;
- receptivity to instruction or new information;
- self-generated questions and observations;
- eagerness to find out more;
- attempts to understand life cycles, relationships between plants and animals, qualities of being alive;
- flexibility/development of symbols that are used to represent experience, moving away from stereotypes into forms more personal and individualized;
- ability to form questions relating to outdoor experience;
- appreciation of the mutuality of the experience;
- ability to recognize and handle emotions;
- ability to stand on "own two feet" and feel satisfied with efforts to represent new understandings;
- greater personal organization and self-control due to positive experience of self in unfamiliar surroundings;
- feeling of success because of new relationship to formerly unknown aspect of life (the forest or pond, etc.);
- desire to communicate experience;
- independent assertion of individual point of view;
- freedom from critical judgments (right, wrong, bad, good) that allows new thoughts and expression;
- ability to handle adventure and feeling of joy; and
- increased ability to symbolize experience.

I have observed all of these qualities of character (listed above) in children on field trips. I have also seen evidence of them in drawings children created subsequent to the experience. With encouragement and understanding, children can gain the confidence to observe, learn, try out ideas, and to think things through both practically and imaginatively. As we provide children with the adventurous chance to explore the mysteries and wonders of the natural world, we help them develop intellectually, emotionally and perceptually, with the result that they may become well-balanced and environmentally conscious adults.