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Exploring Connections Between Environmental Education and Ecological Public Art

Art is one of the most powerful tools for enhancing environmental education for K-8 students. Art makes environmental education more experiential and helps to build appreciation, awareness, and a sense of shared responsibility for nature that students may carry throughout their lives. Both environmental and art educators have developed approaches that unite these fields to foster powerful cognitive, personal, and moral development in exciting, innovative ways (Blandy, Congdon, & Krug, 1998; Caddy, 1999; Gablik, 1991, 1995; Lankford, 1997; Neperud, 1997; Stankiewicz & Krug, 1997).

As an artist and educator with a strong interest in environmental issues, I am led to ask the following questions: How effective is environmental education, as it is currently taught? How can ecological public art infuse environmental education with new ways of perceiving and addressing environmental issues? How can educators integrate inquiry about ecological public art into the environmental education curriculum? How can the infusion of arts-based education enrich students' awareness of and appreciation for nature?

In this article, I discuss the foundations of these questions and analyze some current educational practices in an effort to show the enormous potential for the linkages between ecological public art and environmental education. Additionally, I explain how art can promote better environmental education for children and can encourage high-level thinking and creativity that can be integrated across subjects.

Issues in Environmental Education

I have observed three problems with much of today's environmental education in grades K-8: an attitude of emotional detachment from nature; an emphasis on a reactive, rather than a preventive, approach; and the limited scope and perspective of environmental education in general. Each of these problems severely detracts from the potential positive impact of environmental education and merits remediation.

Emotionally Detached Perspective. One of the most fundamental problems with environmental education is the detached, unemotional way in which it is taught, thus implying a disconnection and separateness from human existence. According to environmental educator John Caddy (1999), "Classroom environmental education tends to lack positive emotion . . . too

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much environmental education is problem-centered and negative in tone and perception" (§ 26). Thus, children focus exclusively on such issues as pollution, extinction, and global warming, instead of celebrating, cherishing, and honoring the many wonders of the Earth.

Caddy emphasizes that "we must not ignore problems; but we do have to balance the negative focus with affirmation. The crucial point of environmental education is to celebrate the wonder, awe and beauty of the Earth" (§ 27). The way to inspire concern and action is not to emphasize shock and dismay about myriad environmental problems, but rather to spark children's passion, concern, and internal desire to care for the world around them.

Similarly, in the book *Beyond Ecophobia*, environmental educator David Sobel (1996) emphasizes, "What's important is that children have an opportunity to bond with the natural world, to learn to love it, before being asked to heal its wounds" (p. 10). Sobel (1996) suggests that a positive way to introduce the natural world is through interdisciplinary methods that allow children to explore their own innate connections with and love for nature. Furthermore, Carol Seefeldt (2000) suggests that children be allowed to hone their innate aesthetic awareness and to learn to appreciate the beauty of the earth, as a first step in choosing to engage in a deeper relationship of mutual care and concern. Through this natural aesthetic engagement, children discover ecological relationships and learn about the balances and interdependencies that exist among different natural elements; they also become aware of things that disrupt this cycle, and become self-motivated to act in eco-sensitive ways. With this deeper level of connection, children's attitudes shift from fear and problem-solving to care and empathy that often lead to more realistic and long-term involvement.

Reactive Perspective. When the problem-focused approach is integrated into the curriculum, it fosters a reactive, alarmist view, rather than a proactive, preventive perspective. It can serve to make problems seem unsolvable, label individual action as unimportant, and convey an overall sense of hopelessness and helplessness to children. This approach often uses disturbing images or cites scary statistics to frighten children into taking action. Sobel (1996) uses the term "ecophobia—a fear of ecological problems and the natural world" to describe this approach, and points out that "if we prematurely ask children to deal with problems beyond their understanding and control . . . then I think we cut them off from the possible sources of their strength" (p. 5). Photographs of barren rain forests, footage of wildfires consuming forests, and news reports of oil-covered animals and out-of-control landfills are some

examples of this kind of problem-oriented methodology. The problems loom so large that the children feel powerless and may withdraw, believing that nothing can be done. This entirely undermines the goals of environmental education.

One way to introduce children to environmental issues in a less threatening or overwhelming way is to allow them to explore the issue through arts in education at an early age. In using this method, children are able to learn about nature through personal exploration, tap into deeper concepts through creating and observing natural works, and personally reflect on nature and its balance before being inundated with information on the many existing environmental challenges. This approach supports a positive, caring, and preventive attitude that encourages children to create a relationship with nature before being asked to solve its problems.

Limited Perspective. Unfortunately, environmental education today tends to be extremely narrow in its scope and perspective. Often, very minor activities, such as encouraging recycling or asking children to pick up trash on the playground, suffice for raising environmental consciousness. Without any larger sense of meaning, these detached activities become synonymous with environmental preservation. Without a preexisting, positive relationship with nature, however, it is easy for children to become turned off and more disengaged from learning about, or acting on behalf of, the environment.

In contrast, a far more fruitful approach is to encourage children to first develop a love for nature, fostered through exploration and artistic creativity (Adams, 1991; Wilson, 1995). This bond helps to ensure that children are intrinsically motivated to take action and can understand the impact of their actions. Teachers can aid children in this process by allowing them to express their creativity, successfully create their own activities, and engage with nature out of choice, not out of a sense of obligation.

Once children develop a relationship with nature and begin to explore complex ecological issues, it is important to draw ideas, information, and methods from a variety of disciplines to promote strong understanding, exploration, innovation, and engagement. Ecological art¹ can help to counteract this limited perspective by providing concrete examples of intangible ideas about the environment as well as other content areas. It encourages children to think critically and exposes them to various experiences that accommodate a wide range of learners.

Pedagogical Foundations of Environmental Education

Currently, positive examples of environmental educa-

tion appear to be based on three common pedagogical positions: firsthand or direct experience as a basis for environmental education, the use of place-based learning, and a commitment to action-oriented education.

Firsthand/Direct Experience. Providing students with opportunities to experience art in nature firsthand is an integral part of utilizing ecological art in education. David W. Orr (1990) and Ruth Wilson (1994) believe that direct experiences can spark learning, boost creativity, and foster intelligence. Through being in nature, children can observe and interpret healthy and damaged ecosystems and consider what interventions would be beneficial.

The tactile experience of gathering natural materials and manipulating them to create artworks further boosts children's understanding of and bond with the environment (see Figures 1, 2, & 3). In a 3rd- or 4th-grade classroom, the teacher might first engage students in a conversation about arts and materials, beginning with conventional art materials, and then broadening their vision of art materials by showing slides of ecological artists' work, and talking about the materials used. This could be followed by taking a walk outside to a natural area where the students can collect their own materials. The teacher would guide them into "seeing" differently—looking up high, upside down, intensely at one small piece of ground—all in an attempt to shake up their sense of what is really there and help them "see with new eyes." Finally, the children could be asked to construct art pieces based on what they found and share their ideas and works with the class. The teacher can find a great deal of information about artists who use natural materials at the following website: <http://greenmuseum.org/>.



Figure 1: Dettlef Kleinen, *Flintstone*, 2005, wood, slate, stone, 12" x 12", Frankfurt, Germany. Photo courtesy of the artist



Figure 2: Kiko Denzer, *Sawwort*, 2006, mud, earthen plaster, Oregon. Photo courtesy of the artist



Figure 3: Nils-Udo, *Summer in the Park*, 1999, lime tree, bird berries and lime tree leaves, Aachen, Germany. Photo by Nils-Udo

Honing children's sensory and perception skills through observation and creation allows them insight into the mystery, metaphor, and symbolism abundantly found in nature (Orr, 1990). This powerful, immediate experience fosters a strong relationship and aesthetic response, but also can motivate a student to action when it is situated within a context of factual information, creative idea exploration, interdisciplinary ideas and tools, and a sense of social awareness and concern for the greater good (Birt, Krug, & Sheridan, 1997). The essential first step here, as Wilson (1995, 1996) suggests, is encouraging children to interact with, appreciate, and love the beauty of the world around them as they naturally grow to be stewards of nature. Art has a role here, because it allows children to demonstrate their own feelings, as well as to take action based on their new knowledge, understanding, and feelings.

Place-Based Learning. In her book *The Sense of*

Wonder, Rachel Carson (1956) emphasizes place-based learning as an important tool in guiding children in the exploration of the natural environment. Carson advises parents not to worry about their lack of specific knowledge concerning environmental issues and instead to focus on expressing their own emotions to children, rather than a series of facts. Children are much more alert to parents' joy, sense of mystery, and excitement than to a recitation of information. Carson (1956) writes, "It is more important to pave the way for the child to want to know than to put him on a diet of facts he is not ready to assimilate. Go outside and reawaken your own sense of wonder" (p. 26). Carson's advice highlights the importance of the parents' role as educators in environmental education. This advice is equally applicable to educators and provides an excellent educational model.

Place-based learning emphasizes the idea of allowing children to interact with the actual entities they are learning about. While this is enormously powerful in environmental education, it can be logistically challenging. However, David Sobel (2005) suggests that place-based education does not have to be so narrowly defined. He argues that place-based learning can incorporate a community's social and historical context as well as including the larger natural environment, allowing community members to share their own love for the surrounding area. One example he provides involves including the history of a community and the beliefs, ideas, and concerns of the long-time residents as part of the living memory of nature.

I might suggest that a teacher start by sharing memories of a special place—a "secret place" in the woods, a favorite creek, a high tree—she visited as a child. Then, the teacher can encourage children to describe their own special places, using guiding questions, such as, "What does it look like, smell like, and sound like?"; "What do you do there?"; "Who do you go there with?"; "Why is that place special to you?"; and "What special memories do you have from there?" These questions will encourage children to share their own stories about places in the community that are particularly meaningful to them. Part of this activity might involve children bringing to class an object from this place. Children can share their special place through descriptive writing, illustration, or map making. Finally, the teacher could invite community members, perhaps elders, to share their memories of special places in the community in which all of them live. Students can view pictures and read descriptions of the changes that have occurred in their communities. In these ways, place-based learning will be amplified and deepened.

"Place-based teaching is really an elaboration of the Deweyan notion that you need to get kids engaged with real-world activities and real-world problem solving,"

Sobel explains, "and the real world needs to be, especially in the beginning, nearby and visible" (Swope, 2005, ¶ 10). Thus, children need not travel in order to engage in place-based education; in fact, a local community, in its natural setting, may provide an ideal familiarity and scale for children to first gain an understanding and appreciation of their environment.

Action-Oriented Education. Both the learner and the environment accrue important and long-lasting benefits from experiential learning. As Barbara Matilsky (1992) states, "Ecological action-oriented inquiry facilitates lifelong learning. Contemporary ecological artists use action-oriented inquiry processes to engage in long-term projects that help reclaim and restore ecological systems" (p. 65). The interactions between nature and artist that take place during experiential action-oriented inquiry promote a lasting relationship in which the developing artists, as well as viewers, are encouraged to take a protective role toward nature. The work of these artists motivates viewers of all ages to assume this more active role through observational experiences. Interacting with sites that have undergone ecological renewal due to the efforts of an artist to use art to combat human destruction can elicit a strong response (Matilsky, 1992).

When educators introduce children to this ecological public art, young learners become more aware of the connection between people and nature, and are catalyzed into taking action that can also have a deep impact on the viability of the environment. The students' own explorations ultimately change their thoughts, beliefs, and views about the environment. This paves the way for deep learning as children are engaged in the intellectual process of questioning, exploring, interacting, integrating, and reflecting (Birt, Krug, & Sheridan, 1997). Such intellectual processes can encourage children to take creative action.

A teacher might lead students on a nature walk to an area with which they are all familiar. Students may ponder what species live there, what needs those species have, and what the habitat needs. In this way, their awareness grows about other species having needs, just like humans have needs. The teacher might follow this activity by showing some artwork created by the artist Lynne Hull, who specializes in trans-species art² and ecological art. This might lead the students to reflection on how various artists' works address the needs of many species and are intended for both a human and non-human audience. In a final action step, students can draw from their exploration in nature and their exposure to Lynne Hull's work in order to construct an artwork that might meet the needs of species in the area they have visited.

This openness to new ideas and a novel understanding of humans' relationship to the larger natural world

can combat other messages of human dominion. In this way, we can create a more symbiotic partnership with the ecological world.

More and more educators are learning about and pursuing ecological action-oriented inquiry in their efforts to foster interdisciplinary relationships between art and environmental education. Over the past decade, environmentalists, educators, artists, and organizations in the United States have considered how to integrate art and ecology with the education system (Birt et al., 1997). The larger goal of this discussion is, ultimately, to help children find meaning and power in their interactions with the environment. Consequently, they will grow to follow their own drive toward appropriate individual, community, and global responses. Thus, students gradually develop new and deeper understandings and awareness of nature and are intrinsically motivated to take action to address the issues that they see and feel (Birt et al., 1997).

The Integration of Environmental Education and Ecological Public Art

The goal of this educational approach is to allow children to learn and appreciate ecological issues at the local and community levels, while also gaining an awareness of the larger global issues and the connections between the micro and macro spheres. What these approaches all share is a focus on engaging and exciting the learner, and on encouraging thought, reflection, emotional connection, and, ultimately, action in support of shared ecological goals.

According to Louis Lankford (1997), ecological stewardship in education could include: "(a) the study of art from an ecological perspective, (b) artistic production characterized by ecological awareness and responsiveness, and (c) development of ecological stewardship through interdisciplinary learning" (p. 50). An integrated interdisciplinary approach is necessary to address these various goals and explore the wide range of ecological issues. The collaborative projects that children engage in will encourage them to seek information, use art to form connections between ideas, propose solutions, and carry out their visions. In working on their project, children must think critically, analyze information, solve problems, and communicate with others. These steps promote a variety of intellectual development activities while fostering creativity and creating a socially beneficial outcome for both the learners and the environment.

According to Stankiewicz and Krug (1997), "Some ecological artists attempt to alert viewers to environmental issues through shock, humor, or educational documentation. Others seek to educate the public to the systemic character of bioregions through ritual, performance, and process drama" (p. 5). Recently, a

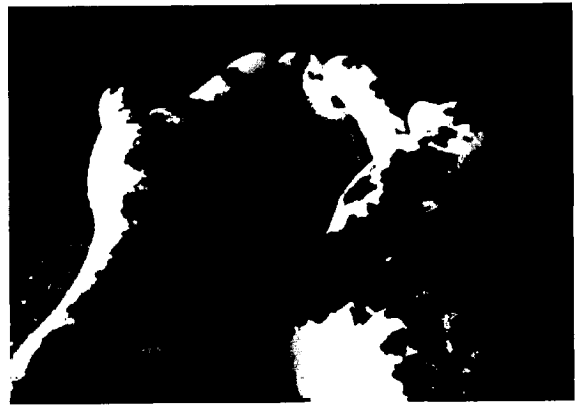


Figure 4: Jackie Brookner, *The Gift of Water*, 2001, 3 x 5 x 9', Grossenhain, Germany. Photo courtesy of the artist

growing number of ecological artists have begun to engage with the community through activities. While some ecological artists produce their art individually and then use it to raise awareness and provide insight into existing problems and possible solutions, others encourage community members to participate directly in ecological public art projects.

Examples of Ecological Public Art

Artist Jackie Brookner³ uses her public sculpture, *The Gift of Water* (see Figure 4), to evoke a combination of emotional and intellectual insight. The sculpture of huge concrete hands covered in moss exists in a wetland and filters water for a large public swimming pool without using chemicals. Here is how Brookner (2001) describes her work:

Two mossy cupped hands reach from the bank into the pond. As water flows into the hands, a misting fountain aerates it and moistens the mosses, which[,] in turn, purify the water. The intimacy of the mosses growing over the hands exemplifies how all life is interconnected. (¶ 2)

Through this multi-sensory experience of playing in water that has flowed through mossy, concrete hands, children can naturally explore the concepts of interconnection and renewal. The sculpture perfectly captures the concept of the interconnectedness of humans and the environment, because people experience it on many levels—not only through their visual sense, but as swimmers within the water that the piece continually purifies. They are viewing the artwork, and they are also absorbed within it—as we all are within the environment.

In addition to purifying water in the local environment and offering viewers a unique aesthetic experience, this "symbol of renewal" (Brookner, 2001) also generates discussion and raises awareness of the ecological problems facing the area. Questions can be generated



Figure 5: Patricia Johanson, *Fair Park Lagoon*, 1981-1986, Dallas, Texas. Photo courtesy of the artist

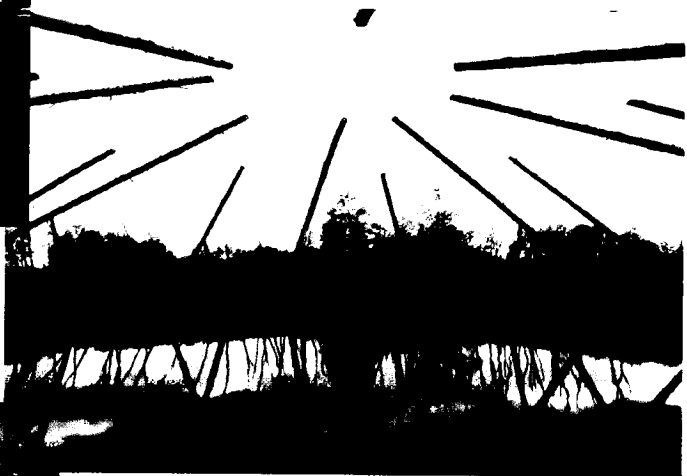


Figure 6: Nils-Udo, *Song of the Spirits Over the Waters*, 2004; earth, spruce, and weeping willow planting, Wilhelmsdorf, Germany. Photo by Nils-Udo



Figure 7: Steven Siegel, *New Geology #2*, 1990, recycled newspaper, stone, flora, 5'x11'x11', Milan, New York. Photo courtesy of the artist

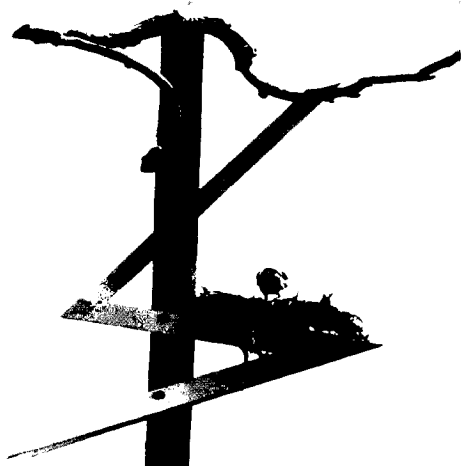


Figure 8: Lynne Hull, *Lightning Raptor Roosts with a young ferruginous hawk*, 1990, branches, I-80, Wyoming. Photo by BLM

about water quality in the community, such as: "Where does your drinking water come from?" and "How is it being polluted by storm runoff, industrial wastes, or other local sources of pollution?" (Give Water a Hand, 2007, ¶ 2). It is hoped that this kind of discussion will generate interest in water issues affecting a community. In turn, students can engage in activities, such as creating surveys of drinking water quality, making others aware of issues through public awareness forums, and creating collaborative student art pieces to raise awareness about similar issues.

Other powerful ecological public artworks that can be integrated into the curriculum include: Patricia Johanson's⁴ *Fair Park Lagoon*, Nils-Udo's⁵ *Song of the Spirits Over the Waters*, Steven Siegel's⁶ *New Geology #2*, and Lynne Hull's⁷ *Raptor Roost L-2* (see Figures 5, 6, 7, & 8).

While communities might not have sculptures that lead directly to environmental awareness and public action, students still could be made aware of the other purposes for environmental sculptures: namely, for pleasure, for social commentary, and for recreation.

Both educators and other ecological artists have begun to recognize that grasping the relationship between art and nature can be a great entry point for children into learning about both areas. It also provides them with a creative way to express their own care and concern for the earth. Through art-based education, teachers can channel children's natural creativity to raise awareness, transmit information, and develop responses to various environmental challenges.

Conclusion

It is clear that environmental education can be greatly enriched and improved through the integration of the arts. Through carefully weaving ecological art with other subjects and methods, children can nurture an appreciation and love for the environment, reflect on its value, understand human interdependency, and strive for improvement in ecological conditions. Additionally, this process can promote increased knowledge, understanding, and awareness, both within children and within the larger community. Environmental education generates personal and intellectual growth and can inspire children to reevaluate their own beliefs about humans' relationship with the environment and whether it is more appropriate to favor stewardship, rather than dominion, of the environment. By learning about ecology through art, children can learn about nature in a fun, stimulating, and hands-on way. Ecological public art takes both art and nature to a new level and encourages children to question conventional thinking and create new conceptual patterns.

Incorporating ecological public art into environmental education helps combat the primary problems of environmental education by making it far more direct, positive, and broad in scope. It follows the natural learning process of inquiry, contemplation, innovation, action, and evaluation, while allowing children to self-direct and apply their own creative ideas. It also provides intrinsic motivation to children through the emotional bonds that they form from frequent and direct interactions with nature.

Notes:

¹ Artwork created by artists concerned with the state of the environment, both locally and worldwide. Artists interpret nature and create artworks to inform us about nature and its processes or about environmental problems we face (greenmuseum.org, 2003).

² Trans-species art are sculptures that are usable by wildlife or that enhance wildlife habitat (Hull, 2006, personal communications).

³ www.jackiebrookner.net

⁴ www.patriciajohanson.com

⁵ www.greenmuseum.org

⁶ www.stevensiegel.net

⁷ www.image-world.net/eco-art

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