

Understanding the contribution of wilderness-based educational experiences to the creation of an environmental ethic in youth

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Abstract

The purpose of this exploratory study was to deepen our understanding of the ways in which a wilderness-based educational experience may serve as a significant life experience and how that experience may impact the development of an environmental ethic in youth. Students on 30-day courses from the National Outdoor Leadership School (NOLS) were asked to respond to the question, "Did your NOLS experience make an impact on your environmental ethics? If so, how?" The responses of 771 students indicated that a 30-day NOLS course did, in fact, positively influence both cognitive and emotional aspects of participants' environmental ethics and shared some characteristics of a significant life experience. Recommendations for future research are discussed.

Keywords: Outdoor education, significant life experience, environmental ethic

How we interact with and behave toward the environment is an increasingly important issue. According to the U.S. Census Bureau (2012), the Earth's population recently eclipsed seven billion people. We are experiencing the fastest population growth in history and are set to reach eight billion within a mere decade. Meanwhile, the current species extinction rate worldwide is between 100 and 1,000 times faster than the natural rate, caused mainly because of the negative effects of human behavior (Thomashow, 2002). As our population continues to increase, our impact on the various elements of the environment follows suit, yet, a recent study investigating the behaviors of consumers (TANBERG, 2007) found that only 24% of the world's population believe their individual actions should be key toward enacting environmental change. For decades, educators and activists have been trying to find ways to increase the pro-environmental behavior of individuals. One way that an individual's behavior toward the environment may be changed is through the development of an environmental ethic.

Throughout our lives, we negotiate a relationship with the natural world and an environmental ethic is an integral aspect of this relationship. An environmental ethic can be described as “the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents” (Brennan & Lo, 2009). These morals and values are utilized in the decision-making processes that dictate how humans interact with the natural environment (Hungerford & Volk, 1990; Hay, 2005). Studies have attempted to bridge two dimensions of our human nature: the drive to know the world cognitively and the desire for emotional connection and identification (Chawla, 1998). Research suggests that individuals whose connections with nature include positive attitudes and values toward the environment are more likely to engage in pro-environmental behavior, or “behavior that consciously seeks to minimize the negative impact of one’s actions on the... natural world” (Kollmuss & Agyeman, 2002, p. 240). Research compiled over the past three decades has found that certain types of direct experiences with the environment can have major impacts on the values and beliefs of an individual (Chawla, 1999; Palmer, 1993; Palmer, Corcoran & Suggate, 1996; Tanner, 1980).

A significant life experience (SLE) can contribute considerably to an individual’s environmental sensitivity, or the “predisposition to take an interest in learning about the environment, feeling concern for it, and acting to conserve it. This predisposition is important to the formation of an individual’s environmental ethic. Research into significant life experience seeks to understand the nature of experiences that impact one’s environmental ethic. Thomas Tanner (1998), a major proponent of research in SLE, while referring to adults that are “committed to environmental quality, explains the rationale as such:

If we find that certain kinds of early experience were important in shaping such adults, perhaps environmental educators can, to the degree feasible, replicate those experiences in the education of the young (p. 399).

In other words, if researchers understood the aspects that made an experience important to the construction of an individual’s environmental ethic then these aspects could, perhaps, be inserted into other experiences with the same result. Tanner was interested in exploring the often overlooked and idiosyncratic emotional aspects of environmental ethic that result from such an experience.

While quantitative means have been utilized by researchers to investigate the cognitive side of education (Huddard-Kennedy, Beckley, McFarlane, Nadeau, 2007; Pooley & O’Conner, 2000), qualitative research into significant life experience seeks to understand the affective dimension in order to explore the motivation and emotional side of environmental learning. Researchers have asked educators, activists, and professionals to retrospectively dissect those experiences that impacted their involvement in environmental action (Chawla, 1999; Palmer, 1993; Palmer, Corcoran & Suggate, 1996; Tanner, 1980). Recurring themes within the narratives collected through qualitative means have been reported as positively affecting the environmental ethics of individuals.

Of the themes identified by researchers, time spent outdoors, influential people (mentors, instructors and friends), and educative experiences tend to be the most often cited (Chawla, 1998; James, 1993; Palmer, 1993; Peterson, 1982; Peters-Grant, 1986; Sward, 1996). Participants reported that time spent outdoors as children, often unstructured, had been a significantly influential contributor to their environmental attitudes. Mentor figures, such as parents, close relatives, or teachers play important roles as well, through modeling and counseling. Educative experiences have also been shown to be key

factors by providing cognitive knowledge and understanding. In addition, some studies have found that exposure to the negative results of human behavior on the environment have had noteworthy impact on participants' environmental ethic (Sward, 1996; Palmer, 1993).

The themes found in SLE research are remarkably similar to characteristics intrinsic to wilderness-based educational experiences, such as National Outdoor Leadership School (NOLS) courses (NOLS, 2011). On 30-day NOLS courses, instructors provide mentorship, role modeling, and facilitation of discussions surrounding environmental ethic and the course itself provides uninterrupted, extended time outdoors. Further, NOLS' incorporation of Leave No Trace (Leave No Trace, 2008) curricula offers additional educational aspects to the student's experiences as well as addresses the negative impact of human users. These consistencies suggest that NOLS courses may act as SLE's and, therefore, have a considerable impact on the formation of students' environmental ethics. A better understanding of the qualities of wilderness-based educational experiences and how participants utilize their experiences to construct their environmental ethics could assist NOLS and other organizations in designing curricula that better targets their specific outcomes. Therefore, the purpose of this exploratory study was to deepen our understanding of the ways in which a wilderness-based educational experience may serve as a SLE and how that experience may impact the development of an environmental ethic.

Methods

The National Outdoor Leadership School (NOLS) is a not for profit educational institute founded in 1965 by mountaineer and educator Paul Petzoldt. The mission of NOLS "is to be the leading source and teacher of wilderness skills and leadership that serve people and the environment" (NOLS, 2011). All NOLS courses includes a core curriculum of outdoor skills, leadership, risk management, and environmental studies. The NOLS Philosophy of education (Gookin, 2006) states that:

Environmental studies is an integral part of the NOLS curriculum. It permeates every class and activity, whether learning "Leave No Trace" camping, observing ecological systems, pausing to enjoy beautiful scenery, exploring new environs, or adapting your schedule to nature's rhythms. Environmental studies at NOLS are positive, fun and relevant. It is based on both practical needs and developing a "sense of place." A NOLS student is expected to go home with the basic knowledge, leadership skills, conservation ethic, and can-do attitude to be a more responsible steward and citizen.

A typical 30-day wilderness course provides an opportunity for students to practice skills in backpacking, climbing, navigation, cooking, and minimum impact camping techniques, all while focusing on the development and transference of leadership in the outdoors as well as at home.

Data for this exploratory study were collected from a census of NOLS students via the Course Quality Survey (CQS) ending 9/1/11. The CQS was developed in conjunction with a research team at the University of Utah in order to better understand and assess the student outcomes and program quality factors on a NOLS course. The CQS is administered at the end of each course by the instructors and consists of Likert-type questions addressing course factors and student satisfaction. In addition to these, students were asked the open-ended question, "Did your NOLS experience make an impact on your environmental ethics?" If yes, students were asked to provide a short explanation. While commonly used in NOLS literature and on NOLS courses, the term "environmental ethic" was not explicitly defined here for the participants, leaving it open to their individual interpretations. To control for the wide

variety of experiences offered by NOLS, data were delimited to responses from students on 30-day courses (rather than semesters or courses shorter than 30 days). A constant comparison method, described by Lindlof and Taylor (2002), was used to analyze the data. This technique allowed us to attach meaning to the students' ideas and not attach their responses to our ideas. Two researchers analyzed the data and compared their interpretations to ensure compatibility.

Results

A total of 771 students took part in the study. Of those, 110 (14%) participants responded "No" to the question "Did your NOLS experience make an impact on your environmental ethic?," 653 (85%) responded "Yes," and 8 (1%) offered no response at all. Of the "Yes" responses, 52 provided no explanation and 34 provided explanations that were unrelated to the question. This resulted in a total of 567 students (74% of N) who responded affirmatively and provided useable detail. Responses varied from a word to several sentences. These responses were coded into 28 general themes based on patterns of recurring ideas and language through open coding (Lindlof & Taylor, 2002).

After initial coding was completed, we generated 12 themes through axial coding. This type of coding allowed us to make connections between categories and more strictly develop category definitions (Lindlof & Taylor, 2002). In cases where multiple themes were addressed within a single student's response, the response was placed into the theme mentioned first. Following the round of axial coding, we excluded five of the 12 themes from the study as each did not represent at least 5% of all responses and were considered, then, to be comparatively idiosyncratic. Ultimately, then, 504 responses were placed into a total of seven themes for the purpose of this study.

Figure one shows the seven themes we created: 1) "Affective connection" (5%) represented a newly formed relationship with the natural world through direct experience; 2) "Increase in cognitive awareness" (9%) showed that students gained information that resulted in a greater understanding of the natural world; 3) "Transfer of environmental ethic" (10%) was defined as the intention to apply a form of minimum impact in the student's everyday life back at home; 4) "Recognition of one's personal influence on the environment" (13%) referred to the consideration of human's impact on the natural world; 5) "Leave No Trace, no explanation" (16%) represented responses that addressed minimum impact principles but did not provide any further explanation; 6) "Leave No Trace with a motive" (20%) symbolized the learning of minimum impact principles with an intent to continue to utilize them in wilderness settings; and 7) "Increase in perceived value of the environment" (27%) was defined as a realization of a greater worth assigned to the natural world. The variety of these themes provides insight into the type of changes to environmental impact being made on NOLS courses.

These themes fell into two categories of change: cognitive and emotional. "An increase in cognitive awareness," "Recognition of one's personal influence," and "LNT, no motive" represent an increase in cognitive knowledge, while "Affective connection," and "Increase in perceived value of the environment" signify a more emotional response towards the environment. "Transfer of environmental ethic" and "LNT with a motive" stand alone as the only themes that seem to combine both cognitive and emotional gains. It is important to note the difference between "LNT, no explanation" and "LNT with a motive" as the addition of an affective reasoning to put cognitive learning to use.

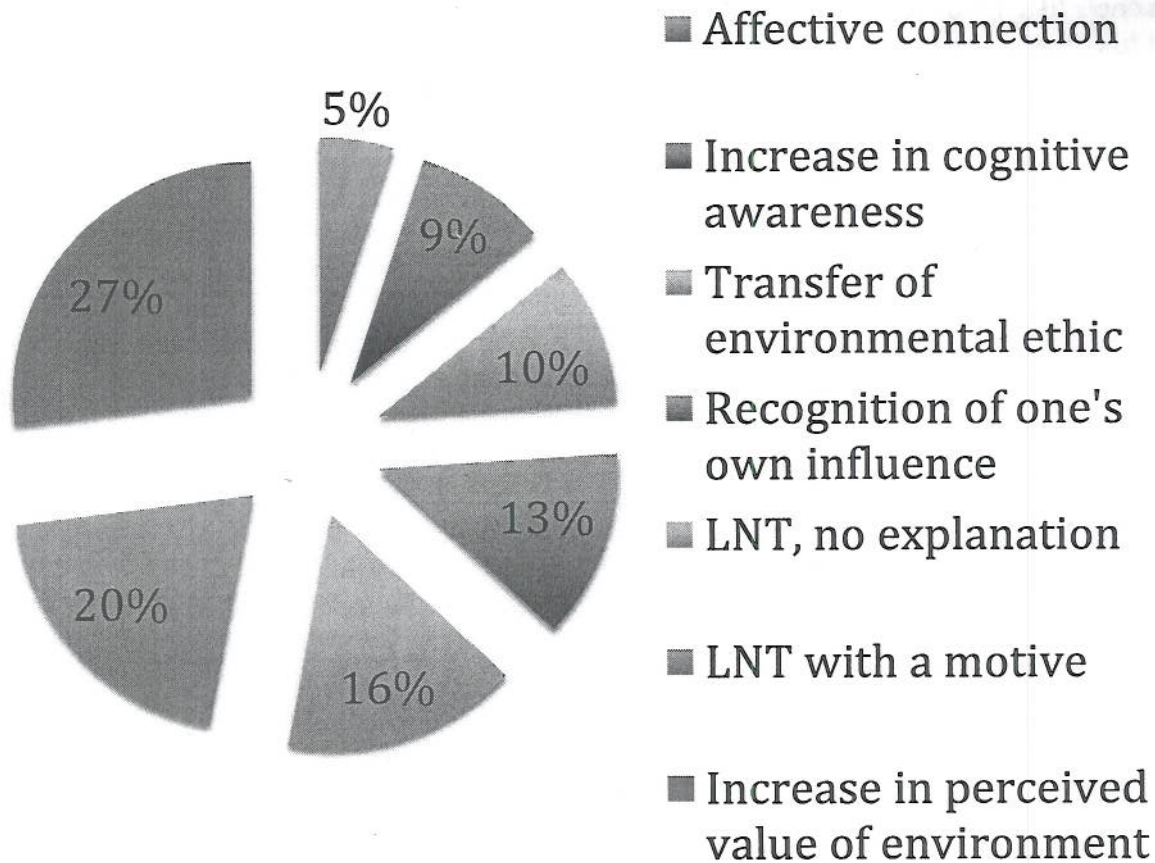


Figure 1. Response themes by percentage of total responses

Table one presents an example of each of the themes identified. Responses coded as “affective connection” focused on the emotional aspects similar to data found in much of the SLE research. This category explored the feelings that students had regarding their personal relationship with the environment and speaks to the construction of a connection or bond with the environment through their experience. “An increase in cognitive awareness” is an important part of any educational experience. For example, students reported that their knowledge of the ecosystem, as well as the issues facing it, was increased during their course. The theme “Recognition of one’s personal influence” was an illustration of students’ new awareness of the effects that humans have on the environment. Participants reflected on their own impacts as well as the impacts of other users with which they came in contact throughout their courses. Students spoke about a clear intention to utilize their newly gained knowledge and skills in both “LNT with a motive” and “transfer of environmental ethic.” Students who talked about utilizing LNT focused on a wilderness ethic that could be put to use in the woods while those who discussed some sort of transfer focused on using their ethics and skills in a place besides the wilderness. While these themes represent many aspects of an environmental ethic, the theme “increase in perceived value of the

environment” seems to represent a mixture of factors that result in the environment taking an elevated priority in one’s life. These seven themes provide a perspective through which to view characteristics of significant life experiences that are inherent in NOLS courses.

Table 1
Quotes Representing Each Response Theme

Response Theme	Representative Quote
Affective connection	“I have always respected and loved protecting the wilderness, however, this course has brought me closer to both its beauty and peace and to its danger and violence.”
An increase in cognitive awareness	“Yes because I never really knew about environmental issues before I came on this trip. It has made me realize how much I wasted before I came on this trip.”
Transfer of environmental ethic	“While I have always been an advocate for the environment, I have done a poor job at letting it truly alter my lifestyle. After this course I plan on being a more environmentally conscience (sic) person.”
Recognition of one’s personal influence	“I am more conscious of how everything I do, even at home, has either a direct or indirect impact on the world, and I have complete control over these things.”
LNT, no motive	“LNT Baby!”
LNT with motive	“Through NOLS, I really learned the importance of LNT. Traveling through the pristine areas like we did made me realize that they are for everyone. Because I felt such a strong connection with my surroundings, I made an effort to keep them beautiful.”
Increase in perceived value of the environment	“I have a greater appreciation not only for the intrinsic value of nature and the environment but also the complexity of it all and the unintended consequences that can occur due to our impact on the earth.”

Discussion

The purpose of this study was to deepen our understanding of the ways in which a wilderness-based educational experience may serve as an SLE and how that experience may impact the development of an environmental ethic. Based on these results, these courses do, in fact, appear to explicitly include some characteristics similar to SLEs. Data from this study also suggest that NOLS courses do have a positive impact on the development of an environmental ethic. Both themes addressing LNT, as well as “Increase in cognitive awareness,” suggest elements of an educational experience. “Affective connection” is directly dependent on having time spent outdoors, which is also an

integral aspect of SLE. The theme, "recognition of one's personal influence" illustrates a close similarity found in research into SLE regarding exposure to human-caused environmental degradation. Two of the identified themes ("Affective connection" and "increase in perceived value of the environment") relate to the building of some sort of values system in regards to the environment. These two themes are not only fundamental elements of an environmental ethic, but also support the notion that a NOLS course did in fact impact these individuals' environmental ethics. "LNT with a motive" and "transfer of environmental ethic" refer to an intention to increase pro-environmental behavior, and intention is an important link between ethic and behavior (Chawla, 1998; Peterson 1982). Students who participated in this study reported they are more aware of how the natural world works, have an increased self-awareness related to sustainability, and believe they learned how to apply LNT skills in their lives beyond the program. Perhaps, then, the SLE framework may be useful for understanding the impact of wilderness-based courses on participants, particularly in terms of environmental ethics. SLE provides an important and practical lens through which to view ethical development, however, the process becomes increasingly more complex when considering behavior; perhaps too complex to fully explain through SLE.

Conclusion

Research into SLE is, by nature, a retrospective method to investigate a very specific set of experiences of a very specific set of participants. This particular characteristic may prevent research into SLE from having any sort of prescriptive qualities with respect to behavior. Over the past four decades, researchers have developed numerous theoretical models that address aspects of behavior to which SLE does not attend (Ajzen & Fishbein, 1980; Hines, Blake, 1999; Hungerford & Volk, 1990; Kollmuss & Agyeman, 2002). These models include attitude, altruism, motivation, and sociological aspects as their bases. The vast number of models describing development of pro-environmental behaviors has helped shed light on a copious amount of potential factors while making it clear that pro-environmental behavior does not result from a simple equation.

Due to this complexity, it may be useful to consider environmental behavior in terms of a set of nested systems. Dynamic Systems Theory explains that individuals are dynamic systems themselves. Our behavior is dependent on a system of self-organizing, non-linear subsidiary systems (Gershkoff-Stowe & Thelen, 2004). Fuhrer, Kaiser, Seiler, and Maggi (1995) refer to these systems as the "microsystem," the "exosystem," and the "macrosystem." The microsystem is comprised of the most proximal social factors, such as family and peers, while the exosystem contains less immediate influences, including, the media and church or political organizations. The macrosystem refers to the greater cultural and social context in which an individual and the above systems are situated. Each of the previous systems is very much affected by the conditions within the macrosystem. Understanding the source of a particular behavior is difficult because our action is based on the navigation these complex exchanges of influence that include everything from culture to our relationships. In relationship to our topic, influences within the each of these systems that are biased towards a positive environmental ethic may result in an individual that is not only more aware of their own ethic but also more sensitive to positive changes within it.

Like many studies and models, SLE focuses on a single experience in order to explain an individual's attitude towards the environment. We believe that taking an increasingly ecological approach that considers a wide range of factors while focusing on the way these systems interact is vital to understanding the various differences in individuals' environmental ethics and, in turn, how they engage in behavior. This supports a constructivist model of ethical development and ethical education

and may have implications for focusing educational assessment on programs' emotional qualities as much as on cognitive contents.

While perhaps, an astounding number of factors exist that affect behavior, each factor interacts with the social and cultural conditions as well as the core beliefs and values that we have developed over a lifetime. Because our individual conditions are different from one another, even a similar, shared experience can be interpreted and experienced in very different ways. The idea that our past experiences, both as individuals and larger members of cultural and social groups, can dictate how an ethic is put into action, is an important consideration.

It is important to recognize the possible effects of a system of experiences and contexts on NOLS students participating in the reported study. Gershkoff-Stowe and Thelen (2004) explains that, "behavior exists in time such that states of the system in the past contribute to present state and future states." That is to say that any current behavior relies on what came before. It is very possible that the NOLS students in this study are already prepared by their cultures, social conditions, past experiences, and relationships to be receptive to the types of experiences and information that is gained on a 30-day course. This may be illustrated by the fact that they pursued an experience that is structured to promote an environmental ethic. While SLE provides us with a framework through which to view a single component of the formula, we must keep in mind that behavior does not result from a simple if A, then B linear equation.

Our understanding of how and to what extent experiences affect environmental behavior is limited but, recognizing the self-reported nature of these data, this study provides some insight into the impact of a NOLS course on an individual's environmental ethic. While this may not speak loudly towards behavior, instructors may be able to utilize this information in order to better understand the processes through which students negotiate new components of their environmental ethic. Opportunities exist in future research, through the inclusion of an ecological, systems-based approach, to investigate how individuals' backgrounds may allow them to more readily experience changes in environmental ethic. This may provide clarity into how those changes may intermingle with personal barriers to pro-environmental behavior. A greater focus on the interrelated nature of our experiences and the social conditions in which they occur may be an important step toward understanding a multifaceted process while providing a more ecological and inclusive approach to investigating behavior change.

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