Challenges, as Perceived by Teachers, to Learning Outdoors

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Abstract

Childhood in the twenty-first century is increasingly spent indoors. As a result, children today can face increased physical and socio-emotional health concerns. An approach to address these concerns is to support opportunities for teachers to integrate outdoor learning into their daily curriculum. Research into the challenges teachers face in taking students outside reveals two broad areas of concern: practical and philosophical. To help combat these challenges, I designed a website whose aim is to raise awareness of the benefits of learning outdoors, and to examine the barriers teachers face. Finally, it offers resources to help overcome challenges and barriers to outdoor learning. It is hoped that www.outdoors68.ca will act as a resource guide to teachers interested in outdoor learning.
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Dedication

In loving memory of David Henry Allardice:

For making it your life’s work to get everyone outdoors.
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Chapter One – Introduction and Research Question

Purpose of the Project

The purpose of this project was to provide an overview of the benefits of outdoor educational settings and address common challenges facing teachers in getting students out of their classrooms and into the outdoors. These barriers can be complex and include availability of curriculum guides, availability of suitable outdoor areas, and teachers who do not value such experiences for students. It is assumed that the descriptive information on the perceived barriers would be used to inform teacher practice. Further research will need to be done to develop specific strategies to support teachers in overcoming these perceived challenges. This design project resulted in the development of www.outdoors68.ca, a blog for teachers in School District 68 in Nanaimo, British Columbia. Outdoors68 presents research-related information pertaining to health concerns regarding the increasingly sedentary lifestyles of children today, along with the benefits associated with learning outdoors. The blog has resource pages devoted to help address the perceived barriers to taking students outside.

Justification of the Project

Not too long ago I would often end grey winter days supine in a hot tub, reflecting back on the day whilst listening to the sounds of birds in the forest. Nowadays, more often than not, the day ends with me supine before a small glowing screen, passively reading tweets from around the world.

Two recent tweets encapsulate the struggle to remain connected to nature in an increasingly technologically dependent world. The Oxford University Press has announced plans to delete a number of words associated with nature from the next edition of the Oxford Junior Dictionary.
Thirty species of plants and animals — such as acorn, blackberries and minnows are being replaced with terms like analogue, broadband and cut-and-paste; this reflects a societal shift to a more sedentary lifestyle that has left many children disconnected to the outdoors and vulnerable to negative effects associated with physical inactivity.

The second tweet focused on how some educators are beginning to look at the cognitive, affective, interpersonal/social, and physical/behavioural impacts of outdoor learning and the connection between children and nature. The design and rebuilding of Sandy Hook Elementary School, site of a tragic shooting in 2012, deliberately focuses on the school’s connection to nature. The school will re-open in 2016 with a bioswale/rain garden at the front of the school with three different spots where students cross waterways on bridges. New research from Dr. Roger Ulrich, a Professor of Architecture at the Center for Healthcare Building Research at Chalmers University of Technology in Sweden, suggests that proximity to “blue” space – seas, rivers, lakes, and urban water, reduces stress and improves well-being. As well, the school has been set further back into the forest and the facade of the school is now a soft curve, with the building’s wings reaching out like arms to embrace the children. Spokes come off the main building to form “tree houses” or classrooms set in the woods. The school’s design intentionally reflects an increasing awareness of nature’s benefits with regard to learning and well-being.

For today’s child, backyard tree forts and rope swings are increasingly left idle. A drive past a neighbourhood park can often reveal a lack of children playing. Children’s free time for exploring forests is increasingly replaced with highly structured activities or time in front of screens. Many children have televisions in their bedrooms, alongside tablets, laptops or personal computers, and handheld devices. According to the Canadian Journal of Public Health, a higher
number of screens in a child’s bedroom was associated with higher adiposity, more total screen time and lower sleep efficiency (Chaput, Leduc, Boyer, Belanger, LeBlanc, Borghese, & Tremblay, 2014). According to the American Academy of Pediatrics (AAP), the average child watches nearly three hours of television per day (American Academy of Pediatrics, 2001), and children can spend roughly 7.5 hours a day consuming some form of electronic media (McCurdy, Winterbottom, Mehta, & Roberts, 2010). A longitudinal sample of 1 to 3 year olds linked daily television watching with developing attention problems by age 7 (Christakis, Zimmerman, DiGuiseppe, & McCarty, 2004). As PlayStations replace playgrounds, concerns for our children’s physical, emotional, and social health continue to grow.

We are seeing rising rates of childhood obesity, hypertension, cardiovascular disease, type 2 diabetes, obstructive sleep apnea, asthma, and vitamin D deficiency (McCurdy et al., 2010). Increasingly, children and adolescents are being prescribed medication for depression and anxiety. Individuals under twenty years of age have the highest rate of depression symptoms, with onset beginning in early adolescence (Mood Disorders Society of Canada, 2009). This increase in chronic health conditions disproportionately affects children of minority and low–socioeconomic communities (McCurdy et al., 2010). Canadian classrooms also reflect this new reality, with many students struggling to control emotions and behaviour and engage in learning.

For those born before the all encompassing tendrils of the digital age defined much of our daily existence, childhood was different. Most of my childhood summers were spent on the pristine beaches and cliffs of Cornwall, the southernmost county in England. My brother and I spent our entire summer holidays there with our grandmother. We were close to feral; playing outdoors from early morning until the sun went down. It left an indelible impression on both of
us, and until recently, we followed similar career paths working outdoors. Prior to becoming an educator, I had the privilege of working in the outdoor industry with my brother and we lived in pristine locations in the Madawaska and Ottawa valleys in Ontario, the Gorge de L’Ardeche in France, and the remote foothills of the Himalayas in Nepal. Working long days guiding on rivers and sleeping each night under the stars on remote sandy beaches has had a profound influence on my growth as an individual. Interestingly, my most enduring friendships all grew out of that period in my life.

I also saw the impact that experiential learning had on the children and adults under our care. I worked as a guide taking school groups on three day canoe descents of the Ardeche Gorge in Provence, France. One of the schools that came had been featured in a BBC documentary and was described as the “worst school” in England. However, for the three days they were with us, paddling rapids and roaming the beaches at the bottom of the gorge, these students were fantastic. Indeed, despite the fact that they looted the guide’s base camp tents prior to boarding the bus back to the UK, their trip was one of the season’s highlight for all staff involved. Being outdoors transformed them.

As I began the process of squeezing myself into the four walls of a classroom, I intuitively sensed that something was missing for me. Looking back, I see it was the ability to somehow connect with the outdoors. I now see that in every school I have taught in, I have consistently tried to ease the separation between formal learning environment (classroom) and informal learning environment (outdoors) - by getting students outside as often as possible, and utilizing and exploring nearby green space. The more I reflected on the 'success' and enjoyment of my teaching experiences, and the ways in which they were connected to the outdoors, I increasingly
became convinced there is a vital connection between education and students' experiences of the outdoors. This realization has lead to the current project as one way to help address the lack of outdoor learning opportunities in School District 68.

**Research Question**

The research question driving the present design project is: *how can we overcome barriers, as perceived by teachers, which influence the use of outdoor space as a learning environment?*

There is a growing body of evidence linking children’s health to being outdoors in natural environments. Richard Louv’s bestselling book, *Last Child in the Woods* (Algonquin Books, 2008), kick-started a movement to promote increased time spent by children in natural settings. *Last Child in the Woods* coined the term “nature deficit disorder”, and examines studies that link exposure to nature as essential for a child's healthy physical and emotional development.

Rickinson, Dillon, Teamey, Morris, Choi, Sanders, and Benefield, (2004) looked at the impact of outdoor learning activities in three different contexts: fieldwork and outdoor visits; outdoor adventure education; and school grounds. In 2015 in British Columbia, education funding faces increasing shortfalls and school budgets no longer accommodate regular visits to outdoor “nature” centres. The financial responsibility for such field trips falls to the parents, and schools in lower socio-economic neighbourhoods rarely see students visiting these centres. Outdoor adventure education has more or less ceased to exist in public school systems in British Columbia. Fear of litigation plays a large role in this and teachers are reluctant to take students on any perceived risky activity field trips, when a typical parental permission form for a trip to a local park beside a stream lists such possible dangers as bee stings, drowning, and death by motor vehicle accident. This leaves the school yard and forests and parks within walking
distance from the school as the easiest option for outdoor learning as a means of strengthening our students’ physical, emotional, and cognitive development.

What can we do in the parks once we take our students there? How should we make better use of the green space within our own school grounds? In designing a web-site as a resource that serves as a one-stop-shop in providing theory and practical guidelines on outdoor learning, it is my hope that teachers will deepen their awareness and understanding of the importance of taking students outside.

**Overview**

In this study I will discuss the benefits of exposure to learning outdoors. I will review the current research on the health concerns facing children today, and examine the benefits and the hurdles that teachers face to enable children to learn and play outside. As a result of my research on these benefits and hurdles to outdoor play and learning I created a blog that highlights the benefits of outdoor learning and addresses many of these hurdles. I have designed the blog to be accessible to teachers who wish to bring their children outdoors but are challenged by their own inexperience, or lack awareness of appropriate activities that meet the needs of the child while also meeting the needs of the curriculum.
Chapter 2 – Review of Related Literature

Overview

In 1972, Bhutan’s fourth Dragon King, Jigme Singye Wangchuck, coined the term "gross national happiness." Initially offered as an offhand remark, the concept was taken seriously and a sophisticated survey instrument was developed to measure the Bhutanese population's general level of well-being (www.grossnationalhappiness.com). If such an instrument were utilized to survey the well-being of school-aged children in North America, the results would be disconcerting. Is there a link between rising childhood health concerns and decreasing opportunities for outdoor learning in recent years? (Barker, Slingsby, & Tilling, 2003; Fisher, 2001; Puk & Behm, 2003)

This chapter provides a review of literature related to the health concerns that arise for children as a result of decreased time spent outdoors. It provides an overview of the benefits associated with being and learning outdoors, and looks at the barriers that impact teachers from taking students outdoors. The term “being outdoors” encompasses a range of activities, from formal lessons to unstructured play time. The commonality here is that they take place outside of the regular school classroom structure of four walls. As a result, they tend to include more physical activity. Some of the benefits derive in part from this increased physical exertion, yet such results should not be excluded, as they would not be present without the outdoor activity in the first place.
Children’s Health & Sedentary Lifestyle:

It appears the well-being and health of our future generations are at risk. According to the World Health Organization’s *Global action plan for the prevention of noncommunicable diseases 2013 - 2020*, there is global concern over the progressive trend towards lifestyles that are conducive to promoting non-communicable diseases. Childhood obesity and inactivity figure prominently in this challenge. The prevalence of childhood obesity worldwide is at an all-time high (Ng, Fleming, Robinson, Thomson, Graetz, Margono, Mullany, Biryukov, Abbafati, & Abera, 2014), whilst the proportion of children around the world meeting physical activity guidelines is very low, and likely declining (Hallal, Andersen, Bull, Guthold, Haskell, & Ekelund, 2012). The Centre for Disease Control and Prevention has expressed concern regarding preschool-age children, where obesity prevalence has increased from 5 to 12.4% in recent years (Wadsworth, Robinson, Beckham, & Webster, 2011). Furthermore, a 2008 review concluded that only 54% of pre-school children between the ages of 3 and 5 years engage daily in 60 minutes of moderate-to-vigorous physical activity (Tucker, 2008). Active Healthy Kids Canada’s *is Active Play Extinct? Report Card on the Physical Activity of Children and Youth* (2012) notes that substantive societal changes have occurred regarding where and how children spend their discretionary time. There is empirical, observational, and intuitive evidence that children today “play outside less than their parents did and that children’s play has become more structured and occurs increasingly indoors.”

Increasingly, anxiety is found within classrooms regardless of a school’s socio-economic status. *The decline of play and the rise of psychopathology in children and adolescents* (Gray, 2011) examines the direct link between generational increases in psychopathology and declines
in outdoor play time. Gray cites evidence indicating that play deprivation contributes to a reduced sense of “personal control, reduced ability to control emotions, increased social isolation, and reduced happiness” (Gray, 2011). Current generations of youth have 5-8 times more clinically significant scores on standardized measures of anxiety and depression when compared to youth in the 1950’s (Twenge, Gentile, Dewall, Ma, Lacefield, & Shurtz, 2010; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Several studies also suggest that the age of first onset has decreased from adulthood to adolescence (Seligman et al., 2009). Interestingly, depression rates in more traditional, less technologically dependent societies, such as the Old Order Amish, are one-tenth the rate of mainstream societies’ rates (Egeland & Hofstetter, 1983).

Studies suggest that as many as 14-25% (over 800,000 individuals in Canada) of children and youth experience significant mental health issues (Waddell, Shepherd, Chen, & Boyle, 2013; Canadian Institute for Health Information, 2009). Most mental health problems can be detected prior to the age of 24, and 50% of these difficulties surface before the age of 14 (Kessler, Berglund, Demler, Jin, & Walters, 2005). Mental health difficulties contribute to problems with achievement and relationships at school (Chan, Zadeh, Jhang, & Mak, 2009). According to Canada’s Mental Health Commission, in severe cases, mental health difficulties prevent students from regularly attending class, but more often students simply struggle with these problems on a daily basis, leading to further social and academic functioning concerns.

**Benefits of Being Outdoors**

Historically, learning outside of a classroom setting is how most people in the world have learned (Waite, 2010). Learning outdoors helps address areas of concern such as physical well-
being, and reaching deeper levels of engagement and learning. Experiential education or activity-based learning is associated with increases in social-emotional learning, school engagement, and academic achievement (White, 2012). Real-world, hands-on learning experiences provide opportunities for students to engage in the process of their own education. As one seventh-grade female student noted: “I have a learning disorder and I can’t read well. Now our classes are like living books and I can learn much better without feeling bad about myself” (Falco, 2004). Experimental studies point to greater arousal in the reticular formation of the brain, and increased secretion of neurotrophins, allowing for greater concentration (Trudeau, 2010).

Physical activity in natural environments may benefit physiological health, and it is highly likely that being outdoors rather than sitting at a desk will increase physical activity on the part of students.

Research has shown that time spent outdoors is associated with increased physical activity. One study among 10- to 12-year-old children found that for every additional hour spent outdoors, physical activity increased by 27 minutes a week and prevalence of being overweight dropped from 41% to 27% (Cleland, Crawford, Baur, Hume, Timperio, & Salmon, 2008). In the US, the Centre for Disease Control (CDC), the American Association of Paediatricians (AAP), and the Department of Health and Human Services (DHHS) all recommend that children engage in physical activity for a minimum of 60 minutes a day, and stress the important role that families, schools, and communities play in promoting physical activity for youth. Whilst these 60 minutes a day could take place inside a gym, being outdoors provides opportunities for a variety of ways of achieving this target.
Ideally, parks, schools, trails, and recreation facilities provide settings for physical activity. However, due to increasing urbanization, many children live in residential areas lacking vegetation, parks, and other natural environments. “Green” school grounds, which contain a greater diversity of environmental features such as trees, gardens, and nature trails, can play a vital role and stimulate physical activity in greater numbers. Schools are beginning to engage in efforts that emphasize such features. An evaluation of these initiatives was conducted at 59 schools across Canada by surveying teachers, parents, and administrators. The survey evaluated to what extent the “green” features in their school yards influenced physical activity of students. Seventy percent of the respondents indicated that the initiative resulted in increased light to physical moderate activity, and 50% also reported that their “green” school ground promoted more vigorous activity. Respondents also reported that their school grounds appealed to a greater breadth of student interests and support a wider variety of play activities (Dyment & Bell, 2008).

Another Canadian study examined the association between healthy weight status among children and the availability of playgrounds within 1 km of their residences. Logistic regression was used to analyse the relationship between the proximity of a particular playground to childhood BMI, while controlling for neighbourhood residence, age, gender, and parental BMI. Children who lived within a kilometer of a facility that contained playground equipment were almost 5 times more likely to be classified at a healthier weight than children without accessible playgrounds (Potwarka, Kaczynski, & Flack, 2008).

Time outdoors and exposure to a natural environment may have a beneficial effect on psychological health. One study investigated the relationship between morbidity and the amount
of natural land around residential environments. The authors found 24 clusters of disease and determined that the prevalence rates for 15 of these 24 clusters were lower in environments with more nature. This relationship was apparent for all 7 disease categories, including cardiovascular, musculoskeletal, mental, respiratory, neurological, digestive, and miscellaneous. Depression and anxiety order showed the strongest association to the amount of nature in people’s living environments, especially in children (Maas, Verheij, Vries, Spreeuwenberg, Schellevis, & Groenewegan, 2009).

Childhood stress has become an increasing area of concern for pediatric health care providers. The workload of school and extracurricular activities can create more stress on a child, thereby influencing cognitive development. Being outside in a natural environment may moderate the impact of stress. A 2003 study looked at the effect of nature on stressful life events such as relocation, bullying, and peer pressure among 330 rural children in grades 3-5. In the study, “nature” meant the amount of trees and vegetation in the window view, the number of live plants indoors, and the outdoor landscape. The results indicated that higher exposure to natural environments indicated lower stress levels in a child. The authors postulated that being nearby nature restored children’s capacity for attention that helps them to better think through problems (Wells, & Evans; 2003).

Eva Selhub is an Instructor of Medicine at Harvard Medical School. Alan Logan is a naturopathic doctor and invited faculty in the mind-body medicine course at Harvard’s School of Continuing Medical Education. Together they have co-authored, Your Brain on Nature (2012), which examines scientific studies that show how natural environments can have remarkable benefits for human health. Selhub and Logan explore the term biophilia; the biophilia hypothesis
suggests humanity’s historical contact with nature has left an indelible mark, giving us an
affinity for all things living - plants and animals alike. In the 1980s, Harvard biologist Edward O.
Wilson proposed that biophilia is an “innately emotional affiliation of human beings to other
living organisms.” Wilson saw this as a culturally universal phenomenon; scientists have
determined humans share common preferences for certain aspects of nature – “landscapes that
provide trees (but not too densely packed, views that afford a vista or some degree of predator
surveillance, the presence of fresh water, and a rich variety of plants and animals.” (Logan et al.,
2012) In these landscapes, we feel secure.

On the emotional plane, Wilson observed that nature uniquely influences the human mind in
terms of cognitions and behaviours. Healers within various medical systems – from ayurveda of
the Indian subcontinent to traditional Chinese medicine-- have long advocated exposure to nature
as a form of medicine. Records of early Roman philosophers and physicians show that “walking
in gardens, exposure to rooms filled with light, staying close to water” helped improve mental
health as humans began the transition from rural life to urban civilizations. (Logan et al., 2012)
In the 1800s, the writer Henry David Thoreau and the naturalist John Muir voiced concerns over
urban life; Thoreau noting that nature is a place where “my nerves are steadied, my senses and
my mind do their office”, and Muir advising that being outdoors would help “tired, nerve-
shaken, over-civilized people.” (Logan et al., 2012) One cannot help but wonder what Thoreau
and Muir would think of the daily schedules of our children?

Natural environments may also improve attention, especially for children with ADHD.
Studies show that nature can restore the mental fatigue associated with prolonged concentration;
fatigue characterised by difficulty focusing, feeling irritable and being easily distracted (Mole,
Marshall, Pietrowsky, & Lutzenberger; 1995; Coull, Frackowiak, & Frith; 1990; Glosser & Goodglass; 1990). Nature engages the human mind away from the stressors, allowing for reflection. A nationwide study in 2004 examined whether green settings reduce ADHD symptoms in children. The authors surveyed parents of children diagnosed with ADHD on the perceived effect of common after-school and weekend activities on their child’s symptoms. Activities chosen represented a broad range of physical settings and parents were asked to note whether each activity had an effect on their children. Natural out-door activities significantly reduced ADHD symptoms significantly more than activities conducted in built outdoor settings or indoor settings (Kuo & Taylor, 2004).

Outdoor activity in nature may also benefit children’s health by improving asthma, myopia, chronic pain issues, and childhood development.

A 2008 ecological study conducted in New York City found that tree density was correlated with a lower prevalence of childhood asthma (Lovasi, Quinn, Neckerman, Perzanowski, & Rundle, 2008). As well, television viewing has been associated with asthma. In a prospective longitudinal cohort study, authors investigated the association between duration of television viewing and the development of asthma in young children. The study followed children with no wheeze up to the age of 3.5 years and then gathered follow-up data for these children at 11.5 years, and children who watched television for more than two hours a day were almost twice as likely to develop asthma compared with those who watched television for 1 to 2 hours a day (Sheriff, Masitra, Ness, Mattocks, Riddoch, & Reilly, 2009).

The prevalence rate of myopia in the USA has substantially risen in the past thirty years, and may in part be exacerbated by external factors such as increased illuminated screen viewing and
reading time. A recent cross-sectional study among 12-year old participants found that higher levels of outdoor time were associated with less myopia (Rose, Morgan, Kifley, Huynh, & Smith, 2008). Similarly, a 2009 cohort study of 1249 teenagers in Singapore revealed significantly less myopia in adolescents who spent more time outdoors (Dirani, Tong, Zhang, Chia, Young, & Rose, 2009).

Studies examining pain reduction and the restorative effects of nature for children are not available. One study on adult plain management shows that patients with views of deciduous trees took fewer doses of strong pain medication than a group viewing a brown brick wall, and had shorter postoperative stays, and fewer postsurgical complications (Ulrich, 1984). Another study examined a group of patients during flexible bronchoscopy; nature scene murals were placed at patients’ bedsides, and they were provided with a tape of nature sounds to listen to before, during, and after the procedure. Patients with views and sounds were more likely to report better pain control during the procedure (Diette, Lechtzin, Haponik, Devrotes, & Rubin, 2003).

Teachers have no control over how many trees are outside a classroom or bedroom window, or how many hours our students choose to spend in front of their phone, tablet, computer and television screens each night. We do, however, have control over how often we take our students outdoors. One can argue that there is a moral imperative that we do everything in our power to lessen the physical and psychological toll of a childhood removed from nature.
Benefits of Learning Outdoors

Time spent outside of a classroom is not only better for our health, it is also better for our ability to learn. For many, vivid childhood memories of field trips and time spent outside the classroom continue to resonate far into adulthood. In the United Kingdom, the Learning Outside the Classroom Manifesto (DfES, 2006) claims that the “use of places other than the classroom for teaching and learning” contribute significantly to education because:

These, often the most memorable learning experiences, help us make sense of the world around us by making links between feeling and learning. They stay with us into adulthood and affect our behaviour, lifestyle and work. They influence our values and the decisions we make. They allow us to transfer learning experienced outside to the classroom and vice versa.

(DfES, 2006)

Memory is a complex subject with distinct phases: perception, encoding, consolidation and recall (Sharot & Phelps, 2004). What is it about learning outside the classroom that helps embed such distinct memories? Research suggests that the experiential nature of outdoor learning offers authenticity: opportunity for “exploration and play; autonomy; freedom; creativity; novelty; incidental learning; enjoyment; and competency in social contexts” (Beard & Wilson, 2002; Bixler, Floyd, & Roggenbuck, 2002). A case study of an exemplary third grade teacher’s use of the outdoor classroom to teach both language arts and science reveals a similar mantra (Eick, 2011):

When I run into students that I’ve had a long time ago, that’s the one thing they tell me. I remember when you took us to the woods. I remember when you did science with us.

My grandmother was a big environmentalist. I lived in the woods basically. I don’t remember a time when I wasn’t outside; in the summer,
every day of my life doing something. And she taught me the names of the trees, wildflowers, plants, all that kind of thing...I played in a creek every day in the summer time.....And so I mean it was just one of those natural things that we absolutely loved science.... So, and you want to bring that back to the kids.

Increasingly, children today have limited understanding of the elements of nature learned through experience (Louv, 2005; Malone, 2007).

Time spent outdoors in parks, woodlands, and semi-natural areas has been shown to contribute to a higher quality of life (Thompson, 2008). Regular physical exercise has been linked to healthy lifestyles, and research demonstrates that levels of exercise correspond with access to green space and being outdoors. Physical activity, along with physical education and participation in sports, has been linked to increased academic performance in the form of increased engagement, class behaviour, and levels of concentration (Trudeau, 2010).

Taking students outdoors can be seen as using the Environment as an Integrating Concept for learning (EIC) (Lieberman & Hoody, 1998). It can involve learning about the environment or developing environmental awareness, but mostly EIC is about using a school’s “surroundings and community as a framework within which students can construct their own learning, guided by teachers” (Lieberman et al., 1998). As such, it can be seen as a framework for interdisciplinary, collaborative, student-centred, hands-on, engaged learning. In using the environment – trees, parks, and fields that surround a school, studies also show an increase in motor fitness (Fjortoft & Sageie, 2000).

Observed benefits also include reduced discipline and classroom management problems, increased engagement and enthusiasm for learning, and greater pride and ownership on the part of the students (Liebermen et al., 1998). These links in curriculum to the real world improves
students’ attendance, social skills, and ultimately grades (Falco, 2004; Simone, 2002). In addition, research in outdoor programming shows enhanced self-esteem, self-efficacy, coping, competence and decreased delinquency, suicidality, and violence (Ungar, Dumond, & McDonald, 2005).

Whether it is an extended camping trip, a morning walk through local wetlands or time playing on the back soccer field, taking students outside of their classrooms is validated by socio-cultural theories and humanistic psychology. Specifically, this approach focuses on the “humanistic concepts of agency, empowerment, the human potential for growth, and the fostering of healthy relationships via mediated learning experiences” (White, 2012). Again, the research into mediated learning reveals increased trust and social competence, which in turn boosts social-emotional learning, increasing engagement and academic achievement (White, 2012).

A survey of 40 schools with EIC programs across the United States, as well as a comparison of student achievement in EIC versus traditional classrooms, revealed that EIC students perform better on standardized tests and have higher grade point averages (Strife, 2010). Additional surveys of schools that implement an EIC approach were shown to increase engagement and motivation for learning, improved GPA’s, and students stayed in school longer. “Green” schoolyards (those with vegetation) are shown to benefit children’s cognitive skills and motor coordination (Strife, 2010). Substantial evidence also supports the positive effects that nature and green space has on cognitive functioning – especially increased concentration and attention capacities.
Indeed, the unpredictability of the natural world can be harnessed to rekindle excitement and curiosity. One teacher describes instances where something unexpected caught her students’ attention as “squirrel moments” (Waite, 2009), and used them to develop the potential for engagement to support their learning.

These ‘squirrel moments’ allow teachers who are committed to outdoor learning to note their students’ differential responses to the new context for learning. Outdoors, teachers have the opportunity to observe the whole child, in contrast to their more narrowly-focused role within the classroom. As one teacher from the South West of England notes:

> You see a different side to them. Assessment-wise as well, because you get things out of them that perhaps if you were sat in the classroom, saying well what can you see in the woods and you know, they kind of switch off. (Waite, 2009)

Through observation in different contexts, teachers may become aware that certain children may prefer the security of the classroom, while others relish the stimulus of experience. Teachers can then adjust the range of experiences available, resulting in more personalised pedagogical approaches to support learning. As well, the rigidity and norms of classroom behaviours appears to recede in participatory pedagogy outdoors – characterized by more open relationships and mutually constructed ways of thinking about, rather than delivering, knowledge. (Rogers & Evans, 2008)

This experiential approach to learning builds in a level of authenticity often missing from classroom lessons. In using outdoor settings to develop the link between what children do inside and authentic opportunities to test out what they have been taught, learning becomes far more real (Waite, 2010; Rea, 2008). These outside experiences amongst the sights, smells, tastes and sounds of nature leave a powerful legacy:
At age of 8 my primary school class went on a nature walk on a piece of common land and woods. We were allowed to roam and collect items. The teacher named the items and gave details of the natural habitat etc. I still remember the names of plants we looked at even though that was 59 years ago! (Waite, 2010)

Early childhood nature experiences seem to be related to adult attitudes and behaviours relating to the environment: early experiences in nature have the potential to shape subsequent environmental paths (Wells & Leckie, 2006). According to Phenice and Griffore (2003), regular and positive interactions with nature are instrumental to helping children develop a respect for the environment. Research suggests nature play experiences in childhood may foster pro-environment attitudes and beliefs later in life (Ewert, Place, & Sibthorp, 2005). Further, as curiosity about the natural environment starts early and because many lifelong attitudes and values are developed early in life, it is critical that experiences in nature need to begin during the early childhood years.

Seligman et al. note that when asked what they want for their children, most parents respond: happiness, confidence, balance, health, and satisfaction; in short, most parents want well-being for their kids. Research suggests that the experiential nature of outdoor learning offers authenticity; opportunities for exploration and play; autonomy; freedom; creativity; novelty; incidental learning; enjoyment; and competency in social contexts (Beard et al., 2002; Bixler et al., 2002). If teachers were made aware of the benefits of taking students outside, would playgrounds and green spaces still be empty except during recesses?

Challenges to Getting Students Outside

The factors that negatively influence teachers’ use of outside green space is varied, ranging from practical issues such as lack of green space and fear of litigation, to more intangible issues
– not valuing the experience for children because they have never experienced such a thing themselves. Despite Richard Louv’s growing *nature deficit disorder* movement, opportunities for outdoor learning for school students have decreased in recent years (Barker et al., 2003). Puk et al., (2003) point to the ‘diluted curriculum’ in Canada that has removed environmental science as a teaching subject. As well, the classroom or indoor setting has become firmly regarded as the usual place for learning. This section provides an overview of common rationales for not using outdoor instructional activities.

Mirka’s research into factors which influence elementary teachers’ use of outdoor classrooms reveals common barriers (Mirka, 2014):

- Availability of curriculum guides
- Knowledge of outdoor instructional activities
- Understanding of the application of classroom subject matter to outdoor instruction activities
- Knowledge of natural sciences
- Availability of suitable outdoor areas
- Class size
- Fear and concern about young people’s health and safety
- Value of such experiences to children

As such, these barriers fall under two main groupings: pedagogical/lack of knowledge concerns and practical concerns.

Research on outdoor learning conducted in the greater Cleveland area points to significant barriers – as perceived by educators, citing a lack of curriculum guides and planning materials.
along with a lack of resource people (Carrier, Thomson, Tugurian, & Stevenson, 2014). Many teachers lack the confidence or skills about how to use the green school ground as an outdoor classroom (Rickinson et al., 2004). As a result, many educators found it difficult to imagine breaking out of their patterns and standard routines (Dyment, 2008), preferring traditional indoor views of learning. As one Canadian parent noted, “When you get caught in your little square boxes, you stay in your little square boxes” (Dyment, 2008). Simmons’s study of elementary school teachers in the Chicago area (2010) showed that only 39% of the teachers agreed that they were sufficiently trained to teach in outdoor settings.

Teachers can often be limited by conventional assumptions about education – about their need to “master” the subject area, to have all the answers prepared in advance, and to address first and foremost the “minds” of their students (Dyment, 2008). Such assumptions and preferences sit in stark contrast to the realities of outdoor learning where the environment is less easy to control, where learning outcomes are less predictable and not necessarily measurable. In fact, outdoor experiences can disrupt the usual power relations in the classroom and norms for questions (by the teacher) and answers (made by the students and judged to be correct or otherwise by the teacher), allowing the discourse instead to become more open, exploratory, and playful (Waite & Davis, 2007).

Clearly some training in outdoor learning on should be a requirement for pre-service teachers (Scott & Gough, 2003). This would involve teacher training courses recognising that outdoor learning is an important part of core competencies. Wilson (1994) suggests there is a need for pre-service and in-service training focusing specifically on environmental education for pre-school children, stating:

Early childhood educators need to develop a personal awareness of and appreciation for their place in the natural environment and an enthusiasm
for sharing the beauty and mystery of the natural environment with young children - in addition to learning how and why to incorporate environmental education into their programs. (Wilson, 1994)

Training must also continue for in-service teachers as well. Professional development courses leading to accreditation in outdoor learning teaching skills could enhance a teacher’s repertoire (Fisher, 2001). Glenda Hanna’s 1992 study of barriers facing teachers attempting to implement outdoor education notes that “limited training” has the biggest impact (Hanna, 1992). She strongly advocates for teachers to take advantage of “a collaborative, synergistic effort...to take advantage of team teaching...to increase confidence and experience” (Hanna, 1992). Shuman and Ham’s Model of Environmental Education Commitment (1997) suggests efforts to increase commitment to use natural outdoor settings would increase the likelihood that pre-service educators would overcome perceived barriers.

Based on this study, pre-service early childhood educators appear to primarily associate outdoor settings with educational outcomes regarding learning about nature. This narrow focus centres on structured learning about nature, with park, forest, and water environments being most conducive to doing so. Other curriculum areas are limited to learning in the classroom. Many educators acknowledged a lack of experience and knowledge in outdoor instructional activities and their limited knowledge of natural sciences. This lack of scientifically literate citizens is higher in the USA than in many European and Asian nations (Carrier et al., 2014). This suggests there is an opportunity for pre-service instruction to better convey the importance of unstructured learning and nature exploration, as well as reduce the perceived need for content and information, such as field guides, prior knowledge, and naturalists to accompany them whilst in nature.
Teachers’ beliefs have a significant impact on their attitudes and actions towards students and curriculum (Carrier et al., 2014). These beliefs can be limiting. Many teachers see environmental education as part of the science curriculum, and as a result follow a traditional science teaching methodology of transmission/teacher centred lessons. Invariably, these are classroom based and ignore the learning potential just outside the window. As one UK teacher describes, after seeing the attraction of outdoor learning:

I realised how important it (outdoor learning) was, whereas before I would have just gone into year 1 and thought, well it’s year 1, knuckle down and lessons all the way. (Waite, 2010)

One Survey of 51 schools in England found that outside of PE classes, older children at primary school did not experience any type of outdoor curriculum on a daily basis. This may be a result of concentration on core subject areas creating pressure on the broader school curriculum. It also reflects a distinction between “play” and “work” in school settings, so that playful learning is not as valued as highly as more direct taught learning, despite the importance (and current lack) of enjoyment in learning in the UK (Lord, 2006; Lumby, 2010).

The potential role of green school grounds to facilitate formal, informal, and non-formal outdoor learning experiences is well-established (Dyment, 2005). In being outdoors, learning easily comes alive; with the touching, smelling, and even tasting of the material being studied. In addition, learning is enhanced because being outdoors can provide endless opportunities for learning about interconnections. Rather than seeing subjects as discreet entities, students experience firsthand the interconnections between subjects, like math, language arts, and science, as skills are often required from many subject areas to complete a task. Students also get a deeper sense of the interconnections between their education, their home lives, their environment, and their future (Dyment, 2008). As well, researchers point to the informal learning that occurs
outdoors during unstructured time as being intrinsically motivating as it happens without teacher intervention (Adams, 1993; Moore & Wong, 1997; Titman, 1994).

Another barrier to accessing the outdoors centres on safety concerns and specific interpretations of risk. We see the stories in the media of students falling out of trees and their families successfully suing the school board. In some school districts in North America, signs are now posted discouraging running on playgrounds and the playing of tag it. This is very much a result of a society’s values, beliefs, and legal system (Staempfli, 2009). European courts offer little financial incentive to sue from injuries sustained on playgrounds. Unsurprisingly, European countries are leaders in play-based and experiential education. In one 2010 survey, teachers expressed concerns about the safety of their students when visiting rivers, ponds, and marshes. They also worried about poisonous plants, getting lost, the class size being too big, other people causing trouble, and the threat of animals (Simmons, 2010). These are valid concerns, and many can be mitigated by initially using the school grounds, where appropriate, as the staging ground for outdoor learning. As teacher confidence and student familiarity with being outdoors grows, other options become available. A risk averse culture (Furedi, 2002; Humberstone & Stan, 2009) can impinge upon the freedom teachers feel to offer activities that they may nevertheless believe are beneficial for children. As one teacher pointed out (Waite, 2010):

Risk assessment is naturally a consideration but can be restrictive if overdone. Child to adult ratios can reduce the natural risk and allow children to enjoy the environment and learn to take risks as part of their development. In addition, problem solving is developed in the greater freedom offered by the outside.

The right to play in certain settings is also being squeezed out by an increasing focus on academic preparation at earlier childhood levels than previously. The requirements of school curricula are unavoidable. Kindergarten is the new grade one, and seat work often replaces multi-
sensory, child-directed and open-ended play. Going outdoors is associated with physical learning, thereby missing the range of developmental benefits (Ernst, 2013).

Many of the perceived barriers to taking students outside can be easily managed. Practical concerns such as class size are easily addressed with forethought and an open and flexible approach. Curriculum guides are increasingly available on-line, an excellent example being, Natural Curiosity: Building Children’s Understanding of the World through Environmental Inquiry (OISE, 2011). This teacher based resource is available as a free down-load and focuses on using environmental inquiry, with examples of units from elementary teachers in Ontario (www.naturalcuriosity.ca).

A much more complex barrier to getting students outside is the teacher’s own values. Teachers’ explicit and implicit beliefs guide their actions and teachers who did not spend time in nature in their own childhood do not seem to value taking their students outside. This is perhaps the most significant barrier to overcome. I recently served as the co-chair of my school’s Professional Development Committee. In the fall, teachers were given a list of potential areas of focus for professional development for the coming year, and were asked to rank their importance. Increased access to, and use of, technology consistently ranked high for teachers, and exploring the importance of taking our students outside was consistently ranked near the bottom of the list.

If teachers had access to a resource that outlined the benefits of outdoor learning, would the value they attach to leaving the classroom for the woods or school ground change? In turn, would this affect their teaching practise?
Chapter Three - Discussion

“The woods were my Ritalin. Nature calmed me, focused me, and yet excited my senses.”

- Richard Louv, Last Child in the Woods

The main objective of this Design Project was to provide an opportunity for teachers to pause for thought and reflect on their practice around taking students outdoors. I believe that all teachers have the best interests of their students at the heart of their teaching. If presented with a website with reliable and pertinent information regarding health concerns facing children in the 21st century, along with the health benefits resulting from taking students outdoors, would teachers place more value on learning outdoors? Would it be possible for such a website to help teachers overcome perceived barriers and respond to the needs of their students?

The research presented in my review of related literature strongly suggested that children are spending too much time indoors on a digital device of some kind. I certainly saw this phenomenon in the inner-city children that I taught. I had always struggled with the idea of anyone, not just a child, spending close to 8 hours each day in front of a screen – it seemed impossible to do, and yet of an evening, students routinely spend a couple of hours on Facebook, watch a movie or two, settle in with Minecraft; before you know it, midnight is knocking on the door. For me, being a digital immigrant, rather than a digital native (Prensky, 2001), I was also surprised to hear my students describe how their parents were also in front of their own screens for much of the evening. This was different than sitting in the living room together and watching a family movie. This was now two generations of a family getting a tremendous amount of their daily stimulus from the blue light of a glowing screen, often apart in separate rooms in their home.
One can only imagine the difficulties of connecting their children to nature that face some socio-economically challenged parents. How to foster that connection whilst working two jobs or shift work, living in an apartment complex with no outdoor space, miles from any natural setting? I knew there was a role for schools to play here. Would teachers taking students outdoors on a daily basis be one of many steps towards increased enjoyment of school, increased self-regulation, environmental literacy, and ultimately, crossing that stage with “dignity, purpose, and options” (Halbert & Kaser, 2013).

My research strongly suggests that time outdoors benefits both the physical and socio-emotional health of students. For me, the challenge focused on how to get other teachers to embrace this philosophy. I have received a tremendous amount of enjoyment from taking students outdoors during the past several years. I wanted to convey that sense of enjoyment and enthusiasm to other educators. Richard Louv posits that an “environment-based education movement--at all levels of education--will help students realize that school isn't supposed to be a polite form of incarceration, but a portal to the wider world” (2005). Could I design a resource for teachers that would help them lead students to that portal?

The Seven Core Principles for Learning Environments (Innovative Learning Environments, OECD Publications, 2012) were instrumental in shaping my approach. For me, the two principles that stood out were the social and emotional nature of learning. To shift someone’s teaching practice, I would have to give them reasons to connect on an emotional level: as teachers we will see the faces of some of our students in the list of potential health concerns facing our children today. My resource would also have to appeal to the social nature of learning: could it inspire teachers to collaborate with other colleagues? Would it be relevant enough to stimulate conversation in the staff room or merit discussion at a staff meeting?
The journey to designing this blog was interesting. I did some research on nature schools and discovered Davis Bay Elementary School on the Sunshine Coast of British Columbia. ([http://dbeweb.sd46.bc.ca](http://dbeweb.sd46.bc.ca)). Davis Bay Elementary has traditional mainstream classes alongside the Nature Education for Sustainable Todays and Tomorrows (NEST) Program. One phone call and two ferry rides later and I was standing in the middle of an outdoor classroom situated in a forest beside a river. The day was inspirational, and seeing the children in the forest reaffirmed my commitment to explore outdoor learning.

I hatched a plan to share the benefits of outdoor learning through facilitating a District Professional Development Day session in February, 2015. I called my session, *The Rise of Indoor Childhoods: Getting Students Outdoors Everyday*, and I intended to present on the benefits and challenges of outdoor learning. Unfortunately, my session was cancelled due to a lack of participants signing up. Still keen to share my insights, I then thought about developing a resource guide booklet for local educators in the Nanaimo-Ladysmith public schools but kept coming back to the same concerns:

- How would I gain maximum distribution/exposure?
- Would my guide end up sitting on bookshelves with other under-used resources?

The idea of a website or blog appeared to meet these concerns head on. Digital resources are easier to keep current, thereby maximising their relevance, and giving teachers a reason to visit the website. As well, the site could be accessed from anywhere – a coffee shop, a ferry, a tablet sitting on the bedside table; anywhere you go this resource could be right there with you. Some of the resources, projects, and articles could also be shared with students on screens in classrooms, increasing their awareness and engagement with outdoor learning.
A case study commissioned by Scottish National Heritage confirmed this belief. Allison’s research in 2009 found that teachers were keen to have access to support materials to enable them to take students outside. The study suggested that the development of a web-page to allow teachers to access:

... information, risk assessment templates, curriculum linking materials, names of local contacts and other relevant information would be merited. This type of initiative...creates a far greater capacity for pedagogical interventions to become deeply embedded in school practice in the longer term. (Allison, 2009)

Often, resources promoting pedagogical change skip across our surface, leaving barely a ripple behind. In choosing to design and build a digital resource, it was important that the online content draw the viewer in and allow them to build connections with their own practice or the circumstances facing them. My site has already done much of the heavy lifting for the visiting teacher in terms of researching outdoor learning. Following the structure presented here in Chapter 2, the blog concisely lists the health concerns facing our children. It is a disturbing inventory, made more so as we each have likely witnessed these phenomena in our own classes. Building on this connection, the blog also explains the wide-ranging benefits of outdoor learning for children. Many of the current resources online are geared towards nature preschools or forest kindergarten programs. This resource is designed for teachers of students ranging from kindergarten through to grade 7.

I chose WordPress over Weebly as the blogging option seemed more interactive than the more static option of a website. A blog is a simple, easy-to-use platform for connecting with and sharing timely and relevant information; it’s a direct communication channel. Writing a blog shares your insight and passion. A blog also creates a two-way conversation with peers. It
encourages interaction, comments and feedback. The interaction is very appealing to me and I look forward to hearing the insights of other educators who are passionate or curious about outdoor learning.

In building this site it was important to avoid overwhelming users with disheartening information about the state of twenty-first century childhoods in Canada; health concerns are noted and addressed in a concise manner. Similarly, barriers are addressed succinctly. Resources for outdoor learning are the heart of the blog. Outdoors68 (www.outdoors68.ca) is intended to celebrate the wonderful opportunities available to educators. The blog has been designed with ease of access in mind. As such, it is an invitation to come in and browse, with the hope that you will find reason to return again and again.

Outdoors68’s home page has its raison d’etre front and centre:

We believe that every young person should experience the world beyond the classroom as an essential part of learning and personal development, whatever their age, ability or circumstances.

The other prominent feature on the home page is the blog button, as it is intended that the site is very much about communicating new ideas. The home page has a navigation bar with the following tabs:

- **About Outdoors68** provides a brief background and statement of intent.
- **Healthy Students?** links to two sub-headings: Physical Concerns, and Socio-Emotional Concerns
- **Why Outdoors?** links to two sub-headings: Physical Benefits, and Socio-Emotional Benefits
- **What’ Stopping Us?** links to two sub-headings: Practical Concerns, and Pedagogical Concerns
• **Resources** links to three sub-headings: **Hands-On, Our Reading List, Like-Minded Souls**

• **Contact Information:** links to email address and instructions on submitting articles, reflections, etc., to the blog

As previously noted, the “**Healthy Students?**” and “**Why Outdoors?**” pages will list salient points with two to three sentences of relevant information taken from my review of related literature. The “**Resources**” page has three sub-headings:

• **Hands-On** links to practical applications and examples of outdoor learning

• **Like-Minded Souls** links to organisations and websites that promote outdoor learning

• **Our Reading List** lists exactly that, as we wade through the extensive literature available

For me, it was important that **Outdoors68** avoid being associated with the smell of wet Birkenstocks and patchouli oil. Equally important was the desire for it to not look like a design project cobbled together to fulfill a partial requirement of a Master’s of Education degree. If it did either of the above, I knew that it would give some teachers a reason to generalise, make assumptions, and discount where the blog is coming from. Though steeped in research, it needed to stand alone in the digital world, and appeal to as wide a range of educators as possible.

To meet these criteria, I ensured that the **Resources** pages of **Outdoors68.ca** offer a wide selection, starting with practical, try-this-in-your-class-tomorrow suggestions, and ranging to more philosophical, curl-up-with-on the sofa-for-the-weekend treatises. **Our Reading List** has articles from Salon and The Huffington Post designed to appeal to the novice and the seasoned outdoor educator, and can be read over a cup of coffee. David Sobel’s and Richard Louv’s writings require more commitment and promise significant payback. The **Hands-On tab** lists
organizations that provide training and workshops, as well as guides on how to stimulate writing through creative play outdoors, garden with kids, and play adventure games. Organisations that provide funding and resources are found in the **Like-Minded Souls** tab. If you are wondering how to teach your students to use a global positioning system (GPS), are looking for outdoor math games, want a current article on the benefits of outdoor learning for a concerned parent, or are unsure of the legal check-list for that sky diving field trip, [Outdoors68](http://www.outdoors68.ca) has you covered.

**Outdoors68** has been designed to act as a support, offering articles, exemplars, and experts within the community. It addresses the barriers to getting students outside and is an agent of change. A Master’s in Education Leadership has, at its heart, the notion of change, and many in my cohort struggle with how to bring change into the institutions we teach in. Any significant change in one’s pedagogy will only succeed if one’s values align with the proposed change and one receives the necessary support. As Nundy, Dillon, and Dowd (2008) noted with one British teacher:

> When we first went to the woods, and I have been in the school for 22 years and I never thought of using the woods, it is pathetic and sad, but I hadn’t, until I started Trailblazer (a supporting program)...

British Columbia is in the process of rolling out new curriculum across all grade levels, and change is in the air. In hanging out [www.outdoors68.ca](http://www.outdoors68.ca) on the web for interested souls to peruse and ruminate over, it is my hope that the site reaffirms or challenges deeply held beliefs and values, or piques someone’s curiosity and helps guide them towards embracing a new value: the importance of taking our students outside every day, wherever possible.

My belief in the value of outdoor learning was recently re-affirmed at the Grade 7 Leaving Ceremony. I had taught many of these students for both grade 6 and 7. For many students, their
favourite memory from eight years at Fairview Community School was either sea-kayaking around Newcastle Island in grade 6 or spending the day on the water slides at Splashdown Water Park in grade 7. Those were some of my favourite moments too.
Chapter 4 – Design Project

Please refer to www.outdoors68.ca to see the completed design project. The following screen captures illustrate the content of the sixteen webpages I created for my design project. Explanations of these webpages and their contents can be found in chapter three of this thesis (p.35-37). I intentionally use the term “we” here as it is my hope that the blog will be communal. Its design and creation was undertaken solely by me up to this point.
The Healthy Students webpage frames the context for our concerns regarding the health of children today.

Healthy Students

The Oxford University Press has announced plans to delete a number of words associated with nature from the next edition of the Oxford Junior Dictionary. Thirty species of plants and animals — such as acorn, blackberries and minnows are being replaced with terms like analogue, broadband and cut-and-paste; this reflects a societal shift to a more sedentary lifestyle that has left many children disconnected to the outdoors and vulnerable to negative effects associated with physical inactivity.

It would appear the well-being and health of our future generations are at risk. According to the World Health Organization’s Global action plan for the prevention of noncommunicable diseases 2013 – 2020, there is global concern over the progressive trend towards lifestyles that are conducive to promoting non-communicable diseases.
The **Physical Concerns** webpage provides an overview of the physical health challenges associated with childhood today.

**Physical Concerns**

We are seeing rising rates of childhood hypertension, cardiovascular disease, type 2 diabetes, obstructive sleep apnea, asthma, and vitamin D deficiency.

The prevalence of childhood obesity worldwide is at an all-time high, whilst the proportion of children around the world meeting physical activity guidelines is very low, and likely declining.

The Centre for Disease Control and Prevention has expressed concern regarding preschool-age children, where obesity prevalence has increased from 5 to 12.4% in recent years. Furthermore, a 2008 review concluded that only 54% of pre-school children between the ages of 3 and 5 years engage daily in 60 minutes of moderate-to-vigorous physical activity.

There is empirical, observational, and intuitive evidence that children today “play outside less than their parents did and that children’s play has become more structured and occurs increasingly indoors.”
The **Socio-Emotional Concerns** webpage provides an overview of the social-emotional concerns associated with childhood today.

**Socio-Emotional Concerns**

Increasingly, children and adolescents are being prescribed medication for depression and anxiety. Individuals under twenty years of age have the highest rate of depression symptoms, with onset beginning in early adolescence.

Anxiety is increasingly found within classrooms regardless of a school’s socio-economic status. *The decline of play and the rise of psychopathology in children and adolescents* (Gray, 2011) examines the direct link between generational increases in psychopathology and declines in outdoor play time. Gray cites evidence indicating that play deprivation contributes to a reduced sense of personal control, reduced ability to control emotions, increased social isolation, and reduced happiness.

Current generations of youth have 5-8 times more clinically significant scores on standardized measures of anxiety and depression when compared to youth in the 1950’s. Several studies also suggest that the age of first onset has decreased from adulthood to adolescence.

Most mental health problems can be detected prior to the age of 24, and 50% of these difficulties surface before the age of 14. Mental health difficulties contribute to problems with achievement and relationships at school.
The *Why Outdoors?* webpage presents an overview of benefits associated with outdoor learning.

**Why Outdoors?**

Historically, learning outside of a classroom setting is how most people in the world have learned. Learning outdoors helps address areas of concern such as physical well-being, and reaching deeper levels of engagement and learning.

Experiential education or activity-based learning is associated with increases in social-emotional learning, school engagement, and academic achievement.

“Green” school grounds, which contain a greater diversity of environmental features such as trees, gardens, and nature trails, can play a vital role and stimulate physical activity in greater numbers.

Time spent outside of a classroom is not only better for our health; it is also better for our ability to learn.

For many, vivid childhood memories of field trips and time spent outside the classroom continue to resonate far into adulthood. The use of places other than the classroom for teaching and learning contribute significantly to education because they often provide the most memorable learning experiences, and help us make sense of the world around us by making links between feeling and learning. They stay with us into adulthood and affect our behaviour, lifestyle and work. They influence our values and the decisions we make. They allow us to transfer learning experienced outside to the classroom and vice versa.
The **Physical Benefits** webpage details the benefits to physical health associated with learning outdoors.

**Physical Benefits**

- In using the environment – trees, parks, and fields that surround a school, studies show an increase in motor fitness in students.
- For every additional hour students spend outdoors, physical activity increases by 27 minutes a week and prevalence of being overweight drops.
- Children who live within a kilometer of a facility that contains playground equipment are almost 5 times more likely to be classified at a healthier weight than children without accessible playgrounds.
- Outdoor activity in nature may also benefit children’s health by improving asthma, myopia, and chronic pain issues.
- Outdoor physical activity has been linked to increased academic performance in the form of increased engagement, class behaviour, and levels of concentration.
- The rigidity and norms of classroom behaviours appears to recede in participatory pedagogy outdoors – characterized by more open relationships and mutually constructed ways of thinking about, rather than delivering, knowledge.
The **Social-Emotional Benefits** webpage details the benefits to social and emotional health associated with learning outdoors.

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**Socio-Emotional Benefits**

- The experiential nature of outdoor learning offers authenticity: opportunity for exploration and play; autonomy; freedom; creativity; novelty; incidental learning; enjoyment; and competency in social contexts
- Research in outdoor programming shows enhanced self-esteem, self-efficacy, coping, competence and decreased delinquency, suicidality, and violence
- The *biophilia* hypothesis suggests humanity’s historical contact with nature has left an indelible mark, giving us an affinity for all things living – plants and animals alike
- Depression and anxiety order show the strongest association to the amount of nature in people’s living environments, especially in children
- Higher exposure to natural environments presents lower stress levels in children; being nearby nature restores children’s capacity for attention and helps them to better think through problems
- Studies show that nature can restore the mental fatigue associated with prolonged concentration; fatigue characterised by difficulty focusing, feeling irritable and being easily distracted
- Nature engages the human mind away from the stressors, allowing for reflection
The **What’s Stopping Us** webpage presents an overview of the challenges teachers perceive they face in taking students outdoors.

**What’s Stopping Us?**

The factors that negatively influence teachers’ use of outside green space are varied, ranging from practical issues such as lack of green space and fear of litigation, to more intangible issues – not valuing the experience for children because they have never experienced such a thing themselves.

As such, these barriers fall under two main groupings:

- pedagogical/lack of knowledge concerns
- practical concerns

Our [Resources](#) page has suggestions for overcoming some of these challenges to taking students outdoors.
The **Practical Concerns** webpage lists the areas of practical concern that teachers feel prevent them from taking students outside.

### Practical Concerns

- Availability of suitable outdoor areas
- Class size
- Fear and concern about young people's health and safety

Edit
The **Pedagogical Concerns** webpage lists the areas of pedagogical concern that teachers feel prevent them from taking students outside.

**Pedagogical Concerns**

- Availability of curriculum guides
- Knowledge of outdoor instructional activities
- Understanding of the application of classroom subject matter to outdoor instruction activities
- Knowledge of natural sciences
- Value of such experiences to children
The **Resources** webpage provides an overview of the different resources available.

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**Resources**

The resources are designed for teachers of students ranging from kindergarten through to grade 7.

**Our Reading List** has articles from the likes of Salon and The Huffington Post, designed to appeal to the novice and the seasoned outdoor educator, and can be read over a cup of coffee. David Sobel’s and Richard Louv’s writings require more commitment and promise significant payback.

The **Hands-On** tab lists organizations that provide training and workshops, as well as guides on how to stimulate writing through creative play outdoors, garden with kids, and play adventure games.

Organizations that provide funding and resources are found in the **Like-Minded Souls** tab.

If you are wondering how to teach your students to use a global positioning system (GPS), are looking for outdoor math games, want a current article on the benefits of outdoor learning for a concerned parent, or are unsure of the legal check-list for that sky diving field trip, Outdoors68 has you covered.
The **Hands-On** webpage offers practical guides, and organisations that offer training.
The **Like-Minded Souls** webpage lists resources/organisations that support outdoor learning.
The Reading List webpage offers a comprehensive overview of the tangents of outdoor learning.

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Our Reading List

- Childhood and Nature: Design principles for educators
- Ecoliterate: How Educators Are Cultivating Emotional, Social, and Ecological Intelligence
- Forest and Nature School in Canada: A Head, Heart, Hands Approach to Outdoor Learning
- Learning in nature is good for students and teachers
- Learning through outdoor experience: A guide for schools and youth groups
- Linking Food, Culture, Health, and the Environment: A New Alignment with Academic Standards
- Outdoor learning: Education’s next revolution?
- Outdoor Learning Handbook
- Outdoor Learning Risk Assessment Check-list
- Place- and Community-Based Education in Schools
- Science beyond the Classroom Boundaries for 3-7 year olds
- Science and Technology beyond the Classroom Boundaries for 7-11 year olds
- Smart by Nature: Schooling for Sustainability
- Special Places: Special People: The hidden curriculum of school grounds
- Spiral of Inquiry: for equity and quality
- 10 Reasons Why Handheld Devices Should Be Banned for Children Under the Age of 12
- UBC education expert says kids benefit from learning outdoors
- Your Brain on Nature
The **Blog** webpage will be used to post blog entries.

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**Coming Soon.**

July 16, 2015 / gary68 / 0 Comments / Edit

Please check back later in the summer for outdoor learning musings...
The **Contact** webpage is for viewers to email their comments and questions.

**Contact Outdoors68**

Please contact us via email at: gchantrell@sd68.bc.ca
Chapter Five - Summary and Conclusions

Summary

The documentary, PLAY AGAIN (2010), examines the question: What are the consequences of a childhood removed from nature?

The average American child now spends over eight hours in front of a screen each day. She emails, texts, and updates her status incessantly. He can name hundreds of corporate logos, but less than ten native plants. She aspires to have hundreds of online friends, most she may never meet in person. He masters complicated situations presented in game after game, but often avoids simple person-to-person conversation. They are almost entirely out of contact with the world that, over millions of years of evolution, shaped human beings — the natural world. One generation from now most people in the U.S. will have spent more time in the virtual world than in nature.

Most teachers are already seeing these consequences. In documenting the health concerns facing children with increasingly sedentary lifestyles, and researching the benefits of outdoor learning, the focus of this design project has been to develop a website and blog that addresses the commonly perceived barriers to outdoor learning. The lack of curriculum support for outdoor learning is directly addressed in the Resources pages of Outdoors68.ca. The lack of value attached to outdoor learning by some teachers can be challenged with the extensive research on the state of our children’s health today, and the direct affect that getting kids outside has on their health.

Many, if not all, parents love to see their children outside – playing on a beach, climbing a tree in the park, having a picnic in the backyard. As a fairly seasoned traveller, I was a late convert to the attraction of Hawaii as a destination. Having now been there twice, I see what draws me back is the opportunity for my children to be outdoors all day surrounded by pristine...
natural settings. Anyone who has travelled to Hawaii has likely spent time in an ABC store. They are ubiquitous and despite their relatively small square footage, somehow sell everything from ambre solaire, groceries and liquor, to hula dancer emblazoned nail clippers and bobble head Obama figures. ABC stores are the pinnacle in one stop shopping. The aim of this design project was to provide a similar one stop experience for teachers in Nanaimo-Ladysmith who are interested in outdoor learning – a place to browse for new ideas, or get valuable information, for example: how to apply for a grant to “green” one’s school grounds, or develop curriculum related to outdoor learning. This research design focuses on the development of a blog for teachers that is informed by theory and research. As such, Outdoors68 has a rich foundation of information concerning why we should be taking our students outside, and presents evidence of the consequences of not doing so. In his book, Childhood and Nature: Design Principles for Educators (2008), David Sobel argues that before we ask our children to save the environment, we need to give them compelling reasons to love the environment. We must do the same for teachers. Meaningful connections with the natural world do not begin in the rainforest or arctic, but in our own backyards, schoolyards and communities. The blog, Outdoors68 is intended to help provide teachers with resources that may help overcome any perceived barriers and challenges to taking their students outside into schoolyards, parks, and communities.

Suggestions for Further Development

The blog dovetails with a growing re-emergence of place and community-based education; an approach to teaching and learning that offers a way to extend young people’s attention beyond the classroom to the world as it actually is, and to engage them in the process of devising solutions to the social and environmental problems they will confront as adults. This approach can increase students’ engagement with learning and help enhance their academic achievement.
The Resources page of Outdoors68 could link directly to organisations involved with place and community-based education.

The blog has the potential to serve as a bridge between teachers and community members who are interested in partnering to achieve similar goals. As such, it could also showcase examples of outdoor learning partnerships within the district. Having the 68 in the domain was intentional, referring to School District 68, Nanaimo-Ladysmith, British Columbia, rather than one particular individual or school. Schools featured in the OECD’s Innovative Learning Environment Project (2010) stress the benefit of cooperating with community members. Model Vihti, based in the village of Vihti, Finland, expands the learning environment outside the classroom, and seeks to build links between children and nature. This ILE is a partnership between facilitators, schools, municipal officials (youth and leisure, culture, environment, and pre-primary education), and local NGO’s. Nanaimo-Ladysmith Public Schools currently have one eco-school that hopes to develop partnerships with a variety of community groups. Outdoors68 could be used to promote such partnerships.

This fall (2015) I begin teaching in an intermediate classroom at the Departure Bay Elementary Eco-School in Nanaimo, British Columbia. In this capacity, I will also be working with eight Year 5 Bachelor of Education students from Vancouver Island University, who are embedded into the school for one day per week for their Principles of Teaching and Learning Course. It is my hope that they, being digital natives, will embrace the blog and further its appeal to pre-service teachers, through their own contributions to Outdoors68.ca, and sharing the blog as a resource for other pre-service teachers.
Unfortunately, a new generation of teachers is growing up indoors lacking a basic understanding of the natural world either from personal experience or formal education (Stevermer, Geary, Hoffman, & Barstow, 2007). Undergraduate courses in science are content based rather than process based, and fail to address the need to cultivate children’s natural tendency to ask, “why?”

Visit any second grade classroom and you will generally find a class bursting with energy and excitement, where children are eager to make new observations and try to figure things out. What a contrast with many eighth-grade classes, where the students so often seem bored and disengaged from learning and from school! (NRC, 2000)

This is true of pre-service teacher training courses all over. Scotland has extensive coverage of outdoor learning within its curriculum, yet has not, despite considerable effort over the past twenty years, developed a formal teaching qualification in outdoor education (Higgins & Nicol, 2008). Having pre-service teacher training programs develop awareness of outdoor learning as a pedagogy that could raise student achievement (Rickinson et al., 2004) and address issues of student health and well-being would be a positive development. Such training would address one of the biggest barriers to teacher confidence in outdoor learning, the impact of ‘limited training’ (Hanna, 1992, O’Donnell, Morris, & Wilson, 2006).

Limitations

The primary goal of this design project is to address barriers to outdoor learning as perceived by teachers. In my opinion, the most significant challenge lies with teachers who, for a variety of reasons, do not “value such experiences to children” (Mirka, 2014). Currently, many teachers are enthralled with the potential for iPads and Chromebooks to increase student engagement. I
understand this, and I have gladly used grant funds to purchase Chromebooks for students who would benefit greatly from accessing speech to text apps on a daily basis. Absolutely, there is a place for technology within our teaching. In all things, however, we need a sense of balance, and I would argue that the balance has swung far from outdoor learning and place based instruction. Will a blog help correct this for the students of the Nanaimo-Ladysmith public schools? Will Outdoors68 help shift values? The blog will only be effective if it is being viewed. For those individuals that do not value outdoor learning, one wonders if they would take the time to peruse a blog devoted to outdoor learning.

Final Thoughts

The First Peoples Principles of Learning states: Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place)(www.bced.gov.bc.ca/abed/principles_of_learning.pdf). Unsurprisingly, vital elements of outdoor learning correlate with much of the First Peoples Principles of Learning. This particular principle resonates with me for its emphasis on connectedness and a sense of place. I have long advocated that the curriculum we teach our students must be connected to the world outside of the classroom; otherwise we are wasting our students’ time. Outdoor learning builds in genuine connections through its holistic and experiential approach.

The sense of place is more personal. In looking at why I value taking students outdoors, I now see the tremendous effect a sense of place has had on my own journey from childhood to adulthood. I have had the good fortune and privilege of growing up, and living and working, in some of the most sublime locations the world has to offer. Time outdoors is woven throughout these experiences. Even my years spent teaching in Taipei, a city of five million people, twice as
many two cylinder scooter engines, and endless concrete, are ear-marked by weekend escapes through the mountains, to laze and surf on the black volcanic sand beaches of the South China Sea. Being outdoors centres me and keeps me sane; and the research shows that this is the same for our students.

On a deeper level, as the son of two working-class parents in England in the 1970’s, the education system was politely grooming me for a career stocking cans of baked beans at the local supermarket. Moving to Canada introduced me to schools and teachers that expected students to go onto post-secondary education. There is nothing wrong with a career spent working at a supermarket, but there is something wrong with an education system that fails to build connections to its learners and offer them meaningful choices for their futures. In designing Outdoors68, my hope is that it will encourage teachers to explore, with their students, the world beyond the textbook and the classroom window, and that this will help students build a deeper connection to their education, develop their sense of place for themselves, and impart an enduring appreciation of and love for nature and being outdoors.
Bibliography


Challenges To Learning Outdoors


