

The Benefits of Place-Based Learning  
Initiatives in K-12 Schools

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This project focuses on the benefits of place-based education. It draws upon recent research supporting the importance of learning outdoors, on the school grounds and within the community. The project features a website, specifically designed for educators to use as a resource for teaching outdoors. It shows clearly why teachers should take their students onto the playground, into the soil and dirt, into the natural environment, to local parks, and other outdoor settings. The site includes research to support the ideas presented, outlines barriers, complications, and safety concerns that may arise during outdoor activities, and discusses possible solutions. This online tool has been produced to assist other educators in their outdoor teaching endeavours, and encourage them to see for themselves the benefits of learning outdoors.

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## Chapter One: Introduction

### Personal Framework

*“Every morning, arising from the death of sleep, the happy plants and all our fellow animal creatures great and small, and even the rocks, seemed to be shouting, ‘Awake, awake, rejoice, rejoice, come love us and join in our song. Come! Come!’”*

*(Muir, 1972, p. 90)*

The sweet song of nature has always lured me like a bee to a flower. The endless space and freedom that being outside offered me at a young age pulled me from the constraints of the indoors. The adventure and exploration that the outdoor world presented forever enticed me with boundless and infinite possibilities. The peace and tranquility of the outdoors invited me on a journey of relaxation and escape. The beauty and splendour of my surroundings brought me back out time and time again to discover a new lookout, a secret hideout, or even just that perfect flower. The vastness of the outdoors always sent me on a new quest to find the best tree to climb, the newest path to discover, and uncharted territory to conquer. My outdoor adventures guided me to places where I could learn for myself the hows, the whys and the whats of my world. The outdoors has and always will be the place in which I feel most at home, out of my home.

As an adult, I have greater responsibilities, and fewer opportunities to roam free in the wild. The fantastical outdoor adventures of my youth have transformed into more purposeful outdoor activities, such as walking my dog, playing in the backyard with my family, or camping on summer vacation. Although my connection and relationship to nature has been altered somewhat, my bond with nature is still strong. I truly value the chance to spend time outdoors. Whether it be a brief encounter to water my hanging

baskets and pick some berries, or a three hour bike riding adventure to the beach, my time outside continues to be a most treasured part of my day.

**The nature disconnect.** My wife and I are trying to instill the love of nature in our children and we try to be outside as much as possible. Our backyard has a large playground: blueberry and raspberry bushes; strawberry and tomato plants; plum, apple, apricot, and cherry trees; a perimeter vegetable garden; and a large assortment of other greenery. We garden together, find bugs and feed birds (and the occasional rodent), routinely eat outside (when we can figure out how to keep the wasps away), and generally just try to be 'in' the outdoors. There is something unique to explore each day and it keeps all of us going back.

Interacting with nature, however, seems to be less important for many other families. There appears to be a change in the mindset of the children and parents nowadays about the importance of experiencing nature and all it has to offer. I have noticed over the years that children are becoming far less connected to the outdoors. This shift, of course, has much to do with the advancement of technology and the obsession with screens of all types. Cell phones, iPads, laptops, televisions and anything else with a screen have consumed our attention and dramatically altered our lives. Technology has overtaken a niche once inhabited by wild exploring, walks around the block, and visits to the park. Adults and some kids are constantly connected to their devices and never stray far from their email, messaging, Facebook, and any other form of social media that they might be using on any given day.

Of course, it would be too easy to place all the blame of this disconnect with nature on technology and innovation alone. There are many other factors, which will be

discussed further in chapter two, that could contribute to why the outdoors has become a less important part of our lives. The especially fast-paced and hectic lives that we live leave little to no time to slow down to appreciate our surroundings. The workload given to the young in school and the adults in their indoor jobs also plays a major role in making it harder to have time for the outdoors. There are also additional safety concerns associated with free play outside and over-protective parents who are sheltering children from experiencing the outdoors at all. There are many factors that contribute to the decline of time spent in nature, but it is crucial that this disconnect be reversed. It is impossible to eliminate all the causes of the disconnect with nature, as there are so many factors that contribute. What is most important is that people need to realize and appreciate the benefits that the outdoors has to offer. The walls of screen obsessions, time constraints, and overly anxious parents, need to be knocked down in order to fully appreciate and experience the outdoors and what it has to offer to all ages.

### **My outdoors.**

As I witness all the changes around me, I think back to all the good times I had outdoors, as a child, and how my experiences shaped who I am today. I grew up constantly being outside with my brother, making sand cities in the backyard, building play structures out of anything that we could find, playing all sports imaginable, either real or made-up, and just spending hours on end in 'our space.' When we had more time, we would venture beyond our backyard and scavenge in the large forested area near our house, often hiking down the nearby hill that was completely overgrown with vegetation and trying to get through to the golf course below. The terrain was untouched, extremely dense, and we had immeasurable opportunities to explore and run free.

I always enjoyed my time discovering ‘my’ world around my house, but my favourite times were always leaving my street and house and going camping. I was very lucky because my parents were both teachers so each summer we had two months to go on adventures as a family. We started out as tenters, setting up camp, going to sleep to the sounds of the birds, the streams, and the wind and countless other noises of nature. Of course there was the occasional train noise, rowdy camper, or thunderstorm that interfered with our peaceful experience, but that is not what I remembered from my time camping. It was always that blue jay, or squirrel, or deer that came into our campsite. It was the building of a fire and roasting wieners or marshmallows, the wading into streams, exploring different terrain, and watching shooting stars that I recall. We eventually moved into a truck and camper and then into a motorhome, which changed the experience slightly, but nevertheless, I remember this time very fondly.

My childhood experiences exploring the outdoors have definitely shaped who I am. The adventures around my neighbourhood and on family camping trips have certainly influenced my love of outdoor learning and sparked my interest in place-based education. The outdoor experiences of many of my students seem to be vastly different to mine. Kids nowadays are spending far more time searching on their screens than frolicking in the forest, and, as a result, are losing out on a vital part of childhood. In order to encourage students to become environmentally conscious, well-rounded members of society, we must guide them to explore the outdoors and connect with the local community.

## **Project Overview**

### **Research Problem**

I enjoy taking my classes on many field trips and outdoor experiences and I am often shocked to hear how many children have never visited some of the local settings that we go to during the school day. Many of the students have not been to the local parks, had no contact with some of the neighbourhood locales, or do not have any knowledge of some of the sights and sounds of nature within our community. With the lack of local experiences, it is not surprising the number of children who have never gone canoeing, not visited local mountains, at no time gone camping, or participated in a myriad of other outdoor activities that we do each year. It is disheartening to see the experiences that many children are missing out on. I know I am very biased in my opinion about the importance of the outdoors, but research proves that I am not on my own in thinking the benefits of outdoor experiences are far reaching and essential to understand. It is with this knowledge and experience that I have attempted to make a difference in the lives of the students in my classes, by showing them what being in nature has to offer and the value it can have in their lives.

There are some detractors out there claiming that research has not adequately shown conclusive evidence of the positive effects of outdoor learning. It has been noted that a lot of research about outdoor learning has been done in ‘splendid isolation,’ without reference to other research and theorizing done in other disciplines (Humberstone & Stan, 2011, p. 529). Some have argued that research has failed to show the full range of benefits of being outside in natural settings and that the focus has been too narrow to adequately demonstrate a compelling rationale for taking children outside for learning.

Even with some of the negative critics, there is ample research to the contrary, with articles and reports and books demonstrating just how important being in the outdoors can be. The literature review in chapter two is a narrative review that covers the many resources on place based learning and focuses on how the connection to the outdoors improves learning and has a positive impact on a variety of other factors. The research will show unequivocally the benefits and advantages to learning in a natural outdoor setting, and being in the outdoors in general, for K-12 students. The literature review will provide detailed, substantial evidence as to why school districts should encourage outdoor learning at their schools. It will also provide administrators and teachers with details about the positive benefits of place-based education. The research problem I focus on in this project is the decreased outdoor activity experienced by today's children, and the important health and learning outcomes associated with learning outside. As home-based activities for children are increasingly indoors and sedentary, the role of the school in providing an intervention to this issue is more important than ever. The purpose of this project is to explore the benefits of place-based learning initiatives for students and to provide teachers with a resource to help them gain the knowledge and courage to teach outdoors.

### **The Project Description**

For my project, I created a website for educators to use as a resource for place-based education. The site shows clearly why teachers should take their students onto the playground, into the soil and dirt, into the natural environment, to local parks or other outdoor settings. I want students to have more opportunities to learn outdoors, to experience the weather, and see what nature has to offer. The site has pages that will offer

tips and tricks for making outdoor activities successful. It outlines possible barriers, complications, and safety concerns that may arise with outdoor activities, and discusses possible solutions. The website also provides curriculum based activity ideas and lesson plans, that could be completed on or around the school grounds.

The website is a general reference tool for educators, that encourages place-based learning and shows the importance of learning in an outdoor setting. I wanted to create something specific to Delta, with links to local outdoor settings using Google Maps. The map concentrates solely on outdoor places to visit within Delta, for Delta School District educators to access. The map shows teachers the vast array of local spaces available to explore within the district, and promotes areas in their school vicinity and communities. My goal is that the online map will become a collaborative tool to help other educators explore their school surroundings and the local community. With time, and accessibility to resources, I am hoping that my project becomes a tool that other educators will use and add to over time. I want to generate a project that enhances learning and encourages teachers to take advantage of the vast outdoor classroom. The purpose of my website is to show educators the great benefits of learning and teaching outside on the school grounds, and in other outdoor local spaces in the community.

The following chapter introduces why place-based learning will enhance the school experience for students, teachers, and all involved. The benefits of outdoor learning range from students developing a stronger sense of self and connection to nature, to improvements in mental, physical, and social development. Students and teachers will show a greater appreciation for their community and school grounds, while also becoming more environmentally aware and conscious. Place-based education also

motivates and promotes learner engagement and enhances the learning environment and experiences of students and teachers. All this from leaving the walls of the classroom.

*“Of all the paths you take in life, make sure a few of them are dirt.”*

*John Muir (Good Reads, 2015a)*

## Chapter Two: Literature Review

### Introduction

Many different factors have been pulling students away from the outdoors. There is the obvious pull of the World Wide Web and cyberspace, that is ever-present and dominating everyone's lives; however, screens and technological devices are only part of the cause of the nature disconnect of today's children. There is the perceived danger of the outdoors, especially by the parents who "bubble-wrap" their children from any possible risks outside (Walter, 2013, p. 152). There is the apparent lack of time that families have for outdoor activities, with most free time spent on indoor activities. People seem to have "adopted the digital technologies and indoor lifestyle attributed to the so-called Net Generation, we have become detached from contact with the natural world outdoors" (Walter, 2013, p. 151). In schools, there are many obstacles that interfere with taking students outside. There is the extensive and crowded curriculum that needs to be covered, teacher insecurity and lack of confidence venturing outdoors with their classes, poor weather conditions, and lack of teacher and student interest (Fagerstam, 2014). With technology being more and more prevalent in today's society, and the natural changes associated with development, there has been a shift away from meaningful outdoor learning experiences and activities. Outdoor learning offers many benefits and opportunities that cannot be achieved in the regular classroom setting. The British Columbia Education plan realizes the need for change and sees the benefits of expanding the way students learn. The BC Ministry of Education reveals that

Students, teachers and families will benefit from more flexibility and choice with respect to how, when and where learning takes place. This means schools must

have flexibility to design learning opportunities that really work for students and boards of education need the latitude to organize programs that extend beyond the typical school and classroom format (2015, p. 10).

Learning outside the classroom with place-based education by using the school grounds, local natural areas, and community settings, can help accomplish these goals. The problem, however, is, as Stilgo (2001) suggests, “modern society, by its very essence, insulates people from outdoor environmental stimuli” (Maller et al., 2006, p. 46). Students are far too glued to their technological devices and screens and staying indoors. As researchers have revealed, excessive screen time is a major problem in children and this discovery continues “to highlight the alarmingly high levels of screen-based sedentary behaviours” (Barnes et al, 2013, p. 302). This research clearly shows that children’s dependency upon electronic devices contributes to their inactive lifestyle.

There needs to be a balance between technological advancement and outdoor, out-of-classroom experiences. Research shows that “in order to help in increasing the number of people that enjoy and easily understand new information obtained through the rapid developments in science and technology, it is necessary to support formal education in schools with informal learning environments” (Bozdogan & Yalcin, 2009, as cited in Merrah & Soh, p. 3). Using the informal settings, by going out of the classroom and into the natural environment, is an excellent way of “providing an alternative voice in an age of hyper-consumption and globalization” (Beames & Brown, 2013, p. 119). As Giddens (1999) and Bonnet (2007) suggest, “In a world of increasing mobility and globalisation, the capacity to apply learning to situations beyond the classroom may help prepare for unknown futures” (Waite, 2013, p. 414).

Learning in the traditional classroom setting continues to hold value in this day and age; however, integrating regular classroom learning with informal, out of the classroom lessons, will significantly improve the learning and the development of the children. As Mygind (2007) states,

the outdoor environment [...] should not replace the traditional classroom setting, but should rather be complementary, as both learning contexts are important to children's needs. It is not necessary to abandon digital technology, only to balance it more sensibly with active learning in nature, away from walled classrooms and sedentary computer screens. The outdoors might well replicate and appeal to digital patterns of thinking and learning (as cited in Walter, 2013, p. 156).

Taking advantage of local natural places, to enhance learning, offers a wide array of benefits. As Ernst and Torquati (2013) state, "natural environments offer rich affordances for learning and development" (p. 206). There are many positive outcomes associated with place-based learning. Dillon and Dickie (2012) suggest that "learning in the natural environment (LINE) affords direct benefits as diverse as educational, health and psychological and indirect benefits ranging from social to financial. Despite increasingly robust evidence of these benefits, many children are losing their connection with nature" (p. 13). As Karsten (2005) reveals, "children spend less time than ever before outdoors and future generations of children may have increasingly lower expectations of the amount of contact with nature that they will have in their lives" (Prince, Allin, Sandseter, & Ärlemalm-Hagsér, E., 2013, p. 183). Because of this trend towards inactivity, it is tantamount for present day society to shift their way of thinking, and find a balance between technological advancement and outdoor learning. Data shows

that children are spending 62% of their time being inactive and completely sedentary (Trembley et al., 2011); in order to prevent this number from climbing even higher, there needs to be a change in the way learning occurs, with an emphasis on the importance of physical activity and being outdoors. “Nature itself can be at once the content, setting, and facilitator of learning. This learning process involves immersion in nature, practice of mindfulness, and the opening up of the five senses” (Walter, 2013, p. 152). It is very clear that “natural environments have been underutilized in contemporary early childhood education” (Ernst & Torquati, 2013, p. 206). Peacock (2006) exposes his findings that using “high quality, out-of-classroom learning [...] influenced how children behave and the lifestyle choices they make. It shows the potential [...] not just to change individual lives, but the lives of whole communities” (Dillon & Dickie, 2012, p. 7). “Learning in and about nature is a creative, holistic process involving brain, body, heart, soul, and the five senses. It may incorporate art, poetry, music, dance, meditation, and song” (Walter, 2013, p. 155). Learning in the school grounds and local natural environments, truly benefits all involved. Researchers have shared their findings about the significance of learning outside the classroom:

Gruenewald (2003) makes a strong case for the pedagogical importance of place. He states that places teach us about how the world works and how our lives fit into spaces that we occupy. Further, places make us: as occupants of particular places with particular attributes, our identity and our possibilities are shaped (2003, p. 621) Thus, the choice of activity, its purpose(s), both stated and assumed, the place(s) that are chosen and how students and teachers interact all constitute the learning environment. (Beames & Brown, 2013, p. 127)

My study, specifically, will look at the importance of place-based learning initiatives in K-12 education and summarize the multiple benefits of learning in the outdoors.

### **Search Methods**

The preliminary keywords for my search were *outdoor education* and *outdoor school*, but many of the articles did not contain information relevant to my project. ERIC, Google Scholar, PsychINFO, and the University of Victoria databases were used to find important peer-reviewed references published in the last five years. These searches produced interesting articles, books, and reports, but many related to a different type of outdoor learning or teaching than I wanted to study. Upon further reading of articles, I started seeing trends and new keywords to look for in my search. Many articles referenced the same authors who are influential in this field of study. I then began to explore titles and reference lists of articles to find related sources. Colleague collaboration was also very helpful in the search for appropriate references. *Place-based learning*, *place-based education*, and *learning in nature* became the new key terms for my research. Other helpful search terms and keyword logic were: *outdoor learning*, *outdoor school*, *green teacher*, and *green school*.

After finding many sources that fit my search criteria, I began looking for other references to support the ideas presented in the literature review. It was necessary to further backup the research by looking for articles about *informal learning*, *sedentary children*, *obesity rates in children*, *healthy lifestyle*, *wilderness therapy*, *nature deficit*, *screen time*, and *inactivity in children*. Upon completing the research, it was necessary to differentiate between the various types of outdoor learning and education that I came

across, in order to fully understand place-based education, which will be discussed throughout the literature review and project.

### **Definition of Terms**

There are many diverse forms of learning outside of the classroom. At first glance, it may be difficult to differentiate between the various types of outdoor learning; however, although the terms used may sound alike (e.g., outdoor education and adventure learning), they in fact refer to very different teaching styles. This project is not simply about learning outside the classroom in a non-formal setting, because that could mean so many different things. A ‘non-formal setting’ could be described as the “learning process taking place out of the classroom environment; such learning can occur through an educational television program, radio, newspapers, magazines, internet, sport centres, during a travel or a visit to a museum, science centres, art gallery, historic site or zoo” (Merrah & Soh 2013, p. 3). None of these locations, however, are representative of the learning outside the classroom that I am referencing. “The provision of structured learning activities that take place outside the classroom, referred to as outdoor education or out-of-school learning, is a diverse research field wherein some concepts may be confused” (Fagerstam, 2014, p. 56). The clear definitions and specifics of each outdoor classroom environment and their differences need to be addressed, to fully understand how learning outside the classroom, outdoor education, forest school, adventure learning, and place-based learning all differ. Many of these teaching styles share similar benefits to the individual, but their designs are quite different to one another.

My project is about learning and teaching outside, in the natural setting, on or near the school grounds. One of the main differences between the different types of non-

formal teaching is where the learning takes place. Terms such as non-formal environments and adventure learning do not necessarily refer to teaching styles where students interact with nature, or even leave the classroom.

**Outdoor education.** The term outdoor education typically refers to taking students out into the natural setting, but to a camp or setting away from the school ground where organized activities often take place. “These programs take learners (youth and adult) out to wilderness settings and immerse them in experiential learning, environmental and social” (Walter, 2013, p. 154). These activities are often full day or overnight trips. “The term outdoor education often concerns adventurous experiences that focus on team-building and development of leadership skills; quite often, such experiences are provided by a purpose-built outdoor education centre” (Fagerstam, 2014, p. 56).

**Adventure learning.** Adventure learning differs to many of the other terms because this type of learning might not actually have the student even leave the classroom setting. The educators could be teaching adventure learning in their classrooms, with the students experiencing adventures through the use of technology. “It includes educational activities that work in conjunction with the authentic experiences of 'researchers' in the field” (Wikipedia, n.d., para #1). The students learn with and from others. “Adventure learning (AL) provides learners with opportunities to explore real-world issues through authentic learning experiences within collaborative online learning environments” (Doering et al., 2010, p. 483). The learner might be watching others’ adventures through methods such as a video link from Egypt, a blog post about climbing to the peak of Mount Everest, a Skype call with a scientist in Antarctica, or other interactive and

collaborative styles of learning. Adventure learning “is a hybrid distance education approach” (Doering et al, 2010, p. 486) that allows students to learn through an online forum. Adventure learning “is grounded in two theoretical perspectives of learning—experiential learning and inquiry-based learning” (Doering et al, 2010, p. 486). It might not necessarily relate to the natural environment or being outside the classroom.

**Forest school.** A forest school is very close to the outdoor learning that I will be concentrating on for my project, but it differs slightly because it always takes place in forested areas. “The forest school approach is also equivalent to school-based outdoor learning but with a focus on learning in woodland environments. The forest school embraces regular curriculum-linked learning, not only focusing on learning about nature and environment but also on subjects such as English, mathematics and science” (O’Brien, 2009, as cited in Fagerstam, 2014, p. 57). This differs from outdoor education because it is not necessarily organized by a centre or camp and concentrates less on outdoor adventures and team building and more on the curricular areas.

**Place-based education.** Place-based learning is the type of learning that I will be concentrating on throughout the literature review. It can be defined as “programmes in which students learn about local, natural, built, and social environments through inquiry, environmental action, and other hands-on activities in a specific place” (Kudryavtsev, Stedman, & Krasny, 2012, in Waite 2013, p. 415). Place-based education is one that takes place on or near the school grounds and uses the natural environment and the outdoor setting for learning. Waite (2013) describes it in the following way:

The place-based curriculum studied is experiential and cross-disciplinary in its pedagogical approach involving repeated visits to local sites. It is intended to

increase the pupils' sensitivity to their own locale and environmental awareness and to develop a sense of community. These aims reflect multiple understandings of place as: a backdrop; a natural environment; a community; and a neighbourhood. (p. 415)

The students learn the curriculum outside the classroom walls, in a familiar setting, on multiple occasions. "Place-based education engages people in activities within and about communities to advance meaning making" (Smith, 2002; Sobel, 2004, as cited in Zimmerman & Land, 2014, p. 78). The students could be on the school grounds, at a nearby park or wooded area, or in another community space, for their learning. The learning and the methods of place-based learning may be very similar to that of forest schools; however, place-based education can occur anywhere in or near the school grounds, not necessarily in the woods. Forest school always takes place in woodland environments.

Place-based education, which is the subject of this project, is learning that occurs in the natural setting on or near the school grounds. "Natural environments are those, which in contrast to the built environment, contain living and non-living material" (Dillon & Dickie, 2012, p. 5). The environment surrounding each particular school can be quite diverse, depending on where the school is located and the types of natural settings it is near. "Nature itself can be at once the content, setting, and facilitator of learning" (Walter, 2013, p. 152).

### **Theoretical Framework**

**Principles of experiential learning theory.** Experiential learning is a theory based upon Kolb's (1984) model of learning through experience where "the primary

focus should be on engaging students in a process that best enhances their learning - a process that includes feedback on the effectiveness of their learning (Kolb & Kolb, 2005, p. 194). “It is founded on the premise that students need authentic learning that results from active involvement with carefully chosen, concrete activities, followed by opportunities for reflection and application” (Kolb, 1984, in Bobilya et al., 2014, p. 5-6). “These guided experiences enhance participant motivation and responsibility for the purpose of increasing knowledge, developing skills, and clarifying values through direct experience” (Association for Experiential Education, as cited in Bobilya et al, 2014, p. 6). It is a holistic philosophy that engages participants in an uncertain environment, where they may feel success, failure, adventure, and risk-taking. Experiential education encourages connections with first-hand experiences and abstract ideas, thus developing character and improving critical thinking (Bobilya et al, 2014, p. 6).

Place-based education fits Kolb’s model nicely, because of its emphasis on first-hand learning and personal reflection. “Learning is perceived as a practical experience-based process. Students learn by using body and senses while actively exploring phenomena in the outdoor environment” (Fagerstam, 2014, p. 57). This self reflection and belief in perseverance lead to behaviours that will help learners in their academic and personal lives beyond high school. (Schwab & Dustin, 2014, p. 30). “The advantages of experience-based learning which includes hands-on activities and on-site learning should be empowered” (Merrah & Soh, 2013, p. 1). “Emphasizing hands-on, real-world learning experiences [...] increases academic achievement, helps students develop stronger ties to their community, enhances students’ appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens” (Waite,

2013, p. 415). The experience of trying, and the ability to overcome challenges, are paramount to [...] students' success — not just in outdoor activities but also in later academic settings, careers, and relationships” (Schwab & Dustin, 2014, p. 30). As Kolb's model suggests, it is vitally important that students explore their outdoor surroundings in a meaningful way, while reflecting on the experience to make it powerful.

**Principles of motivational model of learning.** John Keller's ARCS Motivational Model of learning (1987) emphasizes four factors to create and maintain motivation. The four elements of his learning design model are: attention (A), relevance (R), confidence (C), and satisfaction (S) (ARCS). Driven by the objective of increasing student enthusiasm and autonomy, Keller maintains that one of the most ignored aspects of design is planning for motivation. Thus, he created his model of instructional design (Doering et al, 2010, p. 489). Keller suggests that the ARCS model sustains learner enthusiasm and drive in the learning process and that these four factors are “required to encourage student motivation when designing learning environments” (Doering et al, 2010, p. 489). Place-based education works very well with Keller's model because its style of learning stresses the four elements that he highlights as being necessary during the learning process.

The first step of Keller's ARCS model for promoting and maintaining motivation is *attention*. He states that attention is the ability to get the learner's interest, which can be achieved through sensory stimuli, inquiry arousal, and variability. Attention is easily accomplished through place-based education, because of the interesting and novel stimuli of the outdoor settings. Studies have found that “school-based outdoor learning in the school grounds [is] associated with positive feelings and increased motivation by the

students to such a large extent it could well be one of its most important potentials” (Fagerstam, 2014, p. 78). The natural environment is an inviting and appealing site that allows students to engage all their senses and be removed from the routine, and sometimes mundane, activities inside the classroom walls. “Researchers also stress the role of motivation in learning. Gagne and Driscoll (1999) posited the most important element in learner motivation is the desire to enter into the learning situation” (Gagne & Driscoll, 1999, as cited in Doering et al, 2010, p. 491). Place-based learning involves active participation and maintains attention with its multisensory and engaging environment.

The second element of Keller’s model is *relevance*. He believed that “relevance is key to maintaining learner focus and dedication within the environment. It is the ability to have a learner be able to answer the question, “What’s in it for me?” in response to a learning situation. The benefits for the learner need to be clearly stated” (Doering et al, 2010, p. 489). Using the local outdoor settings as a classroom has the “power to teach, to engage “learners” in meaning making practices that they use to make sense of their worlds and their selves and thereby influence how they act on themselves and others” (Humberstone & Stan, 2012, p. 184). It is through the local environments that students make relevant connections to their own learning. Past research has clearly shown that interest and motivation are principle indicators of cognitive engagement (Doering et al, 2010, p. 491).

Keller’s third factor in his learning model is *confidence*. Confidence refers to the learner’s ability to achieve predetermined goals so that they continue to strive to other attainable goals. He believes that a learner must feel as though they will achieve some

level of success in the learning environment, in order to sustain their motivation in the learning process. Teaching in local outdoor settings has the capacity to boost students' confidence, as they feel comfortable learning in familiar places, such as their school grounds and community. Rickinson et al., (2004) believes that the “the most important impact on learning in school grounds/community settings includes greater confidence” (as cited in Mygind, 2007, p. 163).

The fourth piece to Keller's motivational model is *satisfaction*. He suggests that “satisfaction occurs when the learner receives some reward or gratification from their learning experience” (Doering et al., 2010, p. 491) Learners in place-based education will obtain satisfaction because of the ability to learn in a real environment with authentic and organic learning. Learning in the outdoors exposes the students to meaningful real-life tasks and a connection to a place during the learning process.

**Principles of attention restoration theory.** Kaplan's (1995) Attention Restoration Theory (ART) explains the advantages that natural settings provide. Kaplan (1995) suggests that being in nature offers restorative benefits and “that exposure to nature reduces directed attention fatigue, restoring the ability to concentrate at will” (Dillon & Dickie, 2012, p. 17). Grill (2003) argues that natural settings are “restorative environments [and] almost any kind of learning can use the natural setting to its advantage” (p. 22). Moreover, she tells us that these settings do not “have to be dramatic to be effective. It is not necessary to seek out pristine wilderness—a basic park or garden seems to suffice” (Walter, 2013, p. 153). It is clear that place-based education fits well with Kaplan's theory, as being outdoors in a natural setting can restore student energy and improve learning.

Kaplan's model reveals four components of natural spaces that make them restorative environments. The first factor of the restorative benefits of nature is *being away*. He states that "being away, at least in principle, frees one from mental activity that requires directed attention support to keep going" (Kaplan, 1995, p. 173). He continues by suggesting that "the sense of being away does not require that the setting be distant. Natural environments that are easily accessible thus offer an important resource for resting one's directed attention" (Kaplan, 1995, p. 174). Louv "sees these outdoor activities as restorative therapy or "vitamin n" (p. 48) to nourish the minds, souls, and bodies" (Walter, 2013, p. 152). It is clear that contact with nature has restorative properties that helps to focus attention and manage feelings of anxiety and stress (Ernst & Torquati, 2013). Just having the students in the natural setting, with a change of scenery, and away from the confines of the classroom walls, has the ability to restore concentration and engagement.

Kaplan's second element of the restorative power of nature is *fascination*. He points out that

nature is certainly well-endowed with fascinating objects, as well as offering many processes that people find engrossing. Many of the fascinations afforded by the natural setting qualify as 'soft' fascinations: clouds, sunsets, snow patterns, the motion of the leaves in the breeze - these readily hold the attention, but in an undramatic fashion. Attending to these patterns is effortless, and they leave ample opportunity for thinking about other things (Kaplan, 1995, p. 174).

As Olmsted (1865) suggested, he is "particularly sensitive to the role of 'natural scenery' in restoration: it 'employs the mind without fatigue and yet exercises it; tranquilizes it

and yet enlivens it; and thus, through the influence of the mind over the body, gives the effect of refreshing rest and reinvigoration to the whole system” (Kaplan, 1995, p. 174). As Waite and Davis (2007) explain, the learners are engaged and motivated by the outdoor environment because the “novelty and freedom can be highly motivational” (Waite, 2013, p. 419).

Kaplan’s third factor for the restorative benefits of nature is *extent*. Extent refers to the feeling of being removed and distant from one thing, and being connected to something else. He suggests that “in the distant wilderness, extent comes easily. But extent need not entail large tracts of land. Even a relatively small area can provide a sense of extent” (Kaplan, 1995, p. 174). Taking students out into the school grounds through place-based learning takes them away from the restraints and limits of the classroom, to a natural world full of possibilities. “Hands-on contact with nature is not only essential for protecting the environment but appears to be a means of cultivating community and enhancing the mental health and wellbeing of children and adults alike” (Dillon & Dickie, 2012, p. 22). Taking advantage of the local natural environments has the students in a larger setting that opens up the potential for learning and expands the place of learning for the children.

The fourth component of Kaplan’s restoration theory is *compatibility*. Compatibility refers to the setting being a supportive and functional place for an individual. He reveals that there is a special significance between the outdoor settings and human inclinations. Many people find that functioning in natural settings requires less effort than in more ‘civilized’ settings, despite the fact that they have much more familiarity with the latter (Kaplan, 1995, p. 174). Kaplan believes that “the setting must

fit what one is trying to do and what one would like to do” (Kaplan, 1995, p. 173). He continues that in a “compatible environment one carries out one’s activities smoothly and without struggle” (Kaplan, 1995, p. 173). In place-based education, students work in local settings that offer them easy access to a multitude of ideas and potential, while still operating in a place they are familiar and comfortable with.

### **History of Place-Based Education**

Historically, there has always been the belief that nature is a teaching tool. Observing and learning from natural environments has been a theme of poets and theorists throughout human history. In the late nineteenth century, educators began to incorporate nature study into formal schooling (Ernst & Torquati, 2013, p. 206). Since this time, experiential learning and interacting with the environment have been viewed as necessary elements of a child’s education. Over the years, many philosophers and scientists have written theories to explain how best to integrate the curriculum and experiences, so as to make the learning more meaningful for students. Dewey’s (1938) view was that “experiential education, formerly linked to progressive education, is education of, by and for experience” (Bobilya et al., 2014, p. 5). He believed “that what a child gets out of any subject is based on his experience, emotions, and the images which he himself forms with regard to it” (Dewey, 1897, p. 14). Researchers believed that the learning process includes more than just being part of an experience. Students need time to reflect to give the experience more permanency and relevance to the learner (Richards et al., 2005, p. 132). Going into the outdoors, reflecting, and making connections within their learning, is so valuable for students. “The notions of non-formal and informal education came to prominence during the 1960s and 1970s in international discussions on

education, at the same time as lifelong education first became fashionable” (Merrah & Soh, 2013, p. 2). These notions involved bringing the informal setting of the outdoors into focus as an important and significant part of teaching and learning.

It is clear that learners have transformed. Researchers have found that during the last century there has been a tremendous change in the way children play (Prince et al, 2013, p. 183). The emphasis on outdoors play has moved towards a greater interest in technology. With technology exploding at record speed, the present generation of children is becoming increasingly attached to their screens and less on the outdoors. There are many reasons for this shift, but as Karen Malone (2007) maintains, “the Net Generation is the “bubble-wrap generation” (p. 513). Children have been lured away from the outdoors by digital technology. Parents are often overprotective of their children; they regulate their play and remove them from possible physical risks outdoors by sheltering them from unrestricted exposure to the outdoors. Children are ‘protected’ from the world outdoors while spending long hours watching digital screens (Walter, 2013, p. 152). Recently, there has been a shift in thinking to bring back the experiential part of a child’s education and to let children explore. Supporters of the Reggio Emilia approach maintain that outside spaces surrounding schools are extensions of the classrooms, an important part of daily life for both the teacher and the student, and a point of reference for the community (Kernan & Devine, 2010, p. 374). Research has revealed that many children prefer an outdoor natural environment over a manufactured, built space. Children find it very important to be able to interact with and learn from their environment (Fiskam & Jacobsen, 2014, p. 77); this interaction with nature should be

incorporated into every student's day. The focus of present-day education should be finding the right balance between current technology and learning in the outdoors.

### **Importance of Outdoor Place-Based Learning**

#### *Lost*

*Stand still. The trees ahead and bushes beside you*

*Are not lost. Wherever you are is called Here,*

*And you must treat it as a powerful stranger,*

*Must ask permission to know it and be known.*

*The forest breathes. Listen. It answers,*

*I have made this place around you.*

*If you leave it, you may come back again, saying Here.*

*No two trees are the same to Raven.*

*No two branches are the same to Wren.*

*If what a tree or a bush does is lost on you,*

*You are surely lost. Stand still. The forest knows*

*Where you are. You must let it find you.*

*(David Wagoner, 1976)*

Learning outdoors is a must for 21<sup>st</sup> century learners. In our digital age, children are becoming less and less connected to nature. Students, parents, and teachers, must be shown the important benefits of being outdoors. "Teaching in the classroom is focused on the theory and understanding of concepts, while the outdoor education's role is to develop students' talents and potential" (Harun & Salamuddin, 2013, p. 16). The use of the outdoors expands and changes what can be taught and enhances the learning possibilities.

Natural spaces hold endless possibilities for teaching and learning in all curricular domains (Ernst & Torquati, 2013, p. 193). The use of outdoor learning, be it on the school grounds, in a park, a close community location, or wherever it may be is a valuable learning experience that cannot be replicated in the classroom. “When school lessons are moved outside the school building, the environment gives the children and teachers other affordances” (Fiskam & Jacobsen, 2013, p. 78). The natural environment opens up a world of possibilities for the teacher and the learner to explore what is not available inside the walls of the school. “Students communicate and participate in the classroom too, but when students engage in practical outdoor activities in collaboration with others they learn by doing and participating in a concrete ‘real-life’ context. This differs from the more abstract classroom situation” (Fagerstam, 2014, p. 58). Getting out of the classroom and placing importance on outdoor education and learning is easy to accomplish. “School-based outdoor learning does not need to be practiced at particular places far away from the school. Even on the school grounds, school-based outdoor teaching and learning has significant potential” (Fagerstam, 2014, p. 78). Teaching students outside has the capacity to make an incredible difference in a child’s education and well-being.

“By nature, a child has a very high level of curiosity, therefore, the learning process should take into account their experiences and activities that can allow the children to explore and carry out their own research” (Merrah & Soh, 2013, p. 3). The outdoor setting is a real-life environment that caters to their natural desire to discover and examine their surroundings. As Walter (2013) explains,

learning activities might include digging in the dirt or touching soft green moss, tasting wild fruits or rain on the tongue, smelling pungent leaves or flowers, listening to the gurgle of gushing streams or crashing ocean surf, or simply taking in the sublime visual beauty of forest, prairie, desert, wetlands, arctic, or mountain landscapes. (p. 155)

Children can explore the natural phenomena of the outdoors and experience the world around them when in a natural setting (Maynard, 2013, p. 284). It does not matter where a school is located; the outdoors can always be used to enhance the learning experience of the students. Natural outdoor learning spaces can be chosen to be welcoming, to exhibit the culture of the community, to purposely show teaching and learning, to encourage social interactions, to be appropriate for children of all ages and levels of ability, and to give opportunities for active learning. Natural spaces and outdoor environments are versatile, active, and responsive to the students and teachers who use them (Ernst & Torquati, 2013, p. 193). “It is also through these interactions in specific natural places that young people learn about nature, the natural world and being in nature” (Humberstone & Stan, 2012, p. 185).

Teaching and learning in the outdoors offers many important benefits. Researchers have shown that place-based education positively impacts student confidence, motivation for learning, sense of belonging, rapport with teachers, and attitude (Mygind, 2007, p. 163). Being outdoors, on the school grounds and in the community, changes the student-teacher relationship and group atmosphere. Kernan and Devine (2010) believe that “institutionalised settings corral children into certain types of learning, underplaying the freer and more inter-dependent dynamics of peer and adult/child relations that can occur

in the outdoor environment” (p. 381). It is exactly this change in relationship and attitude that creates such a positive and valuable learning experience. Tovey (2007) suggests that more open, flexible and child-initiated/centred approaches were adopted when outside and more closed, structured and subject-centred approaches were adopted when inside. Given the association between movement and young children's construction of conceptual understanding and their place in space this is clearly of importance (as cited in Maynard, 2013, p. 284).

Maynard continues by stating that the outdoors offers “the physical space affording opportunities for more practical, hands-on, problem-solving activities” (p. 220). A return to nature is a must for present day learners.

### **The Changing Learner**

*“With innovation and technology, seems we have forgotten to cherish the true beauty the world has to offer.”*

A.C. Van Cherub (Proverbs Way, 2015)

Present-day learners are very different to learners of the past. The 21<sup>st</sup> century student lives in a time when “the Internet has always been present and for many the digital world is a naturalized and normal part of daily life” (Walter, 2013, p. 151). Today’s learners live “in a world of rapidly changing technology, students today routinely navigate through more information in a single year than their predecessors likely encountered in a decade” (BC Ministry of Education, 2015, p. 5). With every advancement in technology or further development and new research, society and each generation of learners changes slightly.

Since television was introduced, there have been concerns regarding the effect of media on the growth and development of children; these concerns include changing eating habits, sedentary behaviour, the effects of advertising and violent material on behaviour, and the displacement of many activities that are crucial for optimum development (Gingold et al., 2014, p. 41). The fondness and obsession for the ever-changing world of technology has resulted in the loss of past values, such as those embedded in the movement that started outdoor education. It is suggested that the changing times and loss of values threaten to disassociate people from their involvement and experience of community and place. (Beames & Brown, 2013, p. 118). “Young children today are quite confined within, mainly, a house, within a car, within a pre-school, within a shopping centre, and they do have limited opportunity for outdoor play” (Kernan & Devine, 2010, p. 377). The importance of the outdoors and everything that it can add to a student’s life and learning seems to have been lost in our fast paced and technologically immersed lives.

There needs to be a balance between technology and the outdoors. The Canadian Society for Exercise Physiology (CSEP) recommends that, for health benefits, “children and youth should limit recreational screen time, motorized transportation, indoor time and extended sitting in the context of family, school, volunteer and community activities” (2011, p. 15). It is imperative to offer children alternatives that will benefit them during their time spent away from technology. “The patterns of thinking, ways of learning, and mindsets of the Net Generation and other digitally inclined learners can be addressed in the ways in which we think about the natural world as a learning resource” (Walter, 2013, p. 155). Walter continues by stating that “nature might be understood as a giant,

multisensory, multimedia, living museum, real-world Wikipedia, dispersed wilds akin to the Internet, or outdoor web of nature” (Walter, 2013, p. 155). Beames and Brown (2013) believe that

outdoor education has a long tradition of providing an alternative voice to dominant discourses of consumption and a way of embracing opportunities for embodied and holistic approaches to learning. It would be a shame, in their view, if these were lost via the unconscious acceptance of rationalized processes that rob students and educators of spontaneity and serendipitous learning opportunities that are often encountered in outdoor environments where not everything is predictable and measureable. (p. 129)

A balance between modern day advancement and outdoor experiences needs to be reached.

The outdoors is a perfect arena to reach modern day learners while still challenging and satisfying their technology driven mindset. “From a digital learner’s perspective, the outdoors can be likened to the disorganized, dispersed wilds of the Internet, akin to thousands of independent, physical websites in a vast outdoor web of nature” (Walter, 2013, p. 156). Walter (2013) continues by stating that

from a digitally minded perspective, nature can be seen as a giant living library or museum filled with an infinite variety of interesting, touchable, see-able, feel-able, smell-able, and hear-able knowledge, facts, and experiences immediately available to learners. (p. 155)

The outdoor learning environment offers the attention and engagement that children are used to with their technological devices. On the conceptual level, activities in nature may

give real-life stimuli and challenges similar to those found in current simulation and strategy video games (Walter, 2013, p. 156). Getting outside the classroom or the home can open the child's mind to a world of possibilities.

It is not difficult to get students out of the classroom, exploring their natural settings and enjoying learning. As Walter (2013) suggests, “any semi-wild outdoor environment can be the classroom—parks, vacant lots, urban forests, wetlands, gardens, patches of prairie, beaches, rivers, lakes, campgrounds, ravines, and other wild natural areas” (p. 156). Teachers can use any part of the school grounds or local community to capture the interest of the children in a way similar to that of their multisensory technological life. The outdoors is also a great way to integrate technology into the learning in a meaningful way. Learning outside the classroom in local settings can complement the interests of the changing learner by “involving touch, taste, smell, sound, and sight that might make creative use of digital technology” (Walter, 2013, p. 155). Walter (2013) suggests that “digital learning technologies can be used to complement and extend real-world outdoor learning—in taking and sharing of photos, videos and audio recordings, using art and design software and Internet searches, creating blogs, and so on” (p. 155). The opportunities are endless as to what can be taught and shared in the outdoors and be incorporated with digital technology. Walter (2013) adds that “knowledge of the outdoors gained in this way can be shared with others in the digital world through smartphone photographs, videos, blogs, podcasts, Facebook, uploads to Wikipedia, and so on” (p. 156). It is important that the outdoor environment can complement changes in the learner and meet their ever-changing needs and interests.

## **Outcomes of Place-Based Learning**

### **Educational identity.**

*“Every sight and sound inspiring, leading one far out of himself, yet feeding and building up his individuality.”*

*(John Muir, Good Reads, 2015b)*

Place-Based learning is important for the development of the individual, helping to create an identity and connection to nature and themselves that might not otherwise occur in the classroom. Researchers believe that informal environments encourage learning in ways that may not exist in the traditional classroom setting. It is through these informal types of environments that students can be offered different learning styles and can learn at their own pace (Merrah & Soh, 2013, p. 3). Through the informal, outdoor learning environment “the children [are] provided with the opportunity, in relation to their teachers, to reconstruct (reposition) themselves as strong, competent children rather than as ‘underachieving’ pupils” (Maynard, 2013, p. 223). A child can develop a new identity as a capable learner. Learning outside in a local setting builds confidence in students who might be ‘unsuccessful’ in a classroom setting. Research suggests that learning outside on the school grounds helps quiet children gain confidence to express themselves, and promotes positive and appropriate participation from troublesome children (Dillon & Dickie, 2012, p. 17). “When outdoors, children can push the boundaries of who they are and what they can do without fear of being admonished for being too boisterous, loud or messy” (Bilton 2002; Ouvry, 2003 in Maynard, 2013, p. 215). Maynard (2013) states that teachers notice that the happiness and confidence of

students increases outdoors and that being outside really improves the perceptions of weaker students in relation to their peers (p. 220). The outdoors seems to bridge the gap between weak and strong students, making children feel more equal by “diminish[ing] the perception of underachievement” (Maynard, 2013, p. 212) that might occur in the classroom setting. Maynard et al. (2013) suggests “that the outdoor environment may provide a particularly appropriate and supportive context for child-initiated learning both for the children and for their teachers” (2013, p. 222). This is a positive situation for all involved.

The outdoor learning environment not only evens the playing field for different learners, but also creates attachment and identity with the natural environment and to oneself. Researchers state that learning in the outdoors has the power to teach, to actively involve learners in meaning making, to make sense of their world and themselves, and thus influence their conduct and behaviour with themselves and others (Humberstone & Stan, 2012, p. 184). “Being in a beautiful place, surrounded by the sights, sounds, and smells of the woods and the sea, heightens the senses and brings one closer to nature and to oneself” (Walter, 2013, p. 153). It is precisely in this type of environment that children create a sense of self and what they believe in, not just about nature and the outdoors. Gruenewald (2003) makes a strong case for the pedagogical importance of place. He states that places teach us about how the world works and how our lives fit into spaces that we occupy. Further, places make us who we are: As occupants of particular places with particular attributes, our identity and our possibilities are shaped (2003, p. 621) Learning in local settings, be it on the school grounds, in a nearby park, local community

site, or beyond, creates a positive learning atmosphere for the student. Research has shown that

Culture arises out of natural environments and therefore natural environments inherently reflect culture; exploration of what it means to be a “child of the prairie,” a “child of the forest,” “a child of the farm,” a “child of the desert,” or “a child of the river,” for example, is a way to explore the ways our home ecosystems shape our everyday lives. (Ernst & Torquati, 2013, p. 206)

A connection to place is made and it shapes the individuals and changes their belief systems about the outdoors and themselves as being part of it. Kernan and Devine (2010) suggest “values related to autonomy, participation and citizenship are reflected in the opportunities provided for children to play visibly, in the outdoors” (p. 377). The outdoor setting allows students to make meaningful connections with places and allows them “greater control of their play and learning and following their own interests” (Maynard, 2013, p. 220). They can use the outdoor environment to explore nature in a way not possible inside the classroom. The outdoor environment “enables children to project ideas and to experiment with other ways of being, supporting creative learning” (Waite, 2013, p. 419) in a way that would not be possible inside the classroom.

The informal outdoor learning environment affects not only the students, but also the teachers, who change how they interact with their students when exposed to different environments. “Teachers benefit from LINE (learning in natural environments), becoming more enthusiastic about teaching and bringing innovative teaching strategies to the classroom” (Dillon & Dickie, 2012, p. 21). When working in natural environments, teachers often change their personas and the students benefit from this change in

perspective and attitude. Maynard (2013) reveals “that teachers [are] more likely when outdoors to allow children to play, to adopt a supportive role and to ask open questions” (p. 295). The outdoor setting may allow the teacher to concentrate less on management, disturbing other classrooms with noise and keeping students in desks, and more on the exploration and creativity that comes with the large outdoor environment. Maynard (2007) further suggests that teachers within the classroom are “‘conditioned’ to behave in certain ways: their subjectivities as teachers were embedded within the school’s physical structure and artefacts as well as its rules and relationships” (Maynard, 2013, p. 221-222). While outdoors, the student-teacher relationship is often more positive. Indoors, “the classroom appear[s] [...] to be a ‘place’ for the teachers; the meanings that they [attribute] to this ‘place’ [are] those of authority and control” (Maynard, 2013, p. 221). Children are more comfortable learning in an informal environment where there is less focus on teacher control and authority, as Maynard mentioned, and more on collaboration and inquiry.

### **Health benefits.**

*“Everybody needs beauty...places to play in and pray in where nature may heal and cheer and give strength to the body and soul alike.”*

*John Muir (Good Reads, 2015c)*

There is growing evidence to show the immense health benefits of not only learning in the outdoors, but just going outside in general. “It is clear that nature and natural environments relate to human health and well-being” (Maller et al., 2006, p. 49). “A growing body of research provides evidence that spending time in natural environments can benefit physical, cognitive, social, and emotional development” (Ernst

& Torquati, 2013, p. 193). Maller et al. (2006) reveals that “significant evidence exists for contact with nature to be considered in the promotion of health and well-being for individuals and communities, and potentially be incorporated within public health strategies for whole populations” (p. 51). “Time and space to play outdoors is now recognised both as a need and right of children and central to their well-being and development” (Mackett & Paskins, 2008; Moore, 1997, OECD Directorate for Education, 2006; Powell, 2009 in Kernan & Devine, 2010, p. 372).

Research has shown that excessive artificial stimulation and being in purely human environments can cause fatigue and a loss of vitality and health (Maller et al., 2006, p. 46). People of all ages, not just children, spend far too much of their day indoors and our health is being sacrificed for the fast paced technological world that we live in. Modern day society is so preoccupied by technology that the outdoors is being ignored as a valuable part of day-to-day life. Walter (2013) suggests that people need to spend more time outdoors because being in a natural setting will help them recover from the effects of continuous screentime with digital devices, “moving from the stress of constant interface with digital technologies in the virtual world to the quiet calmness and slower pace of the natural world” (p. 155). Walter continues by stating that learning outdoors “can be an antidote and complement to the digital world, not only soothing tired computer eyes, aching backs and wrists, short attention spans and nervous bodies, but also offering holistic, mentally and physically challenging learning experiences” (p. 156). This change is happening because “we have become detached from contact with the natural world outdoors. As a result, many of us are beginning to experience a variety of often debilitating physical, emotional, and mental health problems” (p. 151). It is crucial

that we allow children contact with the outdoors and promote the many health benefits associated with it. “A growing body of evidence suggests that how children spend their time affects body composition, brain development, and behaviour patterns, with potential ramifications for health across the life course” (Gingold et al., 2014, p. 41).

When given the opportunity to talk about what is important in their lives, space and time to play outdoors has been demonstrated as being at the top of children’s own agenda” (Government of Ireland, 2000, as cited in Kernan & Devine, 2010, p. 372). Children seem to see the importance of being active outdoors, so why is it not a priority for everyone?

#### **Mental health benefits.**

*“I go to nature to be soothed and healed, and to have my senses put in order.”*

*John Burroughs (Brainy Quote, 2015a)*

It is important to note the mental health benefits of place-based education, and being outdoors in general. Maller et al. (2006) believes that “just by viewing nature many aspects of human health and development can be markedly improved. Evidence also exists for the therapeutic benefits to be gained from *being in nature*” (p. 49). Research has shown that “wilderness is in itself therapeutic” (McArdle et al., 2013, p. 242). The sight of the clouds in the sky, the changing colours of the leaves, the sounds of the local birds, or a breath of fresh air can be soothing and healing. Scholars have noticed that the response to nature includes feelings of enjoyment, prolonged concentration or interest, ‘relaxed wakefulness’, and a decrease of negative feelings, such as anger and anxiety (Maller et al., 2006, p. 48). Just being outside can be powerful to the health and well-being of individuals. People are increasingly realizing the healing effects of viewing

nature while in stressful environments, as this can be a means of relieving anxiety, tension, and improving well-being (Maller et al., 2006, p. 47). Whether it is just seeing the outdoors or actually being active in an outdoor setting, nature is very important for the mental health of the population.

With respect to schools, the benefits of using the outdoors for learning are powerful and immediate: “The exposure to the natural environment can lower the effects of various mental health issues that can make it difficult for students to pay attention in the classroom” (Dillon & Dickie, 2012, p. 17). Research has revealed that hands-on interaction with nature in young children can play a meaningful role in developing positive mental health and well-being. Researchers further show that students express high interest, low anger, and minimal stress, in a natural setting (Dillon & Dickie, 2012, p. 6). Getting out of the classroom and into a natural setting improves the mental health of students.

#### **Physical health benefits.**

*“Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul.”*

*John Muir (Brainy Quote, 2015b)*

Children are spending far too much time during their day in sedentary activities, and not getting enough exercise. Research has shown that high doses of inactive pursuits in children are linked to being overweight, the metabolic syndrome, and a decrease in aerobic fitness (Barnes et al., 2012). Kernan and Devine (2010) believe that “moving about ‘freely’ in the outdoors [is] construed as ‘natural’ and a necessary part of being a child” (p. 377).

Major health benefits are seen when kids get lots of physical activity. “Not only [is] there a significantly higher fitness level found among children spending time in the nature setting, but also less sickness and an increased ability to concentrate” (Mygind, 2007, p. 162). This idea that children need more exercise is not new, but it is especially crucial in modern day society, considering the shifting values and poor health rates across the population. “Although evidence for the benefits of physical activity for health has been available since the 1950s, promotion to improve the health of populations has lagged in relation to the available evidence” (Kohl et al., 2012, p. 294). It is well known that physical activity and participating in outdoor activities are very beneficial, yet an active lifestyle seems to be devalued and ignored, in modern day society, by a large proportion of the population. Fiskam and Jacobsen (2013) suggest that “the outside environment with the great possibilities for physical activity might in itself reduce stress and give benefits with regard to concentration and motivation for learning” (p. 77).

There is mounting evidence to show that today’s children are more inactive and unhealthy as ever. Tremblay et al. (2011) reports that “only 7% of children and youth aged 6-19 years participate in at least 60 minutes of moderate- to vigorous-intensity physical activity per day, thus meeting the current physical activity guidelines from Canada” (p. 1). Research reveals that, in addition to a lack of physical activity, children spend significant portions of their day (62%) in sedentary pursuits (Barnes et al., 2012). Rapid adjustment needs to occur, to change the ill health and poor decisions that people are making. In order to resolve the inactivity crisis, approaches need to both increase physical activity and reduce sedentary behaviours (Tremblay et al., 2011). With this in mind, “the ultimate goal should be to facilitate the development of an intrinsic

understanding that being physically active is imperative to a healthy life that is free of chronic illness and disease” (Colley et al., 2012, p. #).

Within the classroom setting, teachers can address the issues associated with unhealthy lifestyles, as well as the benefits of being active; however, in order for this information to translate into positive change, the healthy behaviours must be modeled to the students. Children need to participate in physical activity and active lessons, in and out of the classroom. Research has shown that all children should be given a chance to develop positive attitudes about physical activity during school time, to decrease the well documented risk factors associated with inactivity (Mygind, 2007, p.163). Children should be given time for physical activity both inside and outside, during instructional and non-instructional time. Researchers maintain that physical activity and movement promotes physical development in children, by improving their agility, stamina, dexterity, strength, and balance (Maynard, 2013, p. 284). It is also important to ensure a wide range of natural green elements on school grounds, to encourage physically active play (Prince et al., 2013, p. 184).

Taking kids outdoors can help solve many of the problems with inactivity that we see today. Using place-based learning encourages physical exertion and a break from the sedentary lessons inside the classroom. Routinely, “inactivity during teaching seems to be the general and expected picture in the classroom, while outdoor learning seems to increase physical activity” (Mygind, 2007, p. 171). Bell and Dymant (2006) argue that “green” school grounds support a wider variety of play opportunities that promote physical activity, especially for children who are disinclined to participate in competitive team sports” (Ernst & Torquati, 2013, p. 193). Research demonstrates that children have

an improvement in physical fitness and coordination, and a greater ability to concentrate, when given an opportunity to spend time in an outdoor setting, on a daily basis (Mygind, 2007, p. 162). When in the classroom, students are generally sitting motionless at their desks. When outside the classroom on the school grounds, or in another natural setting, they are being active.

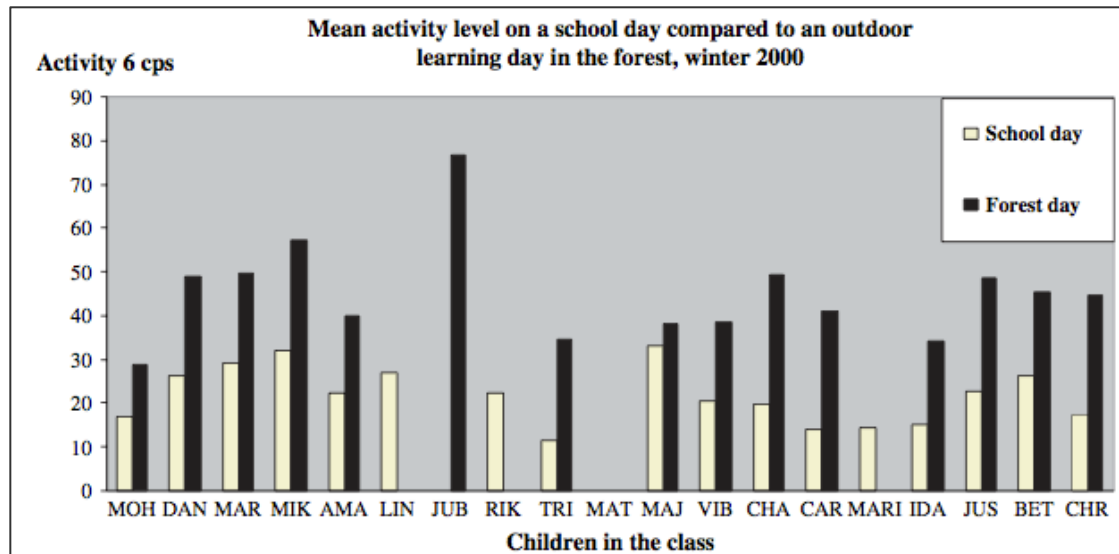


Figure 1. Mean activity level on a school day vs. an outdoor learning day. Note: retrieved from Mygind, p. 166, 2007

As Mygind shows in Figure 1, an outdoor learning day significantly increases the students' activity level. "Children's physical activity increase[s] when working outdoors: 90% of outdoor activities [are] rated as intermediate/mixed or high; indoors 100% were rated as none/low" (Maynard, 2013, p. 291). A simple change of setting from the classroom to an outdoor learning environment makes an incredible difference in supporting and encouraging physical activity.

#### **Social health benefits.**

*"All those hours exploring the great outdoors made me more resilient and confident."*

*David Suzuki (Gen Twenty, 2015)*

Moving the classroom outside changes the dynamics of the classrooms and positively impacts the social behavior of the students. Research has shown that “outdoor and wilderness settings are important for how they help strip away layers of urban stress, inhibition, and pretense and breathe new life and motivation into individuals” (Walter, 2013, p. 153). This new attitude and motivation that is felt after being in the outdoors really benefits the overall classroom environment and adds to the positive relationships of the students. Studies have revealed that place based learning in the outdoors supplemented the curriculum well, and that these outdoor experiences had a positive influence on the social relations with the students and between the students and teachers (Fagerstam, 2014, p. 59). Dymont (2005) suggests that “moving the classroom outside may lead to different and more versatile activities, as well as more cooperative play with more civil behavior” (as cited in Fiskam & Jacobsen, 2013, p. 77). Research has revealed that green school grounds encourage more prosocial behaviour (Ernst & Torquati, 2013, p. 206) and that “through exposure to the outdoor setting individuals learn about ... personal relationships with others and their inner Self” (Quay, 2013, p. 143).

Learning outside the classroom, on the school grounds, or in another natural setting, enhances the learning environment by reducing some of the conflicts that may arise within a regular classroom. “Outdoor and natural contexts allow children to be more self-directed in their activity and provide opportunities for children to negotiate and resolve arguments without adult arbitration” (Prince et al., 2013, p. 186). Research demonstrates that when children are given the opportunity to be in an outdoor setting they can move more easily from conflict and confrontation and are therefore not as likely to

exhibit signs of frustration or poor behaviour (McArdle et al., 2013, p. 242). Research also shows that playing outdoors has been linked to more cooperative play and greater emotional and social development (Maynard, 2013, p. 285). Studies reveal that the “analyses of dialogues show fascinating insight into children’s social interactions including sustained interchild play and the potential social and educational implications of outdoor play-based learning” (Prince et al., 2013, p. 186).

**Community connection.**

*“There is no Wi-Fi in the forest, but I promise you will find a better connection.”*

*Unknown (Proverbs Way, 2015)*

When learning outside of the classroom, in a local natural setting, students can build stronger connections and shape solid ties to their community. Research has revealed that using outside areas in and around the school grounds might lead to improved opportunities to connect learning at school to the wider community (Fagerstam, 2014, p. 58). It is this connection to the outdoors and the wider community that builds the students’ bond to their surroundings and gives them an appreciation of the natural spaces. Going outside the classroom “is intended to increase the pupils’ sensitivity to their own locale and environmental awareness and to develop a sense of community” (Waite, 2013, p. 415). Students develop a greater sense of community spirit and value of the places around them when they are taken into local environments for classes and exploration (Dillon & Dickie, 2012, p. 21). They learn the importance of place and of respecting their local environs much more, when given the opportunity to interact and learning in them. Highlighting the importance of the school grounds and local areas “helps students develop stronger ties to their community, enhances students’ appreciation for the natural

world, and creates a heightened commitment to serving as active, contributing citizens” (Waite, 2013, p. 415). By interacting with the outdoors, students “become aware of the multitude of sounds, smells, textures, temperatures, and sights” that surround them (Ernst & Torquati, 2013, p. 205). It is through this personal and multisensory connection that students build ties to their place. “Place-based learning can connect out-of-school learners to their communities” (Zimmerman & Land, 2014, p. 79) and build positive thoughts and feelings about the school grounds and local areas.

**Environmental stewardship and awareness.**

*“Unless we are willing to encourage our children to reconnect with and appreciate the natural world, we can’t expect them to help protect and care for it.”*

*David Suzuki (Proverbs Way, 2015)*

Children need to experience the outdoors and feel attached to their local surroundings to be more environmentally conscious and aware. Research has found that many children are lacking a connection with nature and that children in urban settings are particularly disadvantaged in this respect. Long-term negative impact on attitudes and behaviours relating to the environment can occur when children are deprived of outdoor experiences (Dillon & Dickie, 2012, p. 5). Fjortoft (2001) believes that leaving the walled classroom setting to explore and play in local natural environments “contributes to children's interest in and knowledge of nature” ( as cited in Ernst & Torquati, 2013, p. 194). Researchers suggest that having regular positive occurrences in nature may help children acquire a stronger respect for the environment (Ernst & Torquati, p. 194). Research also shows that the more children engage with the outdoors, the more they value and care for it (Dillon & Dickie, 2012, p. 22). Taking students

outdoors to learn on the school grounds, local parks, and in natural settings, builds an invaluable awareness and connection to the outdoors and the community. It is “through exposure to the outdoor setting [that] individuals learn about their relationship with the natural environment, [and...] between the various concepts of natural ecosystems” (Quay, 2013, p. 143). Beames and Ross (2010) suggest that it is these experiences that build an “increased connection with the students’ surroundings” (as cited in Fagerstam, 2014, p. 59). Researchers reveal that being in the outdoors as a child promotes positive environmental awareness in adulthood. Spending time in the wild is also positively linked with environmental behaviours (Dillon & Dickie, p. 5). An attachment to the outdoors, learning outside the classroom walls, and building connections to the local, natural settings, builds stronger ties to the environment and an awareness of the importance of the outdoors. Research shows that “hands-on contact with nature is not only essential for protecting the environment but appears to be a means of cultivating community and enhancing the mental health and wellbeing of children and adults alike” (Dillon & Dickie, p. 22). In place-based education, repeated familiarity with one place is thought to develop place meaning and attachment leading to greater care for the environment and a form of environmental habitus” (Waite, 2013, p. 425). Students need to explore their surroundings and the outdoors to develop an attachment and connection to it. This personal connection is makes children more environmentally aware and conscious.

**Motivation and learner engagement.**

*“I am unboreable in the great outdoors.”*

*P.J. O’Rourke (Brainy Quote, 2015c)*

Place-based education is such a powerful, motivational, learning experience for students, because it takes them away from the routines of the classroom setting and into a more engaging environment. Studies have found that “school-based outdoor learning in the school grounds [is] associated with positive feelings and increased motivation by the students to such a large extent it could well be one of its most important potentials” (Fagerstam, 2014, p. 77-78). Researchers have suggested that the most significant element in motivation of students is the desire to be in the learning environment (Doering et al., 2010, p. 491). The natural environment is an inviting and appealing site for the students to engage all their senses and be removed from the mundane and routine activities that occur inside the classroom. Fagerstam explains that “students [seem] to be highly motivated by school-based outdoor teaching, even while, for some of them, it [takes] time to understand that outdoor lessons [are] actually lessons, not recess” (p. 77). A further benefit of being in a natural setting is that students are challenged and feel a sense of excitement (Maynard, 2013, p. 284). Learners are engaged and focused in the outdoor environment because the “novelty and freedom can be highly motivational” (Waite & Davis, 2007, in Waite, 2013, p. 419). Students are inspired to learn in the outdoor setting because of its power to “breathe new life and motivation into individuals” (Walter, 2013, p. 153).

**Impact on learning.**

*“Earth and sky, woods and fields, lakes and rivers, the mountain and the sea, are excellent schoolmasters, and teach some of us more than we can ever learn from books.”*

*John Lubbock (Proverbs Way, 2015)*

It is clear from past research that going outdoors engages and captivates the learner. The benefits of outdoor learning, and in particular place-based learning, cannot be achieved in a classroom. Research has shown that interest and motivation are standard indicators of cognitive engagement (Doering et al., 2010, p. 491); these two indicators are clearly present during outdoor learning. “The importance and benefits of outdoor education programs includes expanding individuals' potential, knowledge, and improving and sharpening the intellectual ability of students” (Harun & Salamuddin, 2013, p. 16). Outdoor activities in local settings “add significance and support the curricula in creating a better student both in academia and in extra-curricular areas” (Harun & Salumuddin, p. 16). Place-based learning expands the boundaries of the lessons to include “opportunities for unstructured play, structured and unstructured learning about nature, and opportunities for social interactions among peer dyads, small groups, and large groups” (Ernst & Torquati, 2013, p. 206). The enhancement of learning and the enjoyment of the student brings with it incredible educational benefits. Malone (2008) reveals that “environmental-based education makes other school subjects rich and relevant and gets apathetic students excited about learning” (Dillon & Dickie, 2012, p. 17). Fiskam and Jacobsen (2013) further suggest that the “ability of critical thinking is enhanced outdoors, especially for pupils who are at an average level or below an average level in academic skills” (p. 80). The outdoor setting benefits the students by “enriching the learner experience making it more active, collaborative, challenging, enjoyable and engaging” (Mannion et al., 2015, p. 36). Ofsted (2008) believes that learning in natural environments and having valuable “first-hand experiences... can help to make subjects more vivid and interesting for pupils and enhance their understanding... [and] could

make an important contribution to pupils' "future economic wellbeing [by] preparing them for the next stage of their lives" (as cited in Dillon & Dickie, 2012, p. 5). Exploring the school grounds and other spaces in the community brings a wealth of experience and learning opportunities to the students. "The value of including other places lies in the opportunity to engage in different cultural practices and social relationships and thereby increase flexibility and adaptability, key skills for their future" (Waite, 2013, p. 425). Being outdoors "offers unique opportunities for learning because both physical activity and abstract thinking are combined. This combination stimulates the learning process in a different way compared to classroom and traditional schooling" (Mygind, 2007, p. 163). The benefits of outdoor learning are especially profound for students who might have some learning challenges in the regular classroom setting or who might learn differently. Maynard (2013) found that "frustration and negative behaviour demonstrated when children were faced with teacher-directed activity in the classroom – particularly activity that these children found challenging – was less likely to occur" when learning was taking place in the natural setting (p. 220). The outdoors seems to benefit the struggling learners because it is able to "support and amplify the effects of child-initiated learning and to diminish (the perception of) underachievement" (Maynard, p. 223). The integration of the outdoors across the curriculum opens up many possibilities for learning. Outdoor learning is "associated with the greatest enhancement of 'challenge and enjoyment' across all sectors" (Mannion et al., 2015, p. 34). Ofsted (2008) notes that "when planned and implemented well, learning outside the classroom contribute[s] significantly to raising standards and improving pupils' personal, social and emotional development" (Dillon & Dickie, 2012, p. 6). Experts indicate that "nature is a living

laboratory which is a rich source of knowledge. It can be integrated with practices that can enrich the experience and foster the values for healthy individuals to produce mental, spiritual and physical assimilation” (Harun & Salamuddin, 2013, p. 16). Fagerstam (2014) suggests that the best learning occurs when “the school surroundings are used as a learning arena but also as a source of knowledge. If those conditions are realized, the potential for problem-based, practical, playful and creative ways of learning is unlocked” (p. 57).

### **Limitations of Place-based Learning Research**

Research and experience suggest that learning outside the classroom, using place-based education, is beneficial and advantageous to everyone. The rewards of this type of learning are well documented; clearly, outdoor education is important to the well-being of both students and educators. There are, however, many reasons why place-based education, and learning outside the classroom in general, are often overlooked and ignored. Studies have shown that many obstacles have prevented teachers from venturing outside the classroom walls, such as an inflexible and crowded curriculum, lack of student interest, and poor weather conditions. Research has also revealed that teachers are concerned about managing behaviour outside, uncertain about how to appropriately use the natural setting to enhance teaching and learning, and nervous about leaving the comforts of the classroom; there is also a belief that some subjects are not conducive to being taught outdoors in the natural environment (Ernst & Torquati, 2013, p. 195). Ernst and Torquati (2013) explain that often the reason for not wanting to visit a particular site is the possibility of safety concerns or hazards (p. 205). These reasons are all legitimate concerns for the refusal or rejection of place-based outdoor learning. Researchers have

revealed that “it has been clear for some time that children’s access to learning outside the classroom still depends far too much on where they go to school and who teaches them” (Dillon & Dickie, 2012, p. 6). If the teacher does not have the confidence or see the value of going outdoors on the school grounds or in the community, then the students will not have this opportunity provided to them. Experienced teachers may continue to teach the way they have done for many years and might not see a reason to change their way of teaching. Beginning teachers might lack the expertise, interest, or confidence in teaching outside a classroom. Many younger educators are part of a generation that had limited exploration of the outdoors, and therefore might lack the experience necessary to value teaching in alternative environment (Ernst & Torquati, 2013, p. 206). Teachers must be taught the importance of the outdoors and shown how to incorporate place-based learning into their teaching.

Research in the area of outdoor education fails to show all the advantages that can arise from this type of learning. Dillon and Dickie (2012) reveal that

For too long, [...] research into the benefits of LINE (learning in the natural environment) has failed to address the full range of benefits. Instead, there has been a narrow focus on easily measurable outcomes and a desire to seek simple answers to simplistic questions such as ‘does LINE raise standards more than learning in the classroom?’ ( p. 13)

Dillon and Dickie claim that “the evidence on the benefits of learning outside the classroom in natural environments was [...] fragmented, which inhibited communication of a compelling rationale” (p. 5). In addition, Humberstone (2009) reveals that “it has been argued that much research in outdoor learning has been undertaken and represented

in ‘splendid isolation’ without recourse to research and theorising from the major disciplines” (as cited in Stan & Humberstone, 2011, p. 529).

### **Conclusion**

In conclusion, place-based learning and all its immense benefits and ample opportunities are very worthwhile to explore. The outcomes of learning outdoors in local natural settings is vast and far reaching. Some of these outcomes involve “benefits arising from educational attainment, attitudes to other children, awareness of environment and natural science skills, behavioural outcomes and social cohesion, health benefits, school staff morale, and a more attractive school (aesthetically and to prospective parents)” (Eftec, 2011, as cited in Dillon & Dickie, 2012, p. 15). Researchers propose that

It is important that we continue to provide opportunities for our students to discover for themselves the value and pleasure of learning outdoors through the provision of experiences that capture their imagination, require their agency and involvement, and which call for initiative, resilience and active citizenship.

(Beames & Brown, 2013, p. 129)

It is imperative to take children beyond the classroom walls and into the great outdoors. Learning outside the classroom on the school grounds and in local, natural settings, offers unlimited potential for learning and great benefits for educators and learners.

As Walter (2013) puts it perfectly, “whatever your educational practice, whatever your digital learning and teaching style, get outdoors” (p. 157).

### Chapter Three: The Outdoor Teacher Website

When thinking about a project, I wanted to pick a topic that would be interesting to complete, and that would benefit, not only me, but also my colleagues and other educators. The goal of the project was to encourage teachers to take their classes outside, by providing them with ideas for outdoor learning, with supporting research and evidence. The website ‘Outdoor Teacher’ ([www.outdoorteacher.ca](http://www.outdoorteacher.ca)) has been created especially for educators who might be nervous about leaving their classrooms, because they lack familiarity or experience with the outdoor areas in the community. The aim is to help teachers see all the hidden ‘gems’ that can be found in the outdoors, whether at a park, a pond, in the forest or at a local farm or beach. *Outdoor Teacher* is designed to provide teachers with many activities and lesson ideas, and encourage them to get outdoors to share the wonders of the outdoor classroom. It is hoped that this resource will remove some of the hurdles and obstacles associated with taking classes out of the classroom, and will reveal the positive outcomes that can come from learning in the great outdoors.

This chapter presents the rationale for including an expanded literature review as part of the project, the importance of three learning theories in fully explaining place-based education, the reasons for creating the *Outdoor Teacher* website, and a thorough review of the site and corresponding example activities.

#### **Expanded Literature Review**

The rationale behind the size and breadth of the literature review was needed to show evidence based work and to influence appropriate decision making. The depth of study was crucial to add significance to the project work and to help influence educators,

through the use of important research. The broad search methods of the research were needed to show the immense benefits of going outdoors. The research included place-based learning, the benefits that come with just being outdoors, the complications associated with sedentary children, healthy lifestyle choices, and nature deficit problems. There were an abundance of topics to cover and material to coordinate, in order to build an extensive and cohesive literature review.

Three learning theories are examined, to help reveal the many benefits of outdoor learning. Experiential learning theory demonstrates how first-hand experience outdoors benefits the individual's learning. Motivation model is reflected by the highly interesting and motivating stimuli of the outdoor environments of place-based education. Lastly, attention restoration theory outlines the important health benefits and restorative characteristics of being outdoors. Together these theories show that being outside and experiencing the natural environment connects us to the outdoors, gives us a greater appreciation for the community as a whole, and improves our health. Furthermore, being outdoors connects the learner to the environment, increases engagement and motivation and encourages the students to be more environmentally conscious.

### **Website Overview**

*Outdoor Teacher* was created as a resource for educators, or anyone interested in exploring the outdoors, to show the benefits of place-based education. The site has been designed primarily for teachers of elementary school children from Kindergarten to Grade 7, but many of the activities could be adapted or modified to suit the students' needs and abilities, and to correspond to curriculum outcomes for specific grade levels. The research and analysis in the literature review were based on Kindergarten to Grade

12 learning initiatives; therefore, the benefits of place-based learning, listed on this site, apply to all ages of children. The site shares important research to validate the ideas, shares many activities to consider doing with children, communicates the considerations to think about before venturing outdoors, and reveals a mapping tool to assist in planning outdoor lessons on or near the school grounds.

**Home page.** The home page was created as an inviting first page, with a slideshow of pictures taken around the community of Delta. Lower down the page there is a wordle (or word collage) of many of the words and benefits that are associated with place-based education, giving a quick snapshot of what can be attained by using outdoor spaces in teaching. Finally, a summary of possible learning outcomes is included. The different parts of the home page are designed to pique the interest of the viewers and encourage them to peruse the other pages on the site. It is through these pages that teachers can access all the activities, ideas, and resources presented, to assist in the planning of outdoor lessons with children.



Each outcome has a link to a separate document that shares a wealth of research and documentation to support the importance of being in the natural environment.

## Research

A return to putting an importance on the outdoors and experiencing nature is a must for 21st century learners. Increasingly, in our digital age, children are less and less likely to have a powerful connection to nature. Children, parents, and teachers, need to be shown and understand the important benefits of being outdoors. The use of the outdoors expands and changes what can be taught and enhances the learning possibilities. The use of outdoor learning, be it on the school grounds, in a park, a close community location, or wherever it may be is a valuable learning experience that cannot be replicated in the classroom.

Taking advantage of local natural places to enhance learning offers a wide array of benefits.

They include:

1. Forming a strong educational identity
2. Forming a close connection to the community
3. Mental health benefits
4. Social health benefits
5. Physical health benefits
6. Improvement in motivation and engagement
7. Enhancement of learning
8. Positive environmental attitudes




Figure 2. Research page of [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

**Outdoor activities.** The outdoor activity page contains activity ideas that can be used ‘as is’ or modified as needed. In this section, educators can access an array of lesson possibilities to try on the school grounds, or at various outdoor areas in the community.

This page has been separated into sections. Each section sorts the activities by location (see Figure 3), season (see *Figure 4*), and subject (see *Figure 5*), to facilitate finding an activity that might work for an educator on any given day. The site is designed to be accessible to all educators looking for outdoor lesson ideas. Hopefully, once other educators have seen the great variety of lessons to try, they will keep coming back for more ideas. Educators are invited and encouraged to offer feedback and suggestions to further develop the website.

Many of these activities are ones that I have created and tested or that I want to try in the future. Some are activities that have been adapted and inspired by various sources, such as scholarly articles, children's picture books, outdoor education books, television programs, and outdoor games. Other information and activities were gathered from personal experience playing in the outdoors and from attending ranger talks at provincial campsites.

## By Season

\*Many of the following activities can be done in any season

### Fall Activities

Making pictures out of the leaves/sticks/rocks to make a scene – can be individual or in pairs. Read **Look What I Did With A Leaf** by Morteza Sohi and show some examples of what can be done with found items outside and then have the children make their own.

Read **Then It Rained** by Crystal J. Stranaghan on a rainy day. Talk about the themes in the story and then as a class come up with activities that they could do outside on a rainy day and then things that they can do inside if it is ever an "inside day." Give the class some time to do some of the outdoor activities that they come up with as a group.

Take out colour swatches and see if the class can find things in the outdoors in all the example colours



Give each student 4-6 coloured small thumbnail size pieces of paper and then they have to look for and make notes about items that they find in a journal. Example Page

Catch the falling leaf – stand below a large tree and try to catch a falling leaf. Spread the group out between different trees to avoid collisions. See who can catch the most. Get some leaves and trace them and overlap them onto a piece of paper and do different fall colours in each closed section of lines

Make a weather station

Story time – read aloud outside or have the children silently read out of the classroom

Go outside and observe the signs of fall and the changes happening all around from day to day, week to week in the plants/trees/animals/ground, etc. Could record observations in a journal (drawing journal)

Go on a nature walk and look at the changing colours and signs of fall. Have the students record what the notice in a journal.

Listening Time – Go outside on the field or in a forested area near the school. All students close their eyes and listen very quietly to what they can hear. Try to record all the sounds they can hear and figure out what is making the sounds, individually or in pairs. What the sounds might mean, etc

Spider Web – search for spiders and make observations. Research to find the type of spider and then compare observations with facts.

Wildlife Search – look for signs of wildlife in the soil, on the trees/leaves and try to find tracks or evidence of animals (examples – spiderwebs, snail trail, chewed leaf, tracks, feathers, skins, nests, shells, etc)

Cloud watch – lay on a blanket and watch the clouds. Make observations (do this on multiple days with different types of weather). Research/Teach types of clouds.weather

Figure 3. Season section of Outdoor Activities page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

## Winter Activities

If it snows – go sledding and tobogganing on a local hill

Decorate the trees on the school grounds for Christmas with biodegradable ornaments



Make food for the animals and hang outdoors. Examples could be dried orange and apple wedges, home-made suet, seeds, pine-cones dipped in peanut butter, etc. (\*check allergies\*)

Have snowman building or snow fort constructing contests

Catch snow crystals and snowflakes – observe and study the similarities and differences and make notes

Make clouds with your breath – talk about how clouds form and why a breath makes a little cloud

Observing bare trees – look the bare trees and compare shapes/branches/signs of winter. Sketch a tree and then have a find the nests challenge where the students look for all the different signs of

nests now that the trees are bare.

Snowy Tracks – look for all the signs of tracks in the snow and notice tracks and trails and make theories/ideas from where they are found, what animals they are from, or what the tracks are doing. Then have relay races in the snow and make snow angels

Animal Search – what are the animals doing to keep warm (squirrels using their tails, birds fluffing feathers, etc). Where can they find shelter from the cold? What are the signs of animals being around?

Build a fire in a fire pit and roast marshmallows or have a wiener roast/barbeque. Make some homemade stick bread over the campfire. [Example Recipe](#).

[Example dessert recipes over the campfire](#)

## Spring Activities

Go outside and observe. Observe the ground, the trees, the animals, everything. Look for signs of spring and do it again every week to notice the changes everywhere.

Observe the flowers – the colours of the petals, the size and shape. Look for the organisms (bees, butterflies, etc) that are visiting the flowers and make notes. Read **Step Gently Out by Helen Frost** and look closely for signs of life on the flowers and branches, etc.

The Colour search – have a theme day about a colour to find in nature. Start with green and notice all the different shades of green and where they can find it that may surprise them (rocks, trunks, etc)

The Silent Game / Listening Walk – Read **The Listening Walk by Paul Showers** and then listen to all the sounds of nature and record what and how often. Could be birds, trees, insects, water, etc without making any outside noise.



Figure 4. Season Section of Outdoor Activities page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

## By location

\*Many of the following activities can be done in any location

### **School Grounds / Park**

Do the outdoor playground circuit (many schools have playground circuits created by Action Schools BC) already done

Ants in your pants – go looking for ants and observe them. What they do, where they go, anything interesting happening. Go back in and research the ant and share notes.

Go outside and observe the signs of fall and the changes happening all around from day to day, week to week in the plants/trees/animals/ground, etc

Cloud watch – lay on a blanket and watch the clouds. Make observations (do this on multiple days with different types of weather). Research clouds

Gravity test – drop different objects from nature observe how it falls. Throw different pieces from nature and observe how it falls (leaf, feather, dandelion flower, etc)

Planting – plant bulbs for spring

Create a garden and plant vegetables

Plan a winter garden for the animals – what to plant for shelter and food for the animals. What will grow in late fall/winter?

Decorate the trees on the school grounds for Christmas with biodegradable ornaments

Make food for the animals and hang outdoors. Examples could be dried orange wedges, home-made suet, seeds, pine-cones dipped in peanut butter,etc. (\*check allergies\*)

Observing bare trees – look the bare trees and compare shapes/branches/signs of winter. Sketch a tree and then have a find the nests challenge where the students look for all the different signs of nests now that the trees are bare.

Worm Hunt – search for worms after a rainfall and observe everything about them, from how they move to what they are doing. Go back into class and research to find out how much information they got correct from their observations about the worms.



Figure 5. Location Section of Outdoor Activities page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

## By Subject

### Physical Activity

Do the outdoor playground circuit (many schools have [playground circuits created by Action Schools BC](#))

Walk or jog the paths or perimeter of the field/park

Play outdoor games (bocce, ladder ball, croquet, badminton, etc) on the large field

Playing a round of [frisbee \(disc\) golf](#), or play lawn games or team games on the big fields

Running up and down local hills

Do track and field training in the park (relay passing, softball throw and shotput, sprints and distance running)

Follow that Log (Hide and Seek) – have two people drag a big log through the forest and then hide with it somewhere. Then rest of the class has to track the two that are hidden and find signs of where they went dragging the log (Taken from I love my world)

Play capture the flag

Play survival

### Socials Studies

[History of the park](#), orienteering (mapping, using a compass, and directions)

First Settlers, Immigration

Orienteering/Learning Directions

Mapping – Make a 3-D aerial map of the school grounds using found objects outside – talk about scale and distance and see how the designs happen

Map scavenger hunt/treasure hunt – draw a map of somewhere on the school grounds and then see if another student can find exactly where their X on the map is referring to (leave a small X on the ground with twigs or rocks to help other student find their spot)

Teach knots – make some small structures using twine and sticks

Shelter Building



Figure 6. Subject section of Outdoor Activities page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

**Sample activity 1.** In the Spring Activities section of the outdoor activity page, a lesson highlights Helen Frost’s book, *Step Gently Out*, to show the beautiful photography of different organisms that can be found if you look closely at nature. This book, which shows close-up pictures of ants, wasps and caterpillars, will get the students motivated to search for signs of bugs and animals outside. The students will then try to notice clues as

to where certain insects might be hiding in the forest, park or garden. The students can then choose one of the insects to observe and make notes about its behaviour and characteristics. These notes can then be shared with the class or presented in a visual journal or art project.

**Sample activity 2.** In the Fall Activities section of the outdoor activity page, a lesson involves sharing the book, *Look What I Did With a Leaf*, by Morteza Sohi. The book shows many interesting arts and crafts designs that can be created with objects found on the forest floor. These include items such as leaves, pine cones, sticks, twigs, rocks, and other natural treasures no longer attached to something living. Once inspired by the example photographs, students can go on to make their own creations, following examples to replicate the pictures from the book or using their imaginations to make new creations. Teachers could take photographs of the students' artwork, or use other materials and methods to preserve the pieces. A group collage or scene could also be made to showcase the class's designs.

**Sample activity 3.** In the Spring Activities section of the outdoor activity page, there is another idea for a lesson about going into nature to observe, study, and compare the habitats of different animals. For example, if a teacher is studying bird habitats with their class, they could go outside and have the students try to build a bird's nest, using only the materials that a bird can use. They could then compare their nest to a real bird's nest, discussing the similarities and differences, as well as any challenges they faced. Students could then further conduct research about the habitats of local birds. This might also be a good activity to complete before or after a field trip to a local site, such as the Reifel Bird Sanctuary.

**Sample activity 4.** Another simple idea for an outdoor activity is going into a forested area near the school or quiet part of the school grounds to read some haiku poetry to the students. This could be followed by having the students create their own poetry, while sitting outside in the natural setting.

**Sample activity 5.** An activity listed in the Forested Area section of the Activity Page is a fall scavenger hunt. This activity will get the class familiar with the local area and what is located in the natural setting. The activity will get the students outdoors and help them become comfortable going outside as a group to explore their surroundings. At the beginning of the school year this can be a good team building activity because students work cooperatively in groups with their new classmates. See Figure 7 for an example scavenger hunt that can be fun to try in a forested area.

**Scavenger Hunt**

Team Member's Names: \_\_\_\_\_

\_\_\_\_\_

Time to Complete : \_\_\_\_\_

Number of items not found or names spelled incorrectly \_\_\_\_\_

(5 minute penalty for each error or item missing)

At the signal, you and your group will look for the following objects within the designated boundaries. Please collect the found objects in the container given to your group. Don't forget to follow the directions below before calling an adult to validate your findings.

**\*\*Important Note - the group must stay together\*\***

**Remember** - nothing can be broken or harmed from nature. All items must be found without harm to any plants or animals.

1. Two Heart shaped rocks
2. One feather
3. Something red (not clothing)
4. Three coloured stones, each of a different colour (not grey or black)
5. Something tremendously unique
6. One piece of wood in the shape of animal from British Columbia
7. One pine cone
8. One 'Y' shaped stick
9. One wishing stone (a stone with a white line around its circumference)
10. One object that looks like a face
11. Three leaves that have fallen (each from a different type of tree)
12. One stick in the shape of an eight
13. Something that does not belong here
14. One fluffy piece of moss

Now that you have collected everything, arrange your items in order (#1-#14) at the meeting place. Above all your items, spell each of your teammate's names using found objects from the forest.

*Figure 7.* Scavenger hunt activity in the Forested Section of the Activity Page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

**Other sample activities.** Some other outdoor activities could be playing summer yard games, such as bocce ball, using the playground circuit designed by Action Schools BC, or practicing track and field events in the park. Teachers could have the students practice orienteering and mapping skills around the school grounds, read first nations

legends in the outdoors, or simply silent read with a good book on the grass. The possibilities are truly endless. Many of the activities require the same or less preparation than a regular classroom lesson, but with the added benefits and motivational factors involved in the outdoor experience.

The *Outdoor Teacher* website also has a page about considerations and things to think about before venturing outdoors. This section was created because the concerns and challenges that many educators have are real and need to be addressed. This page is useful to help combat the fears and perceptions that some people have with place-based learning. Some of the possible obstacles are outlined, with quick explanations about how to alleviate the specific problems that might prevent teachers from going outside. One possible deterrent for going outside includes inclement weather, which can be avoided by ensuring students always come to school with outdoor clothing, such as jackets, mittens, rain gear, and an extra change of clothes. Another constraint includes a crowded curriculum; however, with proper planning, outdoor activities will cover many learning outcomes at once. Safety concerns and poor behaviour are often seen as major detriments; however, when teachers actually attempt outdoor lessons with their classes, they will more than likely be pleasantly surprised by the behaviour and motivation of the students, especially after the initial excitement subsides.

### **Considerations**

The site also lists some considerations to plan for before leaving the school grounds. Whether the class is just going outside on the back field for the afternoon or on a walking field trip to a local park, many of the preparations are the same. The site outlines the importance of visiting the site ahead of time, to learn about the area and plan

for any possible safety concerns or issues that might affect the lessons or learning. Other considerations include: knowing where the washrooms are located, preparing for cleanup, having emergency contact sheets and any forms filled out, determining if adult helpers might be needed, bringing a cell phone, first aid kit, and any medications required by the students, as well as properly notifying the school and parents of the plans for outdoor learning. These considerations can play a major role in making the outdoor experience a successful one.

## Considerations

Research and experience suggest that learning outside the classroom, using place-based education, is beneficial and advantageous to students. The rewards of this type of learning are well documented; clearly, outdoor education is important to the well-being of both students and educators. There are, however, many reasons why place-based education, and learning outside the classroom in general, are often overlooked and ignored. Studies have shown that many obstacles have prevented teachers from venturing outside the classroom walls.

These include:

1. **Inflexible and crowded curriculum** – with proper preparation, most of the curriculum can be efficiently taught outdoors. Often, the outdoor setting will allow for multiple learning outcomes to be covered at once (e.g. PE outcomes or Math outcomes combined with Science), which will in fact make it easier to teach the expanding curriculum
2. **Poor weather conditions** – students should always be prepared for weather conditions and should come prepared for being outdoors (bring a change of clothes, warm jackets, boots, gloves, sunscreen, hat, etc, depending on the season. A note should be sent home, when possible, to remind parents to make sure their children are dressing for outdoor learning.
3. **Lack of student interest** – The outdoor environment is very motivating and engaging; activities outdoors will most likely improve student interest significantly. If a child seems disinterested in a particular outdoor activity, try to get him or her involved in leading or modelling some aspect of your activity.
4. **Student Behaviour** – Outdoor lessons are exciting and can be overwhelming at first, causing some students to behave inappropriately. Make your expectations clear before going outside, clearly outlining what is and is not acceptable. Once you have tried a few lessons outdoors, the initial excitement will subside, and student behaviour will more than likely be exemplary. When kids are motivated to learn, they are usually well-behaved
5. **Safety Concerns** – There will always be safety concerns to be aware of in any new place, so the more you are prepared ahead of time, the better. If possible, check out the outdoor space ahead of your lesson and take note of any concerns you have. Before taking your class outside, go over the safety guidelines.
6. **Nervousness / Lack of Confidence** – The more you try place-based learning, the more comfortable you will feel. When you see how great the outdoor experiences can be for you and your students, you will gain the confidence to keep trying more. Start small and see how it goes!

### Cautions and Considerations

1. Go to the site first and see what it looks like and prepare for any unknowns
2. Is there a public washroom nearby? Plan ahead
3. Bring plastic bags and paper towel/ toilet paper for any garbage or student sickness
4. Bring an emergency contact sheet (including the schools phone number) and class list for attendance
5. Let the school know where you are going and for approximately how long
6. Think about the need for parent or other adult helpers/volunteers
7. Do you have permission from the parents for walking field trips or need a permission form
8. Bring any medication (puffers, epi-pen, etc) and first aid kit

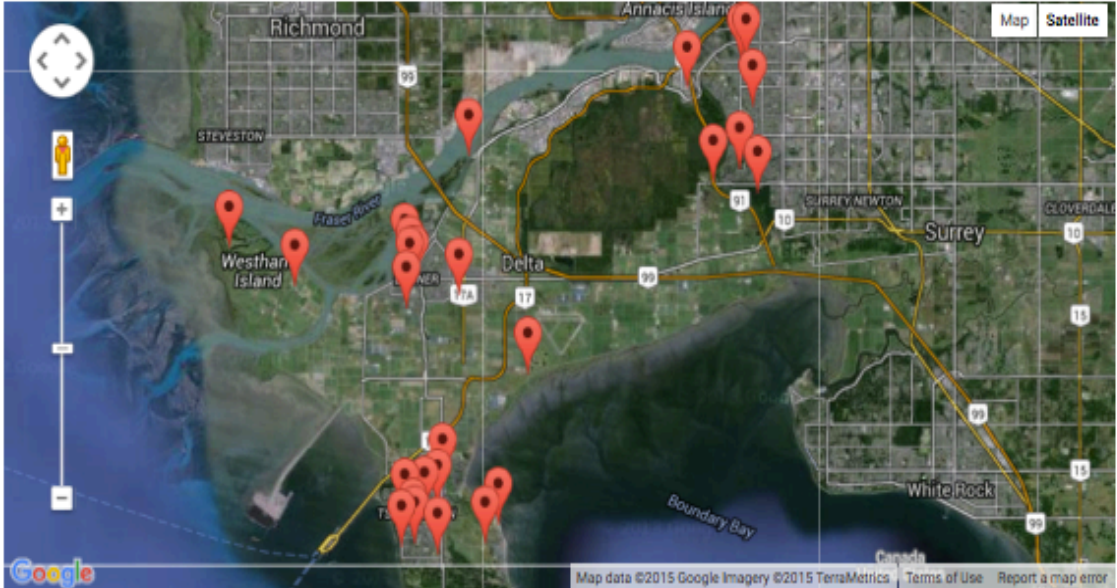
Figure 8. Considerations page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

### Spaces for Delta

*Outdoor Teacher* also has one page specifically designed for the Delta School District, titled, *Spaces for Delta*. This page was designed as a reference to share with colleagues from the Delta School District, to offer guidance and support for outdoor adventures in the community. This page indicates the location of many local sites they

could visit away from school grounds. These spaces include parks, walking excursions, and other outdoor field trip locations in the district. When applicable, there are also links to websites where more information can be found about the specific sites. There is also a link to the outdoor activity page on the website, where teachers can find possible activities to try in the local natural settings.

## Spaces For Delta



The list below shows many of the outdoor spaces to discover beyond the school grounds in Delta with some possible ideas for lessons.

There are also many more ideas and activities on the [Outdoor Activity Page](#).

Have fun and try some new outdoor lessons.

You and the children will love it!

Places to explore beyond the school grounds in Delta include:

**In Tsawwassen**

- [Diefenbaker Park](#)
- [Winskill Park](#)
- [Fred Gingell Park](#)
- [Centennial Beach and Boundary Bay Regional Park](#)

Figure 9. Spaces for Delta page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

# Diefenbaker Park

**29**  
SEP 2015

by admin | posted in: Uncategorized | 0

Diefenbaker Park is located at 5579 1st Avenue in Tsawwassen, BC, Canada. It is a large beautiful setting with a water park, pond with fish, turtles, and ducks, a large picnic area, playground, forested area, big field and hills, and a public washroom.

\*Wheelchair accessible\*

There are many great activities that can be done here.

Some Examples

**Physical Activity** – walking or jogging the the path around the park, running up and down the hills, or playing lawn games or team games on the big field

**Winter Activities** – if it snows the hills are perfect for sledding and tobogganing

Decorate the trees near the water park and wooden bridge for Christmas with biodegradable ornaments to complement the lighting of the park by the Tsawwassen Rotary (contact for more information)

**Team Building** – Walk to the park and then do a Mini Sports Day or Outdoor Lawn Games and then eat lunch at the picnic area/gazebo

**Science** –

Using microscopes – collect some samples from the edge of the water to study under the microscope

Diversity of life activities – Pick an organism in the park and do a **research assignment** on it. It can be from any Kingdom as long as it is found at the park. Here is a **possible assignment about an organism**

Explore the forest creatures and plants with jewellers loupes and magnifying glasses

**Art / Photography** – Beautiful pond, forested area, lots of nature shots possible for inspiration

**Poetry** – use the gazebo to teach a style of poetry and then have the kids use the park for inspiration  
or read nature poetry in the forest and then have them write their own

Figure 10. An example page of a space for Delta on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

### About Scott

The next page on the *Outdoor Teacher* site is *About Scott*, which gives a quick note about me and how I can be contacted or followed on Twitter. The picture on this page, which is the same one I have on my Twitter page, was taken at the George C.

Reifel Bird Sanctuary, where my family regularly visits. Also included on this page is brief summary of my teaching philosophy of needing a balance between technological advancement, different styles of instruction, working inside the classroom, and place-based education.

### **The Blog**

The *Blog* will be the page where new material and updates are shared. New posts will convey fresh ideas, important links, interesting websites, or pertinent information about place-based education and outdoor learning. The blog will communicate a vast array of information relevant to the topic of learning outdoors, to support and encourage other educators to go outside with their class.

## “Life is Life”

13  
NOV 2015

by admin | posted in: Uncategorized | 0

Saw this on Twitter today from Kids Connect (@KinderFynes) It is a good reminder to get outside. It does not matter where you live or how much green space there is. Get onto the playground, into the soil and ... [Continued](#)

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## Upcoming Webinars from Green Teacher

10  
NOV 2015

by admin | posted in: Uncategorized | 0

A Winter of Webinars! Green Teacher’s upcoming webinars are an interactive way for educators to continue learning about key environmental topics. Our professional development webinar series features some of the most important thinkers in the field of environmental education addressing ... [Continued](#)

Figure 11. Blog page on [www.outdoorteacher.ca](http://www.outdoorteacher.ca)

### Conclusion

While completing this project, there have been numerous articles to read, many books and theories to look at, and stacks of important information to gather and coordinate. The topic has grown from a passion of mine to one that now has a wealth of research to validate its importance. The research substantiates the ideas and activities

shared on [www.outdoorteacher.ca](http://www.outdoorteacher.ca). I discovered many great ideas and activities, along the journey, that can be completed outside the classroom, to encourage place-based learning. I have found excellent resources to explore and share, established a network of educators to collaborate with, and gained considerable knowledge on the topic of place-based learning. I have created a website to help encourage this style of learning. The work has been enlightening, exciting, and rewarding.

This website is intended to be a resource that will continually grow and change over time, as new ideas and innovative activities are discovered. It will hopefully be a tool that all educators can benefit from, whether it be with the evidence based research, activities to try on the school grounds, considerations before leaving the classroom, or new places to visit in the community. I want other teachers to use and adapt the content of the site and to make the activities and ideas work for their specific outdoor spaces. With more and more exposure and exploration, “the public at large will respond to the evidence” (Louv, as cited in Ward, 2008, page xi-xii) and use the outdoors to a greater extent. *Outdoor Teacher* is there to help in any way it can, to promote, encourage, and share all that place-based education has to offer.

## **Chapter Four: Reflection**

I have learned throughout my years of schooling, from my elementary school days all the way through university and my master's degree work, that the need for reflection and self assessment is key to my personal growth. I have found that taking time to reflect about the various aspects of my life, whether it be my sporting endeavours, employment opportunities, investment possibilities, or personal matters, has been crucial to my ongoing success. This reflection process has been necessary to support my thinking and direct or redirect me to make the right decisions in my life. Throughout my master's program studies at the University of Victoria, I demonstrated the same work ethic I always have, putting forth a great amount of effort into shaping not only my professional development, but also my growth as an individual. This chapter will summarize my experiences before beginning my master of education journey, outline why I chose this program of study, how I picked my research topic, summarize the project, and explain how I foresee this experience impacting my career, after graduation.

### **Background**

There have been incredible changes and technological advancement since I last attended university, in the 1990's, for my undergraduate and teaching degrees. I remember registering for classes, at Simon Fraser University, over the phone, spending hours searching for books in the enormous university libraries, and using a computer for nothing more than word processing my assignments. Near the end of my undergraduate program, I signed up for an email account, but this was not the norm for students and I did not use it much until later, after completing my studies.

Technological advancements have exploded during the past 20 years. When I first began teaching in the late 90's, students used computers to play games and type their work for projects. Computer labs at schools were used to teach educational typing games or simple word processing skills. This was just the beginning of the technological advancements in schools. Nowadays, labs filled with large desktop computers are being replaced by portable carts with wireless laptops, document cameras, iPads, and Smartboards. Students often have their own personal technological devices and are using various media and communication tools.

Upon reflection, I was considering going back to school to complete a Master's degree. It was challenging to find an interesting program that would be valuable to my present situation or future career aspirations. The Technology and Innovation in Education Master's cohort offered through the University of Victoria fit the criteria for what I wanted to accomplish and learn. The program offered a good timetable, with intriguing course content. Although overwhelmed by the rapid development of new resources and technological advancements of the 21st century, I wanted to be able to learn and implement new innovations in my teaching. This program would help me to achieve a broader understanding of the newest technology available. I wanted to be current and innovative in my practice, and meet the needs of my students in the modern world. I knew this program would be a real challenge, considering my lack of experience in so many areas that would be covered, but I wanted to complete a program that would truly be valuable, not one that would simply give me a degree.

On many reflective moments throughout this journey, I admit seriously questioning the decision to enroll in a program based on technology, which is an area of

weakness for me. I can honestly say that, at times during the Master's program, I have never felt more exhausted or overwhelmed, never had more work to complete, more deadlines to meet or skills to learn. At times I had the feeling that I could not learn everything needed in such a short time frame. Overall, I am glad I persevered, but it has been a very humbling experience.

I have seen and tried many new programs and tools over the course of the degree and feel that I have grown tremendously. I have been studying and learning about many innovative practices and technological tools that I will definitely use, some that I might dabble in every so often, and others that I am glad I saw and touched on, but will probably never use. Throughout the Master's degree program, I have had many valuable experiences, but time and time again I kept thinking that something was missing. For my research and project work, I wanted to incorporate my love of the outdoors with the technological changes and progression happening in education. I believe that there needs to be a balance reached between the new innovations and advancement in technology and other practices and instruction. This belief is why I felt my passion for leaving the traditional classroom walls and venturing into the school grounds and local community, and using field trips to enhance learning, would make for an excellent project topic. All my research has validated my belief that the students' development and learning can benefit from outdoor education and place-based learning. I can now share the results of the literature review and my project work with colleagues and other interested parties, with support and documentation to back up the benefits of this type of learning.

I have always enjoyed being in the outdoors and liked the idea of trying to incorporate different environments and teaching strategies into my repertoire. However, it

took a few years of experimenting before I became truly comfortable venturing out of the school with students on a regular basis. My first few years of teaching consisted of figuring out how to keep up with all the marking, preparation, meetings and curriculum expectations, while still adding my own flair into the classroom. It wasn't until I left the regular intermediate classroom and worked in a low incidence special education room that I really started to see the benefit of learning outside the classroom walls. This type of class, which focused on teaching the kids life skills, opened up a whole new world of possibilities for learning and exploring, not typically seen in the traditional classroom setting. The students were motivated to learn and excited to be at school. I saw how important the weekly walking field trips into the community were for the students. These trips often increased the motivation and energy level of the children, produced better behaviour and less conflict, and created a more positive, upbeat atmosphere for the students and staff. Witnessing how leaving the classroom and going somewhere on or near the school grounds positively impacted the class to such a high degree, in addition to how simple these outings were to plan and implement, started me thinking. I continued to plan weekly walking field trips, and consistently took the students around the school grounds, throughout the day, for brain breaks or mini lessons. I saw first hand how important these experiences were for the students' well-being and learning success.

Armed with these experiences and with the greater confidence of having worked several years, I began to really reflect on my teaching practices. I realized that not only did the students thrive when allowed the opportunity to learn outside of the classroom, I too enjoyed the day much more, when not confined to one location. Since the initial walking field trips in my special education class, I have moved back to teaching a regular

intermediate class. I continue to take the students out of the classroom often. This could include a move to a different setting on or near the school for a specific lesson, a local walking field trip, or a planned day trip. With some thoughtful planning, the curriculum can usually be taught outside the classroom. Over the years, my interest in exploring the outdoors with my students has become a focus of mine. I have always had a connection to the outdoors, but only after reflecting on my teaching have I realized how influential nature has been on my and my students' lives. It was all of my experiences witnessing the benefits of outdoor learning that led me to my master's project about place-based education.

### **Coursework**

Initially, it might seem like the subject of my project is a bad fit for a master's program about technology and innovation. It was, however, my coursework, readings, teaching practice, and learning theories studies that guided me to choosing this topic. My project on place-based education does not contradict or disregard what I have learned or what has been covered in this program. On the contrary, it justifies and complements many of the theories and innovative practices we discussed during the program. I have participated in classes where we explored the needs of 21<sup>st</sup> century learners, innovative practices that link technology and social media, the appropriate integration of technology in the classroom, and the balance of new and old teaching methods. We have explored different learning theories and principles and shared how to enrich the lives of our students, while meeting their needs and interests. Guest speakers and fellow colleagues have inspired and overwhelmed me with their creative, ingenious ideas. These lessons

and discussions have opened up my eyes to so many new teaching possibilities that I am able to integrate with place-based learning.

Place-based education can be a valuable addition to any teacher's toolbox. It can also be integrated easily with technology to enhance learning and help teach the curriculum. I have extensively researched many learning theories (e.g., experiential learning theory, attention restoration theory, motivational model of learning) that support the benefits of place-based learning. I feel that place-based learning complements and meshes so well with the content of my master's degree courses, and as such have chosen to use technology to enhance and support my project on outdoor education.

### **Project Summary**

The project idea came from my enjoyment of the outdoors and my teaching practice of regularly taking my students on field trips into the local community. Over the years, I have noticed a decline or complete lack of field trips and outdoor learning experiences at other schools and for the classes of my fellow colleagues. I have heard from many teachers who want to try more outdoor lessons, but feel they lack the experience, confidence, and know-how of where to begin. Many colleagues have asked for advice about where to go and what to do when on the school grounds, in the park or forest, or on a walk, and how to properly and safely implement these excursions within the day. I wanted to create something that would share research and findings about outdoor learning, to encourage other teachers to explore the surroundings and local communities and see the benefits to their students and to themselves.

The project consists of an expanded literature review and the design of the website [www.outdoorteacher.ca](http://www.outdoorteacher.ca). The breadth of the literature review was necessary

because the findings are significant to fully understand the benefits that place-based learning initiatives have on staff and students. The depth of study was crucial to validate the topics covered on the outdoor teacher website. The literature review expands the ideas presented on the site, to make it substantiated and justified. The website shares all the research and extensive literature review and explains the important outcomes attributed to place-based education.

The Outdoor Teacher website contains many components. It is hoped that this resource will motivate and encourage teachers to go outside with their classes, show local outdoor locations and field trip opportunities, and share possible lesson plans and curriculum links to these sites. The website and mapping tool is a perfect way to utilize technology to demonstrate the importance of learning outdoors, and has ability to grow and change over time. The numerous activities shared on the site have been separated by location, subject, and season. These can easily be modified or adapted to meet the needs of any class. The website reveals a vast array of lessons ideas that can be completed outdoors, and offers links to worksheets, assignment ideas, books, other websites, and possible places to visit.

Outdoor Teacher is a resource tool for educators who want to know more about learning on or near the school grounds in a natural setting. The project also consists of a section specific to the Delta School District, with specific local spaces to visit and discover. In addition, there is a mapping tool to show the location of these places, with possible activities to complete, with a link to the outdoor activities page as well. Educators can visit the site to find research pertaining to the benefits and outcomes of place-based learning, see numerous lesson ideas and outdoor activities to try, and find

considerations to think about before exploring the outdoors with their classes. The website will be one that will continue to develop and improve over time.

### **Literature Review and Future Potentials**

Chapter two shows, at length, the benefits of place-based education. The research and findings validate and support my beliefs about outdoor education and clearly show the positive outcomes that can be seen from this type of learning. The lesson plans and resources I am sharing will give other teachers ideas of activities to try for themselves, and hopefully lead them to seeing how beneficial outdoor education is for everyone

In the future, I would like to build an outdoor classroom at my school. I currently have the full backing of my staff and administrator, and am hoping to seek further support from the district, local businesses, and organizations, such as the rotary club. This large outdoor space would be accessible to all classes and would be a place teachers could take their classes to learn outside. The outdoor space would use many natural elements, have tables, multiple seating areas, sections for different types of instruction, and be close to the school. This outdoor classroom would be a useful addition to the many other local settings surrounding the school and community.

I feel that my experience and expertise in outdoor education and place-based learning could allow me to be a leader in the district, enabling me to encourage and teach other educators how to take advantage of the resources available to them outside the classroom. The possibilities are endless.

### **Limitations and Recommendations**

There are some definite challenges associated with persuading other educators to attempt place-based learning with their students. Chapter two outlines some of the

possible issues that may arise and possibly discourage or stop teachers from going outside. However, once teachers understand the benefits of place-based learning, and see how to remove many of these barriers, there should be more educators willing to explore the outside learning potential. The research clearly shows its benefits; it is now important to give others the confidence and know-how to use the outdoor environment successfully and purposefully.

Teachers should be aware that the first few lessons in a new setting may be overstimulating for the students, but that with practice and adjustment the students will become more focused. At first, the students may react excitedly to place-based learning experiences, due to multi-sensory overload, but with time and proper management, student behaviour, motivation, and interest will improve significantly. Teachers can go outside for short lessons or longer activities, depending on the needs of their students. Once teachers have gone outside for a lesson, they will learn for themselves the little things that might interfere with learning, such as proximity to a bathroom, possible distractions, and materials to take and avoid, to name a few. Once teachers see how easy it is to implement place-based learning in their teaching, my hope is that it will become an exciting, valuable part of their day.

## **Conclusion**

At my school, I have always been known as the “field trip teacher.” On occasion, I have felt pressure to justify my reasons for leaving the classroom and school more often than other teachers do, and defend my beliefs in outdoor education as a valuable learning method and not merely play. My Master’s project and research have really reinforced and provided evidence as to why place-based education is important and beneficial to provide

to the children. I hope by sharing my research and project that I am able to encourage more teachers to expand their teaching strategies to include more teaching “outside the box.”

I am not trying to tell teachers that they should spend every minute of the day outside. I believe there needs to be a balance between technological advancement, different styles of instruction, working inside the classroom, and place-based education. The advantages of place-based education are widespread, including important health benefits, the enhancement of learning, increased motivation and excitement to learn, an improved connection to the community and heightened environmental awareness. Place-based learning improves the learning experience and the learner.

Everyone benefits. Including nature itself. Explore for yourself.

## References

- Action Schools! BC (2015). Actionschoolsbc.ca. Retrieved November 22, 2015, from actionschoolsbc.ca Website: <http://www.actionschoolsbc.ca/schools-in-action/playground-circuits/playground-sd-37-pebble-hill-inter>
- Adventure learning. (2013, September 29). In *Wikipedia, The Free Encyclopedia*. Retrieved 23:07, July 25, 2015, from [https://en.wikipedia.org/w/index.php?title=Adventure\\_learning&oldid=574976915](https://en.wikipedia.org/w/index.php?title=Adventure_learning&oldid=574976915)
- Barnes, J. D., Colley, R. C., & Tremblay, M. S. (2012). Results from the active healthy kids canada 2011 report card on physical activity for children and youth. *Applied Physiology, Nutrition, and Metabolism*, 37(4), 793-797.
- Barnes, J. D., Colley, R. C., Borghese, M., Janson, K., Fink, A., & Tremblay, M. S., PhD. (2013). Results from the active healthy kids canada 2012 report card on physical activity for children and Youth. *Paediatrics & Child Health*, 18(6), 301-4.
- BC ED Plan 2015 [http://www.bcedplan.ca/assets/pdf/bcs\\_education\\_plan\\_2015.pdf](http://www.bcedplan.ca/assets/pdf/bcs_education_plan_2015.pdf) March 2015.
- Beames, S., & Brown, M. (2013). enough of Ronald and Mickey: focusing on learning in outdoor education. *Journal of Adventure Education & Outdoor Learning*, 14(2), 118-131.
- Bobilya, A., Daniel, B., Kalisch, K., & McAvoy, L. (2014). autonomous student experiences in outdoor and adventure education. *Journal of Experiential Education*, 37(1), 4-17.
- Brainy Quote (2015a). Brainyquote.com. Retrieved July 18, 2015, from brainyquote.com Website: <http://www.brainyquote.com/quotes/quotes/j/johnburrou106918.html>

Brainy Quote (2015b). BrainyQuote.com. Retrieved July 24, 2015, from

BrainyQuote.com

Website: <http://www.brainyquote.com/quotes/quotes/j/johnmuir104245.html>

Brainy Quote (2015c). Brainyquote.com. Retrieved July 23, 2015, from Brainyquote.com

Website: <http://www.brainyquote.com/quotes/keywords/outdoors.html>

British Columbia Ministry of Education (2015). Bcedplan.ca. Retrieved November 22,

2015, from Bcedplan.ca Website:

[http://www.bcedplan.ca/assets/pdf/bcs\\_education\\_plan\\_2015.pdf](http://www.bcedplan.ca/assets/pdf/bcs_education_plan_2015.pdf)

Canadian sedentary behaviour guidelines for children (aged 5-11 years) and youth (aged

12-17 years): Clinical practice guideline development report (2011). Canadian

Society for Exercise Physiology. Retrieved November 22, 2015, from Csep.ca

Website:

[http://www.csep.ca/CMFiles/Guidelines/Backgroundinfo/Canadian%20Sedentary%20Behaviour%20Guideline\\_Report\\_final.pdf](http://www.csep.ca/CMFiles/Guidelines/Backgroundinfo/Canadian%20Sedentary%20Behaviour%20Guideline_Report_final.pdf)

Colley, R. C., Brownrigg, M., & Tremblay, M. S. (2012). A model of knowledge

translation in health: The active healthy kids canada report card on physical

activity for children and youth. *Health Promotion Practice*, 13(3), 320-330.

Dewey, J. (1897). *My pedagogic creed*. New York: E.L. Kellogg & co..

Dillon, J. & Dickie, I. (2012). Learning in the Natural Environment: Review of social and

economic benefits and barriers. *Natural England Commissioned Reports, Number*

*092*.

Doering, A., Scharber, C., Riedel, E. & Miller, C. (2010). "Timber for president":

- Adventure learning and motivation. *Journal of Interactive Learning Research*, 21(4), 483-513.
- Ernst, J., & Torquati, J. (2013). beyond the walls: conceptualizing natural environments as “third educators.” *Journal of Early Childhood Teacher Education*, 34(2), 191-208.
- Experiential learning. (2015, July 14). In *Wikipedia, The Free Encyclopedia*. Retrieved 07:45, July 29, 2015, from [https://en.wikipedia.org/w/index.php?title=Experiential\\_learning&oldid=6713417](https://en.wikipedia.org/w/index.php?title=Experiential_learning&oldid=6713417)
- 11
- Fagerstam, E. (2014). high school teachers’ experience of the educational potential of outdoor teaching and learning. *Journal of Adventure Education and Outdoor Learning*, 14(1), 56-81.
- Fiskum, T. A., & Jacobsen, K. (2013). Outdoor education gives fewer demands for action regulation and an increased variability of affordances. *Journal of Adventure Education & Outdoor Learning*, 13(1), 76–99.
- Gen Twenty, (2015). Gentwenty.com. Retrieved July 23, 2015, from gentwenty.com  
Website: [www.gentwenty.com/nature-quotes/](http://www.gentwenty.com/nature-quotes/)
- Gingold, J. A., Simon, A. E., & Schoendorf, K. C. (2014). Excess screen time in US children: Association with family rules and alternative activities. *Clinical Pediatrics*, 53(1), 41-50.
- Good Reads (2015a). Goodreads.com. Retrieved July 23, 2015, from Goodreads.com  
Website: <http://www.goodreads.com/quotes/1283822-of-all-the-paths-you-take-in-life-make-sure>

Good Reads (2015b). Goodreads.com. Retrieved July 18, 2015, from Goodreads.com

Website:<https://www.goodreads.com/work/quotes/541853-wilderness-essays-peregrine-smith-literary-naturalists>

Good Reads (2015c). Goodreads.com. Retrieved July 18, 2015, from Goodreads.com

Website:[http://www.goodreads.com/author/quotes/5297.John\\_Muir](http://www.goodreads.com/author/quotes/5297.John_Muir))

Harun, M. & Salamuddin, N. (2013). applying elements of outdoor education in teacher education innovation. *Asian Social Sciences*, 9(16), 15-21.

Humberstone, B., & Stan, I. (2012). Nature and well-being in outdoor learning:

Authenticity or performativity. *Journal of Adventure Education and Outdoor Learning*, 12(3), 183–197.

Kaplan, R., & Kaplan S. (1989). *Experience of nature*. New York, NY: Cambridge

Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework.

*Journal of Environmental Psychology*, 15(3), 169-182.

Kernan, M., & Devine, D. (2010). Being confined within? Constructions of the good childhood and outdoor play in early childhood education and care settings in Ireland. *Children & Society*, 24, 371–385.

Kohl, 3.,Harold W., Craig, C. L., Lambert, E. V., Inoue, S., Alkandari, J. R., Leetongin,

G., Lancet Physical Activity Series Working Group. (2012). The pandemic of physical inactivity: *Global action for public health*. *Lancet*, 380(9838), 294.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing

experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193-212.

Maller, C., Townsend, M., Pryor, A., Brown, P., & St Leger, L. (2006; 2005). Healthy

- nature healthy people: 'contact with nature' as an upstream health promotion intervention for populations. *Health Promotion International*, 21(1), 45-54.
- Mannion, G., Mattu, L. & Wilson, M. 2015. Teaching, learning, and play in the outdoors: a survey of school and pre-school provision in Scotland. *Scottish Natural Heritage Commissioned Report No. 779*.
- Maynard, T. (2013). moving outdoors: further explorations of 'child-initiated' learning in the outdoor environment. *International Journal of Primary, Elementary and Early Years Education*, 41(3), 282-299.
- Maynard, T., Waters, J., & Clement, J. (2013). Child-initiated learning, the outdoor environment and the "underachieving" child. *Early Years*, 33(3), 212–225.
- McArdle, K., Harrison, T., & Harrison, D. (2013). Does a nurturing approach that uses an outdoor play environment build resilience in children from a challenging background? *Journal of Adventure Education & Outdoor Learning*, 13(3), 238–254.
- Merrah, T., & Soh, T. (2013). outdoor education: an alternative approach in teaching and learning science. *Asian Social Science*, 9(16), 1-8.
- Muir, J., 1838-1914. (1972). *My first summer in the sierra*. United States:
- Muir, J. (1980). *Wilderness Essays*: Peregrine Smith Books.
- Mygind, E. (2007). A comparison between children's physical activity levels at school and learning in an outdoor environment. *Journal of Adventure Education & Outdoor Learning*, 7(2), 161-176.
- Mygind, E. (2007). Mean Activity Level on a School Day vs an Outdoor Learning Day [Graph] Retrieved from *Journal of Adventure Education & Outdoor Learning*

- Prince, H., Allin, L., Sandseter, E. B. H., & Årlemalm-Hagsér, E. (2013). Outdoor play and learning in early childhood from different cultural perspectives. *Journal of Adventure Education & Outdoor Learning*, 13(3), 183–188.
- Proverbs Way (2015). Proverbsway.com. Retrieved July 23, 2015, from [proverbsway.com](http://proverbsway.com) Website: [proverbsway.com/2014/04/06/there-is-no-wifi-in-the-forest-but-i-promise-youll-find-a-better-connection/](http://proverbsway.com/2014/04/06/there-is-no-wifi-in-the-forest-but-i-promise-youll-find-a-better-connection/)
- Quay, J. (2013). More than relations between self, others and nature: outdoor education and aesthetic experience. *Journal of Adventure Education & Outdoor Learning*, 13(2), 142–157.
- Richards, A., Freeman, P., & Taniguchi, S. (2005). Attributes of meaningful learning experiences in an outdoor education program. *Journal of Adventure Education & Outdoor Learning*, 5(2), 131-144.
- Schwab, K., & Dustin, D. (2014). Engaging youth in lifelong outdoor adventure activities through a nontraditional public school physical education program. *Journal of Physical Education, Recreation and Dance*, 85(8), 27-31.
- Tremblay, M. S., LeBlanc, A. G., Kho, M. E., Saunders, T. J., Larouche, R., Colley, R. C., Connor Gorber, S. (2011). Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *The International Journal of Behavioral Nutrition and Physical Activity*, 8(1), 98-98.
- Waite, S., Rogers, S., & Evans, J. (2013). Freedom, flow and fairness: Exploring how children develop socially at school through outdoor play. *Journal of Adventure Education & Outdoor Learning*, 13(3), 255–276.
- Waite, S. (2013). ‘Knowing your place in the world’: how place and culture support and

- obstruct educational aims. *Cambridge Journal of Education*, 43(4), 413-433.
- Wagoner, D. (1976). *Collected poems (1956-1976)*. Bloomington: Indiana University Press.
- Walter, P. (2013). *Greening the net generation: Outdoor adult learning in the digital age*. Sage CA: Los Angeles, CA: SAGE Publications.
- Ward, J. (2008). *I love dirt!: 52 activities to help you and your kids discover the wonders of nature*. Boston: Trumpeter.
- Zimmerman, H.T., & Land, S. M. (2014). Facilitating place-based learning in outdoor informal environments with mobile computers. *TechTrends*, 58(1), 77-83.