Learning New Ways: Transcending Outdoor Environmental Education

By Mitch McLaron

Since Richard Louv coined the term “nature-deficit disorder” in 2006, policy makers, academics and parents have for the most part agreed that children are spending less time exposed to nature than ever before (Suzuki, Mason, & McConnell, 2007). Lack of time in nature has been linked to a decrease in healthy living, overall happiness and “eco-literacy” (Capra, 2009, p. 245), all of which contribute to general well being. What does this mean for outdoor environmental education (OEE)? Several policy documents in Canada and abroad support the initiative of taking learning outdoors (Boyd, 2012), however, are we aware of the argued mental and physical health benefits of doing so? What about the educational benefits? This article will focus on recent literature reviews, research and applicable theories from a few disciplines that link outdoor education to many different health benefits.

Biophilia

Much of the literature surrounding health and engagement with nature begins by exploring E.O. Wilson’s premise of biophilia. The biophilia hypothesis states that human beings have an innate affinity for life, the natural world and all living things (Wilson, 1984). While this model is often used in research, it has been argued that this particular theory has not been subjected to adequate empirical testing (Day, Theurer, Dykstra & Doyle, 2012). Many established and emerging academic disciplines (outdoor/environmental education; deep ecology; environmental psychology/epidemiology) support increased exposure to nature.

I contend that much of outdoor education literature has primarily focused on the physical health benefits of outdoor activity, and has not outlined the many argued mental health benefits. While personal and social development (PSD) may have some overlap with mental health and certain OEE programs, much of the PSD research has been heavily criticized (Brookes, 2003; Brown, 2008). After all, is character building a mental health benefit? The following sections will delve into different reviews of literature and research from an array of fields to outline some of the potential health benefits of OEE.

Relevant Psychology Literature

Even limited exposure to nature may improve cognitive abilities, such as attention and memory (Hartig et al., 2003). For example, research in university students, breast cancer patients, low-income housing residents, and elderly persons (Berman, Jonides, & Kaplan, 2008; Cimprich & Ronis, 2003; Kuo, 2001; Ottosson & Grahn, 2005) support the positive impact of nature on cognition. Moreover, different research suggests that exposure to a natural environment can have a restorative effect on attention abilities (Kaplan 1985; 2005).

As the research and field of psychology started taking testing outdoors, a new discipline of environmental psychology (eco-psychology) emerged to measure the interplay between humans and their environments (Gifford, 2007). While it is impossible to summarize all of the research of this ever-growing field, the basis in environmental psychology literature posits that different surroundings have different effects on humans and a natural environment is conducive for holistic healthy living (de Groot, Berg & Steg, 2012).

Health Benefits and Overall Well-Being

McCurdy, Winterbottom, Mehta and Roberts (2010) argue that children can benefit both mentally and physically from time spent in nature. The authors reviewed current evidence relating to how outdoor play in natural settings positively affects children.
According to their findings, increased exposure to nature promotes physical activity, which helps with obesity, type 2 diabetes, asthma, pain reduction and vitamin D deficiency. In terms of mental health, McCurdy et al. (2010) contend that exposure to nature can improve children’s ADHD symptoms, depression, stress and emotional well-being. In addition to these benefits, McCurdy et al. (2010) suggest that experiences in nature can potentially combat myopia, which, among other factors, may be exacerbated by time spent in front of illuminated screens such as computers and televisions. While there are many potential health benefits related to time spent in the natural world, little is known about how much time children are spending in nature to obtain benefits.

Environmental Education and Educational Benefits

The field of environmental education has shown that exposure to nature, when integrated into the school curriculum has positive educational, psychological and health outcomes for children. A recent review of relevant literature on these themes conducted by Cristie and Higgins (2012) provides a good starting point for investigation. For example, Lieberman and Hoody (1998) found that pupils subjected to an integrated environmental program performed better on standardized tests such as reading, writing, math, science and social science than students who did not participate. Student achievements on standardized tests were higher for students exposed to environmental education programs than those who encountered a conventional system of education (Bartosh, Tudor, Fergusson & Taylor, 2006). The authors explored attainment in math, reading, writing and sciences.

Interestingly, a similar study by Crowder (2010) suggests that students prefer learning in high quality learning environments, which refers to lessons taking place in an outdoor natural environment. Exposure to the natural world enhances theoretical understanding of core subjects. Perhaps natural environments are conducive for attention, which can augment the educational experience. Furthermore, Higgins (2009) states that sensory experiences in an outdoor environment are beneficial and influential to the learning process. Similarly, James and Bixler (2008) measured the effects of a three-day residential environmental program for 20 gifted eight- to eleven-year-olds and reported that being in a natural setting encouraged sensory experiences and social interactions. The above-mentioned studies address how children may benefit educationally from exposure to nature, however, there is little empirical research that explores where and how children are being exposed to nature outside of these environmental programs.

Applicable Research

A project piloted by Marziana and Maulan (2012) explored children’s preferences in nature by employing a “photo projective method” (p. 327) and analyzing the photographs accordingly. Their study had approximately 20 child participants equipped with cameras. The subjects were instructed to take photographs of their preferred settings. Interestingly, a large majority of photos depicted images that were part of a natural ecosystem (e.g., wild animals, flora, water bodies). The authors followed up their photo analysis method with interviews, which revealed that children find nature very beautiful but at times are apprehensive or frightened of it.

A larger study conducted by Alerby (2000) attempted to gather information on how children perceived the “environment” through drawings and oral communication. The findings suggest that while children are aware of environmental degradation, half of the drawings were scenes of nature with a positive outlook. The author remarks that there are many nuances within this theme. These nuances reveal that the individual preferences of children require further inquiry, and, conceivably, how children define the “environment” is under researched. This study is interesting because
the findings conflict with those of Marziana and Maulan (2012), who found that children fear nature. These polarizing conclusions may highlight the need for a more objective, interdisciplinary approach to this topic. Taken together, these studies indicate a need to continue to assess children’s time spent in nature and their attitudes about nature, as research is suggesting that there is a disengagement from nature as exposure to technology increases (Louv, 2008).

This negativity or helplessness associated with environmental degradation has been termed ecophobia (Sobel, 1996), which in turn may have serious implications for children’s advocacy for conservation of the natural world. Other authors have noticed a similar trend in children’s attitudes elsewhere (Barraza, 1999; Barrett & Barrett Hacking, 2003; Hicks & Holden, 2007). This is in keeping with Louv (2008), who contends that children are becoming more fearful of the natural world as they are gradually spending less time immersed in nature. While urbanization may contribute to this pattern (Statistics Canada, 2006), this further highlights the issue of environmental attitudes of young people. It is argued that without meaningful connections and sensory experiences with nature, there will be an absence of environmental stewardship for future generations (Arsenio & Gold, 2006).

Summary

Based on the array of research reviewed in this article, it appears that when humans experience and are exposed to nature, their well-being is enhanced (McCurdy et al., 2010). However, children are spending less time in nature and are becoming fearful of contact with it (Mariziana & Maulan, 2012). Due to this withdrawal, children are lacking the environmental experiences that lead to environmental stewardship (Arsenio & Gold, 2006). While current research is attempting to address the intersections between the physical and mental health benefits associated with OEE, there are still many questions left unanswered. How much time do we need to spend in nature to get these aforementioned benefits? How can we develop environmental stewardship in the next generation of youngsters? It should be noted that there is a high degree of skepticism that appears to be characteristic in research that has positive findings when relating nature and well-being (Day et al., 2012). Thus, emerging research should be encouraged to be suspect of findings, good and bad.

As OEE continues to mature as an academic discipline, there is a major research opportunity to collaborate and involve other fields of study. As the interrelations between subjects, curriculums and learning become more prevalent, research methods should reflect the nature of the information sought. Given that learning is becoming cross
curricular, I suggest that to capture data on such complex issues, an interdisciplinary approach with a mixed-method design will be well suited to measure all aspects.

References


**Note:**

1Well-being is a term often used in health and epidemiology. For the purpose of this paper well-being is defined as: 'The presence of the highest possible quality of life on its breadth of expression, focused on but not exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture' CIW (2012, p. 5)

Hailing from Montréal, Québec, Mitch McLarnon is currently living in Halifax and is enjoying all that the Canadian east coast has to offer.
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