

Original Paper

Helping Children Discover Meaning through Environmental Education: A Sample Review of the Literature

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Abstract

Social interaction, freedom of choice, and hands-on activities can make the difference in helping children make meaning of the world around them. This sample review of existing literature looks at three studies that explore what factors most influenced children's ability to make meaning through participation in environmental education programs. Articles were selected based on their relevance to the topics of making meaning and environmental education programming. The studies concluded that factors critical to children's engagement and ability to make meaning from their experiences included their opportunities for informal social interaction, freedom of personal choice, and extent of hands-on learning activities. The studies affirmed that, for maximum benefit, environmental educators can and should challenge and inspire students to pursue their own learning. Similar research should be undertaken in more environmental settings, across wider age-ranges of children, and over longer periods of time. Future studies should also explore how best to overcome the learning barriers often present in outdoor environments. As educators, the more we know about what works well, and why, the more we can tailor meaningful, impactful experiences that best fuel the curiosity, engagement and learning of our students.

Keywords

making meaning, environmental education, hands-on learning, freedom of choice

Educators can use a wide array of subject areas, processes, and methods in providing environmental education. Well beyond imparting facts and figures, perhaps the most essential outcome is that environmental education gives context and meaning to students, in terms of their place in the world and the importance of the environment in their lives. As educators, we must ask ourselves what we can do

to help students make meaning from their environmental education. Researchers have conducted various studies in order to identify what helps children—including intelligent, curious, socially aware children—to make meaning from encounters in environmental education. What researchers have learned is that we as educators should commit ourselves to providing learning experiences for children that involve ample *social interaction*, *freedom of choice* (in what they study, and how and when they engage with it), and *hands-on* learning experiences; in doing so, we can help students to make more meaning for themselves, and thereby become more aware, engaged and influential in their schools, communities, and world.

Bixler and James (2008) examined the participation of twenty gifted 4th- and 5th-grade students in a 3-day residential Environmental Education (EE) program, which took place in a coastal beach environment. The authors maintain that by exploring a residential EE program from the perspective of the student, from a social-historical-cultural context, environmental educators are better able to recognize what children find of interest and of meaning about the EE experience. Bixler and James (2008) collected data using two pre and post interview activities completed by students, the Personal Meaning Mapping (PMM) and the Five Field Map (FFM). While the PMM identified meaningful learning, the FFM identified how social interactions contributed to meaningful learning. Study results indicate that student experiences were more interesting and meaningful when the program and environment fostered informal time with peers and adults, new experiences with objects and people, freedom for students to make personal choices, and high degrees of sensory stimulation. Finally, Bixler and James (2008) maintain that, in order to provide a high quality and long-lasting impact for participants, it is equally important that environmental educators not only teach the EE programming but also address environmental socialization and other informal aspects of residential EE programs. During educational experiences, social interaction (including both child-to-child and child-to-adult) had an effect on reported experience outcomes. Students found that the ability to immediately share their findings with others, particularly peers and chaperones, made the adventure more enjoyable and “fun”. Studies have found that informal, sensory-rich experiences, in particular those involving touch, have the most impact on successful learning outcomes. The feel of an unusual object, such as a fish, or the sound of a “catchy” song that taught a lesson and “stuck in their heads,” proved most beneficial. In addition to sensory orientation and the ability to socialize, the Bixler and James (2008) study also validated it is very important to learning outcomes for students to have freedom of choice, which heavily influenced what students found to be stimulating or of interest.

In order to fully engage our students and achieve the best learning outcomes, we as environmental educators should offer students ample opportunities to associate with others, to engage all of their senses, and to retain freedom of choice in their exploration of nature—all of which fuel enjoyment, learning and impact. Berg, Bradford, Barrett, Robinson, Camara, and Perry (2020) shared these sentiments when they examined the participation of twenty-one children aged 8-9 years old, with the purpose of gathering the thoughts and opinions of students and teachers regarding the benefits of

outdoor exploration time. The authors contend that granting children an outdoor space is a critical way in which to give students the chance to connect to nature. Berg et al. (2020) collected data in semi-structured focus group interviews. Four themes emerged from the study: expanding perspectives; connection to nature; sense of choice; and enjoyment. Of particular interest are sense of choice and enjoyment, two informal aspects of environmental education. Students very much reveled in the ability to choose “how to spend their time and what to focus on” (p. 7) and described their enjoyment of the activity with descriptors such as “happy, fun, amazing, awesome, warm good feelings, comfortable, excited, energetic and playful” (p. 8). Even the freedom to decide which particular tree they wished to explore in nature led to children reporting feelings and moods that were more joyful, happy and playful. Study results indicate that educators need to provide both independence and free-play opportunities. In particular, the socialization benefits of outdoor activity include the ability of students to “work together to develop and strengthen a variety of skills to build upon for future learning” (p. 10). Students, according to the study, were able to access curriculum, but more importantly, meaningful real-world experiences. Finally, Berg et al. (2020) conclude that there is meaningful value in students spending time outdoors and having opportunities to create their own unique experiences and connection with nature, which also translated into more positive social-emotional feelings for the children.

Even very young children can make great strides in the skills and knowledge gained from learning outdoors. A glance into the early childhood education of a group of preschoolers in Sweden offers further proof that providing children with the opportunity for independent learning in nature produces significant meaning for students. Klaara and Ohman (2014) assert that while a number of studies report valuable findings relating to the democratic and the outdoor-oriented approaches of Swedish preschool culture, none had studied these criteria in combination. The authors maintain that the study of these two criteria together create specific circumstances for both how and what children learn about nature, and how they create meaning from their experiences in nature. Klaara and Ohman observed a group of Swedish preschoolers, aged 1–3 years old, engaged in outdoor activities over a period of 22 days. The inclusion of outdoor play is quite characteristic of preschool educational environment in Sweden, and the authors included many free choices for the children to make as they selected the objects and locations of their play. The aim of the study was to examine exactly how the combination of outdoor-oriented and democratic (student-led) approaches impacted children and their ability to learn about and make meaning of nature. The study by Klaara and Ohman allowed children to choose freely from a variety of toys and artifacts, and teachers allowed children to choose the outdoor areas where they most preferred to play. Thus, the study environment favored “autonomy, experience-based explorations and creative inquiries of nature” (p. 249). Klaara and Ohman (2014) maintain that the freedom to explore and “follow their feet” not only provides enjoyment, but also is beneficial to the development of children’s self-confidence. Study results also indicate that practitioners should study the outdoor-oriented and democratic approaches in tandem, and take an active role in challenging and seeking to extend the learning available through individual student experiences. While engaging

students in activities of *their* choosing, our role and challenge as educators is to interact with students in ways that challenge, stimulate and inspire them to extend and pursue their own learning.

Studies suggest that, as educators, we should commit ourselves to providing learning experiences for children that involve ample *social interaction*, *freedom of choice* (in what they study, and how and when they engage with it), and *hands-on* learning experiences; in doing so, we can help students to make more meaning for themselves, and thereby become more aware, engaged and influential in their schools, communities, and world. While these studies draw clear conclusions, they were also limited in geography, scope and duration. While the indicative findings of the studies are important, they deserve further validation, across a wider array of settings, broader age ranges of children, and longer periods of time. The Bixler and James (2008) study involved only 20 students in the United States, in grades 4-5, over a 3-day period; the Berg et al. (2020) study involved 21 students in Western Canada, ages 8-9, for 1.5 hours each month from September to June; and the Klaara and Ohman (2014) involved a single group of preschoolers in Sweden, of a very young age (1-3), over a period of 22 days. In addition to focusing on the aspects of environmental education that help make meaning for children, it would be helpful if future studies could also seek to identify, analyze, and recommend solutions to the learning barriers which are often present in outdoor environments. As educators, the more we know about what works well, and why, the more we can tailor meaningful, impactful experiences that best fuel the curiosity, engagement and learning of our students.

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