

Outdoor Education as a Catalyst for Growth: An Anecdotal Reflection and Literature Review

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Abstract

This paper draws on the literature of outdoor education studies to substantiate field observations obtained during a work placement with the Toronto District School Board. During that placement, the author worked with students ranging in age from eleven to eighteen years old who travelled to a nature reserve site in Ontario in order to increase their knowledge of the outdoors, as part of an outdoor education program. Many of these students had never been outside of urban centres, and several had behavioural problems. The students were exposed to a program which taught them about wildlife, flora and fauna, self-sufficiency and respect for the environment. The author observed that exposure to outdoor education benefitted such students. To substantiate these observations, the author conducted an extensive literature review to familiarize herself with the body of research on outdoor education. Drawing on the work of Neill and Richards (1998), Hattie, Marsh, Neill and Richards (1997), Uhls et al. (2014) and many other prominent outdoor education researchers, the author finds that her anecdotal field observations about the psychological and physical benefits of outdoor education are validated by a large body of research. Unlike more traditional papers the author has published, which draw on original research, this paper is written in the first person as a personal exploration that integrates both academic research and the author's experience. It reflects an informal first-person paper delivered to the 21st Century Forum at Harvard in the fall of 2016.

Key Words: Outdoor Education, Psychological Growth, Emotional Growth, Outdoor Education Therapy

Introduction

During the fall 2015 semester, I worked at an outdoor education school with students from the Toronto District School Board's Scarborough district schools. As a way of providing context, many residents of this Toronto suburb face significant challenges. Visiting teachers from the Scarborough schools have often informed me that their students come from disadvantaged socio-economic backgrounds. They are more likely to belong to low-income families, and many times more likely to come from one-parent families. According to these teachers, more students than the board's average are considered to have behavioural problems. These observations were supported by an investigation by the Globe and Mail. The article compared a public school in an affluent Toronto neighbourhood with a school in central Scarborough. At the Scarborough school, the authors found that almost forty percent of families earned between \$20,000 and \$40,000, much below the average income in Toronto. Only twenty percent of grade six students met the province's standard in math. In addition, the Scarborough school had a large special-needs population (Alphonso & Grant, 2013).

The stated goals of the Outdoor Education initiative are to introduce students to the sights and sounds found in nature and to familiarize them with flora and fauna outside of urban settings. But as a psychology student, I observed that the results superseded those relatively modest goals. For example, students who appeared shy or reserved when they first arrived appeared to become more extraverted and comfortable around their peers, and disruptive behaviours seemed to lessen over the course of their three to five day-long stays. In short, the benefits of exposure to nature and outdoor education appeared more profound than I expected.

With this in mind, I was curious about what evidence exists to support what I had anecdotally observed. Over the course of this paper, I will describe the results of a literature review I conducted to explore the benefits of outdoor education. Rather than presenting a merely theoretical exploration of the literature, I will relate and compare the research findings to what I observed among students during my work term. In my conclusion, I will suggest the implications of my findings.

Definitions and Clarifications

It is challenging to find an agreed upon definition of outdoor education as definitions vary among different organizations and researchers. However, the original definition of outdoor education proposed by Donaldson and Donaldson (1958) is still widely used: "education in, for, and about the outdoors." As practised by the Toronto District School Board, outdoor education allows children to discover their natural environment in a number of ways. Students, typically from grades six to twelve, are taught lessons about various aspects of nature, such as the behaviour of wolves and coyotes in Northern Ontario. They also learn about outdoor survival skills through a combination of experiential learning (fire and shelter building) and traditional in-class teachings. Most importantly, students spend ample time in the outdoors, hiking and exploring. Many students have never been outside urban centres prior to their visits, so this is the first time they have the opportunity to discover a relatively natural landscape. In a risk adverse society, as discussed by Tim Gill in his book "No Fear" (2007), this freedom can be both eye opening and exhilarating. Beyond this, however, I was interested in exploring the evidence for measurable benefits of outdoor education. For this I turned to a wide range of scholarly writing on the subject to examine whether the benefits I observed had been researched and corroborated.

Literature Review and Associated Observations

The most apparent benefits of outdoor education were easy to predict. Rios and Brewer (2014) conclude that outdoor learning experiences are helpful in two key areas. Students who are exposed to outdoor education develop more positive attitudes towards preservation of the environment. Slightly less obvious, students in outdoor education programs are also more engaged with science and have higher achievement in science courses.

I cannot speak to the latter as I did not have opportunity to observe the students' progress in their science courses. However, I certainly recognized the first benefit in action – Scarborough Outdoor Education School (SOES) actively promotes more environmentally conscious students. Throughout the students' stays, they are taught about numerous ways they can reduce their ecological footprints and practice environmentally conscious behaviours. These include (but are not limited to) day-to-day choices such as taking shorter showers, shutting water and lights off when not in use, and strictly using reusable water bottles. These simple but effective actions can be easily understood and adopted by younger and older students alike.

Near the end of each school's visit, students were asked to share about their experiences and what they learned. The majority would include a portion about the environmentally friendly actions they plan to take from now on. Of course I have not followed up on this, so I cannot be sure whether students have kept their commitments. However, students certainly indicated an increased awareness of environmental issues.

More recent research also suggests the benefits of outdoor education, whether it is in the wild or even just in a school playground. Nicol, Higgins, Ross and Mannion (2007) summarize research on outdoor education in Scotland, writing that there is growing research evidence that being in natural environments enhances health and well-being. In a 2012 paper, Wilhelmsson explores teachers' goals and learning objectives for outdoor education programs. She observes that when students are outside, all their senses are engaged in building knowledge. This leads to higher order learning. Uhls et al. (2014) conducted research at a program during which pre-teen students spent five days at a nature camp and were compared to a control group that did not. After the experience both groups were shown photographs and silent videos and asked to infer the emotional state of the people shown. The group that had spent time in nature did significantly better at the task. Interestingly, the authors attributed these improvements to time spent away from screens and engaging in face-to-face social interactions, rather than the time spent in nature, per se.

This is unsurprising to me. Visiting students at SOES had to hand over all technology to their teachers the first afternoon of their stays. This was not a punishment – rather, the SOES staff agreed that students learn and benefit more from the education when there are no screens to distract them. Indeed, without the use of technology, they were forced to focus more in class, and to find other means of entertainment during free time periods. Students played outside, initiated in-person conversations, and used their imaginations. I can't say for certain, but I would bet that if students had their phones and the Internet available to them, almost every one would have chosen to spend their time with the screens instead. In my opinion, this would have negatively impacted on their learning and development.

Although most students were initially horrified by the idea of being without their phones or the Internet for a few days, many appeared to truly appreciate the experience in the end. During debriefs with students at the end of their trips, they often shared that being without technology (their phones in particular) turned out to be one of the highlights. One grade eleven student expressed that he almost decided not to come on the trip because his teacher told the class in advance that the use of technology would be forbidden. He shared that this was the first time since

he was ten that he went a full day without his phone. He explained the first day was difficult, but that each day without his phone became easier, and he actually began to enjoy the freedom. He concluded that if he had had access to his phone, he likely would not have made the friends he did, or tried as many new things. His fellow students vocalized their agreement.

One of the most useful studies I found examining the psychological effects of outdoor education was conducted by Neill and Richards (1998). They explain that typical answers to the question of whether outdoor education is effective come in the form of passionate rhetoric and anecdotal examples: “One of the most prevalent claims is that outdoor education programs make a valuable contribution to a person’s sense of him or herself. We hear phrases like ‘improved self-confidence,’ ‘increased self-knowledge,’ ‘better able to work in a team with others,’ ‘becomes more open and caring,’ ‘has a new lease on life’ and so on” (p. 1). I can understand the temptation to make such claims since I too found myself making mental notes about the ways in which students appeared to be benefitting psychologically. However, my observations and assumptions, like many researchers’ on the topic, are not backed by sufficient proof. Neill and Richards set out to explore the empirical evidence for such lofty claims.

Unfortunately, this is not as easy as it would appear at face value. As Richards, Neill and Butters (1997) pointed out, almost eighty percent of outdoor programs evaluate their success using written surveys given to the participants. As a psychology student, I’ve learned that data derived from self-report methods can be deceptive. For example, a study of an outdoor program for at risk youth showed little correlation between participants’ ratings of the effectiveness of the program, staff ratings of the same measure, and participants’ self-perceptions (Neill, Richards, & Badenoch, 1997). In fact, Neill and Richards (1998) believe that “little outdoor program research has explored the relationships between what stakeholders, such as staff and participants, say about a program’s value and other more ‘objective’ indicators of program effectiveness” (p. 3).

This is in spite of the fact that several reviews over many decades have attempted to address this issue. These include Barrett and Greenaway (1995), Devlin, Corbett and Peebles (1995), Ewert (1983), Godfrey (1974), Reddrop (1997), and Richards et al. (1997). In addition, several meta-analyses have been conducted such as those by Cason and Gillis (1994), and Hattie, Marsh, Neill and Richards (1997). These studies found that generally, outdoor education programs have a positive impact on participants.

However, several important pieces of the puzzle are missing. First of all, I came across only one analysis (Hattie, Marsh, Neill, & Richards, 1997) that explored whether the benefits of outdoor education are lasting. This study followed participants for up to eighteen months after the conclusion of the program and found that after returning home, participants continued to experience growth and a number of positive changes in self-perception.

Second, as Neill and Richards (1998) note, it is important to assess whether outdoor education programs are effective within a narrow range or within a wider range of areas that relate to behavioural change. Here, research by Hattie et al. (1997) and also by Cason and Gillis (1994) is particularly effective. Some of the best work in this area was done in the 1990s when outdoor education was rising in popularity in a wide range of countries beyond North America, including Australia and New Zealand. Hattie et al. (1997) analyzed results within six categories and concluded that outdoor education has significant instant and lasting effects. Hattie reached a similar conclusion in his more recent book (2012). His work is widely cited and considered to be one of the most important contributions to studies of the psychological effects of outdoor education programs. Hattie found significant effects immediately following outdoor education programs. Impressively, when following up over a year later, he found additional growth in six areas.

First, he found improved leadership traits by measuring conscientiousness, decision-making, leadership qualities, organisational ability, time management, values and goals. He found improved self-concept in the areas of physical ability and appearance, peer relations and friendships, general and academic self-confidence, self-efficacy, family relationships, self-understanding, well-being and independence. Third, academic performances improved. This was measured by grade point average and also by improvements in maths, reading and problem solving. Aspects of personality appeared to improve as well, including motivation, emotional stability, aggression, assertiveness, having a stronger internal locus of control, maturity and neurosis reduction. Interpersonal traits strengthened, such as cooperation, communication, social competence, behaviour, relating skills and recidivism. Finally, and perhaps most predictably, participants became more adventuresome.

These findings were corroborated by Cason and Gillis (1994). Their study used clinical measurement scales to assess outdoor programs for those who have psychological difficulties including emotional and behavioural challenges. The effect sizes measured were even more impressive than those in the Hattie study. This may be in part because participants in these programs had more room for growth than the average outdoor education participant (Neill & Richards, 1998).

During my placement, I believe I witnessed some of these psychological benefits in action. Of course I acknowledge my observations may be influenced by hindsight bias, and that they are based on personal experience rather than empirical research. That said, I have found it useful to use anecdotal reflection to deepen my understanding of and connection to the literature.

I will provide examples of five of Hattie's six listed psychological benefits. (I cannot speak to improved academic performance since I did not have access to the students' grades.) First, students had ample opportunity to develop their leadership skills at SOES. Many outdoor education activities involve teamwork, and often require leaders. For example, a popular activity at SOES is low ropes. Students are split up into groups, and must attempt to work as a team to manoeuvre their way across various challenging low elements. The groups that successfully completed elements had almost always assigned a team leader. In one group, a particularly shy student was randomly chosen by her fellow classmates (using names in a hat) to lead. I had hardly heard her speak prior to this occasion. In short, she demonstrated a side to her that I'm not sure her classmates had even seen before. She confided in me afterwards that she had never before felt so comfortable speaking in front of a group, never mind directing one. For the rest of the trip, she was noticeably more extraverted and confident. Several classmates made comments about how much she came out of her shell during her five-day stay. Had she not been placed in a team setting and novel situation, she wouldn't have had that opportunity, and may not have demonstrated the same willingness to step out of her comfort zone in a familiar in-class setting.

Hattie's (2012) description of self-concept is very similar to what one may typically associate with self-confidence. Therefore, when Hattie describes improved self-concept, I find it helpful to interpret this as increased self-confidence. My students definitely appeared to experience an increase in this area over the course of their stays. I could describe numerous examples of this, but in the hope of remaining concise, I will choose two of the most prevalent illustrations. Physically, many were pushed to their limits. The majority of groups participated in an all-day hike. During each hike, at least one student would self-assign the role of the "slowpoke" and/or the "complainer." These students had apparently never before been so tired, and felt they couldn't go on approximately once every half hour. (I couldn't believe how many kids, high school students included, seemed foreign to physical exertion!) However, there were only two students over the

course of my term who did not complete the hike and were escorted back to site. Otherwise all the students made it with encouragement from staff and fellow classmates. Classes were always very proud at the end of the day. It was clear that, for many, the all-day hike challenged their perceptions of what is possible and what they are capable of.

In a similar vein, I was also very surprised at the low level of independence many of the younger students possessed. The first day of a visiting school's stay, students often asked me to perform surprising tasks such as serving and cutting their food or holding on to and keeping track of their belongings. One grade six student even asked me to help dress her in the morning! My coworkers and I would stress that they were responsible for taking care of themselves. Many of the younger students had never been away from home prior to this fieldtrip, and so there was an evident learning curve when they realized their responsibilities. However, students typically embraced the independence and became increasingly self-sufficient over the course of their trips. By the last day, their behaviour suggested they experienced a rather drastic increase in self-sufficiency over a short period of time. I am confident that many returned home with a renewed self-concept as a more independent and capable individual.

Students also demonstrated improved personality in various ways. Not surprisingly, the most predominant and obvious aspects of personality improvement were in the areas of maturity and the development of an internal locus of control. Again – as many had rarely before been away from their parents and their parents' rules, they were forced to adapt quickly to the independence. This process inevitably included much learning and maturing.

Furthermore, in part due to similar reasons, students appeared to gain more emotional stability over their stays. Aggression and disrespect were not tolerated at SOES. As aforementioned, many students had histories with emotional and behavioural issues. Those who typically relied on "acting out" were forced to find other tactics. They learned quickly through experience that they would be more successful approaching a situation or interaction calmly, maturely and logically. As such, I needed to discipline students much more often on the first day of their trips compared to their last. Teachers would often thank the SOES staff as they too noticed the difference in their students' behaviour.

As well, students had opportunity to develop their interpersonal skills. Teachers chose to bring a mixture of students from varying classes and ages, so many students were previously strangers to one another. SOES assigns groups for activities, so students often had to work with new people. This alone provided ideal circumstances for students to practice initiating conversations and friendships. Additionally, SOES stresses teamwork. There are several activities during which students must practice this skill, such as cooperative games and ropes courses. Thus, cooperation and communication were crucial to students getting the most out of their stays.

Finally, students seemed to become more adventuresome as a result of what they experienced at SOES. They were encouraged to ask questions, try new things and explore all that the outdoors has to offer. This frequently included the challenging of their comfort zones. One of my favourite stories I like to tell about the students I encountered is relevant here. In one of the grade six classes, there was a boy who, by all appearances, was very tough. One evening, we led a night walk with his class. During this activity, students are not allowed to bring flashlights, and we venture off into the forest to enjoy the magic of the woods at night. With this class, we decided to include the "solo walk" portion, during which students walk "alone" down a clearly marked trail (they are sent a few minutes apart). Lo and behold, when I explained this activity to the class, the boy broke down sobbing as he was terrified of the dark. For over ten minutes, I explained to him why it is that people are afraid of darkness (their imaginations), and debunked his theory that

wolves engage in human-killing competitions to determine the alphas. Ultimately, he made it through to the end of the trail uneaten, and proceeded to perform a celebratory dance of the “Whip” and the “Nae Nae,” whilst exclaiming that his mother was “going to be so freaking proud!” The next evening, he asked me if we could go on a night walk again! This is one of numerous examples of students facing their fears and engaging in potentially risky, but educational and worthwhile exploration.

Conclusively, my personal observations support the literature. Outdoor education definitely appears to serve many benefits in the area of personal growth. I should add that I believe I too have improved in Hattie’s (2012) six categories as a result of my work term, as this was an outdoor education program for me as much as it was for the visiting students. I am pleased but unsurprised that the literature supports what I observed during field study, as outdoor education programs offer such evident potential for growth.

Limitations of the Studies

These studies offer heady possibilities for those involved in the fields of psychology and outdoor education. However, several provisos apply. The literature suggests that not all programs are equally effective. Several factors influence outcomes. These include program length, nature of the program (whether wilderness or specific sports activities), participant age, participant gender, participant type (delinquent, management, etc.), gender mix of the group, the organization leading the program, and quality of the study (Neill & Richards, 1998). According to Hattie et al. (1997), a full 36% of outcome variance could be explained by these factors, the most influential of which are the organization leading the program, program length (longer is more effective) and participant age (effect size was greater for adults than adolescents, although both improved).

In addition, the method of evaluating outdoor education programs bears examination. As Neill and Richards (1998) indicate, nearly 80% of programs self-evaluate by using written surveys conducted at the end of the curriculum. This limited assessment immediately following a program may not be valid or reliable.

Some programs rely on surveying participants’ perceptions of themselves before and after completion of the education. Participants are asked to report on a range of measures such as self-esteem and locus of control (Neill & Richards, 1998). However, as mentioned, self-reporting has limitations and relies on each participant to objectively measure his or her growth. This requires a maturity and self-knowledge that may be unreasonable to expect and assume from many populations. Furthermore, few studies include a clinical assessment of participants to measure improvements in an evidence-based way, which goes beyond participants’ self-reporting. Finally, another issue, as highlighted by Lubans, Plotnikoff and Lubans (2012) is that virtually no studies exist which include follow-up with participants after more than one year.

It is useful to keep these potential limitations in mind when assessing outdoor education. However, in spite of the reservations mentioned above, the vast majority of studies have documented beneficial effects of outdoor education initiatives.

Conclusion

Upon a review of the literature, it is safe to conclude that outdoor education programs offer considerable benefits in the area of personal growth. Students become more environmentally conscious as a result of the programs. The education teaches students about how and why to preserve nature, and awakens a respect and passion for the outdoors that was not necessarily present prior to the experience (Rios & Brewer, 2014). Wilhelmsson (2012) found that time spent in nature, specifically away from screens and technology, promotes higher order learning. And Uhls et al. (2014) discovered that outdoor education promotes the development of higher emotional intelligence. Hattie et al. (1997) conducted extensive research and discussed six areas that improve as a result of participation in outdoor education programs: leadership traits, self-concept, academic performance, personality, interpersonal skills, and the desire/ability to be adventuresome.

I believe I witnessed these emotional, physical and psychological benefits among my students. But upon reviewing the fantastic developments discussed above, I do wonder how lasting they may be. Hattie's (2012) research suggests that these positive changes are long term. I'd certainly like to believe so, but of course, I'll never know. As part of this personal reflection I will add that my grade seven trip to an outdoor education site is one of my fondest childhood memories. I still remember the feeling of pride after leading my group through a "Trappers and Traders" fur trade activity and winning the "Leadership Award." More affecting, I recall an overwhelming bittersweet feeling when I realized how much time I had wasted until that point without taking advantage of nature and the outdoors. That year, I asked my parents to enrol me in a leadership program at an overnight canoe tripping camp for the summer. I still think of that outdoor education trip as the event that sparked my love of the outdoors, as well as substantial personal growth in very little time.

As mentioned, it's impossible to know to what extent that experience impacted me long term. Regardless, if such positive outcomes can result from three to five days of outdoor education, it's tempting to consider the possibilities of a mandatory, longer-term outdoor education curriculum. The research suggests that the benefits of outdoor education are unique and that the same benefits cannot be derived from a typical in-class curriculum. Therefore, I, along with many leading outdoor education researchers, believe that outdoor education should be a mandatory part of every student's curriculum and experience.

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