**Learning Naturally: The Benefits of Outdoor Teaching**

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**Introduction**

Statistically speaking, if you were to go back through time and examine the contents of my pockets, you would almost always find something in them to indicate I had recently been outside; worms, sticks, feathers, rocks, and more. If you were to ask my mother on any given day what her oldest daughter was, the answer would be “mud-ball” more often than it was “child”. If you were to look on my calendar, you would see hikes and adventures dotting every page.

These are the things you can see, hear, or touch that have resulted from a love of nature that was encouraged in my childhood. But in addition to those, there are so many things that I have gained that are not so tangible. In this paper I hope to show why and how learning in an outdoor environment can be incorporated into practice so that more children can benefit from it as I have.

**Part 1: How does outdoor learning benefit kids?**

The positive impacts of outdoor learning on kids can be divided into four categories: physical health, academic achievement, social and emotional competencies, and citizenship.

The recently released 2015 ParticipACTION Report Card on Physical Activity for Children and Youth gave Canadians a D-, indicating that our young generation is becoming increasingly sedentary and less active. The report suggests that lack of outdoor play is one of the key factors in that low assessment. The relationship between outdoor environments and higher levels of physical activity has been documented in several studies (Scott 2013, Berg 2015, Scrutton 2015). Thus it seems clear that the path towards helping our children increase their activity levels is to put them outside more. These higher levels of activity in play can not only help with issues such as obesity and asthma, but also in developing physical confidence. Strop (2010) defines physical confidence as knowing your body’s boundaries and abilities. This includes things like balance, spatial awareness and manual dexterity. In addition to these, other physical benefits to outdoor environments include production of Vitamin D, decreased incidence of myopia, and lower levels of cortisol (the stress hormone). (Louv 2008, Mutti 2013)

 As I will elaborate on later in this paper, learning in outdoor environments can be beneficial to all areas of academic study, not just those in the field of biology/ecology. For example, exposure to the plethora of stimuli in a natural space helps students to develop skills of observation and categorization that are beneficial in all subject areas (Matsuoka 2008). Also, because ecosystems are so complex, there is no way to overtly *know* all the information within them, leading to the need to make inferences and draw conclusions based on what is available. Yelland et al. (1993) describe students who know multiple languages as better performing in all academic subject areas. I personally equate a high level of what Goleman (2012) calls *ecoliteracy* to being bilingual. The “language of nature”, so to speak, includes things like non-verbal cues, auditory and sensory stimuli, and visual identification of living and non-living elements. Another aspect of education in which outdoor learning can provide assistance is in developing prior knowledge. Eᶊanu and Hatu (2015) indicate that, in the subject of physics, prior knowledge is an important tool in making connections between concepts and applications. This is also true with ecological information and experiences, which can lead to greater understanding of those topics in a classroom setting.

 An area which is getting lots of attention recently is the concept that teachers need to include social and emotional competencies as desired outcome in their lessons. I recently attended a workshop on SEL (Social and Emotional Learning) in which Dr. Kimberly Schonert-Reichl of UBC described ways educators can foster these competencies in their students. She suggested that if teachers gave their class something to look after, a responsibility for something’s growth and development, that they would take those attitudes into other parts of their lives. The students not only felt like their class was a more happy, caring group of people, but the teacher also noticed improved social interactions between pupils. In the experiment they were given a class baby who would visit on a regular basis, but I see this being easily translated to living things or natural spaces. Later in this paper I will further elaborate on what types of things might be practical and available for teachers to bring into the classroom.

 Other aspects of SEL that can be achieved through outdoor experiences are things like communication and interpersonal skills, interpreting non-verbal cues, and a sense of belonging and self. Several studies have been done showing that when students were put into natural spaces and, in some cases, deprived of their cell phones they experienced improved verbal communication skills and had fewer misunderstandings between them during conversations (O’Shea 2008). It was also found that youths who spent time outdoors were better able to interpret the emotions of others through expressions and other non-verbal signals (Ampuero et al. 2015). Another study showed that learning in and experiencing outdoor environments helped children to feel less self-conscious and more confident (Garst et al. 2001). It is thought that seeing human beings as just a part of a much larger picture of the world helps to give context for their lives and to feel belonging with the environment and earth. Knowing where one fits in to the grand scheme of things can help adolescents who are struggling with identity and a growing understanding of self. It also helps to combat the egocentrism for which this age group is most known (Mitchell 2001).

 Finally, time spent learning outdoors contributes to a person being a good citizen in the future. The children and youth of today are the home-owners, parents, consumers and voters of tomorrow and what they learn to value now will influence how they act later in life. Richard Louv (2008) and I share the dream that, by sharing the joy of nature with youth, the next generation of adults will have attitudes and values that put sustainability and ecological security high on their list of priorities. A quote from Gurholt (2014) stood out to me:

“[Children begin to] recognize the right to existence for all life forms in a way that makes morals and rational arguments redundant.”

 The idea is that, by cultivating a love of the outdoors, any logical reasons to protect and preserve the environment are rendered null by the fact that it is important to them personally. They do it, not because they ought to, but because they need to. These types of people also will become better parents, according to Little (2015). In an assessment of parental views on risk and risk-taking in outdoor play, Little discovered that mothers who had rich outdoor experiences as kids were more likely to encourage those activities in their children. They saw great benefit in allowing kids to discover their limits and build confidence through play in natural environments, even if not all of them felt it was safe to do so. In addition to this, parents who are comfortable outdoors are more likely to take their children out to have natural experiences, thus continuing the cycle.

**Part 2: What are teachers currently doing?**

Now that the benefits of outdoor learning are clear, we can move on to what is currently being done to promote it in classrooms and other education spaces around the world. Educators are coming at this issue in many different ways and at multiple levels of teaching. The majority of research and reporting comes from Early Childhood Educators, but there is also progress occurring at the elementary and secondary level as well.

In Denmark, Scotland and Finland, the concept of nature-kindergartens is really popular (MacQuarrie et al. 2015), though there are varying ways in which the concept is executed. In some cases the primary location is a classroom, but they incorporate many outdoor activities and nature-related learning. In others, they have an outdoor space where much of the learning takes place and which is regularly visited or used. The most popular ones involve travelling to a variety of outdoor spaces on a constant basis. Of the last two, there are differing benefits. While experiencing a wide sampling of outdoor environments is stimulating, becoming familiar with an area allows students to dig deeper into the ecosystem and practice reflection. By repeatedly visiting an area, children can feel comfortable and able to contemplate (Carruthers 2011).

Elementary schools have incorporated natural learning mostly in two ways: school gardens and Eco Clubs. A large portion of the research in this field refers to learning gardens (Gaylie 2009, Aktepe 2015, Ferriera 2012) and their roles in helping students interact with nature in an approachable way. School or community gardens are used often because of their relative inexpensiveness and ease to incorporate into curriculum. The building and maintaining of the garden also provides a way for the class/school to bond over shared purpose, building a sense of community. Schools have also begun founding eco-friendly clubs, under various names, which can focus on outdoor initiatives. Each region has different values, so some clubs might do stream clean-ups or collecting litter, while other might conserve water or fundraise for global initiatives (Strop 2010). When kids begin to view caring for and protecting nature as something fun and exciting we can be sure we are taking a step in the right direction.

A growing field where outdoor education is being incorporated is in teacher training programs. This is good because a growing number of research shows that the reason kids aren’t playing and learning outside is that the adults around them do not feel comfortable or knowledgeable enough to guide them (Hougie 2010). At UBC-Okanagan part of the middle school teacher education program involves using an outdoor space, a garden, to teach multiple subjects (Gaylie 2009). In Detroit, Pro-D days include collaborating with other schools to create curriculum resource packages for outdoor lessons (Ferriera 2012). By educating teachers we are exponentially impacting the learning experiences of their students.

**Part 3: How can teachers in the Okanagan incorporate outdoor learning into their practice?**

 On that note I hope to provide a detailed and comprehensive list of resources that teachers in the Okanagan can use in, and out, of their classrooms. With curriculum changes on the horizon, the idea of teaching competencies rather than concepts is being thought about more and more. Teachers hope to have the freedom to bring more of children’s passions into lessons, with the hope of rekindling a love for learning. Incorporating outdoor learning into your practice is just one of many ways to do this, but I feel like is it the most applicable to all subjects. The following resource list includes local places of interest, community initiatives, literature and organizations that focus on getting kids learning in outdoor spaces. It is my hope that Okanagan teachers will find it valuable.

* **Local, regional, provincial and national parks**
	+ When visiting a park as a learning space, try to avoid structured environments. By limiting kids to playground equipment and manicured grass you are also limiting their creativity and opportunity to learn about nature (Louv 2009).
* **Education-oriented Locations**
	+ **Alan Brooks Nature Center** (Vernon) provides indoor and outdoor learning spaces with prepared lessons and educators on staff. With a focus on local ecosystems, children can use what they learn when they go on their own adventures in the area.
	+ **Okanagan Science Center** (Vernon) is a space where students can learn about all of the sciences, including biology and ecology. Though the majority of their programming is inside, they do offer outdoor activities as well.
	+ **En’owkin Center** (Penticton) is a place where land-based learning pairs with cultural heritage. Visitors learn about the Sylix people through story-telling, ecology and conservation.
	+ **BC Wildlife Park** (Kamloops) allows students to get close and learn about animals that live in our province. With attractions such as a spirit bear, moose and a burrowing owl breeding facility, students are sure to get excited about BC’s wild neighbors.
	+ **Mission Creek EECO Center** (Kelowna) is a combination of a structured park and a wilderness area, with an interpretive building on the grounds. The EECO Center has rotating exhibits throughout the year, so it is a great place to visit multiple times.
	+ **Kingfisher Interpretive Center** (Enderby) is an education and conservation facility where salmon are raised and released into local rivers. They have an outdoor classroom where students can learn about how they can protect salmon and stream health.
* **Organizations**
	+ **The Children and Nature Network** (http://www.childrenandnature.org/) is a world-wide group that shares resources, research and stories about how to connect kids with the natural world. Teachers can use it to inspire their practice and build lessons based on solid evidence.
	+ **Get to Know** (http://www.get-to-know.org/) was founded by the nature artist Robert Bateman and focuses on getting children outdoors in their local areas. They have a Kelowna branch and often host photography and art contests and nature-based events.
	+ **NatureKidsBC** is a provincial network of family nature clubs that go on adventures in their natural spaces. Kelowna’s branch, run by myself for the last five years, tries to get kids learning about Okanagan ecology through direct contact on a regular basis by going on hikes, doing experiments and lessons.
	+ **Okanagan Collaborative Conservation Program** (OCCP) works with local agencies to complete environmental projects in our area. Their efforts include water quality testing and biodiversity surveys. They accept volunteers as well as project proposals.
	+ **HighTouch HighTech** (https://www.sciencemadefun.net/) has a Kelowna branch that will come to your classroom with a trained educator, supplies and lesson plans. Though there is cost involved, they are engaging and there is a big wow-factor as they have equipment that schools might not be able to afford.
	+ **Scientists and Innovators in Schools Program** (https://www.scienceworld.ca/sis) is run by Science World, and connects teachers with community volunteers who can teach STEM lessons. It is a volunteer-based program that is free for teachers, and can allow them to bring in a professional biologist or ecologist for a day.
	+ **BC Green Games** (http://bcgreengames.ca/) is a contest where schools can submit eco-projects they are doing in their community for a chance to win prizes. Teachers can use this contest as initiative to start a Greening Club, school garden, or other conservation project.
* **Science Fairs**
	+ In many schools participation in science fairs is optional, but teachers can encourage their whole class to find an outdoor project to submit. It is relatively easy to incorporate the guidelines for a top project into a study on nature. It can also be a good way to introduce the scientific method and statistical concepts in math.
	+ If your school does not have a fair, look into starting one! The theme “Nature and the Outdoors” provides many opportunities for students to experiment and explore.
* **Professional Development**
	+ Individual teachers can approach their administration team and request that Pro-D Days be held on the subject of incorporating outdoor learning into various subject areas. This is also an opportunity for cross-curricular cooperation; English, Social Studies, Trades and Science teachers can help each other to plan lessons. For example, the book *My Side of the Mountain* (George 1959) is often used for a novel study, but the concepts of conservation and survival and ecology can be brought outdoors. Students could build lean-tos and find edible plants, and journal about it like Sam did.

This is not, by all means, a comprehensive list of resources, but I hope that any teacher reading this can see how easy it is to incorporate outdoor learning into your practice. By presenting curriculum in natural, stimulating spaces, teachers can bring the best out in their students. Students who learn outdoors are happy, healthy, engaged and have a developed sense of self and belonging in the world, which is the goal of every teacher.

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