

Nature-Play: Creating and Building an Outdoor Learning Environment for Young children

by

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Abstract

Regular outdoor time in nature is a fundamental requirement for a child's healthy development and in today's society where children are transported from school to daycare to organized activities the connection between children and nature is falling short. In the words of Louv (2008) children of the 21st century have a "nature deficit disorder". This paper will examine literature that positively supports the importance of getting children outside to play and learn through a place-based philosophy. The goal of my project was to create an outdoor classroom where I could take my students and reconnect them to nature through outdoor nature-play. I was inspired to help my students get more access to nature where they could have the opportunity to spend meaningful time in it, and to learn from it while making meaningful connections to the community they live in.

Keywords: nature, outdoor nature-play, outdoor classroom, place-based learning

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Chapter 1: Introduction

“Passion does not arrive on videotape or on a CD; passion is personal. Passion is lifted from the earth itself by the muddy hands of the young; it travels along grass-stained sleeves to the heart. If we are going to save environmentalism and the environment, we must also save an endangered indicator species: the child in nature.” Richard Louv (2005)

Technology and Play

When I started this journey to my Masters I thought that I wanted to do a project that examined play-based learning using information and communication technologies (ICTs) such as iPads or iPods. I wanted to learn with, discover and create for the 21st century learner in my classroom. The Kindergarten children I teach have grown up in a 'techno-literacy' world. They are truly digital natives who do not remember a time without video games, cell phones or the Internet. I would not consider myself to be a *Luddite* nor technologically inept, I use a computer, iPad and a cell phone daily. ICT's make my job and personal life easier but I am not dependent upon them. I am definitely not a digital native like my students. Children today are living and playing in this 2.0 world. They approach new technology with no fear and embrace what it has to offer. Children learn through play and a great amount of today's play does involve technology. Do I want to promote this type of kinesthetic passive learning where children are glued to electronic handheld devices? Even though my husband does not consider me to be an outdoor enthusiast, my heart keeps telling me to put down the idea of iPad's and technology and get back to nature and the outdoors.

Tomboy Roots

As a young child I was drawn to nature and the outdoors. I was always outside playing in the garden, climbing the big cherry tree and rolling or sledding down the hill in our front yard. I

was a true tomboy at heart who loved to play with my friends, mostly boys, in the sandbox or on the edge of the ditch, ride my bike and capture and collect critters of all kinds. I kept jars of sand, rocks and even snakes, okay they were only worms but I called them snakes. I lived deep in the heart of the suburbs surrounded by manicured lawns far removed from any real natural environments. Our yard and neighbourhood street was my 'natural' playground. I remember spending hours on the edge of my front yard, where the grass and pavement met; driving my Lego truck and trailer through the forest of weeds on the tiny dirt roads we created to the ditch where the toy boats of the campsite awaited. My play mimicked true life in which every summer was spent camping in the Okanagan with my family, hiking, canoeing and swimming in lakes. The elementary school I attended did have a beautiful wooded area on the edge of the school fields and I remember spending every recess and lunch hour playing capture the flag, tag games or just wandering through the woods collecting pine cones. I still recall a story my mother told me a few years back, of a car trip we took on winter holiday when I was only five years old. We were driving to California to go to Disneyland for Christmas break and on the way we stopped to see the Grand Canyon. I marveled so much at the enormity and beauty of that sight that even after we returned from Disneyland all I could talk about was the Grand Canyon and the rocks I had packed home. As my childhood progressed I tried the 'girly' stuff like ballet and Cheerleading but I was always drawn back to my tomboy roots, of bicycles, baseball, bugs, and rocks.

I Don't Like Psychology or the Rain

I am not sure if it was in my teens or early twenties that my attitude about nature and being outdoors started to change, but it did. I knew from an early age I wanted to be a teacher

and Psychology seemed to be a logical major but as I transferred from college to university and entered my third year, I started to have doubts about this choice. I had taken a Canadian geography class in college as a prerequisite for teacher preparation and loved it. I decided at this time to make a change and pursued a degree in physical geography. I studied hydrology, forest soils, geomorphology and even quaternary geology. I hiked through the forest surrounding Simon Fraser University, dug in the soil of the Washington badlands and even licked a few rocks to discover their properties. I was fascinated about how landforms were created and what material they were comprised of. But at some point, soil became just dirt, and the rain and cold became a nuisance which messed up my hair. I have never been called a 'girly girl'. I do love camping, riding my mountain bike, kayaking and even packing home a few rocks from a hike. But fair weather and beaches now seem more favorable. Yet, I realize that, even in the rain, I am at my most relaxed. I am calm and at peace, both spiritually and mentally, when I am outside playing and enjoying nature. Whether I am riding my mountain bike, hiking with my dog or on the ocean in my kayak I am happy. It is in nature that my eyes become more focussed, my ears more alert, and my mind excited for what I may see or discover. I am that child again playing in the yard or wooded area of the school full of adventure and wonder.

Teaching through Play

After I finished my Bachelors of Arts in geography I pursued a Bachelors of Education with a primary focus. My teaching career thus far has had me in intermediate classrooms, resource rooms, as a District reading teacher and for the past 10 years as a Kindergarten teacher. I have enjoyed all my teaching positions but my heart resides in the Kindergarten classroom.

I believe all Kindergarten students are unique. Their learning is inquisitive and authentic by nature. Learning at the Kindergarten level is ‘real’ world knowledge; the knowing through living and interacting in the fun playful moments of their childhood. When the Kindergarten program changed to a full-day program a few years ago, I embraced wholly the idea of play-based learning. Before the implementation of full-day Kindergarten I was a slave to the curriculum and had no time to let my students delve into play and discover things on their own. Now with more time and no new additions to the curriculum, I have time to let the children play, discover and learn without having to guide the play and their learning at every step of the way. Learning is what young children do, it is innate and natural, and to learn through play is what they understand. Children play because they like it. They are free to choose the activity and it is undefined by anyone except those children who are playing. Play is personal and meaningful. But in this day and age where more parents expect their young children to learn specific academic skills and the Ministry of Education wants teachers to meet all of the prescribed learning outcomes, this idea of child-centered learning-play is hard to accomplish. At best, guided-play is what occurs most often. Today “many of our children do not have access to the natural play experiences we experienced as children” (Wardle, 2007, p.1). They are too busy being transported from school to daycare to organized after-school programs. When they get home, they become plugged into passive computer games or TV watching.

Take It Outdoors

Living and teaching on the north end of Vancouver Island, I am surrounded by the beauty of nature. My school is nestled beside a beautiful river that flows through a rainforest and is only minutes from the beach. I have taken to getting my class outside at least once a week. We

go on forest walks to collect leaves. We throw stones and branches in the river to watch them make ripples and float away. We go puddle jumping just to get wet. We go to the beach and turn over rocks to search for crabs. It is in these small outings with my class that I see children truly learning through play. They become: biologists investigating the fish in the river; botanists studying the ferns in the forest; environmentalists that care about the trash on the beach; engineers designing bridges and boats to float in the river; artists who create with found objects; inventors as they figure out how to bring water to their newly created dam; dreamers as they gaze at the clouds; problem solvers to figure out how to cross the rocky creek; rock climbers tackling the steep-river banks; and even teachers and collaborators with their peers. Being outside seems to bring out everyone's curiosity, compassion, kindness and respect for each other and nature. It is on these adventures outside the school walls that most negative behaviour and discipline challenges seem to disappear. We learn from each other and from what our environment has to offer. We are true explorers and learners.

Outdoor Kindergarten?

Now picture, if you can, this inquisitive, engaged group of 22, five year olds at the beach flipping over rocks with bated anticipation of what will crawl out, or searching the leave and moss covered carpeted forest floor for slugs. How could I not want to jump at the chance to pursue more nature-based activities with them? Why would I not want them to have these rich outdoor experiences? Outdoor schools where young children learn through hands-on play in nature have “been a fixture in Denmark since the 50’s, with other Scandinavian countries, as well as Germany and Britain, following in its footsteps” (Gordon, 2013, p.21). The British Columbia Education Plan talks about putting students at the center of learning and “connect(ing)

students more directly with the world outside of school” (2011, p. 3,). In my view this is outdoor nature-based play at its best.

How can I persuade parents to see the educational value of restoring outdoor nature-based play? What are the benefits of outdoor learning through play? Do the rewards outweigh the risk of outdoor play? These are a few questions that I ponder as I approach this project to propose and create, for my school and local District, an outdoor learning space, with its own curriculum, for my Kindergarten students to explore and learn in.

Chapter 2: Literature Review

“All the manufactured equipment and all the indoor instructional materials produced by the best educators in the world cannot substitute for the primary experience of hands-on engagement with nature. They cannot replace the sensory moment where a child’s attention is captured by the phenomena and materials of nature: the dappled sparkle of sunlight through leaves, the sound and motion of plants in the wind, the sight of butterflies or a colony of ants, the imaginative worlds of a square yard of dirt or sand, the endless sensory experience of water, the infinite space in an iris flower.” White & Stoecklin (1998)

What is Play?

As Dewey (1929) realized, it is innate and natural for young children to be inquisitive and want to learn. Much of their early learning is achieved through play. All children play, and arguably it is this action that defines and makes children uniquely children. As adults in Western society we have all watched children play with cars and trucks, blocks or dolls and participate in games of tag, build forts, and pretend to be princesses or pirates. But what makes play actually play? In his article, Wardle (1987) defines play:

Play involves a free choice activity that is non-literal, self-motivated, enjoyable, and process oriented. Critical to this definition is the non-literal, non-realistic aspect. This means external aspects of time, use of materials, the environment, rules of the play activity, and roles of the participants are all made up by the children playing. They are all based on the child’s sense of reality. (p.27)

In relation to this definition, play is fun. It does not have to have specific meaning or structure. Most children do it because they want too. True play involves imagination, risk taking and problem solving during which the child is also trying to figure out how they fit into their surroundings, peer group and community of learners. Accepting this, play may be seen as “a biological drive by which the child seeks to place themselves in a favourable position in their environment” (Lester & Maudsley, 2007, p. 11). Play essentially allows children to explore,

discover, create and learn in a way that is exclusively their own and in ways which makes sense to them. As children learn new skills, repetitive play is used to practice or strengthen understanding and advance them in their learning to the next level. A child's play happens in the, 'here and now', moments they experience in their life making them stronger, wiser and truly better children.

Play happens in many different forms or types. Motor or physical play occurs when children move and develop both their gross and fine motor muscle strengths and brain function. Social play helps children move through different social stages to develop moral reasoning and mature their sense of values. Constructive play allows children to experiment with objects and to learn basic constructing methods, as well as a sense of accomplishment and control over their environment. Fantasy play allows children to develop flexible thinking, stretch their imagination and think beyond the walls of the box. Social contracts and rules can be learned from games (Wardle, 2007, pp.2-3). "This 'games with rules' concept teaches children a critically important concept – the game of life has rules (laws) that we must follow to function productively" (Wardle, 2007, p.3) Contemporary all-day Kindergarten programs that utilize and support play-based learning see "play as key to building imagination, confidence and cognitive and social skills" (Gordon, 2013, p. 17). Play is the foundational building block of how children learn basic knowledge about their world and how to function in it.

What is Outdoor Nature-Play?

Outdoor nature-play for young children is more than just playing or being outside. It is learning from the land or environment around them and experiencing it first-hand. Nature is by definition, "all the animals and plants in the world and all the features, forces, and processes that

exist or happen independently of people, such as the weather, the sea, mountains, reproduction, and growth” (www.dictionary.cambridge.org). What this definition does not take into account is that in today’s society most natural environments, more than 95 per cent of the Earth, has been directly or indirectly influenced or altered by humans at some point (Lester & Maudsley, 2007, pp.3-4). Louv (2008), suggests nature be represented as “natural wilderness: biodiversity, abundance – related loose parts in a backyard or a rugged mountain. Most of all, nature is reflected in our capacity for wonder” (p. 8). Nature is what captures your senses and makes you excited to see, hear and learn more about it.

Children have always played, and to play outside in nature is not a new concept. Children are naturally drawn to nature and the outdoors through their innate curiosity and inquisitiveness of their world mentioned above. Young children view their world much differently than adults do, and a child’s world is small or more contained in comparison to an adult’s. To a child nature is not extensive green areas that have been untouched by humans or breath-taking views (Finch, 2010b, p. 1). It is comprised of what they see outside their home; it is their front yard, street, neighbourhood and community. Nature to a child can be found in the grassy lawn, the trees in the park or the vegetables and bugs in grandma’s garden. “The world of nature is not a scene or even a landscape. Nature for the child is sheer sensory experience” (White & Stoecklin, 1998, p.1). For children, natural elements such as; streams, beach rocks, forest soil, trees, plants and flowers create, an opportunity for open-ended play, discovery and unstructured learning. White states, “access to their immediate environments and natural features – the streets, green areas, playgrounds and parks, nearby wastelands, woods, nature reserves all offered possibilities for exploration, expeditions and playing with natural elements” (as cited in Lester & Maudsley, 2007, p. 17). How children learn through play is quite

fascinating. Children seem to continually test their knowledge and ability in their surroundings to see what they can do and discover. It is through these small risk/benefit analyses that they learn to progress their own understanding and knowledge of the environment around them. “When students are in a natural environment they will naturally learn” as the result of “allow(ing) students to explore and experience as a method of learning, which could be accomplished through play” (Brewer, 2012, p. 235).

Benefits of Outdoor Nature-Play

Place Attachment, Health and Mental well-being.

Most adults develop connections or feelings (positive and negative) to their home and the places they visit often, and the same is true for young children. “Direct and repeated experiences of places in childhood, together with the social meaning attached to them by children and others (e.g. parents, teachers and peers), tend to have the biggest influence on the subsequent development of place attachments” (Jack, 2010, p. 758). Outdoor play in natural and playground environments give children the opportunity to become ‘at home’ with their immediate surroundings or the world they know. They begin to make the positive connections needed to take those small risks that are required to develop and grow emotional and developmentally.

Everyday greenspace, specifically greenspace near the home, has also been linked with myriad other benefits such as: greater impulse control and delay of gratification, and fostering more play, more creative forms of play, greater capacity to cope with stress, and adult supervision, as well as lower rates of obesity. (Taylor & Kuo, 2011, p. 300)

Young people and children have repeatedly conveyed, through their everyday actions, that place, identity and well-being are often closely connected.

Research evidence has also shown that when people are in pleasing outdoor environments they feel good. It is these feelings of euphoria that result in an increased ability to recall information, problem solve, and be more creative. In other words, when children are happy and their basic needs are being met (not hungry, or cold), they are better able to learn and usually enjoy that learning. “When children play in nature they are more likely to have positive feelings about each other and their surroundings” (White & Stoecklin, 1998, p.1). These positive feelings and general happiness often lead to less disruptive behaviour and discipline problems. “Whenever kids are lost in active play, they are very mindful” (Gordon, 2012, p.34) or attentive to who and what is going on around them. Having “periods of recess (play) throughout the day increased positive student behaviour and academic performance” (Brewer,2012, p.233). In addition, outside play “freed the young mind from the rigidity of the classroom, adult expectation, and order” (Brewer, 2012, p.233).

Being outside also brings on a sense of restful calm and contentment because the brain chemistry is actually changing. The stress hormone cortisol, as well as blood pressure and pulse rate, decrease while serotonin levels increase (Gordon, 2013). “The brains of people after exposure to nature have revealed blood-flow and hemoglobin levels in the prefrontal cortex similar to those in a meditative state” (p. 28). Being outside, away from the hustle and bustle of a noisy, over active classroom, allows children to focus on inquiry and learning; not wasting their time and energy on filtering the information overload that troubles them inside. “Children who have trouble paying attention or sitting in a classroom tend to do much better outside, where

they have room to move and can usually find something that fascinates them” (Gordon, 2013, p. 30).

Another benefit of children being outside involved in free play is that they are moving their bodies. Open outdoor spaces allow young children to run, jump, climb, and balance in ways that they are unable to in normal classroom environments, move in ways that are critical to physical and cognitive development . “Outdoor play provides children daily opportunities to use and develop large muscle skills as well as the opportunity to express themselves freely and loudly” (Taylor & Morris, 1996, p.153). Natural environments not only encourage physical activity and cognitive development they stimulate immune functioning. “Controlled studies in the United States have shown that regular contact without outdoor spaces reduces the symptoms of attention deficit disorder in children” (Gill, 2008, p.137). In Japanese studies on forest bathing, breathing in the wood essential oils given off by trees, people saw an increased in their natural killer cells, T and B cell counts. Natural killer cells along with T and B cells are our bodies’ defense against infections (Kuo, 2010, p.31). It is this increase that results in “ a higher on-going level of natural killer activity” (Kuo, 2010, p.32) and therefore a healthier immune system.

Rewards versus Risks of Outdoor Nature-Play

When addressing the subject of outdoor nature-play with young children, risk factors have become an important topic to consider with their numerous obstacles. In today’s society, the term ‘risk’ seems inadequate in describing the trepidation that many parents have about letting their children play outdoors. Today’s parents often seem to instill into their children, at a young age, the “fear about traffic, crime and ‘stranger

danger” (Jack, 2010, p. 761) more than any previous generations. Parents not only fear traffic, and that ‘someone might take’ their child, they also worry about things like “broken glass, needles and condoms... negative influences of hearing foul language, and various forms of dirt” (Kernan & Devine, 2010, p.380). Gill (2008) adds:

Children are spending more time in childcare of one form or another.

When they are at home, their parents keep them under tighter rein because of fears (justified or not) about the dangers that wait beyond the front door.

(p. 136)

It may be these perceived outdoor dangers that have driven children inside, and has negatively impacted their “perceptions of their local area, affecting not only their views about safety, but also the level of friendliness and helpfulness of local people” (Jack, 2010, p.760). A child’s environment or world is already small in size. Now, “changes in urban environments restrict children to ‘islands’ such as homes, daycare and schools. Children are, in this sense, absent from the community” (Waller et al., 2010, p. 440). If children are not allowed to venture out and be part of their own world or community they may not develop place attachment and in turn may not develop a healthy identity with feelings of self-confidence and belonging. As seen above, several researchers have argued that it is this growing anxiety of parents, perhaps due to electronic media and how fast news travels around the globe, which has resulted in children losing their freedom to be kids and play outside in their local natural environment. “Many ‘normal’ childhood activities, such as climbing trees, playing in the local park or streets and riding a bike to a friend’s house, were not permitted ... unless children were supervised by an adult” (Jack, 2010, p. 761).

Educators should ask: Are these restrictions on a child's freedom warranted? Parents may see themselves as protecting their children, but at what cost? "There is growing evidence about the damaging effects of these restrictions may actually be having on children's health, evident, for example in rising levels of childhood obesity and mental health problems" (Jack, 2019, p.762). Nature play, or being outside, can be a dangerous activity. Children have in the past been hurt while outside during nature-play. Often most injuries from this type of play are your typical scrapes, bruises and an occasional broken bone. As educators we realize that in both supervised and non-supervised educational contexts such accidents may occur. As Finch (2012a) writes:

Life itself is dangerous. Life is full of risks, and we should hope it remains so. Without taking risks, no child would ever learn to walk or ride a bike. No adults would ever take up a new sport. No company would ever create a new product. Risks are an integral part of progress. Thus the goal shouldn't be to eliminate all risk from our children's lives, but to manage and keep them in perspective. (p. 1)

Adults and children are presented with a multitude of risky activities daily. They subconsciously do risk/benefit analyses over and over again to decide whether the risk is suitable, and will it have positive impacts that are worth its inherent dangers. It is the "reduction of risk through understanding the environment rather than adult restriction" (Waller et al, 2010, p.441) that allows children to grow and develop competently. Children are not born with this knowledge of informed judgement or the awareness of their own abilities and weaknesses. This is something that has to be taught through life experiences (Finch, 2010a, p. 2). An extreme example, in the eyes of the North

American society, is how Norwegian outdoor kindergarteners are taught. They “advocate a method of selectively and gradually introducing the child to new things with the purpose of extending the child’s understanding and in turn dissipating his fear” (Brewer, 2010, p.238). Part of the Norwegian Kindergarten curriculum is to construct and learn how to use a knife for hunting, fishing, carving etc. Brewer (2012) retold a story about using knives. “If you bring a child over and explain to them the purpose of something and empower them to use it then their curiosity is satisfied appropriately and they will only engage with the item when necessary” (p.238). In this respect, young children are taught that risk-taking “is a powerful catalyst for growth that helps them develop good judgement, persistence, courage, resiliency and self-confidence” (Finch, 2012a, p. 2).

What is the Value of Restoring Outdoor Nature-Play?

Taking children outside to learn through play is giving them the power to create their own curriculum through the doing, experiencing and living in the moments they make. “Forest kindergarten isn’t about moving classroom dynamics outside. It’s a different way of teaching and learning, a process driven by the children” (Gordon, 2013, p. 44). It is an inquiry based model of learning that allows teachers and students to learn together. This differs greatly from traditional ‘indoors’ learning. “While the spontaneity and freedom afforded to children in the outdoor opens up the opportunity for more flexible adult/child interactions, it also challenges normative and perhaps more ‘comfortable’ assumptions around teacher/pupil identities” (Kernan & Devine, 2010, p. 380).

Research has identified that “natural settings are essential for healthy child development because they stimulate all the senses and integrate informal play with formal learning” (Louv, 2008, p. 86). But experiential deficits are becoming a reality. As Gill (2008) states, experiential deficits are occurring due to the restrictions placed on a child free play. Children are either not allowed to play outside or do not have time because their young lives are continually scheduled. Experiential deficits play a key role in children’s ability to cope. It is through experience and doing, that children can best learn to interact and socialize with different people in different situations to create relationships. They need to be given responsibility and choice to encourage such important thinking and behavioural skills (p.137). “Children whose lives are too controlled may not have the chance to learn some key life skills that are acquired – perhaps only acquired – through self-directed experiences, and as a result may find it increasingly difficult to cope as they grow up” (Gill, 2008, p. 137).

“Outdoor play is an integral and critical part of the early childhood education curriculum” (Taylor & Morris, 1996, p.157). Outdoor nature play not only gets children moving and exploring their environment, it gets them thinking about it too; fostering healthy growth and development for their body and mind. Outdoor play allows children to “engage their senses, brains and bodies in ways that will enhance health and learning” (Gordon, 2013, p.27). In education, we need to consider if we can find a way to change fear-driven perception about being outside, and allow our children opportunities to learn from their natural environment. As argued throughout this section, such changes may only occur if parents and teachers see the value in outdoor nature-play, and help to make it happen.

Chapter 3: Personal Project

“At a time of growing alarm both at the constraints and pressures on childhood and at the damage being done to the planet by the modern world, giving back to children the chance to enjoy and nurture their affinity with nature is one of the most important challenges of our time.”
Adrian Voce (2007)

Creating an Outdoor Classroom

In this chapter, I will outline how I came to the decision to create an outdoor learning space and online resource guide. I will examine the ordeals and gratifications of building this outdoor classroom and connecting it to the public through a blog.

My Vision

I choose to create this outdoor classroom space, adjacent to my school, so I could have a safe close place I could take my class to explore. Children love to be part of and learn through the doing, exploring and playing in nature. I hope that in this space that both their bodies and minds would grow from the sites natural beauty and all the learning opportunities that it has to offer. I believe regular outdoor time in nature is a fundamental requirement for a child’s healthy development and in today’s society the connection between children and nature is falling short. From the literature I have read and the positive experiences I have had with my class in the outdoors, I have been inspired to help my students get more access to nature where they can have opportunities to spend meaningful time in it, and to learn from it while making meaningful connections to the community they live in.

My Story

Why beneath the Trees?

Throughout this journey that has been my Master's I always had in the back of my mind that I wanted to create or develop an outdoor Kindergarten curriculum for my school and district as my project. In the past decade, with the rise of technology, the amount of time young children spend outdoors has rapidly decreased. Students in my class do not play in or even know their own neighbourhood and the natural environments within them. These children live in a community with glorious natural environments all around them but lack the awareness or time to truly explore and play in these areas. Over the past three years I have also seen the number of boys in my classroom rise, and they now outnumber the girls three to one. You do not often find a room full of five year old boys who are happy sitting at tables reading, drawing and colouring. Little boys want to move, they need to move. As I have stated, and research has proven, young children learn through doing and exploring but the average classroom does not have the space needed for these young children to move, explore and grow physically, socially and cognitively.

I live in a small, rural community with an abundance of natural environments right outside my classroom door, the perfect place in which an Outdoor Kindergarten program would succeed and flourish. I started researching and reading about Outdoor or Nature Kindergarten programs. Outdoor Kindergarten programs in British Columbia are a relatively new phenomenon, but have been around and have thrived in many Scandinavian countries for years. I discovered that Outdoor Kindergarten programs usually follow the same BC curriculum as regular Kindergarten classes they just incorporate an outside component for some part of the school day. These outside times or experiences foster inquiry skills and learning through purposeful exploration and play as well as developing environmental stewardship. The Outdoor Kindergarten encourages and supports a child's intellectual, emotional, social, artistic, aesthetic

and physical development, the same as all regular Kindergarten classes. Why could I not take advantage of the beautiful surroundings of my own community to do this too?

For the past few years I have done weekly nature walks with my class. We go outside and look for seasonal changes, watch the fish spawning in the river, explore the beach for crab and shells, even dig in the school gardens looking for worms. I love the outdoors and noticed my students were just as excited about these small outings as I was. My students always seemed more engaged, more curious and more committed to their own learning when we moved the activity outside. For example, over the past 10 years I have been part of the “Salmonoids in the Classroom” stewardship program offered to teachers and students on northern Vancouver Island. As a class we raise Coho Salmon in our classroom learning about their life cycle, the role salmon play in the food web and how as humans we influence the coastal ecosystem. For many years I did this program in a school where the students and I did not really have a connection to the river or the salmon because the river was so far away. We did take fieldtrips to the Quatse Salmon Stewardship Center but never got to explore, learn and appreciate the river and all that it had to offer. I would show the children posters of salmon, or read stories about salmon and keeping the water clean, we may even watch short YouTube clips about salmon on our Smartboard but basically the learning was happening inside the classroom with no connection to nature or our community. However, for the last three years I have been teaching at a school that is located right beside a salmon bearing river and only blocks away from where it drains into the ocean; which has allowed me to take the students outside, to see up close and explore the river and become connected to its environment and our roles as salmon stewards. I have been able to experience and see how the children now have a deeper understanding and appreciation for the

salmon and their habitat. The students have a deeper respect for the river and the natural environment surrounding because they have a connection to it.

After exploring the literature I realized I do not have to create a whole new curriculum. Outdoor Kindergarten program already exist and have a proven track record. What I needed is a place outside to teach Outdoor Kindergarten in. A place outside in nature where the children could make connections to their community and learn from. I decided to build an outdoor classroom.

Waiting outside the Forest

Talking and collaborating with a fellow teacher in my school, we decided that the forested area of community green space adjacent to our school on the Little T'sulquate River would be the ideal space to create an interpretive trail and an outdoor classroom. The trail and classroom could be designed and built off of an old pre-existing, unauthorized mountain bicycle trail. It is a short walk away, convenient and manageable for my young students; it is also connected to an existing trail network easily accessible from the school grounds. This centrally located trail network is nestled between housing subdivisions and the school grounds; therefore, I believe reducing the risk of encountering larger predatory forest animals such as bears and cougars. This is not to say that this area is devoid of such animals, it is still a well-established and densely forested area, but due to it being centrally located and well used by the community the risk of encountering bears and cougar is reduced. This mature stand of trees would give way to an easily useable staging area to create an outdoor classroom or seating space.

Since the forested area we choose is on a parcel of land owned by the District of Port Hardy, we thought the responsible thing to do was seek approval to develop my colleague's

interpretive trail and my outdoor classroom. With a bit of guidance from my husband, who had sat on the Parks and Recreation Committee for the District of Port Hardy for many years and had written many similar proposals as the North Island Trail Riders Organization (NITRO) president, we went about writing a proposal (see Appendix A) to the town council and then, along with a few students we presented it at a town council meeting. In the proposal we asked for permission to reactivate an existing path, build a bridge and create an outdoor classroom for our school to use. Our proposal stated how we would like to provide authentic opportunities for our students to directly connect their learning to the places in which they live and hoped that this progressive place-based initiative would foster a growing development of a partnership between our school and the community. The proposal was received at the council meeting with great enthusiasm and what seemed to be a great deal of support, but the decision was tabled until the next month so it could be discussed further and brought to the districts Operational Services Committee who would decide its fate. I felt very optimistic when I left the town council meeting that our proposal was a success and would hopefully be approved but, from early experiences I had with my husband running NITRO and seeking permission to build mountain bike trails I knew an approval was difficult to obtain. While I waited to hear whether this outdoor classroom would be approved, I decided to prepare my class and research what kind of outdoor space I wanted to build.

Young children learn from direct experiences. They learn by exploring, playing, listening, watching and imitating adults and peers. I began teaching my class about being socially and environmentally responsible while in the classroom and on our weekly nature walks. I had written newsletters to parents about these weekly walks and asked for support by sending their child with an extra change of clothes to leave at school, rain or “puddle” pants, and boots.

At first we ventured close to the school, gaining each-other's trust, always remembering our rule about watching out for, and staying, with your buddy. "Being prepared" and "dressing appropriately" frequently became topics we discussed. We would brainstorm as a class what we would actually need versus what we wanted to take on our outings, remembering that what they wanted to bring, they had to pack. Most children would come dressed for the weather but some learned the hard way and would come back from our outings with wet, cold feet. On occasion our outings were cancelled due to poor weather or postponed due to one or more children not being prepared to go outdoors. I realized after several outings that asking parents and reminding students to come prepared to go outside sometimes was not enough. I discovered one child did not have boots that fit and others did not own rain pants. I had just assumed because we live in a rainy climate these items were common place and had not thought about a child or their family's economic status. This was a barrier that I was going to have to solve if I wanted these outing to become a regular occurrence. I approached the local thrift store and began purchasing rubber boots. It was a small cost I was willing to incur to help my students experience what our rainy outdoors had to offer. I was also going to approach our PAC for monies to purchase a class set of rain pants but, a colleague who is also passionate about our outdoor programs and had already received monies from PAC for outdoor purposes and was willing to purchase them for me.

We talked about responsible collecting of things like shells, leaves and small animals, and that perhaps taking photographs, videos or sketching the animal or object would be better than removing objects from their locations. When we did collect items like leaves, seeds and pine cones to observe we made sure to limit the amount we collected and did not pick any living plant material as to not harm the living organisms. In late fall we went on a leaf hunt. My class was very eager to find the red maple leaves we had read about and seen in *Red Leaf, Yellow Leaf*

by Lois Ehlert. I knew in the subdivision behind the school we could find many maple trees, so off we went. I remember reminding the children, before we headed out, to only pick the leaves off the ground and to try and stay on the sidewalk and not wonder into people's yards. We wanted to respect not only the trees and but the people who lived in our community too. I also collaborated with another teacher, and along with peer mentors, we taught bear and cougar awareness. Living in bear and cougar country, this is a safety concern that needed to be addressed before I took my class further off the school grounds into the surrounding forest and beach. These lessons (see Appendix B) would usually start in the classroom with me reminding the children about our safety rules; bear and cougar preparedness, staying with your buddy or line of sight (if you cannot see an adult, the adult cannot see you) then us venturing to the edge of the school ground, the neighbourhood park or even the beach to read an anchor story to introduce the big idea. It was before and during these nature walks that the children learned to act respectfully and responsibly toward each other, to our environment and all the living things in our environment. They reminded each other about looking both ways when we came to street crossings, they held hands without complaints and they even shared their finding excitedly with everyone. While venturing down to where the river flowed into the ocean to see the spawning salmon, I remember we had to climb over a log to get to the river bank. One little girl was apprehensive to climb over and a male student just offered her a hand. There was no teasing or laughing because she was afraid to climb over, just a helpful hand of a friend. Perhaps it was the deeper understanding from the direct experiences and connections the students were making to their natural environment that made them more socially responsible and kind or maybe it was the calming effect they were experiencing from just being outside, away from the formal, sitting at desks, learning associated with traditional classroom learning experiences. I have discovered

from experience that hands-on learning engages both the body and the brain in kinesthetic learning and leads to deeper understanding but I did not expect to see so much enjoyment and excitement from my students. Outside, the student's attention spans seem endless and behaviour problems seem to disappear. During my research on Nature Kindergarten programs I did read research in Andrea Gordon's book *Forest Kids* (2013) that had proven brain chemistry changed when people breathed clean, fresh air outside. Was this why my class of five year olds seem calmer and less stressed? Yet, outdoor experiences I took my class on at times seemed incomplete. When we ventured to the beach we had logs to sit on and share our findings and discoveries. When we explored the school gardens we could sit on the grassy field or come back inside our classroom to debrief the big ideas. But, when we explored the river, beside the school, or ventures into the surrounding forests we had no place to gather or meet. There was no place we could make a connection to.

The Forest Space: Preparing for Ground Breaking

During this waiting for approval period, I also began researching where and what I wanted this outdoor classroom to look like. Would the outdoor class be in the forest or would it be better suited on the school grounds? What kind of seating and how much would I need? Did I want more than one open area to teach in? Would I need funding for materials? Could I get donations for materials? Would I need to recruit colleagues or develop a committee to help in the building process? I started to become overwhelmed with details and needed answers before I could even think about building. While reading for my literature review I was so focused on finding out the benefits of outdoor education and how to plan for an outer Kindergarten programs that I had never even contemplated or thought about researching how to build an

outdoor space. I quickly discovered many online resources and a few books on how to design and build outdoor spaces. It was at this time I took a step back and asked myself, what do I really need? Then, I read this quote by Herbert Broda in the book, *Moving the Classroom Outdoors: Schoolyard-Enhanced Learning in Action* (2011),

Seating and plantings, activities and curriculum connections all help to create meaningful outdoor learning experiences, but nothing of substance occurs unless inspired and inspiring people get involved. What makes things happen is enthusiastic ‘dreamstorming’-creatively thinking about possibilities and opportunities. (p. 190)

After much thought and deliberation I knew I wanted simple outdoor seating on the school grounds and more importantly in the forest. Having a place the children could go to, be comfortable and take ownership of. A place they could connect to and be proud of. At this point if my outdoor classroom was going to become a reality I realized I would have to keep it inexpensive, simple and build it in phases. I decided phase one would consist of simple seating in the forest and phase two would consist of building the bridge across the drainage ditch and building benches on the edge of the school grounds. Phase one would not require any funding and could be started as soon as the approval came through. With a few walks through the predetermined trail, with my husband, the spot to build phase one became clear. The area I choose to build this first outdoor class in, is right off the trail in a relatively flat spot with little underbrush, mature trees and a high, open canopy. The sun is able to penetrate the canopy so the area is not too dark but at the same time provides shade and a retreat from the potential downpour of rain when needed. This location is close to the trail head, with easy access and a

beautiful view that overlooks the river. The open seating area would be made up of tree trunk rounds positioned in a circular formation.

When my colleague and I were finally contacted, by the Operational Services Manager, from the District of Port Hardy on whether we could proceed with our interpretive trail and outdoor classroom the news was not exactly what we were hoping for. The trail and classroom was not being approved. The town council thought the idea was great and could see many benefits it would offer the children in the community, but due to what they perceived as maintenance requirements and funding required for such maintenance not in their budget, as well as liability issues that could arise from lack of maintenance the official approval could not be granted. They explained to us this did not mean we could not build it. The Mayor, council members and Operational Services Manager said we could go ahead and build but needed to realize we were on our own when it came to funding and maintaining the area.

Breaking Ground

The actual building of the outdoor classroom was accomplished in two, very long, weekends with the help of my husband, Brad. Brad, is an avid mountain biker and experienced trail builder. It was Brad who first spotted the, relatively flat, open space that became the optimal location for my outdoor classroom (see Appendix C). The trail had not been used in years and was in very rough shape. Our first task was to determine the trail route, clear garbage and assess what hazards had to be removed. Not only did we have to clear and prune branches from the trail, we had to fall some small trees that had been vandalized (attempted to be cut down) and were now blocking the trail to users. After clearing and pruning branches, removing a few fallen trees and a lot of raking, the trail and new seating area started to take shape.

The decision to use tree trunk rounds for seating was not only aesthetically pleasing but also economical. We were able to find a couple mature fallen cedar trees in the forest that could be bucked up to create small stump like stools. The stools were easy to create and seemed unobtrusive to the beauty of the natural surroundings. The main seating area had a small path down to the river bank and a few additional stump stools were added in this secondary clearing. Another colleague suggested we create a forest gallery to make the space more personal and give the students more ownership to the space. Perhaps a nature alphabet created from twigs, or prayer flags that display forest creatures and plants crafted by the students could be added later.

At the same time I was working on building my outdoor classroom, I was also created my online resource. A simple blog with informational pages (see Appendix D), lesson idea, links to other outdoor classroom resources and pictures to promote my outdoor learning space. The blog gave me the opportunity to post lessons I had either used in an outdoor setting, new lessons I hoped to use very soon in my new outdoor classroom and a way to share my excitement about my outdoor classroom with my colleagues. As I created the initial pages for the blog I became enthusiastic to search out like-minded teachers or early learning educators and in doing so started adding links to my blog in hopes that these people would share my blog as a link too. I wanted to get my ideas about how to use and incorporate an outdoor classroom into Kindergarten or any primary classroom and thought using the world wide web would be the easiest way to get my message out. This blog is now being attached to our school and district websites and can be easily accessed by all teachers and parent on the north island as well as anyone visiting these sites (<http://www.eves.sd85.bc.ca/>). I have had only a few visitors to this site as of yet but hope with some promoting it in my school and on my own class Facebook page I will start to drum up more traffic.

Exploring the Forest

The first time I took my class outside to our new outdoor classroom I was terrified and excited at the same time. Would the children like the new seating area? Would it connect them to the natural environment in the way I had hoped? We had ventured through the paved trails in the forest adjacent to the school grounds many times before, but had never gone this far into the forest. We had done a similar lesson on leaves at the beginning of the year and explored our school grounds as the outdoor component. I prepared my students for the outing by discussing our basic rules about sticking with a buddy and what we do if we encounter a predatory animal. As we entered the new trail and made our way to the meeting area I could see the anticipation in my student's faces. The weather that day was not perfect, a little cold and it felt almost like it was going to rain, but my student's enthusiasm and interest was not dampened. When they arrived at the stump stools they automatically found a seat and waited to hear the story I had brought to start our lesson. That first story, *Leaf Man* by Lois Ehlert was heard by all but, I believe, heard in a different way. As I read to my class under the leaves, about leaves it was like we were in the story book experiencing it up close and personal. At that moment the sounds, smells and sights of the forest enhanced the story and brought it to life. I stopped at one point so we could listen to the wind, and see if we could hear the branches and leaves blowing like in the story. Not only did the children say they heard the wind in the trees, they heard birds chirping and the river babbling. We closed our eyes and listened again focussing our senses on our surroundings. This time they not only heard the forest they could smell it too. The damp wet soil, freshly cut logs and sweet pine trees aroused their sense of smell. I could see the children were making deeper connections to the text and giving the story more meaning through the place we were in and making connections to. As the story ended and the children began to explore our

surrounding with their newly opened eyes and ears, they scoured the ground in search of leaves, pinecones and twigs to create their own 'leaf man'. As the students searched out natural item to create with and collaborated with their buddy I noticed that they were all actively engaged and fully engrossed in the activity, they were excited to show me and their classmates their creations and could not wait to get their hands on the iPad to photograph them. As the lesson and our time in the outdoor classroom was coming to an end there were a few complains about wet bottoms and not wanting to head back to the school so soon, but nothing to cause anyone major distress. I felt blissful and triumphant about our first outing as I was bombarded with the question, when will we come back to the forest, as we happily hiked the path back to the school.

This first lesson and outing was not perfect but a success none the less. We spent over an hour in our new outdoor classroom that afternoon, listening, exploring, creating, sharing and having fun. As I look back on that day, I must remember to pack all essential materials before leaving the school. I had created a teacher's kit of supplies I thought would be helpful after reading *Get Outdoors: An Educator's Guide to Outdoor Classrooms* which I received after taking a Project Wild professional development course this past Fall. My teacher's kit contained items I thought would be helpful and essential for our outing to the outdoor classroom to be successful. The kit included: a class list, cell phone, pencils and pencil sharpener, field guide on trees and plants of Vancouver Island, our class iPad and a whistle. My teacher's kit was definitely useful but missing items. I forgot a first aid kit, and I need to change my class list to include contact numbers just in case of emergencies and I may need to create 'sit-upons' or homemade seat pads to prevent cold, wet bottoms until the warmer spring weather dries out our stump stools.

What the Future Holds

As phase one of my outdoor classroom is complete and now being used, I hope to start adding more posts to my blog. This digital space will serve three goals: I can store curricular ideas or lesson plans and make them available for others to use; share relevant links to other outdoor educators and communities; and provide a place for other outdoor educators to ask questions or comment on the benefits and concerns they might have about moving their classroom outside. I am eager to get my blog more exposure and accessible to other educators via social media sites like Facebook, Pinterest and Twitter. With more exposure I am looking forward to meeting and chatting with other educators who have or use outdoor classrooms to share our thoughts, ideas and even fears. I also want to put up a small sign in the outdoor classroom, with a QR code, linking the trail and outdoor class to my blog.

I am a little fearful this forest location might be vandalized due to the previous vandalism and trash found in and around the area. My goal is that the more students that get to experience and use this outdoor classroom the more they will feel connected to and responsible for it. If vandalism does occur the students will get to learn a life lesson about the value of ownership and respect for their community and environment.

I want phase two, second outdoor classroom (and bridge), to be located on the school grounds, and I believe it will require some funding and support of my school and district administration. I have approached my principal about the idea of this second outdoor space but have not followed the idea up with the school district yet. I can see some, if not all of the funding and materials coming from the school PAC and from community donations if I present a proposal showing how phase one in the forest has been successful. My vision for this second outdoor space is an octagon of benches with a sand box in the middle situated in the grassy area at

the front left corner of the school grounds. This location does receive some sun but is mostly shaded by large trees and is located beside the river. I think this second outdoor classroom would get used more frequently by my fellow colleagues due to it being on school property and the apprehension or fear of taking students into the forest would be lessened.

Chapter 4: Reflections

“Most people are either awakened to or are strengthened in their spiritual journey by experiences in the natural world.” Richard Louv (2005)

My Cognitive Journey

When I began reading and researching articles and books that would become my literature review, I was focussed on how children learn through play and real world experiences. I was hoping to find some enlightening research papers or articles that would conceptualize my thinking about teaching outdoors and help me create an outdoor curriculum I could tailor to my Northern Vancouver Island classroom. What I discovered, through my reading, was that I did not need a new inspiring document at all. I just needed to get kids outside.

I had noticed that children in my small rural community were often absent from parks, school playgrounds or even quiet cul-de-sacs. I agree with the research I read by Waller et al (2010), that “a combination of real and perceived pressures is changing the quality and quantity of children’s play” and perhaps we needed to “romanticize the past and call for a return of the days when children could go out and play” (p.437). I had started reading *The Last Child in the Woods* by Richard Louv a few years ago and had decided to start taking my Kindergarten classes outside, not only to play, but as a way to enhance my science program. These “nature walks” seemed to make my students light up with excitement and I am always astonished how the children seem to remember every little bit of information and knowledge I would try to slip in on these outings. Perhaps the children made deeper learning connections because they were experiencing them first hand, while playing on the beach looking for crabs or exploring the forests for that maple leaf with the perfect shade of red. Or was it because the act of getting outside is associated with the freedom and fun all young children crave? Research has proven

that young children learn best through play and Brewer (2012) concluded that outdoor play and subsequent learning was perceived as giving the students a break from the regular routines and structures of indoor classroom schedules. From my view, my students liked these outings or “nature walks” because they were fun. They were able to discover, be part of, and learn from our neighbourhood and community all while playing, not realizing they were also learning.

As Dewey(1929) stated so many years ago, “much of present education fails because it neglects this fundamental principle of the school as a form of community life” (p.19). I started to realize how having a personal connection to our outdoor community, whether it was the beach, river or my outdoor classroom, gave my students that sense of belonging and empowered their learning. This outdoor play and learning becomes more meaningful for the students and, with deeper meaning, comes a stronger cognitive understanding. I began to see how the children were taking ownership of our outdoor spaces and truly respected these areas. A few students picked up litter that was dropped in the outdoor classroom as we walked back to the school on one occasion, and still others were concerned that someone had thrown tins in the river where we, as a class, had released our Salmon fry only weeks before. My students were not only connecting to our outdoor spaces, they were developing new beliefs, practices and an understanding of social responsibility which I hope, in turn, they will transfer and apply to other places. The students will learn to respect and value their outdoor nature classroom and I hope, at the same time, will come to realize the school grounds, neighbourhood gardens and beaches are also places that they can make connections. Gordon (2010) stated, “place attachment depends on developing clusters of positive cognitions linked to the meaning of specific place” (p.758). These life experiences I was offering my students truly educated them. I started to realize while

out on our “nature walks,” that place-based learning was the fresh, innovative way I wanted to teach. My traditional focus on curriculum is now changed to an emphasis on place.

Safety has always been a concern of mine because I do teach young children, so I was not really concerned with the risks of taking my young students off the school grounds to explore and learn about our local community and natural environments. My school has developed a “walking fieldtrip” permission form that parents sign at the beginning of every school year which allows teachers to take students off school property. As I stated previously, my community is quite small and the school is centrally located, so these forms allow teachers to take their classes out into the community to visit the public library, local beach, parks or any other community location to aid in their teaching. I believed, and literature by Finch (2012) and Staniforth (2009) confirmed, that being prepared and knowing the area before you take children out, would not only reduce any risks, the benefits of going into the community far out-weighed those risks. Bumps, scrapes and broken bones can happen to anyone, anywhere, no matter how prepared and careful you are. I do not believe my class has ever been on an outing where at least one child does not fall, slips, or bang an elbow. It is the distress of not knowing what to do that creates irrational fear which can cause safety protocols to dissolve. However, recent events with predatory animals (wolves), has caused alarm with fellow colleagues and some parents. I believe that educating one’s self on the environment, and being prepared for any emergency, will make the outdoor learning activities as safe as possible. I did not limit our “nature walks” when the our community was experiencing the influx of wolves; I just adjusted our route and stayed on the well-established, more frequently used trails and off the beach where the wolves had been sighted the most often.

It was these minor set-backs that occurred while creating and implementing activities for my outdoor classroom that led me to rethink how I could get information out to parents and teachers who wanted to know more about moving learning outside. I did not want to copy and send home numerous newsletters or preach to my fellow colleagues in staff meetings. I wanted an unobtrusive way to share my newfound knowledge. This was when I thought about creating a blog to showcase the outdoor education possibilities my school offered. A helpful colleague and avid blogger gave me a crash course in blogging and, with much trepidation, I slowly began posting and warehousing my newly created documents for all to view and use. I also talked with a fellow colleague who is passionate about outdoor education and he agreed to collaborate and share some information and resources for the blog as well. It was during a Project Wild outdoor education course that I was introduced to two great resource guides. I thought the guides had some important and brilliant information that needed to be shared, but it was presented in a bulky and outdated package for the educators of today. We live in digital age and information needs to be easily available anytime and from anywhere. I started to adapt lesson ideas and teaching tips into simple one page pdf's that could be downloaded to the blog easily. These pdf's could either be read online or printed off for educators and parents to use as they needed. I decided to use a single page format when adapting the lessons because I wanted the information to be crisp, concise and user friendly. Educators and parents do not want to flip through pages and pages to find tips and tricks for teaching outdoors, or read multiple paragraphs to learn how to jump start an outdoor lesson. Instead of writing overdrawn procedures and lengthy paragraphs of quick facts, I used a simple point format. I found this type of format easier to use outside, while not compromising the quality of information I was able to share.

Revelation

As I have reflected on my learning, I have realized that it mirrors the meandering path I built through the forest to my outdoor classroom. I had to weave through the trees of research to come to the realization that curriculum was not the most important aspect I wished to focus on. The outdoor classroom I built, in the beautiful little clearing, helped me realize that place-based learning is not about the curriculum, it is about the learning experience.

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Appendix A

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Port Hardy, BC
January 28, 2014

District of Port Hardy Town Council
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Box 68, Port Hardy, BC V0N 2P0

Dear Council,

We are seeking approval to develop an interpretive trail and outdoor classroom on the west side of the Little T'sulquate River adjacent to Eagle View Elementary School.

The land is owned by the District of Port Hardy and currently has several unofficial paths through the green space. The proposed area is within the newly paved Huddleston Loop trails and essentially is reactivating an existing path.

The trail can be brought up to a useable state with simply raking and pruning. There are a couple of smaller trees that have been felled by vandals over the years that would need to be bucked up and cleared. In the initial stage of the trail construction there is the need for a small bridge to span a drainage at the Eastern end of the trail near the cul-de-sac at the end of Seaview Drive.

To mitigate liability, the trail will be kept a safe distance from creek banks and any other hazards. There may be a need for danger tree assessments which we would be seeking for an in-kind donation to do such an assessment. The bridge will be kept at a height and width as to not require handrails to both mitigate liability and construction cost. Construction materials such as lumbar and gravel will be sourced via in-kind donations from parents of elementary students and the community.

This trail is part of our Masters of Education project. We would like to provide authentic opportunities for our students to directly connect their learning to the place in which they live. It is also hoped that this exciting and progressive initiative will foster a growing development of partnership between our school and the community of Port Hardy. Furthermore, outdoor nature play allows children to move and explore their environment that fosters healthy growth and development for their mind and body.

This area would only be used during school hours by classes participating in this outdoor curriculum. Students will not use these woods during recess or lunch hours because it is located outside of the school boundaries.

Thanks kindly,

Michelle Sedola

Sean Barfoot

Appendix B

Learning Outdoors

Lesson Title: Leaves, Leaves, Leaves	Quick Facts:
Big Idea: Practicing observation skills by comparing leaves.	<ul style="list-style-type: none"> • nearly 1000 tree species in North America
Anchor Story: <i>Leaf Man</i> by Lois Ehlert ~or~ <i>Look What I Did With a Leaf</i> by Morteza E. Sohi	<ul style="list-style-type: none"> • many 1000 more types of shrubs and plants
Materials & Prep: <ul style="list-style-type: none"> • story book • small paper bag containing a variety of leaves collected from nearby shrubs, trees and other plants • leave observation sheet • pencils and clipboards • magnifying lenses (optional) • iPads (optional) 	<ul style="list-style-type: none"> • one way to tell species apart is looking at their leaves • all leaves have <u>veins</u> and <u>lobes</u> • fungus, insects or other animals can change the appearance of leaves
Outdoors (procedures) <ol style="list-style-type: none"> (1) Review forest safety rules before heading to outdoor class (2) Read <i>Leaf Man</i> and discuss the variety of leaves in pictures (3) Show one leaf from the bag, pass it around and ask children what they notice about it? Colour? Shape? Texture? (introduce vocabulary: veins, teeth, lobes, galls blotches) (4) Discuss how they used their senses (seeing, touching) to make observations (5) Allow children to explore forest, find their own leaf and study it (6) Record findings on leave observation sheet (7) With a buddy find and use leaves and other natural objects to create leaf critters (and photograph leaf creations) (8) Before heading back to school, discuss what observations they made about their leaves (Does their leave have veins? Does it have pieces missing from decay or animals?...) 	<ul style="list-style-type: none"> • leaves can change shape from animals nibbling on them • spiders and insects roll leaves into shelters or use them as cocoons • some insects lay eggs on leaves • plants sometimes react to the eggs and grow over them, forming bumps or growth called <u>galls</u> • most galls do not harm the plant
Extensions: <ul style="list-style-type: none"> <input type="checkbox"/> Art <input checked="" type="checkbox"/> Math <input type="checkbox"/> Music <input checked="" type="checkbox"/> Home Connection • Math- sorting games with leaves collected • Home Connection- find two different leaves at home, draw them in your journal and tell where you found them 	Assessment: <ul style="list-style-type: none"> • observations • work produced • photograph evidence

Lesson plan adapted from "Growing Up Wild: Exploring Nature with Young Children" 2012

Learning Outdoors

Lesson Title: Wonderful Spider Webs	Quick Facts:
Big Idea: Learn about spiders and their webs.	<ul style="list-style-type: none"> • more than 37000 spider species on the Earth • about 3000 species in North America • they can be found in many places • spiders eat insects and small prey • they are helpful because eat insects • they use <u>venom</u> to stun prey before eating it • few spider are dangerous • in North America only Black Widow and Brown Recluse spider are regarded to be dangerous • spiders only bite when threatened • spiders are <u>arachnids</u> • arachnids have 8 legs and no antennae • have 2 body sections: <u>abdomen</u> and <u>cephalothorax</u> • spiders <u>web</u> made out of silk • thread comes from <u>spinneret</u> gland • use sticky webs to catch prey • not all spiders spin webs • orb, sheet, tangle and funnel are types of webs
Anchor Story: <i>The Very Busy Spider</i> by Eric Carle ~or~ <i>Diary of a Spider</i> by Doreen Cronin	
Materials & Prep: <ul style="list-style-type: none"> • story book • realistic plastic toy spiders or pictures of real spiders • pencils and clipboards • science journals • iPads (optional) • use cellophane tape and clear double sided tape to create an orb web on black construction paper- use cello tape for spokes and double sided tape for the spiral 	
Outdoors (procedures) <ol style="list-style-type: none"> (1) Review forest safety rules before heading to outdoor class (2) Read <i>The Very Busy Spider</i> and discuss if they have ever seen a spider, what it on or near a web? (3) Using plastic spiders or picture of spiders talk about what they know about spiders (introduce vocabulary: arachnid, abdomen, cephalothorax, spinneret...) (4) Go on a spider hunt (5) Have students tally how many spiders they see and how many webs they see (6) Have students sketch one of the webs they find (7) Before heading back to school, discuss how many spiders and webs they saw, share web drawings (8) On return to classroom, show students web you made out of tape and let them take turns "tiptoeing" their fingers across the web to imitate a spider. What do they notice? (not all strands sticky) Now have them "fly" into the web with an open hand. What happens? (they stick; prey doesn't tiptoe...) Why don't spiders get stuck? (Scientists believe spiders have bristles on their feet) 	
Extensions: <input checked="" type="checkbox"/> Art <input type="checkbox"/> Math <input checked="" type="checkbox"/> Music <input type="checkbox"/> Home Connection <ul style="list-style-type: none"> • Art- make web rubbings from <i>The Very Busy Spider</i> book • Music- sing <i>Itsy Bitsy Spider</i> with finger actions 	Assessment: <ul style="list-style-type: none"> • observations • discussions • work produced

Learning Outdoors

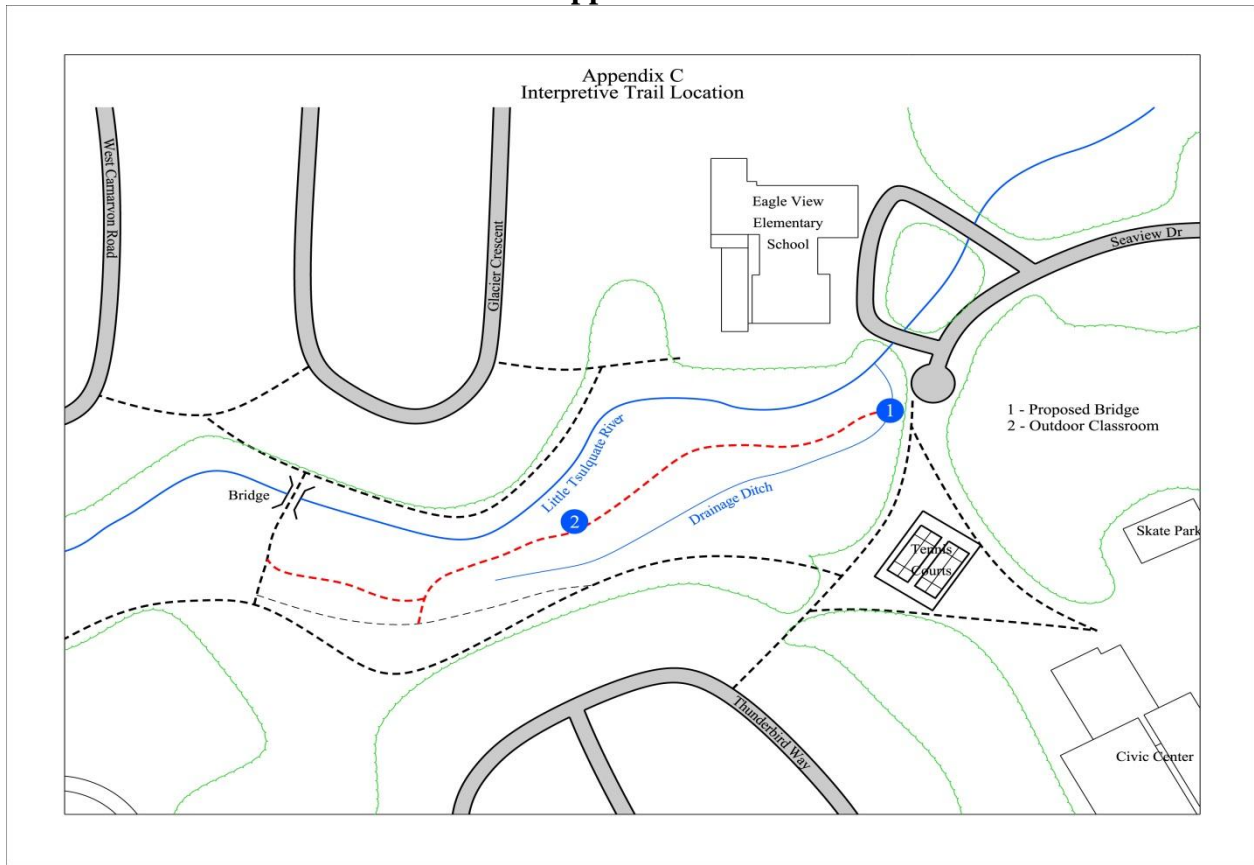
Lesson Title: Who Lives in That Tree?	Quick Facts:
Big Idea: Develop awareness of trees and animals that call them "home".	<ul style="list-style-type: none"> • many animals live in trees • beetles, ants,
Anchor Story: <i>One Small Place in a Tree</i> by Barbara Brenner ~or~ <i>A Tree Can Be...</i> by Judy Nayer	<ul style="list-style-type: none"> worms & spiders may spend their whole life in or around one tree
Materials & Prep: <ul style="list-style-type: none"> • story book • iPads • two plastic ice cream pails, and 40-50 pinecones 	<ul style="list-style-type: none"> squirrels, raccoons, opossums or frog use a tree as home base and venture out for food and water
Outdoors (procedures) <ol style="list-style-type: none"> (1) Review forest safety rules before heading to outdoor class (2) Read <i>One Small Place in a Tree</i> and ask what kind of animals do you think live in the surrounding trees? Why is a tree a good home? (shelter, food) Would a tree be good home for people? (3) Using the rhyme "Look up, look down, look all around, let's look at the ____." (top-canopy, middle-trunk or branches, bottom-roots) to focus the children's attention to different parts of the trees (4) Take photographs of any animals or signs (nests, burrows, chewed on leaves, pine cone husks...) of animals you see (5) Before heading back to the school yard, discuss animals you saw or perhaps heard... and Would a tree be good home for people? What do trees give us? (fruit, nuts, wood for homes and furniture, paper products...) (6) In the school yard play "Squirrels"- On one side of the field is our tree nests (empty ice cream pails-one for each team) and the other side is our feeding area (pine cone spread out). Each squirrel will run from their team's nest to the feeding area and return with a pine cone to fill their nest. Taking turns (relay style) squirrels race to fill their nest before the other team does. 	<ul style="list-style-type: none"> birds, bees, or bats may only use trees for resting spots, temporary shelters, or to eat trees provide food and shelter animals eat tree fruits, seeds, buds, flowers, leaves, bark and roots leaves provide shelter from rain, branches and trunk are used as nesting sites, roots and base a place to burrow even dead trees give food and shelter to termites, beetles and small critters people rely on trees for food (fruit, nuts) and shelter or wood for shelters
Extensions: <p> <input checked="" type="checkbox"/> Art <input checked="" type="checkbox"/> Math <input type="checkbox"/> Music <input type="checkbox"/> Home Connection </p> <ul style="list-style-type: none"> • Art- build bird nests using brown paper bags, mud and nesting material (yarn, leaves, grass, sticks, dryer lint...) • Math- sort pine cones by size and shape 	Assessment: <ul style="list-style-type: none"> • observations • discussion

Lesson plan adapted from "Growing Up Wild: Exploring Nature with Young Children" 2012

Learning Outdoors

Lesson Title: Wiggly Worms	Quick Facts:
Big Idea: Learn about and observe earthworms.	<ul style="list-style-type: none"> • “earthworm” is a general term for any species of terrestrial annelid worm
Anchor Story: <i>Diary of a Worm</i> by Doreen Cronin ~or~ <i>Under on Rock: Bugs, Slugs and other Ughs...</i> by Anthony Fredericks	<ul style="list-style-type: none"> • body is made up of rings called <u>segments</u>
Materials & Prep: <ul style="list-style-type: none"> • story book • trowels or large spoons and a couple pails • damp paper towel • earthworms (have 4-5 in case some groups do not find one) • pencils and clipboards • science journals 	<ul style="list-style-type: none"> • each segment is surrounded by muscles which help them to move • tiny bristles give it traction as it stretches & thickens • no obvious head, but can tell by which direction it is going • no eyes but sense light, will burrow when there is light • don't breathe, absorb oxygen through moist skin • if they dry out they will die • break down dead material and fertilize soil- do this by eating soil and pooping it out (<u>castings</u>) • poop/casting is full of nutrients • loosen soil to help water and oxygen to reach plant roots (<u>aerate</u>) the soil • food for birds and other small animals
Outdoors (procedures) <ol style="list-style-type: none"> (1) Review forest safety rules before heading to outdoor class (2) Read <i>Diary of a Worm</i> and ask and discuss where do you think we be a good place to dig for worms? (3) In partners or small groups, have the children go digging to find earthworms and put them in the pails (4) Once all groups have found a worm; put the worm on a damp paper towel and have the children look closely to see what they can learn *remind children we look with our eyes, if you must touch be very gentle and not hurt the worm (5) Allow children time to observe *may need to guide observation with questions; How does it move? What colour is it? What does it look and feel like? What do worms do? (introduce vocabulary: segment, head, tail, castings, aerate) (6) Have children sketch worms in journal before returning them to their homes (7) Before heading back to class have students share 1 new fact they learned about worms 	
Extensions: <input checked="" type="checkbox"/> Art <input checked="" type="checkbox"/> Math <input type="checkbox"/> Music <input type="checkbox"/> Home Connection <ul style="list-style-type: none"> • Art- painting with plastic worms and natural soil paint • Math-counting & measuring by dissecting a gummy worm 	Assessment: <ul style="list-style-type: none"> • observations • discussion • work produced

Appendix C



Appendix D

Get Outdoors ~ Tips for Teaching Outdoors

Before You Venture Outdoors:

(1) Plan and Practice

- Practice safety rules with your students before going outdoors. Using a whistle if there is an emergency and ensuring everyone can see you at all times should be of most importance.
- Some children may be apprehensive of heading outdoors. Have a plan to reassure them and explain exactly what you will be doing.
- Reminding students the day before about appropriate clothing and footwear is essential.

(2) Visit the Location

- Always visit the location beforehand. Look for possible hazards, locations for meeting or gathering and unique features to help you set specific boundaries.

(3) Stepping Students up for Success

- Once outside, set precise physical boundaries that students understand and can follow.
- Try out the whistle and stress the importance of keeping you in their sight lines.

In the Great Outdoors:

(4) Stay Close

- Start with exploring the school grounds.
- Short outing, of 15-20 minutes, at first to build you and the students comfort level.
- Once the children are comfortable here and develop a sense of place you can venture further into the community.

(5) Have a Clear Plan

- Activities should be clearly defined, explained and demonstrated if need be.
- Effective, clear planning equals happy, engaged and well behaved students.

(6) Back Up Plans for Poor Weather

- Is there a shelter or large tree to retreat to?
- If everyone is dressed appropriately do you continue with the scheduled plan?
- Make sure all supplies are in Ziploc bags or waterproof stuff sacks.
- Bring emergency raingear (i.e. inexpensive reusable rain ponchos or large garbage bags with holes cut for head and arms).

Get Outdoors ~ Building Outdoor Kits

With good boots, a plan and commitment you can teach outdoors. However, your outdoor classroom will run more effectively with a good learning kit. Here is a check list of materials to create a teacher's and student's kit. Modify it to fit your needs.

Teacher's Kit (in a backpack)	Student's Kit (in a large Ziploc bag)
<input type="checkbox"/> cell phone	<input type="checkbox"/> whistle
<input type="checkbox"/> student list	<input type="checkbox"/> clipboard and pencil
<input type="checkbox"/> first aid kit	<input type="checkbox"/> large garbage bag with head and arm holes cut out (folded)
<input type="checkbox"/> water bottle	<input type="checkbox"/> water bottle
<input type="checkbox"/> whistle (or other signalling device)	<input type="checkbox"/> individual magnifier, Ziploc bags, small containers (optional)
<input type="checkbox"/> notebook	<input type="checkbox"/> _____
<input type="checkbox"/> clipboard and pencil	<input type="checkbox"/> _____
<input type="checkbox"/> extra pencils and pencil sharpener	<input type="checkbox"/> _____
<input type="checkbox"/> magnifiers (optional)	
<input type="checkbox"/> small containers for capturing small creatures (optional)	
<input type="checkbox"/> Ziploc bags of different sizes (optional)	*Other items you may want to include:
<input type="checkbox"/> field guide on plants/trees (optional)	<input type="checkbox"/> class set of "sit upons" or portable seats (i.e. newspaper covered with plastic bags)
<input type="checkbox"/> camera or iPad (optional)	<input type="checkbox"/> inexpensive tarp to sit on or under
<input type="checkbox"/> _____	<input type="checkbox"/> insect nets
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	

Checklist adapted from "Get Outdoors! An Educator's Guide to Outdoor Classrooms" 2009