Forest Kindergarten: A qualitative case study comparing the emergent and play-based curriculum at Cedarsong Nature School to the Newfoundland and Labrador Kindergarten Curriculum

by

© Breanne Elizabeth Cornell Card

A thesis
submitted to the School of Graduate Studies
in partial fulfillment of the requirements
for the degree of Masters of Education

Faculty of Education

Memorial University of Newfoundland

August 2014

St. John's
Newfoundland and Labrador

Abstract

Kindergarten is a German word, meaning *children's garden*. Today, professionals and parents around the world are speaking up and supporting the research that suggests young children benefit from time spent outside in natural environments and green, wild spaces. Some names for these programs are: Forest Kindergarten, Nature Kindergarten, or Forest Schools.

In this qualitative study I provide a descriptive narrative single case study composed of topic-centered narratives revealing significant themes and rich descriptions of a Forest school. The research questioned whether the expectations of the Newfoundland and Labrador Kindergarten Curriculum could be achieved using a Forest Kindergarten model. The data for this case study was collected through interviews, observations, field notes, artifacts, photographs, video recordings, and audio-visuals to examine the concept of Forest Kindergarten as implemented by Cedarsong Nature School on Vashon Island, WA.

Upon investigation, the researcher concludes that Forest Kindergarten programs do meet and offer children learning opportunities to reach beyond the specific curriculum outcomes specified for the kindergarten curriculum in Newfoundland and Labrador. The findings suggest the advantages of a Forest Kindergarten program include advanced communication, social, and critical thinking and problem-solving skills, a stronger sense of self, place, and community, as well as the importance of creative play-based learning and sensory-based play. It is recommended that the Forest Kindergarten model be considered for Newfoundland and Labrador schooling in particular Aboriginal communities and schools.

Acknowledgements

Along my path to a higher education, I have not been alone or without help. This study has been a vision and dream of mine for many years. Many incredible mentors have contributed to supporting my passions and inspirations. Erin Kenny is now one of those mentors and I would like to thank her and Cedarsong Nature School for allowing me into their community and school to witness their extraordinary education model. I would like to give a special thank you to Dr. Anne Burke for supporting my research and my ambitions. I am very honored and grateful to have had Dr. Burke's guidance and expertise during this three-year process. I am truly thankful for her time and support. To my family and fiancé, Andrew, thank you for all of your support and love while pursuing my academic studies. Further, I would like to thank you for your patience and understanding along this magnificent adventure to personal growth and self-awareness, professional development, and making manifestations reality. Andrew, thank you for reading all of my drafts and providing loving support through every step of this academic and spiritual journey. Mum and Dad, thank you for raising me on the B-Line and allowing me to wander with purpose and explore to my heart's content. Thank you for all of the family campfires, hikes along the Bruce Peninsula, time spent barefoot in the gardens harvesting pumpkins and picking raspberries, teaching me how to ski, canoeing the mighty Saugeen River, and days spent swimming in Lake Huron on Dunlop's Beach. To Liam, for being the best big brother and for inspiring me to write from the soul. I could not have gotten to Vashon Island without your air mile points. Lastly, thank you to my Amma for being my biggest fan. This study is in loving memory of my Great Uncle Clive Cameron and Uncle Jim Buttrey, for sharing my love and passion of all things wild.

Table of Contents

List of Figures

Chapter 1: Introduction

1.1 Background to the Study

Personal roots. I grew up in the countryside north of Paisley, Ontario, in the small municipality of Arran-Elderslie. Paisley has a population of 1100 people and is the closest town to my county home.

I spent my childhood outside exploring and helping on our five-acre family hobby farm. I would investigate the forests, gardens, wetlands, and big open fields near my farmhouse until dusk. It was not unusual for me to bring home my findings, such as snails, frogs, kittens, snakes, turtles, voles, spiders, insects, and wildflowers. At a young age, the natural environment became my passion and my outlet. I was the child in grade one who collected snails during recess and made a very cozy habitat for them inside my desk. I have always found school to be a very stressful space, yet I remember feeling great comfort in having nature literally at my fingertips while being confined to a classroom. I cared for my snails and made sure they had water and fresh grass beds. I recall having the 'snail farm' for many days until my teacher asked me to clean out my desk. Maybe a peer told on me, or maybe Mrs. Wilkonson saw a snail trying to escape down the leg of my desk. Either way, once discovered I had to pack up my desk farm. I decided to take the snails home, and to this day my mum has a snail infestation in her gardens.

I often feel like I am part of the last generation in North America to have these types of childhood experiences. My parents, grandparents, and great-grandparents grew up free to wander and play throughout their neighborhoods and countryside, but sadly,

when I speak to my students this is not the case for them. I have heard stories of twelve-year-olds not having the opportunity to touch grass before coming to an outdoor education center. As the story is told, the child's school playground was built on a concrete surface and they lived on the 20th floor in an apartment building in Toronto, Ontario. I have also witnessed teenagers putting on plastic gloves so they wouldn't have to "touch nature…it's dirty" in Vancouver, British Columbia. As an educator, I was starting to see that the disconnection between child and nature—child and sense of self and place—was more devastating than I had originally thought. Looking back, as a learner I needed that time out on the land to discover through curiosity and play. Now, as an adult, I am ready to provide that education and experience for as many children as possible and to protect the wild spaces that remain near urban and rural communities. My experiences leading up to my Master of Education program encouraged me to ask some very important questions about education, the main question being 'Would a Forest Kindergarten Program help to reconnect our children and youth to their natural world and to themselves while meeting the expectations of curriculum outcomes?'

Professional reflections. I became interested in the concept of Forest Kindergarten in 2006 while teaching at an outdoor education center in Ontario. My supervisor at the time brought the concept to my attention, and the idea of Forest Kindergarten programming in Canada filled my mind with opportunities. As an experienced outdoor educator and qualified teacher, I had taught many outdoor day programs to local kindergarten classes. As an Outdoor Education Specialist (OES), I provided outdoor curriculum-based programs for our local school board. When kindergarten classes came to the outdoor education center we often made fires, cooked

bannock, and boiled cedar tea over the fire. We built shelters, enjoyed investigating wetlands, and collected interesting findings in the fields and woods. The program was a huge success, and I could see the benefits of teaching this age group in an outdoor setting—even after one day. I began to research and investigate the concept of Forest Kindergartens to ensure I fully understood what it entailed. I started looking for employment at Forest Kindergarten Schools, and in the process of searching I found Cedarsong Nature School. I contacted Erin Kenny, school founder and head teacher, who advised me that they did not have any available positions, but during our conversation I mentioned that I was considering the possibility of applying for my Master of Education in Curriculum, Learning and Teaching, with a focus on Forest School/Forest Kindergarten.

I applied to Memorial University in 2010 and started my degree in the fall of 2011. I later contacted Ms. Kenny and asked if Cedarsong Nature School would consider being a research site for my study. Cedarsong Nature School Board of Directors approved my request on March 31, 2012. Once I obtained ethics clearance and approval from the Interdisciplinary Committee on Ethics in Human Research at Memorial University (ICHER), I began my data collection on May 21, 2012.

Introduction to Forest Kindergarten. Many countries have their own name for this model of education. In Sweden it is called *Ich ur o skur* (Rain or Shine Nurseries), while in Norway these schools are called *friluftsbarnehage* (Outdoor Nursery). In Germany the program is referred to as *Waldkindergartens* (Forest Nursery). In North America and the United Kingdom I have heard the terms Nature Kindergarten, Outdoor Kindergarten, Forest School, and Forest Kindergarten. Models seem to be striving to

provide an opportunity for children in their early years to "learn in an ever changing environment where the colors, temperature, textures, sounds and wildlife within their outdoor classroom change daily, creating a more sensory and stimulating learning experience and offering great challenge" (Latta & Simmers, 2011, p. 1).

Only one Forest Kindergarten program was observed during the duration of this study, Cedarsong Nature School on Vashon Island, Washington. Cedarsong Nature School's goal is to provide opportunities for young children to make meaningful connections and memories while being immersed in a local natural setting. The interest-led, emergent curriculum, place-based, experiential and seasonal approach to Forest Kindergarten education hopes to, "increase awareness of and connection to the natural world in order to foster compassion and empathy for the earth and all its inhabitants" - while meeting curriculum outcomes of the local Vashon school board (Kenny, 2011, para. 1). As described in the article "Waldkindergarten in Germany" (2011), the main intention of a Forest Kindergarten is to have the students focus on play, exploration, and discovery without adult intervention or formal instruction; this helps children develop their inner sense of self and place. I will be using the term Forest Kindergarten throughout this document, as my site location deemed their school to be a Forest Kindergarten program. A notable characteristic of Forest Kindergarten is that the program is committed to nature immersion (spending 100% of their time outside while attending the program), emergent curriculum, and privileging children through an inquiry-based teaching style (Card, 2012). During a typical day at a Forest Kindergarten, students may engage in nature crafts, building projects (dams, nests, forts), active play,

tree climbing, balancing, nature theatre, imaginative and creative play, nature hikes, science experiments, and the enjoyment of preparing and eating healthy snacks.

Cedarsong Nature School. Erin Kenny, founder and head teacher at Cedarsong Nature School, was the first person in the United States to implement a Forest Kindergarten program based on the German model of *Waldkindergartens*. Kenny is a leader, visionary, and voice on how to establish a successful Forest Kindergarten model. She speaks at many international conferences and recently published a book titled *The Cedarsong Way*. The best way to describe Erin is 'magical'. She has a captivating twinkle in her eye when she talks about children playing and learning in nature. Erin has always been a 'nature girl' and enjoys sharing her love for the outdoors with her students. She claims that Cedarsong Nature School helps to create opportunities for young children to make meaningful connections and memories while being immersed in a natural setting.

In 2000, Erin Kenny bought five acres of land on Vashon Island, WA. A year later, Kenny started Camp Terra on her forest property. During this summer camp many local children would get to spend five hours a day outside with Erin, or twenty-nine hours for the overnight campout in the forest (Kenny, 2011). Erin called this type of camp experience "Nature Immersion Camps" and ran the program five times each summer (Kenny, 2011). For the purpose of the study, the term nature 'immersion' is defined as the concept of spending a significant amount of time in nature. It provides opportunities for a stimulating, hands-on approach to environmental education (Kenny, 2011). It was not until 2008 that Kenny and her friend Robin Rogers opened the first all-outdoor kindergarten/preschool on her beautiful forest property: Camp Terra (Card, 2012). Cedarsong Nature School is a non-profit organization that falls under the Ancient Forest

Education Foundation, which Erin also founded in 1996. With a BA in Environmental Education, an environmental law degree, and experience working in a preschool as a nature teacher, Erin Kenny has the education and qualifications necessary to successfully run her Forest School.

Looking back, Kenny regards Cedarsong Nature School's first year as a huge success with many important lessons leaned, which will be discussed in Chapter 4. In their second year they went from two mornings to four mornings a week, and now in their fourth year Cedarsong Nature School is running five mornings a week and two afternoons a week. There is no doubt that the program is a success, but what I find interesting is that half of the Cedarsong Nature School population is coming from Seattle and Tacoma. As mentioned before, Vashon Island is only accessible by a 20-minute ferry, which means families from Seattle and Tacoma are making huge efforts to come all the way to Vashon Island with their three- to six-year-olds to take advantage of this early childhood education model.

Erin talked about Richard Louv's book, *Last Child in the Woods*, and how elating it was for her to discover that other outdoor preschools existed. To her delight, Louv describes German Forest Kindergarten programs, which left Erin completely captivated, as shown in the following narrative:

> In 2006 I read Richard Louv's book, *Last Child in the Woods*, and in that book he describes these forest kindergartens in Germany, and I was just so fascinated that somebody somewhere was already doing this idea that I had had. So, I started looking into these Forest Kindergartens in Germany, and unfortunately at that time, in 2006-2007, there were no other Forest Kindergarten the United States, so

> there was really no one in this country that I could look to get information or find out what the best ways to run this program, or how to ensure the success of a Forest Kindergarten program in the United States. (Card, 2012)

I also read Louv's novel in 2006, and it fueled my passion and drive to educate myself on this exciting educational concept, which ultimately inspired me to research the topic at the Masters level. While reading about *Waldkindergarten*s, I was able to relate to the philosophies of these outdoor programs and how they supported children being immersed in nature. Erin took note of the way Germany celebrates, welcomes, and values this type of education model. Kenny realized how culturally different the United States was from Western Europe and voiced that the United States is more of an indoor culture, so she did not feel able to predict how American parents would respond to an entirely outdoor preschool that operated even in inclement weather (Card, 2012).

Kenny assembled a board of directors, as all nonprofits are required to do in the United States. Leslie Chetok, a board member, defined the purpose of the board in the following narrative:

> The purpose of the Board is to support the mission, guide expansion, and support financial viability. We are also a sounding board for Erin to express ideas and explore implementation. As far as I know, each board member supports an environmental pedagogy and the specific flow-learning model we use. There is a focus on the school, teacher training, camps, and therapeutic nature immersion as well as an interest in a greater mission to create a society that values and lives more in harmony with the natural world. (Card, 2012)

Chertok, who is also a Mental Health Counselor (MA LMHC), has teamed up with Erin Kenny to provide Nature Therapy Camps and sessions for families. Cedarsong Family Nature Camp was first offered in the summer of 2013. Therapeutic Nature Immersion is defined:

> Therapeutic Nature Immersion™ is based on the belief that being in nature has a healing effect on humans. Our Therapeutic Nature Immersion program combines the healing properties of unstructured flow time in nature, as well as therapeutic interactions utilizing nature as teacher and metaphor and a wellness curriculum designed to deepen relationship with self, nature, and loved ones. Our Therapeutic Nature Immersion™ programs are designed to foster emotional intelligence, mindfulness, and awareness and to improve connection with oneself, within the family and with nature. (Kenny, 2012)

The Therapeutic Nature Immersion team will be offering programs for children diagnosed with autism and ADHD since nature provides the space and support needed for a stimulating and fun day at camp for everyone.

As an observer, I had many opportunities to watch Erin Kenny teach and facilitate her model of outdoor emergent play-based learning, and it truly was an inspiration to witness. Kenny creates a safe environment wherein all students from ages three to six feel comfortable in the forest and can eat and identify the edible plants at Cedarsong Nature School. In fact, it was not long after my arrival that I was eating strange forest plants that were actually delicious, while walking barefoot through a place the students named 'Squirrel Camp'.

1.2 Purpose of the Study

The purpose of this study is to examine whether Newfoundland and Labrador's specific curriculum outcomes can be achieved through a Forest Kindergarten program.

The questions that guided my research were open-ended:

A) How can a Forest Kindergarten program create a sense of community, a sense of place, and sense of self through creative play-based learning while meeting the outcomes of a Forest Kindergarten program?

B) How can the curricular approach of Forest Kindergarten assist young children's creative play-based learning while still meeting the expectations of the Newfoundland and Labrador kindergarten curriculum?

Both research questions were developed to fully explore some core concepts and practices of a Forest Kindergarten program in order to investigate and analyze whether such a model can enhance our current Newfoundland and Labrador schooling system and its consideration for Aboriginal schools and communities. The findings of this study will be of interest to the staff and families of Cedarsong Nature Schools since the findings may contribute to the program's experiences and knowledge of its school and students. From a researcher's perspective, these research questions helped to maintain my scope of study and acted as a guide in expanding my knowledge in this field.

1.3 Significance of the Study

"Children cannot bounce off the walls if we take away the walls"

— Erin Kenny.

The above quote resonates with me because I know the statement to be true to my experiences as an educator. While teaching at various outdoor schools across Canada, many teachers warned me about particularly hyperactive or troubled children. It never

failed that the students of concern were always the most engaged and best behaved in my programs. From my experience, the natural world and green, wild spaces can calm and sooth a child. There seems to be just the right amount of sensory stimulation to encourage students to become focused and successful learners.

The significance of this research is to examine the benefits of play-based learning in the outdoor classroom and how these ideas may support the introduction of the Forest Kindergarten theory into mainstream Newfoundland and Labrador education. This study will add and contribute to the literature, discussions, and debates on kindergarten curriculum within Canada, since the concept of combining emergent outdoor play with curriculum is extremely new for our country. The results of this study will help to inform and contribute to forward thinking and actions in the kindergarten curriculum in Newfoundland and Labrador, but also at a national level. The findings of this study will provide an emergent curriculum guideline for other territories and provinces that are interested in perusing a Forest Kindergarten program.

There are many advantages to a Forest Kindergarten model, and research is showing that a Forest Kindergarten is an effective way to introduce children to a healthy, active lifestyle while encouraging them to explore and reconnect to natural environments (Fjortoft, 2001). If children are not given the chance to play, connect, and discover, they may not understand the sense of environmental responsibility that will be placed in their hands. Charles Jordan from the Conservation Fund was quoted in the documentary *PLAY AGAIN* (2010), saying, “What they do not know, they will not protect, and what they do not protect, they will lose” (Merrill & Schei, 2010).

David Elkind (2003) suggests that educators, adults, and developmental theorists have viewed play from an "adult-function" perspective in terms of how important play is to the educational and developmental growth of a child. Elkind explains that this analysis of play still has a "measure of truth", but he cautions adults to look at play from the "child-experiential" viewpoint, which highlights fun, flow, curiosity, and interest-led adventures (Elkind, 2003). The adult vision of how play should be experienced could be related to why children are not experiencing play outdoors. The fun, flow, curiosity, and interest-led adventures that Elkind refers to may also be called emergent curriculum, which is celebrated in the Forest Kindergarten model.

The goal of this study is to better understand the Forest Kindergarten concept and how it might provide insight and inform current kindergarten curriculum for Newfoundland and Labrador. Again, the results of this study will provide an opportunity for educators to re-affirm their curricular priorities in terms of educational and cultural values. There is also a prospect for all curriculum outcomes to be achieved in an environment that is stimulating, interest-driven, flexible, and supportive of various learning styles and abilities. Forest Kindergarten could be that bridge that reconnects our students to their natural world, and this study speaks on behalf of all young children who have the right to play in forested and natural environments.

Erin Kenny, head teacher of Cedarsong Nature School, argues why the Forest Kindergarten model is so important:

> Truthfully, we live in a culture and an age here in America where people spend almost no time outdoors. People my age and older generally spent huge amounts of their time outdoor in nature unsupervised. Whereas a lot of people in their 20s

> and 30s now did not have that experience, so they are more prone to being indoors. They were also raised in a culture of fear about the outdoors, so they have a lot more irrational fears about being out in nature. If the parents are not modeling spending time outdoors, the children are not going to get that message and they are not going to be pushed to go outdoors and will be given distractions like computers and video game and movies and TV, and it becomes a very passive kind of interaction with your world, whereas nature is all about interaction with our world and direct experience of it. We are a very media-dominated culture too. The average American child now spends six to seven hours a day in front of media, and that includes television, movies, computer time, and video games — that includes when they are in school. The flip side to that is the average American child only spends 30 minutes a week in outdoor play. (Card, 2012)

The following sections map out why this study and outdoor learning is so significant to the health and well-being of today's children and society.

Heath Concerns. Childhood obesity has become an epidemic within North America. The Ontario Medical Association announced that "over the past 25 years, obesity rates have more than tripled for Canadian children…health consequences are severe" and warned of "potentially life threatening-increased risk of heart disease, type 2 diseases, orthopedic complications, breathing problems, and high blood pressure" (Council of Outdoor Educators of Ontario, 2007, p. 26). Currently the rate of childhood obesity is actually higher than adult obesity, and Ontario doctors are maintaining it is linked to "kids sitting at computers and not playing outside, consuming larger portions of

food, and eating processed foods high in trans fat and sugar" (Council of Outdoor Educators of Ontario, 2007, p. 26).

Childhood obesity and diabetes can lead to higher rates of hypertension, asthma, type II diabetes, and cardiovascular disease (Jason, Danielewicz & Mesina, 2005; Wiecha, Hall, Gannett, & Roth, 2012). McKetta and Rich (2011) confirm, "Children's exposure to electronic screen media can influence their risk of overweight/obesity" (p. 1502). A Forest Kindergarten could provide that balance between screen time and active outdoor play-based learning, which in turn teaches healthy lifestyles choices and could lower rates of child obesity and diabetes.

According to the Active Healthy Kids Canada Report Card (2012), children and youth are currently experiencing an average of "7 hours and 48 minutes of screen time per day and 10- to 16-year-olds in Canada get an average of 6 hours and 37 minutes of screen time per day" (p. 31). Active Healthy Kids Canada is an organization that was established in 1994 with the vision of making physical activity a major priority in the everyday lives of Canadian families (2012, p. 3). The report broke down the screen time, explaining that "the largest source of screen time is television (2 hours and 39 minutes) followed by computers (2 hours and 7 minutes) and video games (1 hour and 51 minutes) (Active Healthy Kids Canada Report card, 2012, p. 31).

There are a number of reasons why children are not spending more time in nature in the 21st century. In 2010, Fraser, Heimlich, and Yocco conducted a study, *American beliefs associated with encouraging children's nature experience opportunities*, which focuses on American adults' attitudes towards children's experiences in nature. Data was gathered from 2,138 participants who felt that "all nature experiences benefit children"

and even “tend to believe more strongly in the contribution of nature experiences to physical development, socialization, and appreciation of nature than they believe in the contribution to mental and emotional well-being” (Fraser, Heimlich & Yocco, 2010). However, the study also reported that parents are not modeling an outdoor lifestyle that could promote nature appreciation or the benefits of a healthy outdoor active lifestyle (Fraser, Heimlich & Yocco, 2010).

The Active Healthy Kids Canada Report Card (2012) supports the above claim, as “only 15% of Canadian adults are active enough to meet the guideline of 150 minutes of physical activity per week” (p. 47). In other words, parents themselves are not meeting the healthy requirement of physical activities per week. The study also talked about parents’ fear and anxiety concerning dangers that might befall their child while outside playing. This is another major factor that explains why children are not outside experiencing creative and imaginative play.

Recently, there has been a greater realization that children are now restricted to their own backyards (if they have one) or local parks for relatively safe places to play and explore wild spaces (Little & Wyver, 2008). Current research suggests that even parks and backyards are no longer a reliable option with an increase in population and the rise of demand for affordable housing (mostly in urban areas) (Little & Wyver, 2008). Both of these factors are impacting children's play spaces at an alarming rate leaving only concrete and developed areas (Little & Wyver, 2008). Other factors include high-density housing and increased work commitments for parents, neither of which allow time for fun outdoor family activities at the conclusion of the school day (Little & Wyver, 2008).

Little and Wyver (2008) emphasize the new stipulations placed on active outdoor play and in the following statement:

> In a constantly evolving world, social and environmental factors have greatly impacted on children's opportunities for outdoor play. Where once children may have spent time playing in the street, riding bicycles, playing chasing games and ball games or enjoying other outdoor pastimes increased traffic has made these areas and play opportunities off-limits for children, as the dangers are far too great." (p. 34)

In summary, such social and economic conditions drastically reduce how much time children spend in nature, or in any outdoor activity.

Balmford and Clegg (2002) conducted a study that surveyed 109 primary school children on their knowledge both of game characters, such as Pokémon, and their local wildlife. The study concluded that children were able to name and recognize more Pokémon characters than local flora and fauna. The study also stated that by the time children reach secondary school they can identify less than 50% of local species (Balmford & Clegg, 2002). In a similar study, Bebbington (2005) prepared 10 colored, illustrated photographs of common wildflowers to assess whether or not advanced-level biology students could identify the plants. The results were that "86% of A-level biology students could only name three or fewer common wildflowers while 41% could only name one or less" (Bebbington, 2005, p. 65).

While teaching at a leadership camp in Nova Scotia I gave my students a similar challenge. They were provided ten media logos on one sheet and another sheet with ten local tree species. As predicted, they knew all of the logos and even started singing some

of their theme songs. The group of adolescents, as a collective group, only knew three native Nova Scotia trees.

The documentary *PLAY AGAIN* contained some very revealing statistics about the health of today's youth. Directors Merrill and Schei (2010) took six teenagers who were spending up to fifteen hours a day on media devices on their first wilderness adventure. *PLAY AGAIN* follows each teen as they unplug themselves from their virtual reality and reconnect with their sense of self, place, and community.

American children spend 53% of their weekly activity time in front of a screen, 36 % at school, 2.5 % in structured activities, 8% on other things, but only 0.5% of their weekly activities included being outdoors, as seen in Figure 1 (Merrill & Schei, 2010).

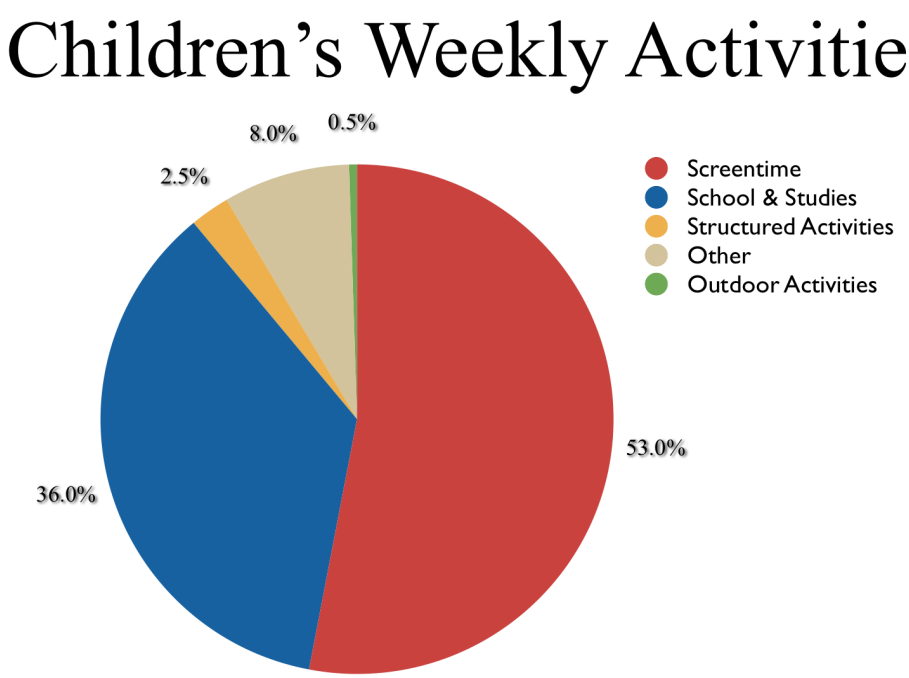

Figure 1: Pie Graph of Children's Weekly Activities (Merrill & Schei, 2010).

The documentary results showed that "teens spend five months in front of screens each year" (Merrill & Schei, 2010).

PLAY AGAIN is an important reminder to society that children are playing more in their virtual worlds than in the natural one. The documentary explains the benefits of time spent in nature as well as the dangers of too much screen time. Again, the purpose of this study is to explore the concept of Forest Kindergarten and how it can meet Newfoundland and Labrador curricular outcomes, but also to investigate how such a program may reconnect children with nature and help them break out of their introverted virtual existence.

Nature-deficit disorder (NDD). Louv (2006), author of *Last Child in the Woods*, introduced the term 'nature-deficit disorder' (NDD) as a means to identify children who have lost touch with nature. He explores the increasing divide between our youth and the natural world as well as the environmental, social, psychological, and spiritual implications of that change (Sullivan, 2006). NDD has been defined as "the human costs of alienation from nature, among them diminished use of the senses, attention difficulties and higher rates of physical and emotional illness" (Louv, 2006, p. 34). Society has stopped associating nature with healing, joy, and solitude. Rather, it has started to connect nature with danger, lawsuits, and doom (Louv, 2006). Louv suggests that "the bond is breaking between the young and the natural world, [and] a growing body of research links our mental, physical, and spiritual health directly to our association with nature, in positive ways" (Louv, 2006, p. 3).

Louv (2006) explains that the Human-Environment Research Laboratory at the University of Illinois has found that "green outdoor spaces foster creative play, and relieve symptoms of attention deficit disorder" (p. 104). Parents of children who have been labeled with attention deficit disorder claim that if their child spends time outside in

a green environment before school, that child has a calmer and more enjoyable day at school (Louv, 2006). Research continues to confirm that children feel more relaxed and focused in green natural settings.

1.4 Limitations

This study had ethnographic components and was conducted in a five-acre forest on Vashon Island, WA. I was limited by the amount of time spent observing in the field, as Cedarsong Nature School only allows two weeks of visitation from researchers for the purpose of study. Furthermore, not all students at Cedarsong Nature School attend five days a week. A few families are only registered for one or two days per week; thus I was not able to observe those children as frequently. The population for the study was limited by child/family registration and family vacations. Therefore, my population can be viewed as a small sample and therefore cannot be generalized to the general public. In other words, as a qualitative research study it is not possible to simplify the findings to general populations; however, through the descriptive narrative retelling of the methods implemented and the participants' experiences, it is hoped that replication of this study or one that is similar is possible.

Another limitation was that Cedarsong Nature School 'forest classroom' was rather large, and when the class spilt up for their morning adventures, I could not witness or record everything that happened in both groups. Therefore, I may possibly have missed collecting important data. To reduce the limitation of being dependent on the researcher' s observations, I took notes during snack time while a Cedarsong teacher reviewed and debriefed the morning adventure with her class. In addition, as an 'active participant', I am cognizant that my observations and presence may have shaped or

influenced some of the data. This may have affected some of my field notes and findings.

1.5 Summary

This chapter provided an introduction to the concept of Forest Kindergarten. It has outlined the background of the study and identified the purpose and significance of the study, as well as the study's limitations. Chapter 2 will review the relevant literature and provide a foundation for the roots of Forest Kindergartens, as well as examples of best practice in the areas of International and National Forest Kindergarten Programs, Forest Schools, Place-Based Education, Emergent Curriculum, and Creative Play-Based learning. Chapter 3 will outline the qualitative research in this study, which includes a descriptive narrative case study sharing topic-centered narratives and themes with rich descriptions.

Chapter 4 analyzes the data and illuminates whether provincial kindergarten-specific curriculum outcomes can be achieved based on the characteristics and benefits of a Forest Kindergarten program. In addition, Chapter 4 considers how such a program may promote and support emergent curricula, critical thinking, and problem solving, Universal Childhood Activities, creative artistic play, and place-based education (sense of self, place, and community). Chapter 5 will discuss the findings, conclusions, and implications. Chapter 6 contains my epilogue and reflections.

Chapter 2: Review of Selected Literature

This chapter draws upon literature and best practice from themes relevant to my research topic (Forest Kindergarten, Place-Based Education, and Creative Play-Based Learning). Types of literature reviewed included peer-reviewed journal articles, essays, books, research papers, magazine and newspaper articles, websites, and government publications. The literature for each theme above is thoroughly and critically reviewed in the context of the research questions and was used to develop interview questions and a conceptual framework designed to guide this research.

2.1 The Roots of Forest Kindergarten

The roots of Forest Kindergarten run deep within Germany as its location of origin. German philosopher Friedrich Wilhelm August Fröbel (1782-1852) is known for initiating the concept of kindergarten (children's garden) in the 1837 (Nawrotzki, 2006; de Quetteville, 2008, Kenny, 2013). He had a strong connection with nature as a child, and those experiences helped to guide him academically and professionally (Warden, 2012; Kenny, 2013). Fröbel felt that every child had the right to learn in an outdoor setting and that nature afforded the ideal objects and resources for early year learning: an exciting and ever-changing environment (Warden, 2012).

Years later, in 1950s Denmark, Ella Flautau, mother and educator, decided to apply Froebel's core message to her own children by taking them into the local woods. The concept quickly spread throughout the country, Scandinavia, and Europe (Marlene Power, personal communication, July, 15, 2013).

In 1957, Sweden's Gösta Frohm created the concept of *Skogsmulle*, which is an educational model for outdoor nurseries (Robertson, 2008). *Skogsmulle* can be translated

as "*Skog*" meaning "wood", and "Mulle", a fictional character who encouraged children to spend time outside (Robertson, 2008). Swedish Forest Kindergartens or Forest Schools are called "*I Ur och Skur*" (Rain or Shine), and though each program is run differently, they all follow the same set of Skogsmulle principals that coincide with *Friluftsfrämjandet* (the Association for Promotion of Outdoor Life) (Robertson, 2009).

2.1.1 International Forest Kindergarten Schools

Forest Kindergarten international best practice models will be examined in order to provide a well-rounded assessment of this outdoor educational concept and practice. Three international programs are discussed below: *Tusseladden friluftsbarnehage* (Norway), Mindstretchers (Soctland), and Woodland Outdoor Kindergarten School (Scotland).

Tusseladden Friluftsbarnehage. Tusseladden outdoor nursery is a parent-run program located in Kvaløysletta, in the Tromsø municipality of northern Norway. Found deep inside the Arctic Circle along the city-centered fjord, Tromsø is a beautiful community of 7844 residents (Litmus Film, 2008). This outdoor nursery is located in a region that experiences two months of darkness during the winter and large amounts of snow. Surprisingly, temperatures do not often drop below -15 Celsius and usually hover around -4. Tusseladden outdoor nursery follows Norway's national curriculum and is considered to be at the same scholarly level as school-based programs, even though the outdoor nursery does place particular emphasis on outdoor activities and outdoor play (Litmus Film, 2008). The outdoor nursery concept is rather new to Norway. Over the past decade hundreds of similar outdoor nurseries have been established all over the country. As a result, one in ten Norwegian kindergarten students are experiencing school outdoors.

Many Norwegian parents are responding to the challenges of childhood by enrolling their children in a nature-based school (Litmus Film, 2008).

Heidi Buvang has been an Outdoor Group Leader at the Tusseladden outdoor nursery for twelve years. Being an outdoor enthusiast, she explains why she believes it is important for children to learn outside, in a natural setting:

> Being happy, being outside and getting fresh air is clearly important for today's children. We are competing with computers and Game Boys. It is important to give children the desire to be outside and motivate them to be creative outdoors. There is no point saying, "I'm freezing"— that would influence the children's motivation. So even when your own motivation isn't great you just get on with it. Rather, we should be creative, use whatever the weather gods throw at us, and make the best of it. (Litmus Film, 2012)

The students at Tusseladden outdoor nursery go on long hikes, spend time out on the water in boats, learn how to build and light campfires, and learn how to use a hammer, saw, and knife properly. All these important life and social skills are achieved while meeting the outcomes for the National Norwegian Curriculum.

Mindstretchers. Mindstretchers is a company located in Auchterarder, Scotland, and is dedicated to "providing children with multi-sensory and real-world educational environments" (Warden, 2011, para. 1). Their team is dedicated to the belief that "all children are entitled to learn in a multi sensory and naturally creative environment" (Warden, 2011, para. 1). The Mindstretchers Company offers Early Year Education Training Courses, an online store from which teachers or parents can buy nature-based books, toys, and course resources, and the company also advertises Nature Kindergarten

program consulting. Mindstretchers' first Nature Kindergartens opened in 2006 and offers the same curriculum as local schools, but the learning takes place outside. Their outcomes and values are as follows:

- provide a safe and stimulating environment in which children can feel happy and secure.
- provide children with a very naturalistic environment indoors, in the garden and in the wild woods where they are encouraged and supported to take risks and become the risk assessors.
- encourage the emotional, social, physical, creative and intellectual development of children both indoors and outdoors.
- promote the welfare of children and encourage their independence through the use of appropriate praise and reassurance.
- encourage positive attitudes to self and others, and develop confidence and self-esteem. (Warden, 2011, para. 4)

The kindergarteners are outside for 80% of their day, and proper attire is mandatory since children are exposed to all types of weather (Warden, 2011, para. 1). During a typical school day students could be "in the very naturalistic garden or in the woodlands where they build dens and bird hides using tools such as saws and loppers, make fires to cook their own snacks, climb trees and generally explore the wonders that the woodlands have to offer" (Warden, 2011, para. 2). This style of outdoor interest-led curriculum has become very popular in Scotland, and other nature-based preschools and kindergartens followed Mindstretchers' lead.

The Woodland Outdoor Kindergarten School. The Woodland Outdoor Kindergarten School is located in Glasgow, Scotland, and opened in 2009. It defines Outdoor Kindergarten as "the opportunity to learn in an ever changing environment where the colors, temperature, textures, sounds and wildlife within their outdoor classroom changes daily, creating a more sensory and stimulating learning experience and offering great challenge" (Latta & Simmers, 2011, para. 1). Woodland Outdoor Kindergarten School staff is trained and qualified to teach and facilitate the following program guidelines and principles:

- To offer a unique, alternative approach to pre-school education.
- To provide genuine child-led play and learning experiences in a safe and stimulating real world/natural environment.
- To develop children into confident, eager and enthusiastic learners who are looking forward to starting school.
- To successfully deliver a Curriculum for Excellence.
- To work in partnership with Glasgow City Council to provide funded pre-school places to all families who choose outdoor education for their three to five year old. (Latta & Simmers, 2011, para. 4)

Not only is the Woodland Outdoor Kindergarten fully funded by the government, but also the Glasgow City Council has ranked this school as the top nursery in their local area (Latta & Simmers, 2011).

2.1.2 Forest School Canada

The concepts of Forest School and Forest Kindergarten share the same history dating back to the 1940s and originating in Germany, Sweden, and Denmark (Forest School Canada, 2013). The model was introduced to the UK in 1995 and has evolved into a program that provides programming for primary and high school students (Knight, 2011). The difference between the two models is that the model of Forest School can cater to higher grade levels, whereas Forest Kindergarten programs focus only on early education. The practice of Forest Schools is very new to Canada, so therefore this section will highlight the defining factors of what a Forest School entails and will conclude with how the model is being introduced in Canada.

In the following excerpt, Sara Knight (2011) describes a few distinguishing features of a Forest School and the role of a practitioner (Forest School Leader) in her recent publication, *Forest School for All*:

- *The setting is not the usual one*: it is wilder and more elemental than the setting in which the children are usually cared for. If it is the forest then so much the better, as we seem to find being amongst trees a particularly special experience, but beaches can also have similar effects.
- *Is it a 'safe enough' environment*, where children can learn to keep themselves safe by taking manageable risks…when participants are managing their own risks it raises their confidence and self-esteem.
- *Forest School happens over time*, at least a half day a week for 10 weeks, to enable changes in behaviour and learning to be consolidated.

- *Participants (students) go out in all weather*, and experience the full range of nature and the environment. This total immersion into whatever the natural world has to offer is an important and powerful aspect of engaging them with our
- *The sessions are led by a trained Forest School Leader*, the training that practitioners undertake at Level 3 is a synthesis of practice and theory. It gives the understanding of human development, the importance of social and human development, and some knowledge about brain development. In addition, practitioners learn some basic bushcraft skills and undertake first aid qualifications suitable for working in remote outdoor settings. (p. 2-5)

Marlene Power established the first Canadian Forest School in 2008, Carp Ridge Forest Preschool and Kindergarten. Power has young children of her own and wanted something more for her children than traditional preschool or daycare. Opening a Forest Preschool was the answer for her and many other interested parents. The program operated out of The Carp Ridge Learning Centre in Ottawa, Ontario (Carp Ridge Learning Centre, 2012). The following describes Carp Ridge Forest Preschool and Kindergarten purpose and approach:

> The Forest Preschool and Kindergarten program strives to elicit in each child a strong sense of imagination, empowerment, increased mobility & motor skills, respect for self and others, healthy living, and environmental responsibility. This is achieved by delivering a primarily outdoor-based experience where children use the environment and objects found within it to explore and grow. Facilitators and volunteers are trained in delivering a program that engages children's spirits and their innate desire to connect with others and the natural

> world. We use a curriculum based on early childhood education research and developmental readiness, guiding their experiences via a child-centered approach — this creates a safe space where children follow their own learning style, while connecting to each other and the world in a respectful, non-violent and caring way. Our approach involves moving away from computers and man-made learning devices, and toward an embrace of the natural elements, learning about the seasons and cycles of the earth. (Carp Ridge Learning Centre, 2012, para. 2)

This Forest School has gained credibility and is now paving the way for future Forest Schools to be established within Canada. In 2013, Zabe MacEachren, Outdoor and Experiential Education coordinator for Queen's University Faculty of Education, interviewed Marlene Power. Dr. MacEachren (2013) wrote in her article, "The Canadian Forest School Movement", the following regarding the many benefits of an outdoor preschool:

> Very young children receive many benefits from spending their formative years outside. Being outdoors provides diverse learning opportunities, which indoor confined spaces do not offer. Health benefits arise from an environment that challenges physical ability, including fine and gross motor skills. Empowering respect for and love of nature results as time spent learning outdoors is increased. A sense of self is reaffirmed as confidence grows through the continued sharing of new adventures with friends and teachers." (p. 224)

Once Carp Ridge Forest Preschool and Kindergarten was launched and thriving, Marlene Power started making plans for the next big step: creating the Forest School

Canada Association. With the help and Guidance of John Cree, Chair of the UK Forest School Association, Power was able to launch Forest School Canada (FSC) in the Spring of 2012 (M. Power, Personal Communication, April 14, 2013). Power is now the chair of the FSC and has been extremely busy in organizing and promoting Canada's first Canadian Forest School Practitioner's Course. The purpose of providing a Forest School training program is to:

- Engage and support educators who are already working in forest and nature-based programs across Canada;
- Build a strong, coherent, and reputable Forest School Community of Practice in Canada; and
- Co-develop a national curriculum framework that will assist educators in practicing safe, effective, and inclusive nature-based education in Canada. (Forest School Canada, 2013, para. 2)

Forest School Canada has publicized its vision which stats that "Canadian children shall have the opportunity to play and learn in local forests, creeks, meadows, prairie grasses, mountains, and shorelines with a wise and skilled educator who understands the power of child-directed learning and how this can contribute to a more sustainable world" (Forest School Canada, 2013, para. 1).

This new Canadian organization seeks to "make the most significant and positive contribution to the field of environmental education in Canada, FSC values, and practices collaboration. Through strategic partnerships, we catalyze creative programming and connect the dots between educators, researchers, and policy-makers to support and

promote nature-based, environmental education in Canada" (Forest School Canada, 2013, para. 2).

Currently there are twelve registered Forest Schools in Canada, which include:

- Carp Ridge Forest School (Ottawa, ON);
- Maplewood Forest School (Guelph, ON);
- Sooke School District Nature Kindergarten (Vancouver Island, BC);
- Tir Na Nog Forest Preschool (Sussex, NB);
- Little Nest Forest Preschool (Salt Spring Island, BC);
- Chelsea Cooperative Nursery School (Chelsea, QE);
- Guelph Outdoor Preschool (Guelph, ON);
- Fresh Air Learning (North Vancouver, BC);
- Victoria Nature School (Victoria, BC);
- Discovery Child Care Centre (Barrie, ON);
- Nature School, School Board 46 (Gibson's, BC); and
- St. James Nature Kindergarten (Abbotsford, BC).

(Forest School Canada, 2013, para. 2)

For the purpose of this paper, I would like to review two more recognized Canadian Forest School programs: Maplewood Forest School and Nature Kindergarten: Learning Outside the Box. Maplewood Forest School is located in Guelph, Ontario, and was established and founded by Jen Mason in 2010. Mason obtained her Level 3 Forest School Practitioner training and was the first person in Canada to become a trained Forest School leader (Mason, 2012). Jen Mason has an impressive academic background with a "Master's degree in Ecology-Based Education from Prescott College, a Bachelor of

Education degree with a focus in Outdoor and Experiential Education from Queen's University, and a Bachelor of Arts degree from Queen's University" (Mason, 2012). As a certified teacher and environmental educator, Mason has a wealth of experience working with young children in the outdoor classroom in three different countries.

At Maplewood Forest School, Jen Mason hopes to "provide a joyful outdoor education experience for young people" (Mason, 2012). On her website, Mason has listed many academic and social benefits associated with Forest School, such as gross motor skills, fine motor skills, physical fitness and stamina, concentration, motivation, self-esteem, self-confidence, and independence, ability to work with others, language development, and an understanding and respect for nature. Furthermore, Forest School can be linked to the Ontario Curriculum in many subject areas, including Science, Language, Mathematics, Arts, Health and Physical Education, Social Studies, and the Kindergarten Curriculum (Mason, 2012).

During an interview with *Today's Parent* (2013), Mason made the point that:

> We're really not connected to the world outside our doors. Forest school is one of the antidotes to that. Parents tell me their children notice natural phenomena. They identify plants and trees around their homes, they notice the clouds, they talk about the wind, they can hear and identify birds by their songs. (Mclean, para. 14)

Mason has witnessed that an outdoor setting can provide diverse resources and can also support multiple learning styles.

Nature Kindergarten: Learning Outside the Box started in September 2012 and is located on Vancouver Island, deep within the woods near Royal Roads University. This

program is considered to be the third Nature Kindergarten program in Canada but is the first to be recognized by and associated with a local school district. This program is a two-year pilot project of the Sooke School Board.

The following is what reporter Rosemary Westwood, from *Maclean*'s magazine, (2013) had to say about Nature Kindergarten:

> In the "nature kindergarten" program at Sangster Elementary School in Sooke, four-year-olds spend each morning in the forest or at the beach, mostly engaged in what's called play-based learning; teachers develop lessons around whatever captivates the kids: the clouds, pine cones, the anatomy of worms. No one asks when is it time to go inside, says Frances Krusekopf, a public school principal who spearheaded the program's creation and hired a childhood educator, on a $25,000 salary funded by grants, to help the regular teacher. Amid the heavy downpours of winter, Krusekopf says the kids "notice the puddles, they notice the quantity of worms has gone up"… parents inclined to believe in the benefits aren't waiting for the proof. Candice Hall's son is part of the first cohort in Sooke, and she spent that February night on the school district's doorstep to ensure a spot for her daughter this fall. She says she's already seen the evidence in Ryland, 6, who now thinks nothing of sitting in wet sand to watch the waves, and who hasn't demonstrated a single behavioural problem at school this year, despite a history of such incidents stemming from a speech delay. (2013)

The partners supporting Nature Kindergarten consist of the following:

- Sooke School District;
- University of Victoria's Centre for Early Childhood Research and Policy;

- Royal Roads University and Camosun College;
- Early Learning and Care Program; and
- Practicum students and researchers. (Nature Kindergarten, 2011)

The Nature Kindergarten program budget from the Sooke School District is currently $80,000 for the next two years, but Principal Frances Krusekopf is still seeking unding and support (Hill, 2011). Thus far, the funds will cover a teacher, early childhood educators, and a few props. Krusekopf will also need to be ready for the west coast weather since " Part of the budget is to ensure the kids have the proper clothing for wind, rain and snow conditions — they don't want 22 four- and five-year-olds getting cold and cranky in the middle of a forest" (Hill, 2011).

Krusekopf's son experienced an original *Waldkindergarten* program while their family was in Germany for an extended period. He loved his experience so much that Krusekopf has been very enthusiastic about bringing this concept to Canada (Moneo, 2011). She reflects that "It was amazing to watch children be in any kind of weather and be completely content… The children were also physically fit, independent and patient, since waiting for slower classmates was routine" (Moneo, 2011). Professor Enid Elliot from the University of Victoria implies that it will be a "change from Canada, where childhood obesity is on the rise and hovering parents are too scared to let their children be on their own despite little evidence that it's a more threatening world" (Moneo, 2011).

2.2 Place-Based Education

David Sobel, Project Director of the Centre for Place-Based education at Antioch New England Institute, has been at the forefront of re-engaging students with their local roots and communities through the concept of place-based education.

The practice of place-based education is not the latest trend in Outdoor Education but in fact a revolutionary step forward to "articulate an educational theory that is responsive to the interconnectedness of cultural and ecological life" (Gruenewald, 2003, p. 6). In a recent publication, *Green Living Journal*, Sobel wrote his definition of what place-based education means to him:

> Place-based education is the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum. Emphasizing hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. Community vitality and environmental quality are improved through the active engagement of local citizens, community organizations, and environmental resources in the life of the school. (http://www.greenlivingpdx.com/place-based-education, 2014)

In other words, the act of learning outdoors and within a community context becomes more layered and complex. Blanchet-Cohen and Elliot (2011) suggest how place-based education can be beneficial in early childhood education in their article, "Young Children and Educators Engagement and Learning Outdoors: A Basis for Rights-Based Programming". Their study examined four early childhood programs and the value of learning possibilities outdoors. Blanchet-Cohen and Elliot's (2011) findings suggest that direct knowledge is obtained by such place-based activities as "experiencing the effects of weather and seasons firsthand, finding bugs under logs and rocks, or watching a

creek dry up or ice over" (p. 759). Further, Blanchet-Cohen and Elliot's (2011) research reveals that outdoor community-based learning provides the following benefits to children:

> A natural play space provides an opportunity for children to discover who they are in relationship to the trees, plants, living creatures, and terrain of their environment. They discover the abilities of their bodies to climb rocks, dig in the dirt, and lift logs with a group of friends. They socialize as they co-construct and share their wonder and curiosity. As shown here, a natural outdoor environment can provide for a holistic education…children develop their attachment to place and their sense of security and competence. (p. 773-774)

A place-based educator seeks to "increase student engagement and understanding through multidisciplinary, experiential, and intergenerational learning that is not only relevant but potentially contributes to the well-being of community life (Gruenewald, 2003, p. 7). The practices and model of place-based education can be associated with "experiential learning, contextual learning, problem-based learning, constructivism, outdoor education, indigenous education, environmental and ecological education, bioregional education, democratic education, multicultural education, community-based education, [and] critical pedagogy" (Gruenewald, 2003, p .3). Sobel (1996) suggests that the curriculum of place-based education can be used to "mirror the expanding scope of the child's significant world, focusing first on the home and school, then the neighborhood, the community, the region, and beyond" (p. 19). The place-based model fosters a strong sense of self, place and community. It is also a self-directed learning style that increases the chances of involvement, ownership, and success. Largely, educators

and the community must work together to focus on the strengths of each individual.

Woodhouse and Knapp (2000) published a “survey of the literature on place-based education” (p.3). The paper outlines the following distinctive patterns:

- It emerges from the particular attributes of a place. The content is specific to the geography, ecology, sociology, politics, and other dynamics of that place.
- It is inherently multidisciplinary.
- It is inherently experiential. In many programs this includes a participatory action or service-learning component; in fact, some advocates insist that action must be a component if ecological and cultural sustainability are to result.
- It is reflective of an educational philosophy that is broader than "learn to earn."
- Economics of place can be an area of study as a curriculum explores local industry and sustainability; however, all curricula and programs are designed for broader objectives.
- It connects place with self and community. (2000, p. 3)

The model of place-based education affirms that curricula can relate to real-life experiences within natural settings while reconnecting students to a stronger sense of self and place.

Place-consciousness is also significant since it is:

> a frame of reference from which one can identify, and potentially resist, the colonizing practices of schooling as a function of the larger culture and its political economy. In order to explore the dynamic connections between place,

> geography, culture, and education … it is necessary to look back across time, and to look beyond schooling, for the places and selves we may not yet know. (Greenwood, 2009, p.1)

Place-conscious education would look at "political and economic relationships and that extends throughout localities, regions, states, nations, and the globe itself" (Gruenewald, 2003, p. 630). In other words, place-conscious education encourages children to think on a larger scale regarding interconnectivity of self, other, and the nonhuman world — to think globally and act locally (Gruenewald, 2003). The concept of thinking globally and acting locally is a popular theory in the outdoor education world and helps students become aware of international news while taking care of their local community. However, Gruenewald (2003) explains, "despite the widespread institutionalization of environmental education, schooling and an ecological consciousness of places are fundamentally at odds" (p. 633). Gruenewald's statement suggests that even with attempts to reconnect children to the natural world, there is still a major disconnect to self, place, and community. Sobel (1996) offers the advice that more opportunities must be provided in order for children "to bond with the natural world, to learn to love it, before being asked to heal its wounds" (p. 10).

Smith (2002) wrote "The primary value of place-based education lies in the way that it serves to strengthen children's connections to others and to the regions in which they live" (p. 594). In other words, place-based education and place-conscious education are meaningful concepts that must be introduced to children at an early age to ensure a positive and strong sense of community, place, and self.

2.3 Emergent Curriculum

Elizabeth Jones (2012) in the study, *The Emergence of Emergent Curriculum,* explores the goal of emergent curriculum from an educator's perspective as the art of listening and observing a child's interests. The model of emergent education is very self-directed and interest-based, which leaves the teacher as a mentor and facilitator in a child-centered play-based environment. Jones (2012) describes emergent curriculum as the following:

> The goal of emergent curriculum is to respond to every child's interests. Its practice is open-ended and self-directed. It depends on teacher initiative and intrinsic motivation, and it lends itself to a play-based environment… To develop curriculum in depth, adults must notice children's questions and invent ways to extend them, document what happens, and invent more questions. The process is naturally individualized. (p. 68)

She further argues that when curriculum becomes too structured and standardized, children's individual needs are not met, which may result in negative outcomes. The child could fall behind or develop an early negative association with school. An emergent curriculum allows educators to focus and build upon student interests and to nurture a healthy sense of curiosity and passion of learning.

Emergent curriculum seeks to be a child-centered model that encourages learning and child development through creative and imaginative play in or outside of the classroom. The focus is not to provide "didactic/academic instruction with free-play periods. Rather, educational practices should systematically integrate the play element into the curriculum in carefully structured ways that simultaneously engage children's enthusiasm and provide scope for children's own initiative and creativity" (Nicolopoulou,

Barbosa de Sá, Ilgaz & Brockmeyer, 2009, p. 42). Use of puppets, storytelling, and acting can support the practice of emergent curriculum and free play.

Maynard, Waters, and Clement (2013) confirm that emergent curriculum is also beneficial in the outdoor classroom because it provides an exciting environment where children have the freedom to be curious, ask questions, challenge their senses, and develop strategies on how to master safe risk-taking (Bilton, 2010; Little & Eager, 2010; Maynard, Waters & Clement, 2013). This study:

> characterized child-initiated/centered activities as those that were both initiated and led by the child; which did not have pre-determined (subject content) outcomes; in which the activity centered on play or self-chosen investigation; in which the teacher acted as supporter/facilitator or co-researcher; where the level of physical challenge and activity was likely to be high; and which involved open interaction and possibly also 'sustained shared thinking.' (Waters & Clement, 2013, p. 286)

Maria Montessori was a pioneer who fought to revolutionize education for young children (Smith, 2010). Montessori documented that educating children in a natural setting was highly beneficial to their social, cognitive, and physical development. In many ways, Montessori implemented an emergent approach to education. Montessori developed her "system of education through scientific observation of the children's almost effortless ability to absorb knowledge from their surroundings, as well as their tireless interest in manipulating materials" (Indian Montessori Centre, 2011, para. 8). Montessori based her materials and activities upon what the children were doing naturally without the aid of an adult (International Montessori Index, 2011). Dr. Montessori was

inspired to open elementary schools in Rome for children six to twelve years old (International Montessori Index, 2011). She followed the curriculum of Italy but applied the Montessori Approach to all of the required subjects (International Montessori Index, 2011). To this benefit, "the children could use materials to guide their open-ended research and to follow their individual interests, working to a much higher level than was previously thought possible for children of this age" (International Montessori Index, 2011, para. 5). She also came to the realization that children can teach themselves when they are ready and in the right environment (Indian Montessori Centre, 2011). Once more, Montessori documents emergent curriculum and interest-based learning.

Anu Karna (2013) explores why parents are motivated to enroll their child in a Montessori school in her study, *Why Montessori?* In the following narrative one parent discusses how surprised she was at her son's sense of self as he directed his own learning adventure:

> Throughout my visit, my instinct was to interrupt and dictate to my child, and (to put it bluntly) to teach him. But as he moved through the classroom, my anxiety vanished. He demonstrated ownership of his time. He seemed fully aware of himself and his interests. The teachers in the class stuck to sharing observations and conversations. They only interrupted the children to gently encourage different ways of thinking. They asked for opinions and views to reflect the individuality of each child. (p. 28)

Emergent curriculum is a view that education is "a natural process spontaneously carried out by the human individual, and is acquired not by listening to words but by experiences upon the environment" (The Indian Montessori Centre, 2011). It makes sense

to have curriculum be an open-ended and imaginative exercise (Eisner, 2009). The emergent curriculum theory, wherein teachers facilitate a free flowing program and is learner-directed, is encouraged and empowering to all.

2.4 Creative Play-Based Learning

As defined by the National Advisory Committee on Creative and Cultural Education (NACCCE), creativity is defined as "Imaginative activity fashioned so as to produce outcomes that are both original and of value" (1999, p. 30). Creative thought and expression can be characterized as "high levels of emotional development or feelings; talent and high levels of mental and physical development; and higher levels of consciousness, resulting in use of imagery, fantasy, and breakthroughs to the preconscious or unconscious states" (Saracho, 2002, p. 143). In more general terms, play can be described as a an "inquiry process that consists of four ways of knowing: (1) exploration (2) testing (3) imagination, and (4) construction. When children play, they construct an understanding of what the world means for them…" (Burke, 2010, p. 17).

While at Cedarsong Nature School, I witnessed all 'four ways of knowing,' as stated above. These included exploring a decomposing log, a six-year-old and her mud ball science experiment, students pretending to be Unicorn Pegasus, and the impressive construction of a three-part damming system. All these illustrations are clear examples of fun, inquisitive learning, and creative play. The literature review below will explore the benefits and challenges of creative play-based learning and the power of outdoor play. The purpose of this review is to establish that there is current research proving that learning in an outdoor environment is a meaningful and credible educational practice.

The power of outdoor play. There has been increasing discussion and analysis

concerning the importance of outdoor play for young children. Real world environments allow children access to limitless resources and an opportunity to engage in creative and imaginative play, which is extremely stimulating and full of endless possibilities (Warden, 2011). Such experiences like making your own props and toys out of woodland material, learning how to properly build and start a campfire, and exploring new habitats is much harder to archive in manufactured playground settings or on a computer (Warden, 2010). Clair Warden, outdoor education consultant, implies that given the option, children actually prefer to play in natural environments because of the freedom of space and the opportunity for stimulating discovery (2010). Outdoor play supports the development of motor skills like climbing, sliding, and crawling, building and constructing, gross motor activities — running, jumping, throwing, kicking, bouncing, and balancing, places to pretend, and for creative expression (Bredekamp, 2011).

The concept of "affordance" is used to describe an awareness of the environment and the child's functional significance (or their functional meaning) in order to help guide children's examination of their environment (Fjørtoft, 2001). Such affordances (what the environment can offer) can present a number of positive results for children's play. This includes allowing children to experience the same outdoor environment daily, but having the chance to see it change with every season. "Everyday is different, the moisture, temperature, light, movement in natural space is changing constantly stimulating new ideas and perspectives" (Warden, 2010, p. 93). Another affordance made by the environment is the benefit of 'limitless play'. This type of play provides the child with a highly complex natural setting that in turn allows the child to play without boundaries or the confinements of manufactured and gender-geared toys. In other words, a stick, root,

and pinecone can become a fishing rod and shark, a magic wand, or a dog at the end of a leash. Lastly, Forest Kindergarten provides children the chance to experience themselves through the act of creative play (Warden, 2010). It is clear that such affordances in nature do have impressive benefits for children. Most importantly, research has found that nature-based landscapes, or 'play-scapes' do present many educational opportunities and are in fact more stimulating than those riddled with concrete and plastic (Fjørtoft, 2001). Kane and Kane (2011) found the following results in their study, *Waldkindergarten in Germany: How unconventional programs employ extended immersion in nature to foster empathy and stimulate intellectual development among young people*:

> There are no human-made toys in the woods. Children use their imaginations to create fantasy objects from natural objects. Some children have found evergreen branches and are pretending to paint a tree, using the branches as imaginary brushes. The branches are then transformed into brooms, and the children clean the forest floor. One child pushes a knob on a tree to sound an imaginary fire alarm, and others run for safety! Creative fantasy play (imaginative play), where objects are transformed in countless ways, is an essential component in these schools. This symbolic fantasy play develops abstract thinking and comprehension of spatial relationships, skills that young children do not get from traditional pencil and paper tasks or from toys with predetermined meanings. They are also roleplaying and learning cooperative social skills, other important developmental tasks. We find that this fantasy play is the primary purpose for learning in *Waldkindergarten*s, and we quickly realize how this unfolds as an essential development task." (p.17)

Kane and Kane (2011) conclude that the participants who attended the *Waldkindergarten* in Germany were very self-confident and were eager to take safe risks. The students were able to recognize what defines a safe risk by their "ability to make good decisions and self-regulate" (p 17). The study also reported the success of peer teaching among older and younger participants, but what was highlighted in the study was the fact that these *Waldkindergarten*s were unhurried and had a luxury of time and space (Kane & Kane, 2011). These children could learn and explore at their own pace and in way that was beneficial for their personal learning style (Kane & Kane, 2011). Catherine Melhus (2012) emphasizes the importance of outdoor play in her study, *Outdoor day-care centres — A culturalization Of nature: How do children relate to nature as educational practice?* Her study focuses on an Outdoor Kindergarten on the Southern Coast of Norway and how a proper natural space can support creative play-based learning. The students use their imagination more when not given manufactured toys because they have to find or make the props needed for their play setting (Melhuus, 2012). As one of her participants describes, "if it is for the chocolate factory, they have to find the branches to stir with, and the mud**…**so everything they use they find for themselves. The only things we have are hammers, an axe and a saw**…**so that is what I think is the nice thing about being out there, that the kids get to think for themselves" (Melhuus, 2012, p. 646). Again, this type of play is unhurried and with no agenda, guideline, or interruptions. There are no boundaries in imaginative and creative play while in a natural setting, and the role-playing that takes place helps to develop their social skills, advocates teamwork, and enhances problem-solving skills (Kane & Kane, 2011). Natural play-scapes allow children to gain confidence in their imaginative abilities

while developing highly attuned fine and gross motor skills, balance, and a safe sense of risk (Little & Wyver, 2008). Safe risk-taking is a topic of high priority among parents and educators, and playing in an outdoor setting "offers children many opportunities for risky play in which they learn to effectively confront risks" (Sandseter, 2009; Kos & Jerman, 2013).

Bredekamp (2011) reports that research indicates outdoor play is essential to reconnecting our children with their natural world. It has been proven that green natural environments actually lessen the occurrence of behavior disorders such as "anxiety, and depression; children who play outside are sick less often and have a higher measure of self worth" (Bredekamp, 2011, p. 472). As Bredekamp suggests, there is a significant correlation between place and play since play-scapes seem to have an influence on behaviour. The Forest Kindergartens environment truly invites children to use their critical thinking and imagination to make connections to the modern world and the world beyond the green setting (Melhuus, 2012). For example, a flat rock becomes a cell phone, or a round rock becomes a penguin egg that must be gently cared for and kept warm.

In the longitudinal study, *The outdoor environment in Norwegian kindergartens as pedagogical space for toddlers' play, learning and development* (2010), Moser and Martinsen discuss the importance of place and space for the developing child. The study found that when a child does not play in wild green natural spaces, the results may be that the child will feel trapped, or even "restless, needing to move from place to place to find peace, or protecting themselves mentally by playing alongside rather than with other children" (Moser & Martinsen, 2010, p. 467). Furthermore, the study indicated that current Swedish research has found that:

> Children have more difficulties in finding the balance between intensive, rough-and-tumble play and a calmer, more focused and restorative form of play when there is a shortage of such secret places. Secret places provide children with a sense of control over their play and institutional life in general, which increases their opportunities for varied and meaningful activities, as well as the experience of active participation altogether acknowledged as an important indicator for quality in early childhood education. (Moser & Martinsen, 2010, p. 467)

Educators and researchers continue to encourage play to be a part of educational curriculum development and planning. While in nature, children are experiencing scientific play and a variety of skills that accompany such play. These skills include making predictions, developing critical thinking and problem-solving skills, recording findings and documenting discoveries. Another attribute of outdoor play and Forest Kindergartens is an enhanced sense of empathy, kindness, and environmental sensitivity for natural spaces. Students learn to have respect for all living beings and are taught to think about the impact of their actions before stepping on a bug or breaking tree branches. Children are taught how to touch small insects and worms with care, and the concept of trapping is discouraged because of the stress that might cause the living creature. Kenny, (2012) in her book, *Forest Kindergarten: The Cedarsong Way,* explains that children start to develop what she calls a 'moral compass', which helps them to understand how harmful actions may affect themselves, others, and the natural world.

Teaching empathy and kindness can stem from outdoor scientific play, and within that experience students do learn about cause and effect, problem solving, and showing environmental sensitivity and responsibility (Burke, 2010, p. 79). Guidelines to help

develop meaningful curricula for traditional and holistic education while adapting to the outdoor classroom includes:

- Children learn in a holistic environment, one that encourages learning through speaking, listening, creative thinking, and moving, all of which are conductive to play-based exercises.
- Learning should be a hands-on experience with classroom centers that develop independent thinking, learning, and other initiatives driven by children's own desires to learn.
- Children need to learn in spaces that acknowledge and build on the socio-cultural dimensions of home and family that they bring with them to school.
- Since children learn and grow at different rates, we must develop programs that are responsive to every child's needs and that exemplify learning through play as a pedagogy that provides equity.
- Effective teaching practice means having a philosophy that places play as important to learning and understanding. (Burke, 2010, p. 14)

A report on Swedish Forest Schools (*I Ur och Skur*) affirms the many benefits of learning in the outdoor classroom. The first Forest School in Sweden to use the principles of *Skogsmulle* was opened in 1985 by Siw Linde (Robertson, 2008). Linde loved the characters, songs, and stories and felt the *Skogsmulle* program would work well for early years children (Robertson, 2008). After working in a preschool for a short period, she opened the first "*I Ur och Skur*" (Rain or Shine) School with six attending students (Robertson, 2008). At *I Ur och Skur* the students send their time outdoors, no matter the weather. learning through the act of play.

The *I Ur och Skur* Forest School programs in Sweden have a strong pedagogy that provides opportunities for children to use the natural world as an aid in their development. According to Robertson (2008):

> They (children) learn to crawl, jump, balance and climb on fallen trees and mossy rocks. This is an ideal playground. Children get a feeling of togetherness as they listen to fairy tales under a tree whilst sharing a picnic. Their senses are trained by tasting, smelling, touching, looking, listening and comparing anything that can be found in a meadow, woodland or lake. Curiosity and an inquiring mind soon become directly stimulated when children are outdoors. Every caterpillar, beetle or flower can provoke a cluster of questions and thoughts. All this helps children in *I Ur och Skur* schools to attain a built-in feeling for nature, which will last a lifetime. (p. 5)

Robertson, Martin, Borradaile, and Alker (2009) completed a Forest Kindergarten Feasibility Study for Glasgow, Scotland. Their study observed how children behaved and developed while learning in a forest setting compared with that of a traditional classroom. The children who attended the Forest Kindergarten had fewer sick days (over 5% difference in absence), were more focused, demonstrated advanced motor functions (a pronounced difference between the ability to climb and play on uneven ground or to play only on flat ground without trees), and the Forest Kindergarten students played with great imagination and creativity (Robertson, 2009).

Another Forest Kindergarten study, conducted by the London Sustainable Development Commission, reported on the results of their study, *Children in nature* (2011). The findings confirmed, “Contact with nature can be seen as part of a ‘balanced

diet' of childhood experiences that promotes children's healthy development, well being and positive environmental attitudes and values" (Greater London Authority, 2011, p. 8). It was also stated that "play-oriented engagement — through free play, exploration, leisure activities and child-initiated learning — were particularly significant" (Greater London Authority, 2011, p. 8).

Waite, Rogers, and Evans (2013) affirm in their article, "Freedom, Flow And Fairness: Exploring How Children Develop Socially at School Through Outdoor Play", that recent studies on outdoor play and outdoor schools have found "outdoor contexts and the types of play these engender can offer important practice grounds for negotiation and socially cohesive behaviours" (p. 260). Therefore, allowing children to interact outdoors without an adult interfering with peer conflict resolution enables children to develop the social skills and language needed to solve social conflicts.

Even though the concept of outdoor creative play-based learning is rather new to Canada, the findings of the international studies above are echoed in the Council of Outdoor Educators of Ontario (COEO) Research Summary (2007). Essentially, COEO promotes outdoor play as critical to "lifelong physical, emotional, and spiritual health", in some of the following ways:

- Contact with nature is as important to children as good nutrition and adequate sleep; there are also well reasoned theoretical arguments that suggest humans in general — therefore children — have inborn need for contact with nature.
- Exposure to green space reduces crime and increases individual's well-being and ability to focus.
- A powerful strategy to counteract the childhood fitness crisis is to create attractive

outdoor, green environments that encourage children to spend long periods of time outside, engaged in higher levels of physical activities in fresh air and sunlight.

- Children as young as five have shown a significant reduction in the symptoms of Attention Deficit Disorder when they are engaged in outdoor activities in natural settings, including wilderness backpacking, gardening, restoring ecosystems, and simply walking through green areas. Outdoor activities with an environmental focus have been found to reduce the symptoms of the disorder more effectively than the same activities conducted in indoor settings. Interestingly, findings were consistent across age, gender, income, community types, geographic regions, and diagnosis. (Council of Outdoor Educators of Ontario, 2007, p. 25)

The Ontario organization reported that "Nature is essential for healthy child development because it stimulates all the senses and seamlessly mixes informal play with formal learning. It is not playgrounds, but more wild, alternative outdoor settings that offer children the greatest lessons of risk and challenge" (Council of Outdoor Educators of Ontario, 2007).

Marie Louise Sander, president of the National Association of Forest Kindergartens in Flensburg, Germany says, "Parents are more and more aware that consumerism and high technology do not necessarily provide advantages…parents feel instinctively that their children need more than a perfect playroom. They need to develop outside the artificially created environment of doll houses and drawing tables" (De Pommereau, 2003, para. 6). In other words, parents are starting to look for play

environments that will get their children's hands dirty and allow their child to experience an ever-changing environment with many play and learning opportunities.

Forest Kindergarten supporters such as parents and educators are speaking out, saying that, "A playground doesn't change… A slide remains a slide, but nature evolves and lives. When it rains, there's a small brook to run over; when it snows they can slide. They experience the year's cycles. They can touch and comprehend nature" (De Pommereau, 2003, para. 14). The natural world, then, affords possibilities and challenges for children to explore their own abilities.

Research conducted by Fjortoft (2001) shows that the outdoor classroom is a stimulating setting for learning and mastering processes in pre-primary school children. Children feel more comfortable when in a natural environment, and their knowledge about nature, the world, and themselves increases.

Obstacles with play, space, and time. However, there are some skeptics who believe that making snow forts or playing in a puddle is a waste of time. This may be especially so when the activities take place at school (Miller & Almon, 2009). Some feel that school should be a place where you sit at your desk quietly and learn, and that children have more than enough time for play once they are home (Miller & Almon, 2009). The idea of the schoolification of young children is quite prevalent in Western society. This has resulted in a major push to teach elementary curriculum at the early childhood level, with nursery schools following suit and focusing largely on literacy and math skills. This schoolification leaves little time for play-based learning. In the study *Freedom, flow and fairness: Exploring how children develop socially at school through outdoor play,* Wait, Rogers, and Evans (2013) propose that "in outdoor spaces, there

appears more ambiguity surrounding discourses of teaching, and that ambiguity allows for more playful child-initiated learning" (p. 256).

With the emphasis on activity in outdoor spaces, it is disappointing to learn that there has been a major decline in the opportunities for outdoor play for preschool children in many Western countries during the last century (Kos & Jerman, 2013). The reasons for this decrease in time playing outdoors all point to the "institutionalization of childhood, over-organization and a culture of fear, all of which imply changes to the nature of child play" (Burke, 2005; Kos & Jerman, 2013, p. 190).

Kos and Jreman (2013) explain in the study *Provisions for outdoor play and learning in slovene preschools* how adults can interfere with play and a child's sense of self and place since adults tend to interact with the natural world differently. Children have a sensory-based need to feel the cold mud in between their toes or to smell and taste their surroundings. Further, the study examines the idea that adults perceive the environment in forms while children interpret it as functions. Children place value and meaning in items that may not interest adults, such as rocks, seashells, leaves, or feathers. An adult's reaction to child's play can have implications for the child's experiences (Kos & Jreman, 2013). This is something all parents and teachers should be aware of when working with early years students in any setting.

A recent study by Voce (2012) revealed that even though parents are aware of the importance of play, they are not providing sufficient play opportunities for their children. The report stated that parents feel "pressures on their time…anxiety about safety and their own lack of confidence seem to be contributing to parents moving away from the best play opportunities, compensating for this by a reliance on TV and other screen-based

activities" (Voce, 2012, para. 5).

In another study, researchers interviewed 2000 parents on the topic of play; 1000 parents admitted that they would like to receive expert advice on how to engage in the act of play with their children (Burns, 2012). Furthermore, it was announced that out of the sample, 13% indicated that they were anxious about play and a total of 17% disclosed that it was easier for them to buy their children toys and video games to "take the pressure off themselves" (Burns, 2012). It was a total surprise to find that "59% of fathers and 42% of mothers were so busy that they had fewer than five hours a week to play with their children… Just under a third of parents said they felt guilty for playing with their children instead of doing housework" (Burns, 2012). In addition, the survey results indicated a total of 90% of children watched DVDs and 70% played video games on a regular basis (Burns, 2012).

A longitudinal study by Rochman (2012) conducted in the United States presented some alarming statistics on play and gender inequality. The study focused on why parents are less likely to take their little girls outside to play. The findings stated that "preschool girls are 16% less likely than boys their age to be taken outside by their parents to play" and that parents have actually bought into stereotypes that would suggest girls prefer to play house rather than play outside **(**Rochman, 2012, para. 1). The study listed other factors and findings such as gendered standards of cleanliness and the correlation of girls being less exposed to microorganisms commonly found in outdoor environments. Another finding was that kids are inactive for 80% of the time they attend school (Roachman, 2012).

Research demonstrates that children are "more likely to spend time watching

television or playing video games than experiencing nature first-hand" (Bredekamp, 2011, p. 472). Additionally, The Outdoor Foundation has announced that children's participation in nature play, outdoor events, and activities has declined significantly (Bredekamp, 2011). North America is not alone in the decline of nature play. In the study *Children's pastimes and play in sixteen nations is free-play declining* it was reported that 16 other countries are experiencing these same trends and problems (Singer & Singer, D'Agostino & DeLong, 2009).

The Children and Nature Network reported that "A few decades ago, anywhere from 75 percent or more of children either walked or rode a bicycle to school. Today that number is fewer than one in five" (Charles, Louv, Bodner, Guns & Stahl, 2009, p. 20). Children are now shuttled and transported from one event to the other. While most parents may have the best of intentions, today's children are receiving what has been referred to as a "virtual, often vicarious, electronic, passive and cocooned experience of childhood" (Charles, Louv, Bodner, Guns & Stahl, 2009, p. 21). Experts suggest that as soon as children come home from school they are under "virtual house arrest, beyond locked doors, glued to the blue screens as a de facto child care program instead of being in the outdoors" (Charles, Louv, Bodner, Guns & Stahl 2009, p.21). Overall, the evidence is mounting at rates that should be of concern that today's child is repressed in many ways. However, there could be a balance in which outdoor play and computer play coexist. The study of virtual world play is proving there are benefits both socially and academically to time spent in front of a screen. Virtual world play can provide the following benefits:

- A playful, engaging, interactive alternative to more passive media;

- Becoming a creator and having control over elements of a world;
- Creating mental maps, exploring, and understanding a new world and its systems (e.g. transport, money);
- Rehearsing having responsibilities, looking after things;
- Learning social skills;
- Playing with identity, e.g. dressing up;
- A tool for self-expression; and
- Computer literacy. (European Network and Information Security Agency, 2008, p. 26)

Current research is showing that "games promote positive social, emotional, and intellectual outcomes, enjoyed in moderation, (and not to exclusion of other types of play) are likely to be no more harmful than other sorts of play" (Burke, 2010, p. 87).

2.5 Summary

This chapter reviewed and examined the related literature of Forest Kindergarten, place-based education, emergent curriculum, and creative play-based learning. As stated, the concept for Forest Kindergarten is new to North America. Therefore, many aspects of this model of education were lacking accredited research. The literature reviewed in Chapter 2 touched on the history of Forest Kindergarten, best practice, current international and national programs, the inherent need for children to play outdoors, as well as some research that examines why children are no longer encouraged to play in a forest or outdoor setting.

The research and findings of this review affirm the Forest Kindergarten model and help to support and build upon the thesis questions stated earlier in this study. The

studies and reports documented and discussed in Chapter 2 all connect to the question of whether a Forest kindergarten can assist young children's creative play-based learning while still meeting Newfoundland and Labrador provincial-specific curricular outcomes. This literature review also exposed major gaps since there are few peer-reviewed articles on North American Forest Kindergartens or Forest Schools that cater to early years education. Therefore, this study will add to the existing Canadian discussion and debates on the topic kindergarten curriculum and creative outdoor play. The literature review provided background information and best practice, which were both essential to obtaining insight and understanding on the concept of Nature Kindergarten. It also provided me a solid foundation on play, how children learn, and the challenges that are affecting early years students. While surveying the literature I was able to compare my data with peer-reviewed studies, which helped to keep me focused and attentive while analyzing my data. The literature review also led me to numerous Forest Kindergarten programs that currently exist in Germany, Norway, the United States, and the United Kingdom.

The following chapter provides a descriptive and detailed account of the research design and methodology used for this study.

Chapter 3: Methodology

Chapter 3 will discuss the methodology used for this study and will go into great detail on the following headings: Setting and Participants, Time Frame of Study, and Data Collection, and Validity of Case Study Research.

As a researcher, I wanted to explore whether or not a Forest Kindergarten curriculum could meet specific curriculum outcomes as outlined in the kindergarten program for the province of Newfoundland and Labrador. As well, I wanted to consider how a Forest Kindergarten creates a sense of community, sense of place, and sense of self through creative play-based learning. Conducting a descriptive narrative single case study through qualitative design was ideal for witnessing and documenting this naturalistic pedagogical approach to early learning. Bogdan and Biklen (1998) confirm that qualitative research can be considered naturalistic, as "Qualitative research has actual settings as the direct source of data, and the researcher is the key instrument" (p. 4). This speaks to the natural environment of Cedarsong Nature School, where I was able to observe the practice of Forest Kindergarten in a setting that was familiar and comfortable for my research participants.

A descriptive single case study in partnership with narrative analysis was appropriate to describe the "phenomenon and the real-life context" of Cedarsong Nature School (Baxter & Jack, 2008, p. 546). Coffey and Atkinson (1996) are quoted as saying, "one of the strengths of thinking about our data as narrative is that this opens up the possibilities for a variety of analytic strategies" (p. 80). Again, this approach is significant to children's narrative of play since it allows freedom and flexibility for the participants to express themselves through words, actions, and expressions. For the purpose of this

study, I felt that a narrative would capture the creativity, freedom, and passion of the children's play, which makes it appropriate for this type of qualitative approach. Thus, this research illustrates approaches that also incorporate "a detailed description of the people and the places to carry on the narrative" (Creswell, 2012, p. 274). As a result, this qualitative design provided rich analysis of the participants' narratives and location while examining whether or not such a program can meet provincial (Newfoundland and Labrador) curriculum outcomes. Marriam (2009) suggests that narrative analysis is "the ways humans experience the world… As a research technique, the study of experience through stories" (p. 202). Therefore, the participants' narratives also uncovered rich data that helped in providing a comparison between the provincial specific curriculum outcomes as outlined in the Newfoundland and Labrador Kindergarten program and Cedarsong Nature School's emergent curriculum.

All case study research is strengthened through the process of triangulation because research is more credible and accurate if based upon multiple data sources (Yin, 1994). Therefore, this research design used ethnographic methods of data collection such as interviews, artifacts, observations, field notes, photographs, video recordings, and audio-visuals to study the concept of Forest Kindergarten as implemented by Cedarsong Nature School on Vashon Island, WA.

This descriptive narrative single case study falls under the category of a holistic single case study since it only focuses on one unique environment (Baxter & Jack, 2008).

In summary, the richness of the data collected needed a research approach that allowed for this rich description to be expressed, which made a qualitative design the most appropriate option.

3.1 Setting and Participants

Setting. Vashon Island is the largest island in Puget Sound, located off the shores of West Seattle. Vashon Island is rich in community and Pacific North West Culture. The Island is home to 11000 residents who refer to their island as the 'heart of the sound' (Brown, 2012). This Island is a haven for runners, cyclists, kayakers, gardeners, hobby farmers, outdoor enthusiasts from all walks of life, and families who want to walk the talk of sustainable living. Many people residing on the island are very conscientious of their environmental impacts, including restaurants and local businesses. During the summer months there is a popular farmers market and many residents eat as locally as much as possible. The island presents a twelve-mile stretch of affluent farmland and lush forests, but one of the great attractions is the 45 miles of coastline with a breathtaking view of Mt. Baker (Brown, 2012). Cedarsong Nature School is located just outside of downtown Vashon. As mentioned in Chapter 1, Cedarsong Nature School runs out of Camp Terra, which is fully equipped with a composting toilet, campfire pit, picnic and eating shelter, handwashing station, and one small building called the 'Lending Library'. Figure 3, shows all of these important health and safety facilities.

Figure 3: Features of Main Camp: wash tub, shelter, composting toilet, and Lending Library (Card, 2012).

Main Camp is more of an open area and provides many opportunities for creative and imaginative play. Figure 4 presents a few Main Camp features that the students enjoy, such as the nature discovery table, homemade forts, and the mud puddle. Not far from Main Camp the students will find the balancing logs and a few fun climbing trees, as seen in Figure 5.

The school's Board of Directors is composed of the town of Vashon's professionals, community members, and parents. My invitation to do research was accepted by the Board of Directors and the principal of the school.

Figure 4: Main Camp (Card, 2012).

Cedarsong Nature School was chosen for my single case study because I liked the idea of observing a program that was modeled after the German *Waldkindergartens*. Cedarsong Nature School had already been established for some time and Kenny had traveled to Germany to witness the original programs and to share ideas. Further, due to the fact that this model and practice of education is just getting launched in Canada, I could not choose a school in my own country that had the same credibility as Cedarsong Nature School. Finally, our American neighbors have comparable weather, landscapes, and curricula. All of this makes the concept even more feasible to implement across Canada.

Figure 5: In the trees at Cedarsong Nature School (Card, 2012).

Participants. To ensure purposeful sampling, I implemented a sampling plan that followed critical and snowball sampling techniques. The research takes a critical approach because it is "uncovering and describing inequalities and oppressive

sociopolitical structures with the goal of bringing about change" within the education structure and system" (Duke & Mallette, 2004, p. 97). The study also used snowball sampling as a successful approach. Snowball sampling is "when the researcher asks participants to recommend other individuals to be sampled" (Creswell, 2012, p. 209). According to Bui (2014), this makes my sample nonrandom and in particular a purposive sample, as participants with consent were recommend to me by head teacher Erin Kenny. Kenny based my introductions to participants on who would be interested in participating in my study, which included four parents. The students who were keen to show me around their school did attend Cedarsong Nature School regularly and tended to be between the ages of five and six.

Even though conducting one-on-one interviews is both costly and time-consuming, it was the only way I was able to truly address my research question of whether this outdoor model could meet Newfoundland and Labrador-specific curricular outcomes. I felt that I would not be able to collect the rich data I was hoping for via phone interviews with three- to six-year-old participants. I needed to be there when a child was fully engaging with their forest niche. It was vital that I see their routines, hear their songs, and eat their 'forest candy'. Only then could I feel confident that I would have a comprehensive data to analyze. Again, Forest Kindergarten is new to Canada and I felt it would be beneficial to my research to immerse myself in that unique environment, true to ethnographic methods.

During the time of the study, in May 2012 Cedarsong Nature School had 33 students and I obtained parental consent from 22 students. The school provides programming for children ages three to six. At times, younger children have been

included in the registration, provided they are diaper-trained and able to use the grounds composting toilet.

Children came from a variety of socio-economic backgrounds. However, based on my observations, the school population was not racially diverse since most of the children were from English0speaking Caucasian families who could afford the tuition for this private schooling. However, some participants were able to attend the school based on a scholarship program provided by Cedarsong Nature School.

3.2 Timeframe of the Study

The study took place over a six-week timeframe. Two weeks before I arrived on Vashon Island I was preparing and communicating with Head Teacher Erin Kenny via email, telephone, and video conferencing. I was on site at Cedarsong Nature School in May of 2012 for a total of two weeks. While at the school, I observed the students naturally playing in their forest habitat, interviewed participants, and collected relevant data. This two-week timeframe allowed participants to become familiar with my presence in their forest. It also permitted me to observe regular attendees up to three times a week. The last two weeks of my six-week study were spent interviewing parents, organizing data, and collecting various artifacts from Erin Kenny.

3.3 Data Collection

Accurate data collection was achieved throughout this study. Cedarsong Nature School's essence was captured by means of ethnographic methods (interviews, observations, field notes, photographs, artifacts, video recordings, and audio-visuals). The methods of description, analysis, and interpretation of my data collection will be discussed and described in the following subsections.

Participant observation. Observations play a major role in the triangulation of my data since it is a primary source of data within qualitative research (Merriam, 2009). It stems from the argument for interacting with the "phenomena we wish to understand" (Palys, 2003, p. 214). The participant observer is able to see things in person rather than relying on once-removed accounts, such as interviews (Merriam, 2009). The main purpose of this study was to interact and understand what a Forest Kindergarten involved. In being respectful to the children's learning and play, I purposefully ensured that my data collection methods and actions were not invasive to the children's learning. As a participant observer I was able to witness critical interactions between peers, between students and teacher, and between student and nature. It was in the best interest of my qualitative research study to be present while collecting data.

Participant observation is defined as "the process of gathering open-ended, first-hand information by observing people and places at a research site" (Creswell, 2012, p. 213). While at Cedarsong Nature School I observed 1) the physical setting; 2) the participants; 3) activities and interactions; 4) conversations and play, 5) subtle factors; 6) my own behavior (Merriam, 2009). I will discuss each observation type as a separate collection. The physical setting involved Erin Kenny's property. As mentioned before, Cedarsong Nature School is located on a five-acre protected forest. I documented all areas where play and UCA took place, such as main camp and Nature Theater. The participants included the students, parents, and Erin Kenny. Activities and interactions were documented as I witnessed students playing independently, or with others. Interviews were mostly informal as I organically recorded (naturally and not in a formal manner) data during the day, or while having conversations with participants after they

invited me to their favorite play location. I also recorded and documented data when students were not aware that I was listening to their role-playing, games, and activities. Lastly, while observing I had to be conscious of my own behavior. As a qualified teacher who specializes in outdoor education, I had to make sure that I was not playing a teaching or facilitating role, so I kept a critical eye on my actions and myself, remaining as a researcher.

Before I arrived onsite I discussed my level of participation with my advisor, with Erin Kenny, and with the board of directors. It was decided that I would play the 'participant as observer role' or the 'active membership role', which means "the researchers are involved in the setting of central activities" (Merriam, 2009, p. 124). This decision meant that the students and parents were aware of my purpose. That said, during field observations it was wise to be flexible and adaptable if the observational roles needed to be changed depending on the circumstance or event (Creswell, 2012). Therefore, placing the relationship on a continuum while I immersed myself into the Cedarsong community, I recorded each experience as it naturally occurred. I willingly participated when asked by students and took field notes when play was not to be interrupted or bothered, always keeping a keen ear open to document what I could.

Field notes. While on site, I recorded descriptions of my observations, as well as analytical, methodological, and reflective field notes. This allowed me to capture the day-to-day thoughts, insights, hunches, events, and interactions (Palys, 2003). Documenting field notes was a major portion of my data collection and I was able to organize and type my notes at the end of each observation day. As a teacher, I understood children and

found that I could make connections to collect and discover emerging patterns and uncover hidden research opportunities (Duke & Mallette, 2004).

In addition, to ensure reliability and trustworthiness, I organized, categorized, and archived my data at the end of every field day. All data was collected at Cedarsong Nature School. The children were either interviewed at the picnic shelter or in their favorite play location on site. I would ask a child, with parental consent, if she or he would like to show me a place that they really liked at Cedarsong, and the interview would start from there. I collected data of students engaging in water play, climbing trees, balancing on logs, creative and imaginative play, active play (running, jumping, splashing, hiking, collecting), nature art, eating foresting plants, inclusive play, musical play, and strategic play (building dams, forts, and other structures), and sensory play, to name a few.

Artifacts. The collection of artifacts was of great importance for this study. Artifacts can look like official records, newspapers, diaries, and newsletters (Merriam, 2009). Marriam (2009) defines artifacts as "things or objects in the environment differentiated from documents that represent some form of communication" (p. 139). In other words, artifacts could be anything that was in existence before official research commenced (Merriam, 2009). The collected artifacts were instrumental in complementing the collected data and helped to fill in any missing links (Merriam, 2009). To my delight, Cedarsong Nature School was generous enough to provide the following documents and artifacts:

- Photographs of Cedarsong Nature School;

- Social media (Official Cedarsong Nature School website, Facebook Page and Twitter account);
- Cedarsong Nature School Newsletters;
- Cedarsong Nature School Introduction DVD;
- Cedarsong Nature School's Forest Kindergarten An Outdoor Preschool Program for ages 3-6, 2012-2013 Handbook;
- Cedarsong Nature School's Forest Kindergarten Teaching Philosophy; and
- Relevant news articles and videos. (See Appendix B, C, and D for above content)

The artifacts also assisted in documenting Cedarsong students in the social, cultural, and political nature of their Forest School through the collection of the Handbook and Cedarsong Nature School Teaching Philosophy documents.

The artifacts assisted me, as the researcher, in gaining a sense of place and to connect that place to my participants.

Key informant interviews. For the interviewing process I prepared three sets of semi-structured questions to guide the discussion and to gain specific and reliable information and opinions (Yin, 1994). Again, the research questions that guided this study were open ended:

A) How can a Forest Kindergarten program create a sense of community, sense of a place, and sense of self through creative play-based learning while meeting the outcomes of a Forest Kindergarten program?

B) How can the curricular approach of Forest Kindergarten assist young children's creative play-based learning while still meeting the expectations of the Newfoundland

and Labrador kindergarten curriculum?

Keeping my research questions in mind, I composed my interview questions for my participants to bring forth detailed responses about their favorite places, spaces, daily routines, and their feelings about their school and play choices (See Appendix H for Interview Questions).

The three different sets of interview questions include:

- Interview questions for the principal, Erin Kenny;
- Interview Questions for Cedarsong Nature Kindergarten students; and
- Interview Questions for Parents.

The interview questions consisted of open-ended questions, as it was my intent that "participants can best voice their experiences unconstrained by any perspectives of the researcher or past research finding" (Creswell, 2012, p. 218). As seen in my letter of consent (See Appendix H), my goal was to make my interviews feel like a *comfortable conversation* and not an intrusive investigation, or to simply have a "conversation with a purpose" (Merriam, 2009, p. 88).

The participants were asked the following six types of open-ended questions, such as:

1. Experience and behaviour questions
2. Opinion and value questions
3. Feeling questions
4. Knowledge questions
5. Sensory questions
6. Background questions. (Merriam, 2009, p. 96)

The interview questions varied depending on the person's involvement, age, and types of information they could provide. All interviews were conducted in person and audio recorded as permission was received prior to the commencement of the interview.

Even though my data collation consisted of interviews, observations, field notes, photographs, and artifacts, it is important to note that The Mosaic Approach was an ideal method for collecting data while observing at Cedarsong Nature School. The Mosaic approach was developed in England in 1999 as a tool for observing young children as active participants and experts in their own lives (Clark, Kjorholt & Moss, 2005). In other words, it enables children to create a living story of their environment. The Mosaic approach focuses on "interest in knowledge generation or construction by participants rather than knowledge extraction" (Clark, 2011, p. 222). Again, this privileges the child by making them an expert in their own story.

The Mosaic approach is a multi-method framework that combines the traditional methodology of observation and interviewing with the presentation of 'participatory tools', such as the use of cameras, tours, and mapping, drawing and role-play (Clark, 2001). The Mosaic approach was created to include "the voice of the child" and to fully capture the essence of what it means to truly listen and understand when young children are expressing themselves (Clark, Kjorholt & Moss, 2005). This type of data collection privileged the act of listening to young children while providing positive opportunities for my early years participants to share their knowledge, ideas, and findings of their Forest School; for example, taking me on a tour of their favorite forest area. Using my knowledge and the specific curriculum outcomes while exploring with the children allowed me to collect rich expressive data. The Mosaic approach worked well with my

descriptive narrative single-case study because it helped to capture and tell the special stories and illustrate the learning of the young children at Cedarsong Nature School. This qualitative approach was adapted to focus on individual children, which "allows for themes to emerge from the narrative accounts" (Clark, 2001, p. 335). For this study in particular, the themes that did emerge from the narrative accounts were those that honored the children's learning experiences while playing and exploring in their forest environment.

When utilizing this approach, the participants are encouraged to:

- Take photographs of their favorite places and spaces
- Make a picture book of things they like
- Take a adult on a tours of their most loved outdoor area
- Make a map of their environment — paints a great picture of what is important to them. (Waller, 2010, p. 531)

This approach speaks to active young children in active environments and was the perfect fit for this descriptive narrative case study.

There were aspects of the Mosaic approach that were not suitable for my research location. The use of manufactured/non-reusable forms of data collection such as disposable cameras did not respect the ethics of the school. I did find the method of 'taking an adult on a tour of their most beloved outdoor area' to be very valuable. Many students took me on a "walking interview" wherein I was able to explore the "children's 'local knowledge' of their own environment" (Clark, 2001, p. 336). I made sure to recognize the different 'voices' or languages of my participants by treating the students as experts and agents in their own lives. This process included all research participants

(children, teacher Erin Kenny, and parents) reflecting on meanings, addressing the question of interpretation, and focusing on children's lived experiences. I found the Mosaic Approach to be very adaptable and very applicable to an outdoor-based study.

As an experiential learner myself, an ethnographic approach allowed me the time to really explore, understand, and process the concept of Nature Kindergarten. During my ten days at Cedarsong Nature School, I was able to document day-to-day activities, conduct interviews, and observe the students in their Cedarsong environment.

3.4 Data Analysis

Data analysis is a structured interpretative process that should be "filtered through the researcher's culturally learned frames" (Duke & Mallette, 2004, p. 107). With this in mind, I was careful not to predetermine findings before the analysis phase. In other words, as a teacher of outdoor education I made sure to keep my own opinions neutral. The data was collected through the following methods: interviews, artifacts, observations, photographs, audio-visuals, videotapes, and review of selected literature. I transcribed all of my interviews and field notes at the end of each day to ensure that I was the expert of my own data. I then read through my material many times to understand and categorize the data through the different activities I observed while at Cedarsong Nature School. Each new theme presented itself as a dominant topic in the data; therefore, the categories of creative play-based learning, place-based education, and Forest Kindergarten were established. I then color-coded my themes and looked for patterns in the detailed field notes and interviews. Analyzing the data permitted me to organize and identify each interviewee's strongest contribution and helped to eliminate unrelated data (Miles & Huberman, 1984). Next, I transcribed and categorized data in terms of the research

questions and emergent themes. For example, I analyzed the data to answer each of my research questions and then started to group it into relevant themes. This coding method allowed me to label and group the data into meaningful categories.

Miles and Huberman (1984) suggest using a matrix system to rank the information depending on how relevant it is to answering the research questions. I organized, categorized, and coded my data in the form of a matrix (See Appendix I for matrix).

Once the data was placed into the matrix, it was rated from zero (lowest) to three (highest), again, helping me to rank the data depending on how relevant it is to answering the research question. Once I completed the matrix I created a conceptual framework, which helped me to determine how the data could be read and organized in various themes and sub-themes, as seen in Figure 6.

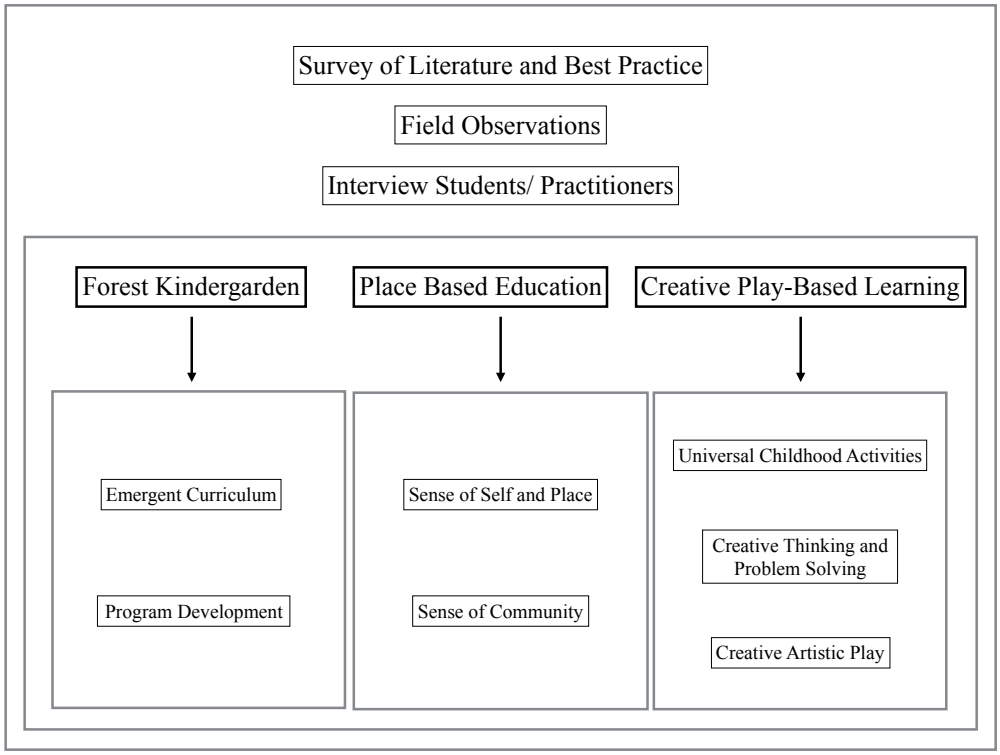

Figure 6: Conceptual Framework (Card, 2013).

The conceptual component was developed to create a systems framework, which supports the research question while breaking it down into sub-themes. All pieces of the conceptual framework are interrelated and were examined at varying degrees of detail throughout the analysis. The term conceptual framework can be defined as being "neither models nor theories. Models describe how things work, whereas theories explain phenomena. Conceptual frameworks do neither; rather they help to think about phenomena, to order material, revealing patterns — and pattern recognition typically leads to models and theories" (Rappoport, 1994, p. 256). This helped to guarantee my analysis was "reasonable in scope" and to provide structure (Baxter & Jack, 2008, p. 554). Put another way, the conceptual framework ensured that I stayed true to my research question and helped me to organize and categorize such rich and vibrant data.

As a researcher, I found that an organized analysis process facilitates the following:

- It brings order to the piles of data the ethnographer has accumulated (explain the piles (data types);
- It turns the big piles of raw data into smaller piles of crunches or summarized data (saw how the types of data interacted, such as interviews of children and field notes);
- It permits the ethnographer to discover patterns and themes in the data and link them with other patterns and themes. (Duke & Mallette, 2004, p.107)

Stories have long been a part of our history. The narratives have been used in our society for entertainment, teaching morals and values, reporting academic findings, and

documenting historical events and traditions. In the article "Stories of Experience and Narrative Inquiry", narrative research in education is credited with the fact that "humans are storytelling organisms who, individually and socially, lead storied lives. The study of narrative, therefore, is the study of the ways humans experience the world" (Connelly & Clandinin, 1990, p. 2). This study speaks to how children tell the story of their learning in the forest world. The data captures their individual stories and produces a descriptive picture of how their learning is experienced in Forest Kindergarten.

The data collection focused on topic-centered narratives shared by the research participants of Cedarsong Nature School through "snapshots of past events that focus around particular topics and themes and are fragments rather than extended narratives" (Jones, 2011, p. 112). A narrative analysis can reveal, in great detail, the necessary life experiences and beliefs of participants (Eick, 2011).

The narrative analysis was crafted to tell the story of the children from Cedarsong Nature School. The 'participatory tools' provided a safe and comfortable invitation for the children to tell me about their outdoor school and to share their Cedarsong stories. The narratives were analyzed and interwoven into a narrative descriptive case study that emphasizes how a Forest Kindergarten program creates a sense of community, sense of place, and sense of self through creative play-based learning. This was accomplished while meeting curriculum goals as well as the academic, physical, and social needs of children. All participants told their own personal stories through observation, interviews, and the 'participatory tools' of the Mosaic approach. Based on the data of all contributors, I was able to tell each student's personal and unique story while addressing

my themes and research questions — more specifically, whether a Forest Kindergarten can meet the specific curriculum outcomes for Newfoundland and Labrador.

The Comparison: Newfoundland and Labrador Kindergarten Provincial Outcomes and Cedarsong Nature School Emergent Curriculum. A comparison of Erin Kenny's emergent curriculum and Newfoundland and Labrador provincial outcomes are defined and introduced below.

Cedarsong Nature School. Emergent curriculum is "a natural process spontaneously carried out by the human individual, and is acquired not by listening to words but by experiences upon the environment" (The Indian Montessori Centre, 2011), to build curriculum as an 'open-ended' and 'imaginative' exercise where students take ownership of their learning (Eisner, 2009). The theory is that teachers facilitate a free-flowing program wherein the student is encouraged and empowered to lead his or her own day of learning based on his or her own interests.

In Erin Kenny's new book, *The Cedarsong Way*, she explains why she chose an emergent curriculum model for her outdoor school:

> My teaching style and the one I use in Cedarsong's Forest Kindergarten program is interest-led flow learning which results in emergent curriculum. I have no set agenda when I arrive each day and I do not have a schedule that the children have to follow. The learning that arises through children's authentic and organic play ensures that their own interests are guiding their education. In my years of experience, it is obvious that the more children are interested in something, the more information about that thing they will retain… I have also discovered that

> children learn more and retain information better if they are having fun while the information is dispensed. (2013, p. 67)

Kenny's emergent curriculum and teaching philosophy is provided in her *Cedarsong Nature School's Forest Kindergarten An Outdoor Preschool Program for ages 3-6 2012-2013 HANDBOOK* (See Appendix D). The handbook explains how Erin and her team run their emergent education model:

> Our lesson plans flow organically from what nature presents us with each day. We believe that children between the ages of 3 and 6 learn best through direct experience with the natural world. Our goal is to tap into their sense of wonder about nature while teaching basic environmental and natural science principles. We promote individual empowerment and group bonding. We teach respect for all living beings and how to minimize our impact on the earth. (Kenny, 2012, p. 1)

Kenny also uses what she called the 'northwest curriculum', which is based on daily student observations that have been recoded in the Cedarsong Nature School Journal since the school opened. The Cedarsong Nature Journal has provided Kenny with some very interesting findings regarding the flow of their curriculum. She documents the daily activities, sighting, and interests in Cedarsong Nature School's monthly newsletters (See Appendix B), which effectively becomes her emergent curriculum. That said, Erin states that she is not bound to follow that curriculum of a particular year, as each child and season is different (Kenny, 2013). What Kenny has discovered is that "over the years I can see certain nature themes and play activities repeated in accordance with the season and the weather, leading to a cyclic curriculum that writes itself" (Kenny, 2013, p. 77).

Newfoundland and Labrador provincial-specific curriculum outcomes. The Newfoundland and Labrador Department of Education specific curriculum outcomes can be defined as:

> statements identifying what students are expected to know and be able to do at a particular grade level. They are organized according to subjects. Specific curriculum outcomes for kindergarten… articulate what children are expected to know and be able to do by the end of the kindergarten year. (Government of Newfoundland and Labrador, 2014)

The framework for the kindergarten curriculum is created so that the child is at the center of the framework, which means that teachers and parents need to have a clear understanding of where the child is in terms of development and social growth (Government of Newfoundland and Labrador, 2014). To guide the teaching and learning, the framework provides a four-column outline with the intent that teachers plan appropriate learning activities and conduct the proper assessments. The columns consist of: 1) Specific curriculum outcomes, 2) Suggestions for Learning and Teaching, 3) Suggestions for Assessment, and 4) Resources (Government of Newfoundland and Labrador, 2014).

Each mandatory subject has very detailed curriculum guides to support the child and the teacher, but to also ensure that curriculum goals are being achieved. Chapters 4 and 5 compare, analyze, and discuss both the mathematics and science curriculums.

3.5 Validity of Case Study Research

This single case study shows its validity through credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). In the following paragraphs, I evaluate my research study using these constructs to show validity.

The first construct, "credibility", is achieved when the inquiry accurately describes the subject of the case study. The inquiry must be "credible to the constructors of the original multiple realities" (Lincoln & Guba, 1985, p. 296). In my research, I have taken the responsibility to ensure that the "multiple realities" of the participants are represented through descriptive details of the participants' experiences. This descriptive detail was achieved through my time frame of six weeks. Using the research questions as a guide, I observed three participants, which included two students and head teacher and founder Erin Kenny. I took field notes digitally with a camera and also used a handheld audio recorder to collect both video and audio footage to document my observations of the participants. I was able to witness and record extremely rich data of the Cedarsong Nature School students interacting and learning from their forest classroom. My site visit in this context gave me an opportunity to hear and see, through each participant's eyes, what their creative play-based activities entailed. During this period, I checked and re-checked with participants and clarified other details through interviewing their parents, clarifying with Erin Kenny, and taking every opportunity to spend time with them while they were immersed in their Forest classroom. For example, snack time was a valuable point in the day when I could ask questions without disrupting the flow of the morning's activities. This was a non-invasive method of data collection, as snack time conversation and reflections with the students was encouraged and contributed to their sense of community.

The second construct, “transferability”, may be achieved through thick, rich description that describes the participant’s experience and context in which the data were collected. The researcher’s goal in providing this rich description is to provide a vicarious experience for the readers of the study (Stake, 1995).

Above, I shared a depiction of how I organized my study, my role as the researcher while at Cedarsong Nature School. This purpose was to ensure that my audience has a vicarious experience of my research setting. In doing this, other researchers may consider how applicable the findings are to another setting or group of students (Lincoln & Guba, 1985).

Another way in which transferability or generalization of qualitative studies may be achieved is through triangulating multiple sources of data. Marshall and Rossman (1989) define triangulation as “the act of bringing more than one source of data to bear on a single point” (p. 146). The collection of data for this study was through a number of data forms, including observation and interviews; reviews of selected literature were used “to corroborate, elaborate, or illuminate the research question” (Marshall & Rossman, 1989, p. 146).

To review Lincoln and Guba’s (1985) third construct, “dependability”, I looked at changes in the participants, the context, and the data collection as it proceeded. The dependability of the research is achieved through an “audit” whereby researchers make the data (e.g. in my case, transcripts of interviews, observations, as well as emerging themes) available to the participants to critically review as the research progresses. More specifically, the participants have the opportunity to audit your work and correct any misconceptions. In this study, I invited participants to clarify their meaning through my

reading the data to them and responding to my questions for clarification to ensure that that data accurately represented the younger participants. In taking this measure, I am able to ensure an accurate representation of the participant's play experience practices.

Lincoln and Guba's (1985) construct of "confirmability" questions whether the findings of the study could be confirmed by another person associated with the study. Through conducting a member check, I asked the head teacher, Erin Kenny, for her reflections on the collected data. Students were also asked to verify my interpretations of the data, and I also had my advisor read through my data. Therefore, based on the steps taken above, I was able to measure exactly what I had intended throughout this qualitative study.

3.6 Summary

Methodology is defined as "the science of method or orderly arrangement; specifically, the branch of logic concerned with the application of the principals of reasoning to scientific and philosophical inquiry" (Duke & Mallette, 2004, p. 1). Yet methodologies do not have to fall into inflexible categories, as "some research can be considered more than one type of research or may combine methodologies in various ways" (Duke & Mallette, 2004, p. 1). This study explored if Forest Kindergarten programs meet the learning opportunities of the specific curriculum outcomes specified for the kindergarten curriculum in Newfoundland and Labrador. A qualitative approach was the best design for this particular study because it allowed me the methods to capture such rich data. This study used interviews and observation as primary sources of data. Validity of data was achieved through credibility, transferability, dependability, and confirmability; thus, what I had intended to measure was achieved. It was important that

my data correspond with and reflect the real world and Cedarsong Nature School. I was able to compare my data with past and current peer-reviewed studies. I collected my data in a qualitative approach to guarantee I achieved validity throughout the duration of my study.

As a result, Chapter 3 describes my study as a descriptive narrative case study, which includes topic-centered narratives and introduces themes with rich descriptions. In Chapter 4, I will tell the story of two students (Elodie and Clive) and founder Erin Kenny in narrative form. Each story tells a unique Cedarsong Nature School tale.

Chapter 4: Data Analysis Results

The purpose of this chapter is to present a narrative analysis of the descriptive data collected during the single case study at Cedarsong Nature School. This chapter exhibits the data within the research themes that were established in Chapter 3, such as Forest Kindergarten, Place-based education, and Creative play-based learning. Each major theme is told through the stories and experiences of head teacher, Erin Kenny and students Elodie and Clive. During the timeframe of the study, participants took part in interviews, informal group discussions, and invited me to witness and observe their Forest Kindergarten experience.

4.1 Elodie

On my very first day at Cedarsong Nature School, a six-year-old wearing soft pink rain pants looked up at me with excitement in her eyes and mud art all over her face. She took my hand and led me off on an adventure to her favorite forest spaces. Elodie welcomed my presence at her Forest School with open arms. She loved to explore, build forts, climb and balance on fallen trees and logs. Elodie was always nibbling on edible plants and was happy to share her experience and knowledge with younger students and myself. She was a leader in training and she took the job very seriously. Elodie was at home in her Cedarsong environment. The program helped to establish an advanced sense of self and place for her. Her social skills and vocabulary always kept me intrigued. I found that I had to remind myself more than once, that she was just six years old.

4.1.1 Forest Kindergarten

Program Development. Elodie was originally too young to attend Cedarsong Nature School when it first opened in 2008. Her parents knew many of the families

attending the school and had only heard positive reviews. During an interview with her mother it was explained to me that they tried a few different preschools to see what would fit Elodie's personality the best. Below, her mom describes their experience of how they chose the best school for their daughter:

> We tried out two other preschools just to see what would be the best match for her, and Cedarsong was the best match in terms of her personality. You know, they are outdoors, but they are not necessarily active all the time. She is active, but she is not one of these kids who needs to be running around all the time. It is actually nice for her to sit and be able to just look at something on the ground and just explore it. I think one of the most important components about the program is the really small teacher to student ratio. I think that has made the hugest difference out of all the other preschools that we've looked at… I think for selfish reasons too because I love Vashon and I would love to know more about the surroundings and the plants, and so we ended up putting her in here, and my husband and I both love being outdoors too. (Card, 2012)

Elodie's parents are avid outdoor enthusiasts. They valued the fact that upon attending Cedarsong Nature School, Elodie would become an expert on Vashon Island's flora and fauna, and in turn teach her family about their natural environment. In fact, learning about her natural world was one of the many expectations the Cornell family had when they enrolled their daughter. According to her mom, that expectation had been more than achieved. In the narrative below, Elodie's mother shares what her expectations were when considering Cedarsong Nature School:

> Yes, my expectations, I wanted her to be happy where she was and to enjoy it. I didn't…at this age kids should not really be forced to go to a place where they don't enjoy or they don't want to be, and that is another great thing about Vashon too is that there are so many preschools to choose from, but this has been the best match for her! The other expectation was that I wanted her to learn about her environment, and she has. I think my hopes and expectations were for her to be — well, my ultimate goal for Elodie is to be happy, healthy, and independent, that is what I want for her as an adult, and I think right now as a five-and-a-half-year-old she is happy, healthy, and she is independent at an appropriate level — I mean she knows how to do a lot of things. (Card, 2012)

This family is also very thankful for how Erin Kenny has designed her program to accommodate her students as they get older. At the time of the interview Elodie was getting ready to start kindergarten at the local school board in the fall of 2012. In the account below, Elodie's mother expresses gratitude to the Cedarsong community:

> I really appreciate how Erin is considering all of these kids who are aging out of the program and how to accommodate those families. She has a weekend class she is going to be doing and I like how she is trying to incorporate kids who are not potty trained yet, because the younger siblings who come are really interested and she is trying to provide an opportunity, even though it is a little tricky having kids still in diapers. (Card, 2012)

It was important to the Cornell family that Elodie still have the opportunity to maintain a balance between traditional school and outdoor school as she gets older.

As a parent, Elodie's mom gets many questions from outsiders regarding how she deals with the wet clothing and how such an unstructured school is actually benefiting her child. Near the end of my interview she wanted to clear up a few misconceptions about Cedarsong Nature School:

> A lot of people will say, how do you deal with all of the dirty clothes? So that is the funniest thing too…when we took her to other preschools she would get just as dirty playing with paint and playdough and all sorts of other things. There was one place she would just come back with chalk all the way up her arm, or paint all the way up her arm. So you just figure out a way to dress your child as best you can and deal with the mess. I would actually prefer her to get nice clean organic dirt on her versus a paint or liquid, where I don't know exactly what is in it. (Card, 2012)

This was an interesting point; I had not thought about paint being harder to get out than mud. I find it fascinating that society considers mud or being covered with mud as intolerable, messy, dirty, and less then ideal, but to be covered in paint is somehow more acceptable despite it being artificial and the fact that it stains clothes. What many parents may not be familiar with is that there are many important probiotics found in the soil that help to promote a strong and healthy immune system in children; therefore, it would be more beneficial to be covered in dirt than paint. As discussed in relevant literature, a study on Swedish Forest Schools has affirmed that their students have less sicknesses. The study explains that absences related to sickness differ between the indoor and outdoor nurseries by over 5%, with the Forest Kindergarten having the higher attendance rate (Robertson, 2009). It has been proven that natural green environments actually

"lower the incidence of behavior disorders, anxiety, and depression; children who play outside are sick less often and have a higher measure of self worth" (Bredekamp, 2011, p. 472). Elodie's mother also speaks to Erin's practice of interest-led flow learning and how some could mistake her emergent curriculum as chaotic or disastrous. However, in the following narrative, her mom explains how even within an emergent curriculum there is still structure:

> I think one of the biggest misconceptions about Cedarsong is that it is this whole Lord of the Flies…like you just release the kids into the woods! But it is not like that at all. I heard a lot from other families about how it really was, and I think Erin does such a good job about making sure that the kids don't have accidents and that the kids are comfortable, so they can play and be happy. And it isn't totally structured but there is a little like they don't let the kids go into the mud puddle until after snack because if a kid gets muddy and wet right away, then it could go all downhill very fast. (Card, 2012)

Just by observing Elodie naturally playing in her forest environment, I could tell that she thoroughly enjoyed her mornings or afternoons at Cedarsong Nature School. When I asked Elodie what she liked about coming to Cedarsong Nature School she told me that "the teachers teach us good things! They make good rules…no name calling, no telling which character they have to be, no hitting, no shoving, no pushing" (Card, 2012). This told me that Elodie knows what is expected of her while she is attending the program and feels that those expectations are fair and achievable.

Emergent Curriculum. Elodie was very keen to share stories and facts about her outdoor school. This section will discuss how Erin Kenny's model of Emergent

Curriculum has privileged Elodie to experience meaningful learning at her own pace while in an environment that is ever-changing and that awakens all the senses.

During my second day of field observation, Elodie invited me to go to one of her favorite hideouts. The following narrative was taken from my field notes and documents our conversation once at her special location:

Elodie**:** Right in here! [the heart of a huckleberry bush]

Breanne: Oh, fun! Why is this one of your favorite spots?

Elodie: Because it keeps me dry and it is cozy!

Breanne: How does it keep you dry?

Elodie: Well…it just does. Well there are a few holes, but I like it because it is fun to play in and it's pretty!

Breanne: So, what type of bush is this?

Elodie: Huckleberry, and there are spider webs! (Card, 2012)

This special place had to be within view of the head teachers but could still give her the privacy to tuck herself away when she needed a moment to sit quietly.

Her magical setting was in the heart of a huckleberry bush. It was the perfect size and space for her to sit or lie down. Elodie crawled right in and got settled in. I sat close by, half in and half out of the huckleberry nush right next to her. The other students decided that they wanted to start a game of hoot/howl and seek and invited Elodie and I to play.

Hoot/howl and seek is a popular game at Cedarsong Nature School. Some students want to hide and others want to seek. The 'Seekers' go looking for their fellow classmates, who have been given to the count of ten to hide close by. The students who

are hiding make a hooting noise to help the seekers locate their hidden locations. Once a hiding student is found, he or she joins the seeking crew. The game of hoot and seek meets the specific curriculum outcomes for Newfoundland and Labrador in mathematics, science, language arts, and physical education (See Appendices F & G and Figures 15 & 16).

The game had just begun and Elodie was very concerned that I was wearing a bright pink raincoat. As the seekers approached our huckleberry location, she leaned over and said, "Shhh…camouflage yourself… Okay, let's put this on you and put branches on you." When I asked why she was covering me up with leaves and branches, she told me, "So they won't find you and see pink, and you are so big" (Card, 2012). Once the Seekers found us I began to ask more questions. I asked her why she thought Teacher Karen was able to find us. She reminded me that we were both wearing pink rain jackets. This was very true, so I asked her why the pink jackets made it easier for the Seeker to find us. Elodie looked at me and clearly stated that pink "is not camouflage" (Card, 2012). I then asked Elodie what the word camouflage meant, to which she said, "like hiding" (Card, 2012). Finally, I asked her if she could name an animal that would camouflage with the huckleberry bushes and to my delight she answered, "a toad or a frog because they are green green green green" (Card, 2012). Science is a major subject area of a well-rounded curriculum, but as Elodie has shown, at Cedarsong a science lesson does not need to take place from behind a desk. Not only does this example show how emergent curriculum flows, but it is also a great representation of critical thinking. Elodie's vocabulary and knowledge about natural science is extremely impressive and far beyond what is expected in a traditional kindergarten program.

That same day, Elodie was playing with and collecting sticks near her favorite hideout and pointed out that one of her sticks looked like the letter ‘y’. She started to look for more letter shapes in her collection. I then heard laughter and, “Look the letter ‘O’!” She had taken a flexible twig and made it into a circle by wrapping the ends together and making a knot. She placed both of her new letters on the ground and said, “Look,‘Y’ and “O… look it spells ‘YO’” (Card, 2012). A few minutes later I watched her make another hoop shape with a bendable twig, and when she was happy with her new letter she said, “There I got it! Oh look! It makes a little ‘b’ for Bre!” (Card, 2012) She spent the next 20 minutes creating and spelling words with the sticks that she found (art- and language arts-specific curriculum outcomes). I then saw her use a stick to spell her name in the soil. The following account is from my field notes:

> Elodie: I am writing my name backwards…EIDOLE…now I am writing my name the right way…ELODIE.
>
> Mary: What is this letter?
>
> Erin Kenny: Can anyone help Mary?
>
> Elodie: I can. That is a D and that is a B.
>
> Mary: D and B, D and B, D and B! (Card, 2012)

That particular sample suggests that peer teaching is encouraged and takes place among the students, and that literacy and language arts outcomes can and are being met in the outdoor classroom.

While I was at Cedarsong Nature School, Erin had a local bird expert visit to help the staff and interested students identify more bird songs. Once he had shared his knowledge about birds, Erin asked the guest if he had any questions regarding the local

island plants. It was Elodie who volunteered to tell the visitor about one of the special medicinal plants of Vashon Island, as shown in the following dialogue:

Erin: Okay, Elodie, tell Ed what you use that leaf for.

Elodie: A band-aid.

Erin: So, if you get stung by nettles, Elodie…say you got stung by nettles on your thumb, what would you do with that leaf?

Elodie: I would chop it and make sure all the stuff is squeezed out (she showed us by biting the leaf all over) and then you wrap it around your finger.

Erin: That is right! Thank you, Elodie! And it cools down the nettle burn. It is a vein constrictor, so it pushes all the blood away from the surface, and what makes a nettle sting is the heat and all the blood comes to the surface, and it is a dilator.

Erin: What is that one?

Elodie: Dock!

Erin: Yep! Dock! That is right! (Card, 2012).

Again, this is a perfect example of peer teaching, as Elodie's younger classmates were also there and listening. It also speaks to Elodie's self-confidence, her level of plant knowledge, and that she felt safe and comfortable enough in her forest environment to share information with an unfamiliar visitor.

Another illustration of advanced vocabulary and science comprehension was documented when Elodie started to tell me about predators that can camouflage.

Elodie: Do you know something? A mimic octopus looks just like a snake!

Breanne: I didn't know that! Wow.

Elodie: And if there is a predator, it can change color and go black and then it goes on it and then it eats it and then it scares the other predators — there are usually lots of predators!

Breanne: Really! Can you tell me what a predator is?

Elodie: A predator is an animal like a shark because they eat smaller animals. (Card, 2012)

Elodie's advanced level of scientific vocabulary and her understanding of natural science was noted. I was able to witness her using and understanding words like 'erosion' and 'decomposition'. At one point she told me that plants make sugar from the sun — their food, which means that she understands some of the fundamentals of grade eight science. According to her mother, she understands "natural science and maybe even a bit of, like, physics too…from watching things fall and bounce and that, too. How if you put something in water it makes the water rise, so that sort of displacement, and she understands erosion too. So she understands how nature affects the earth as well" (Card, 2012).

I compared Elodie's emergent curriculum knowledge and experience with the standards and specific curriculum outcomes of Newfoundland and Labrador and found that her vocabulary and natural science knowledge exceeded the kindergarten-specific curriculum outcomes for science and language arts, while all other subjects were right on par. For example, Elodie's understanding of the terms 'camouflage', 'predator', and 'prey' are consistent with the grade four science-specific curriculum outcomes for the Food Chain unit for Newfoundland and Labrador. Therefore, I am suggesting that

Eldoie's regular attendance to Cedarsong Nature School is the result of these academic findings.

When I asked Elodie's mother how Cedarsong Nature School has benefited Elodie academically, she described how:

> Yes, in terms of science that is incredible, and at this point I think I take it so much for granted, and it is not until other people point out to me that Elodie knows the word predator… I mean, she is five and a half and she knows about the water cycle and she understands how things decompose, she understands the life cycle, and she understands seasons and weather. (Card, 2012)

During my time with Elodie I observed her learning in subjects such as mathematics, literacy, science, music, drama, social studies, art, and physical education. Erin Kenny's model of emergent curriculum has created a safe and positive learning environment for Elodie. The Cornell family is so happy with their experience at Cedarsong Nature School that they have no concerns for Elodie when she starts traditional kindergarten with the local school board.

4.1.2 Place-Based Education

Sense of Self and Place. From the moment I met Elodie I was impressed with her level of self-confidence and social graces. I could see right away that she was very comfortable in her outdoor setting and that she felt a deep care for her classmates and community. While playing Princess Rapunzel and attaching forest items to her hair to make it look longer, Elodie shared with me why she liked to come and play at Cedarsong. She said, "I like it and it's just fun and because it is good exercise and I also like learning about the things I can eat…like huckleberry and salal...like that plant over there, and I

like smelling the woods and finding things inside it…like bugs and stuff… I like looking at the leaves… It is good to get fresh air because it helps you breath and stuff, and exercise makes you stronger" (Card, 2012). Elodie was very active in the daily events, whether it was a trip to squirrel camp or fishing for sharks in the mud puddle. She always included other students and took a leadership role as one of the older participants. Elodie was also very comfortable with spending time alone and being her own advocate. For example, when asked by her teacher if she would like to join a group of peers heading to Forest Theater, she politely declined by saying, "No, thank you. I am too comfortable" (Card, 2012). She felt absolutely no pressure to participate and felt safe and self-confident enough to voice her preference to her teacher. At the time, she was busy fixing the nest she had made for her penguin egg, and the teachers at Cedarsong recognized that it would have been a shame if that focused, creative play had been interrupted. Therefore, making interest-led and emergent curriculum appealing is important in early years education and in their forest school model. Cedarsong Nature School has a 4:1 student to teacher ratio, so there was a teacher who stayed behind with those who were engaged in play and not ready to transition.

As a parent, Elodie's mother has been watching her daughter grow and learn. In the section below she tells the story of what has been a pleasant surprise since sending Elodie to Cedarsong Nature School:

> I think I am really just pleased with how she has matured. I think back on my childhood, and not that I spent a lot of time indoors. I just don't think I had the appreciation for the outdoors that she has — because I really didn't understand how it related to me as much, and I think she feels a direct connection with nature

> and she talks about the earth being our mother and her wrapping her arms around us and things like that. I didn't think I would have ever thought of analogies like that at her age. (Card, 2012)

Elodie's mother also provided me with an account of how Elodie and a priest at a funeral had a small disagreement concerning where people go when they pass away:

> There is a good story we have in our family… We were at a funeral and they were lowering the casket into the ground and the priest was trying to lighten the mood and he said to Elodie (who was five), "Do you know where we go when we die?" And she points to the ground because she is used to seeing the animals and plants and all that decomposing and going back into the earth, and we have talked about that together, of that is where your body goes, back into the earth. And the priest kept trying to point up to the sky to indicate heaven, and she kept pointing down and they did two or three rounds of it, and I have to intervene and said, "She goes to a nature preschool…she is all about the hard facts and science. Then he tried to change the subject to where everyone was having lunch. (Card, 2012)

Elodie has a very healthy sense of self and a solid foundation on the hard facts of life. This narrative clearly demonstrates her understanding of the life cycle and that humans are a part of nature, not separate from it or its natural processes.

After watching Elodie climb a few trees and balance on a few logs, it is obvious that she understands how her body responds and is aware of what her body is capable of. Again, this strong sense of self allows her to move with confidence and caution while tightrope walking on a fallen tree or swinging on a tree branch. Once she was safely out of the tree I asked if she was ever scared of falling or slipping and she replied, "No, I just

don't worry" (Card, 2012). I asked her who had taught her to climb trees safely and expected her to say Teacher Erin or her parents, but without hesitation she said, "The animals" (Card, 2012). Upon refection, I am certain that Elodie has sat camouflaged in a little bush by Main Camp at Cedarsong Nature School and watched the forest animals climb trees, and in turn absorbed that information to perfect her own climbing abilities.

Elodie's mother feels that "She understands safety, which is really important…like fire safety and climbing trees, what is safe and what isn't. Knowing your limits in terms of keeping yourself safe, so I think that is something a lot of kids don't learn about until they are injured or have broken their arm because they were playing on something that they didn't fully understand" (Card, 2012).

Elodie clearly knows the school rules and her own limits but still challenges herself to take safe risks while at home and at school.

Through observations and interactions with Elodie, the data was starting to confirm my initial observation that she really felt connected, at home, and relaxed in the five-acre forest at Cedarsong Nature School. I did not observe her outside of this school setting, so I could not evaluate her in other natural locations. However, her mother confirmed my predictions:

> I don't think I ever felt such a connection to nature… I just felt like nature is what is outside my house. I don't ever think I felt like the woods are my home, even though I did go to summer camp and all of those things. Yes, I would say I am most surprised about how connected she feels to nature and she doesn't necessarily think, "Oh I can eat this." She's just like, this is part of my home and my environment where I am happy, Cedarsong especially. Because she will go

out in our front yard, and I don't thinks she feels that same connection as she does to Cedarsong. (Card, 2012)

It is safe to say that Elodie is connected to the Cedarsong Nature School property and is able to navigate it with great ease. She was always keen to share her gifted knowledge and passions with her peers and also with me on the topics of local edible plants, life cycles, and natural science (specific curricular outcome science).

The following narrative is an example from my field notes that captures her sense of place on a rainy morning at Cedarsong Nature School:

> Breanne: Elodie, can you tell me about the plants in your hand?
>
> Elodie: A new growth of huckleberry, bracket fern, red huckleberry, and new sword ferns…that is why it is light green, and that is all I have!
>
> Breanne: I see you have made a little leaf cup and placed all of those plants inside. Do you have a name for your creation?
>
> Elodie: A forest salad, and you can eat everything in there.
>
> Breanne: Really!
>
> Elodie: Ya, here is the sign that says it is a forest salad [she points to the ground]. I spilled a little, so that is the sign that tells you it is a forest salad. Here is the moss pillow I will put it on. (Figure 7)
>
> Breanne: Oh! I see a few flowers in there… Do you know what type of flower they are?
>
> Elodie: Madrona tree flowers. (Card, 2012)

Figure 7: Elodie making and sharing her Forest Salad (Card, 2012).

After this interaction we sat and ate the ‘forest salad’ together and talked about how she made her very functional and beautiful leaf cup (art, mathematics and science-specific curricular outcome).

Elodie even knew some of the local mushrooms. One day, while she was collecting vegetation I asked her about an interesting-looking item in her handmade leaf cup. She informed that it was a “turkey tail mushroom because the tail…the mushroom looks kinda like a turkey tail” (Card, 2012). The mushroom absolutely looked like a turkey tail, and Elodie was once again enlightening me with her ethnobotany skills.

Elodie also knew many tree species, including the madrona tree. She explained that she can identity that type of tree “because it is bending and the leaves and the bark. I can eat madrona leaves and madrona berries, and they are sweet and yummy” (Card, 2012). She can also identify Douglas fir, cedar, elm, alder, hazelnut, salmon berry, miners

lettuce, salal, Indian plum, nettle, dock, red cedar, red huckleberry, and sword fern, to name a few. She could also identify crane flies, moths, ants, beetles, dragonflies, centipedes, caterpillars, and bumblebees, as well as many of the wild flowers, native animals, and birds that hung around the school.

The following narrative shows further examples of how Elodie interacts in her natural environment and explores with great freedom, curiosity, and kindness:

Elodie: Look, this is growing out of a log! Oh, it is not. It is growing out of right there, but it looks like it is growing out of a log.

Breanne: Great observation! What type of plant is that?

Elodie: It is a fern just like this. [points to a near by plant after gently touching and looking at the plant in question]

Breanne: Do you know what kind of fern that is, Elodie?

Elodie: Ahhh…a sword fern

Breanne: How do you know it is a sword fern?

Elodie: Because it is like a sword. I hear a squirrel!

Erin: What kind of squirrel?

Elodie: Native.

Erin: Yes, our native squirrel. Do you remember its name?

Elodie: Doug Fir. [the name of the local squirrel] (Card, 2012)

Her sense of place and her connection to Cedarsong is outstanding because she uses all of her senses to be present. I learned a lot from Elodie about her west coast environment. She is extremely observant of her surroundings and her fellow classmates, and she takes great joy in the process of learning and sharing.

Sense of Community. As an older student, Elodie seemed to naturally take on a nurturing role and was often very concerned for the welfare of her fellow classmates. Another student was expressing that she had a sore ear, and Elodie wanted to care for her. The level of empathy, compassion, and the genuine concern for her friend's well-being was incredible to observe. It was clear that Elodie regarded Cedarsong Nature School and her peers as her community — her home. I also witnessed a time when Elodie herself was in need of a good friend. One morning she arrived at school in tears and seemed to be having a tired morning (understandable considering the early mornings). Within seconds one of the other students wrapped her arms around Elodie and asked if she would like to go for a walk on the forest trail. Elodie agreed and the two of them walked down the path, hand in hand, as seen in Figure 8. I could hear Elodie being very open about how she was feeling, and her classmate let her talk and listened intently. It wasn't long after that she was her happy and energetic self again. Not only did she have the open space to calm herself, but she also had a supportive and gentle friend who understood what she needed and was there for her.

Figure 8: Forest Friends. Elodie and her supportive classmate and friend (Card, 2012).

Erin Kenny and her teachers work hard to ensure that there is a sense of community and family at their nature school. During our interview, Elodie's mother commented on the natural bonds that are formed. In the following narrative she explains:

> I have noticed that the small class size really helps them bond and care for each other — they are doing things together and a natural bond is formed. They all work together and form these connections. Cedarsong is so much like the real world but on an age-appropriate level… As kids get older they can tend to become bossy and feel they can tell the younger kids what to do because they 'know better' and they are used to their parents bossing them, so I like how the teachers make it into more of a nurturing thing and more of a helping thing than more of an authority thing. (Card, 2012)

The smaller class size and gentle teacher guidance are two aspects of the program that parents appreciate and respect very highly. The students are able to communicate openly and kindly with each other, and there are less social conflicts. Conflict resolution is another feature of the program that Erin and her team manage and facilitate. In fact, during my time at Cedarsong I did not observe Elodie in any social conflicts with her peers. She was always ready to share and include others. I did witness Elodie react to another student being too close to her, and she simply moved without saying a word. In a five-acre forest there was always enough room for personal space. A few times I did hear Elodie politely ask for her handmade craft back, but she also offered to teach the other student how to make their own. There were no tears, no yelling, and no fuss.

Elodie's mother verified my observations:

> Oh, one of the things I really love about Cedarsong is how much they stress teamwork. She is incredibly helpful. She is the kid that you can say, "Hey, can you go get this for me?" and she will get it, and she takes direction really well. I really love that about the program. On a social level — not everyone gets along 100% every day, but the teachers really work on helping the kids get along, and I really like that because I don't want Elodie to live in this world bubble where she is never going to have to deal with conflict — there are certain levels of conflict that are appropriate for kids at her age. She gets along with children really well, but just like I said, the kind of bumping heads with other kids the teachers have really helped her through that. The teachers are really good about talking to the parents right away if something has gone awry. I noticed at one of the other preschools she attended, the teacher would never ever address anything like that,

> and I would rather know. One of the best things about this school is that it really makes the families feel involved in the school without burdening them, so this is a really nice balance. (Card, 2012)

Teamwork is an essential part of creating a positive and successful community. Erin Kenny and her staff lead by example with their friendly approach and gentle reminders to honor personal space, inclusion, and to help a friend in need.

Another example of working well and playing well together is shown in the following dialogue between Elodie and Sheila, a three-year-old who also attends Cedarsong Nature School:

> Sheila: Can I help you with the rocks?
>
> Elodie: Yes, you can help us.
>
> Elodie: Oh no, your angel toy is all dirty.
>
> Sheila: That is okay, she can get washed.
>
> Elodie: Oh, ya! What is her name?
>
> Sheila: Sparkles! Lets bury her and she will become a salamander!
>
> Elodie: she is having a dirt bath! [laughter]
>
> Elodie: Sheila, can we uncover her?
>
> Sheila: No. Not yet. (Card, 2012)

These two students are showing a tremendous amount of respect for one other. Elodie is a wonderful role model in the way she includes Sheila in her preexisting play and how she is concerned for the well-being of Sheila's toy. Sheila also saw that Elodie needed help moving rocks and left what she was playing with to come over and offer her assistance. Later that same day, I was able to document a conversation between Elodie

and one of her peers. He wanted to make a sandcastle but only had a crocodile-shaped shovel. He expressed his frustration to Elodie, who responded, “Oh. Sorry. Wait a minute! You can shape it with that…ta-daaa…crocodile castle” (Card, 2012). Elodie showed him how to make a castle out of crocodile shapes by filling and compressing the sand in the shovel and then flipping it over quickly to keep the shape and mold. The young boy was overjoyed and proceeded to make his scary crocodile castle. Again, her sense of community, comprehension of teamwork, and creativity made that interaction a positive experience.

4.1.3 Creative Play-Based Learning

Universal Childhood Activities. Erin Kenny coined the term Universal Childhood Activities (UCA) in 2011 after a professional development conference she attended in Germany. After Kenny returned from the conference, she made a list of the types of play activities she observed in Germany and the Netherlands. She documented that most children gravitated towards the following universal childhood activities on their own: climbing, building, carrying sticks and rocks, balancing, digging, hiding, going barefoot, running, collecting, imagination play, rolling on the ground, sand play, transporting water/water play, making tools, throwing, yelling/shouting/singing, and making nature art (Card, 2012).

Elodie has a magical imagination and creative and natural talent for using her natural environment as her playground. This section will show how a rock can turn into a penguin egg in the blink of an eye, or how she can use nature to make her own toys to meet her imaginative play needs. It was not a surprise when I saw Elodie running past me with her ‘wings’ flapping as fast as they could. On her second fly-by I asked her what she

was playing, and as she swooped by me again she said, “I am flying like a pegasus” (Card, 2012). Her ability to create fun and active play scenarios was noteworthy. For example, the following UCA narrative truly shows creative imaginative play in a forest environment:

Breanne: What are you right now?

Elodie: A penguin!

Breanne: Oh! What is in your mouth?

Elodie: A fish! [referring to the salal leaf that was hanging out of her mouth, as seen in Figure 9]

Breanne: Wow. What do you have in your hand?

Elodie: Egg.

Breanne: What kind of egg?

Elodie: Penguin egg!

Breanne: Is it heavy?

Elodie: Ya…

Breanne: What are you working on, Elodie?

Elodie: I am making a penguin nest. This is my egg [referring to the rock she was surrounding in broken twigs. She then sits on her egg.]

Breanne: How long do you think you will have to sit there?

Elodie: A long time! I eat stuff to produce stuff for the baby. So, I eat like the fish stuff…like kinda for the baby.

Breanne: Oh, okay! So you are making yourself strong?

Elodie: Well, so I can produce protein for the baby.

Breanne: Oh, that makes sense! You are a good mom!

Elodie: Well, at first I was a dad because I was carrying the egg, but now I pretend that the dad gave me the egg.

Breanne. Okay, so now you are looking after it?

Elodie: hmm humm…and I am sitting on it. [She is tending to her egg…fixing her nest] (Card, 2012).

Caring for her egg continued over a number of days, and her commitment and devotion to that nature toy never faltered. Elodie's mother confirms that Cedarsong Nature School is dedicated to providing a safe atmosphere that permits and encourages creative and imaginative play:

> You just made me remember another great point. Imaginative play! They do all of this imaginative play with really no props, so it is truly imaginative. It is like everything is in their heads and they are envisioning. They don't have dress-up clothes here, they don't make people be one thing or another…as she has become one of the older students here, she also gotten to taking on a nurturing role. (Card, 2012)

Elodie also loved to participate in other acts of UCA such as climbing trees, balancing on logs, digging in the earth, and making hideouts in the forest. Elodie also told me she liked to "play in the mud puddle and play in the rain if it rains and play in the dirt… I like digging and playing in the mud puddle and I like climbing trees" (Card, 2012). She had incredible balance and grace while running and walking on uneven ground or climbing tress.

Figure 9: Elodie the penguin and her nest (Card, 2012).

Critical Thinking and Problem-Solving. Another component to creative imaginative play would be critical thinking and problem-solving. While she looked after her penguin egg, I was amazed at how Elodie thought critically about what her egg and soon-to-be baby penguin would need. Her mother reflects on this observation. "Yes! She keeps hoping that something will be inside and she has asked me if there are eggs that

you can peel. She does a lot of problem solving. So I just love the whole problem-solving and critical thinking they do at Cedarsong. A lot of the problem-solving they do is really cool" (Card, 2012).

Teacher Erin and her staff include critical thinking and problem-solving in the daily routine by asking investigative questions when a student has shown an interest in a forest wonder, as acknowledged below (science- and social studies-specific curricular outcome):

Erin: When the earth is bouncy and squishy, what is underneath there?

Elodie: Bugs and stuff.

Erin: What are they living in?

Elodie: Holes and tunnels. And dirt! (Card, 2012)

One conversation that surprised me occurred when I approached a small group of students building sandcastles. Please note that the nearby teacher did not influence this particular exchange:

Connor: …and then it makes more cells and that is how you get sick.

Elodie: I know that.

Connor: Hey, you are not camouflaged. I am camouflaged because I am wearing black.

Connor: And we are made of thousands of cells and thousands of brains…thousands of blood. That is all we are made of and we have all sorts of different cells.

Elodie: We have a million cells.

Connor: Yes, you are right. Maybe more.

Elodie: A zillion.

Connor: Yep, a zillion.

Elodie: It is not really a number.

Elodie: If I could stretch my intestine out, it would be as big as my house.

Connor: Yep, and my house.

Elodie: No, your house is bigger than mine. Look, a spider! (Card, 2012)

Before entering the sand area I thought the students might be talking about what shovel works best or how high to make the sand towers. I was wrong; I walked into a science discussion of cells and intestines (science- and mathematics-specific curricular outcome). I was surprised at the complexity of their topic of conversation and wished I had been there earlier to hear Connor's thoughts on how cells are involved in humans becoming ill.

When I asked Elodie's mother about her thoughts on how critical thinking and problem-solving is taught, she stated the following:

> Yes, Cedarsong is really good in terms of teaching kids critical thinking — like encouraging them to ask questions and explore, and I really appreciate that. I always feel sad when kids are not curious about things around them, people, or really anything. I like that the teachers don't just hand them the information; they let the kids come to their own conclusions. I really like that they are starting to teach critical thinking at an early age. It is really good to encourage kids to be open to new ideas and to have them come to their own conclusions. Learning things though observation and trial and error is cool — just with some of the projects they have done like building forts, or doing things with the mud puddle

> and the water. When she asks me questions, they are always about her environment, like what is going on around her is what she is relating to. I have found that a lot of her experiences at school that I know about have been able to relate to real life. She asks me questions like, "Why does the water go down?" So we talk about gravity and the mud puddle and so, knowing about things that are happening at school — you can relate that to her life at home… (Card, 2012)

This type of highly developed thinking and questioning of their surroundings has helped to create naturally curious students. Elodie was continually encouraged to ask questions and experiment to find possible answers (specific curricular outcome science). She was never shy to share her ideas, and it is that kind of confidence that reassures her mother that she will be more than successful in the traditional education system.

Creative Artistic Play. As mentioned before, there are few manufactured toys at Cedarsong Nature School. Erin and her teachers only have a few beach shovels, buckets, and drums on site. It is then up to the students to create or make the props that suit their play for that day. During one of my many interactions with Elodie, I asked her about the toys she makes while at Cedarsong.

> Elodie: I just make them and play with them. Like… [She starts to make a 'toy' with a bendable stick and rotting piece of wood]
>
> Breanne: What are you making?
>
> Elodie: I am trying to make a fishing rod!
>
> Breanne: Wow! Great fishing rod! (Card, 2012)

It did not take long for her to make a fishing rod out of natural materials within arm's reach. She grabbed a bendable stick and tied huckleberry root around one end of

the stick then let it hang like fishing line. She then picked up a hunk of decomposing wood and tied it to the end of the huckleberry fishing line and started to pretend to fish. The decomposing wood just magically turned into a very large salmon. Figure 10 is another example of a fishing rod made by Elodie. On that particular day she found some old red string and used it for her line and used a pinecone to represent her 'fish'. Again, she is very innovative and creative, based on what forest materials and resources are available.

Figure 10: Elodie makes a fishing rod and catches a fish (Card, 2012).

Nature art is a forest activity that Elodie seemed to really enjoy; she would often take a quiet moment to create a forest masterpiece. Figure 11 shows the beginning stages and final product of one piece of art. I was able to capture the dialogue in my field notes below:

Elodie: Lets make a duck and this can be the head…or we can make an osprey!

Breanne: Great idea. Why did you choose to use that piece of wood as the head?

Elodie: Because I think it looks like a duck head and the ferns look like feathers.

Breanne: Me too! (Card, 2012)

Figure 11: Elodie's Osprey Nature Art (Card, 2012).

I observed the same creativity while watching her work on her nature art project. When I first looked at the stick in her hand, I did not see a duck or osprey head and body. Once Elodie explained what she saw, it became all too obvious. She was incredibly observant and aware of what forest material would be best to represent the wings, feathers, and overall shape of the bird, which made her artwork very realistic.

One of Elodie's other talents came in handy during creative and imaginative play with a peer. Within seconds she turned a bendable stick into a beautiful crown. Without the conveniences of tape, glue, or string she used the flexible end of a sword fern stem to tie, attach, and secure her crown, as seen in Figure 12. She used her fine motor skills to tie small knots while keeping the ends of the stick together to maintain the shape she desired. Elodie could also make crowns out of ferns and fully functional cups made out of leaves and a pointy stick.

Figure 12: Nature Crafts (Forest Crown and Mask) (Card, 2012).

Elodie had an eye for seeing interesting shapes that resembled wildlife within her natural environment and became inspired to bring that vision into fruition, as she did with her penguin egg and nests.

4.2 Clive

I looked forward to the days Clive attended Cedarsong Nature School. He was always so full of energy and big plans. It was amazing to watch him work once he had decided on what project he was going to undertake that day (a dam, forest jewelry, or forest tools).

Clive was also six years old and his knowledge of the forest was also very impressive. He loved to be barefoot and busy and seemed to be in his element while in the forest. The benefits of this outdoor educational model was that it was a safe space for Clive to excel in an interest-led setting. A place where he could be calm, social, loud,

creative, active, focused, or quiet. Clive has a wonderful connection with Erin Kenny and with nature and it was humbling to observe him in his happy place.

4.2.1 Forest Kindergarten

Program Development. Initially, Clive's parents decided to try the forest school after hearing very positive feedback from other local parents and friends. Clive's parents recognized that the extended outdoor time would be beneficial for their children. Clive's parents have had a very positive experience at Cedarsong Nature School and have both he and his sister enrolled for two days a week. In terms of program expectations they really just hoped Clive would like it, which he did. When they chose to send their youngest child to Cedarsong Nature School they hoped that "through her experiences at Cedarsong she would be more comfortable in the outdoors; this has come true as well" (Card, 2012). Both Clive and his sister thrive in the outdoor setting, which is why the parents have continued to keep both children enrolled.

Clive's mother reflected that Cedarsong Nature School has been particularly rewarding for Clive. She explained that "Clive has sensory integration issues as well as some motor difficulties and social emotional regulation/skills…Cedarsong has been a therapeutic and loving environment and has provided some great balance to his other school environments" (Card, 2012).

However, there have been a few challenges. Clive's mother shared that the wet gear can be a mess with two attending children on the same day. That said, she notes that the program has really helped with small cases of separation anxiety:

> Sure. In the middle of winter, Wet Clothes Wednesday wasn't much fun with Sheila attending in the morning then Clive in the afternoon...so much mud, so

> much wetness to deal with and have dry by the next day. Also, Clive and Sheila have both had short bouts of separation anxiety. Erin almost always knows how to rope Clive's interest, and Sheila feels very connected to Kristen, so this hasn't been too much of an issue. (Card, 2012)

During my time with Clive he was always very busy, focused, and occupied by a fun project of his choice. I once asked him why he liked to play outside while he was engaged in working on his nature craft, and he responded, “Because it is fun… I just like it… Okay, what should I do now …” (Card, 2012). Even though he answered my question, it was clear that he wanted to finish what he was working on and that any topic of conversation other than his task at hand was quickly but politely dismissed. The last part of that quotation, “…okay what should I do now…” was said to himself as he refocused and moved forward with his creative play. I was able to read his body language and realized he was more expressive and open when I asked questions about the process or object that had captured his full attention. To talk to him about playing outside while he was engaged in making nature crafts was not something that interested him. Therefore, I only have observation data that show his thoughts on program development.

Based on observations of his behaviour and body language, it appears he thoroughly enjoys his time at Cedarsong Nature School. What I can comment on in more detail is that the emergent curriculum aspect of the program allowed Clive to freely select projects and activities that interested him and in turn would completely focus his energy and engage him for hours. Once settled in his play he would be happy to answer any questions regarding how and why. In fact, he would take on leadership roles and become very excited to talk about his projects with other students and teachers. He explained in

rich detail how he strategically built his dam, or why it was a good idea to use huckleberry roots over sticks. Therefore, for Clive, the freedom to choose his play activities and become immersed in his natural environment was an aspect of the program he needed and treasured.

Emergent Curriculum. Clive's parents were very surprised by how much of the curriculum is covered on a daily basis and were happy to find out it was more than originally thought (Card, 2012). His parents also indicated that they have noticed many social and physical benefits as a result of the nature immersion program. Clive's mom reflected that "They learn lots about plants, animals, and those things which is wonderful, but no reading and writing... I like this. I do not think it is the environment for reading and writing" (Card, 2012).

I have chosen to share the following narrative, as I believe that it truly illustrates how successful, creative, innovative, and engaged Clive becomes in an emergent curriculum-based environment. Clive explains how his dam works in this narrative and in Figure 13 below:

> Clive: I am working on my dam! This is my dam. Look. Look, I even have sticks on it. That dam is a little big higher, but it isn't as strong.
>
> Erin: What were some of the things that you used to make this dam so strong?
>
> Clive: I used mud, piece of log, and a bucket.
>
> Breanne: A bucket is in there?
>
> Clive: It is right here… [Points down into the mud]
>
> Erin: Ha. That is so creative!
>
> Breanne: Wow. Why did you burry a bucket in the middle of your dam?

Clive: It helps hold the water because in the middle it is runnier than in other places. I need to get the mud out… I need to rake it and pull it out.

Clive: Oh no! There is a path!

Erin: Look at that, there is a place where it is leaking. I am glad you noticed that.

Clive: I am extra strong. That is why I can get mud in here in no time.

Breanne: What are you using your bare feet to do?

Clive: To pat it down. See…it is starting to go that way… I know a trick.

Breanne: What is your trick?

Clive: It is to get dry dirt and wet dirt and mix it together. It makes the dam stronger. Look…

Breanne: Yes, you stopped the water!

Clive: I will make some for later… I am keeping the water in. A dam must be strong to keep the water in.

Peer: This dam is strong enough for people to walk on.

Clive: This one is strong enough too.

Peer: But it is a little bit squishier.

Clive: Ya. That bit. Do you want me to tell you why it makes it stronger…the squishy? Because it kind of absorbs the water like a sponge. And it pushes it back out.

Peer: And this one holds its back. [referring the dam above stream]

Clive: That one…yes that one has to be strong enough for the water to not push over it and this one absorbs it like a sponge and pushes it back out. That is why

mine is a little stronger because this can go over there, but if it gets into mine it gets pushed back out.

Breanne: Cool, so it absorbs it, but it also pushes it back out?

Clive: Ya, when it goes over here it goes back into here.

Clive: If it goes over the top of this one, it sucks up water and pushes it back out.

Peer: Clive, what about this one?

Clive: It…kind of ... But it [water] can go over this one if you don't make it higher, but this one…if it goes over this one it sucks it up and pushes it back out.

Erin: That makes so much sense, Clive. So, this one is pushed down so hard that when we fill it up it spills over the top. The other one is squashier, so when you fill it up to the top instead of spilling over it soaks in. We call this strategy building. (Card, 2012)

Figure 13: Clive's Dam (Card, 2012).

Clive is actively learning and experiencing key elements of engineering, water displacement, physics, gravity, and water erosion of his own accord, which makes this a very successful example of emergent curriculum. For instance, when he found a small leak he used tools such as his bare feet to ensure the dam leak did not break through elsewhere. Such a strategic move can be analyzed as innovative and preemptive, as he was making predictions of where the water might break through next and taking measures to ensure it did not occur. He was experimenting by mixing wet mud and dry dirt together to create more of a paste or 'concrete', which falls under the science curriculum. I also thought it was worthy of noting that he included one of his interested peers and then proceeded to engage in peer teaching. He was happy to explain why his second dam needed to be 'squishy' and how he trapped the water in his buried and camouflaged bucket. Clive had a vision, and within a morning had built two functioning dams because he was given the time, space, independence, and encouragement to learn through his play.

Clive's creative, academic, and social success in this project gave him a huge sense of self-confidence. He was proud of himself, his accomplishments, and the other students were keen to join him in his creative play. As seen in the dialogue above, this interest-led and flow model covers traditional curriculum outcomes, social skill expectations, and so much more.

4.2.2 Place-Based Education

Sense of Self and Place. The following is a narrative from Erin Kenny's interview, which tells the beautiful story of how Clive was able to connect with his sense

of self and place as a strategy for self-soothing and self-regulating his emotions. Erin tells the tale of Clive and the salamander:

> And I just wanted to mention one quick thing because there was a little story I wanted to tell about one of our kids the other day and how these kids just love to immerse themselves in nature. We had discovered a salamander. The kids had noticed that there was a certain area of the forest that was bouncy, that the soil was really soft and it was bouncy. The kids themselves had noticed this, so they called each other over and they took off their shoes and they were all barefoot and they were all bouncing on the this soil, and I shared that I had noticed that a lot of times when soil is bouncy like that there is a decomposing log right underneath, so the kids said, "Oh, lets dig!!" So, we dig just a millimeter under the surface of the soil and there is that decomposing log, very soft, and so I lift up a big chunk of it to see what is underneath, and there is a salamander right there, and the kids were just fascinated because we don't come across salamanders that often. So they were fascinated and they were all looking at it.
>
> I am the type of educator that I do not allow the children to pick up amphibians and I explain to them why, because their skin is so porous that even if they had just put on anti-bacterial soap or sunscreen or lotion it could actually seriously injure or even kill the frog or salamander.
>
> So we were just observing it and watching it and the kids were wishing that they could share it with their parents because it was so neat, and we got to observe it for quite a while, and then it went under another log, and I said to the kids lets just leave it because I knew that it would probably not come out again.

Because there was just so much activity and I just wanted to make sure we weren't harassing it.

So, most of the kids just sort of went on their way and went into some other kind of play. One of the kids began to lie down next to where we saw the salamander and proceeded to completely cover himself with the forest duff, and when I asked him what he was doing he said that we wanted to camouflage himself so that the salamander would come back.

He has just turned six and he has been in our program for three and a half years. He is one of those children that absolutely needs this program because he has had difficultly in the past with managing his emotions. Our teachers have gotten really good at sensing when he is starting to feel emotionally unbalanced and I started to see that he was starting to get upset when the salamander was disappearing, and I was encouraging the kids not to try and find it again. Instead of getting upset — this is part of the strategies he is using to really use nature as his therapy, so he lay down on the ground as flat as he could and just started covering himself like a kid would at the beach with sand, and I had never seen a kid do that before — and even covered his face, so that when his mom showed up his face was complexly covered. And his mom showed up and saw him laying there completely covered with soil and — I was so thankful she is such a wonderful person — she said to me, "Well, it looks like Clive got what he really needed today." Again it is about the parent's support and understanding.

Breanne: Yes, and he grounded himself

Erin: Exactly! Literally! He was so mellow and relaxed when his mum showed up. (Card. 2012)

The next time Clive attended Cedarsong Nature School I was able to ask him about the salamander before he became engaged in assessing how his dam had held up since he had been away. Clive's tale of the salamander and his trick is as follows:

Breanne: Clive, I heard you found a salamander last week. I would love to hear about that!

Clive: Yes, and I was trying to make it come back by burying myself in dirt and I buried myself SO much that I don't think anyone could see me.

Breanne: Wow!

Clive: I actually buried myself in the dirt so the salamander would get on me and then I could pick him up.

Breanne: What a great idea! Did you even cover your face? Even your nose?

Clive: I covered up whole!

Erin: And you were thinking that the salamander wouldn't be able to see you then? Why?

Clive: Because I was camouflaged.

Erin: Yes, you were blending in so well! What did the salamander look like? Do you remember?

Clive: I think he was the larch mountain salamander. I am guessing he was that. It lives in a temporal forest and in rocky areas. (Card, 2012)

Clive showed critical thinking and problem-solving skills when he decided to camouflage himself in the soft dirt and leaf litter in hopes that his salamander friend

would return. It was also a calming and self-soothing solution to his initial reaction of becoming emotionally upset over the salamander's departure under a log. Clive has developed a strong enough sense of self and place to know what sensory simulations he needed from his environment to clam and ground himself. Erin Kenny's emergent curriculum model made it so Clive could lie in and under the soil for as long as he needed with no other program demands or expectations. Clive felt safe in his forest environment and really used it as a type of nature therapy.

It is worth noting that Clive may have been subconsciously mimicking the salamander's inclination to hide and go underground. In the narrative above, both Clive and the salamander were feeling overwhelmed, exposed and anxious, and both found protection and security under the forest floor and leaf litter. Regardless, his mother was right: "Clive got what he really needed" and that is what Erin and her team strive to achieve (Card, 2012).

While observing Clive I could see that he had a strong bond with head teacher Erin Kenny. Clive would often seek her out to talk about and share his latest discovery, or to show her his new handmade nature tool. Not only does the conversation below show Clive's knowledge about local plants, but it also includes some gentle sensory awareness — connecting to a sense of self and place:

Clive: Like that one?

Erin: Yes, like the roots that are exposed over there. Now this one seems smaller.

Clive: This one seems big.

Erin: Yes, compared to these this one seems big. How does it smell?

Clive: Smells like sugar.

Erin: Ya, so it is sweet then

Clive: It is huckleberry.

Breanne: Can you eat the leaves of a huckleberry?

Clive: Ya, you can also eat the berries too…and my favorite leaves are the goodness and the berries look like…some of the huckleberries are red, but these ones are black. (Card, 2012)

When I asked Clive's mother about how Cedarsong Nature School has influenced Clive's sense of self and place, her response included that her "children are much more connected since attending Cedarsong. I think they would be different kids without this experience" (Card, 2012).

Sense of Community. Cedarsong Nature School has a positive sense of community, but I did not anticipate that for some families this sense of community would also transfer into their home life. Clive's mother explains on how Cedarsong Nature School has even helped to create a strong sense of community in their home in the narrative below:

Something additional is that Sheila and Clive get to share in their experience of Cedarsong together. Even though they are three years apart in age so attend on different days and times, they still have a common experience. They know the same songs and games and on special occasions do get to attend at the same time. Those days are always very special to both of them. I think this has allowed their friendship with each other to grow deeper, outside of their relationship they have at home… My children are very comfortable spending time in nature. They are at ease, which I love. I think that having the kids at Cedarsong has helped the whole

family be outdoors more... I don't think if the kids weren't comfortable in nature that we would bother going out much at all. (Card, 2012)

The data I recorded on community and teamwork is very rich. I was able to capture this verification of teamwork on the same day that Clive decided to build a two-stage damming system, as seen earlier in Figure 14. The rest of the students attending that afternoon wanted to help Clive after they had finished their snack. The following dialogue captures everyone's excitement and pride while working as a team:

Reiko: Look at that dam! It is totally stopping the water!

Jane: No more water can get through, but the lake is drying up.

Erin: It looks like you kids have a double dam going on. Is that a double dam, Reiko?

Reiko: I don't know, but we do have one dam. I am working on one.

Jane: The lake is drying up. [talking about the puddle]

Elodie: On no! A leak over by Clive!

Clive: Okay, I will get some mud. I'll block it. I'll block it!

Mya: Me too. Me too. Me too!

Reiko: Scoop scoop scoop lots of dirt. This dam looks almost real.

Jane: It is a beaver dam. It is real!

Mya: A leak!

Jane: Where? [everyone comes to the leak and helps to patch it up]

Elodie: We need to move this rock. Clive, we need your help.

Clive: Okay. I will help. Incoming, I have a to keep my dam strong to you know...

Jane: Hurry, because I am putting in more water.

Clive: I am going to get some more mud.

Reiko: Where? We better put some more dirt. We better put some dirt over here so it curves.

Erin: Elodie, wow! So strong! Here comes Mya to help!

Erin: What is going to work?

All the kids: Teamwork!

Erin: What is going to work?

All the kids: TEAMWORK!

Reiko: Erin, we are excavating!

Erin: Oh ,wow! Have you come across anything interesting yet?

Reiko: Yes, some fine dirt for building dams! We need some more sticks. Don't we?

Teacher Karen: Alright! Now, Clive is taking a turn rolling that rock up hill!

Elodie: Ya. There are sticks over here.

Reiko: I will get some more dirt to cover the sticks.

Jane: I've got a big stick! Can everybody move, I don't want to bonk anybody.

Elodie: Okay.

Student: We need to put sticks here. I am putting sticks there so then we can put mud in between the sticks so the water can't get through. (Card, 2012)

As mentioned earlier, Erin called their dam 'strategic building' because there were many groundbreaking ideas shared and tested throughout the afternoon. There were discussions on erosion and how water can break through to make a path in the soil, water flow, gravitational flow, and the water cycle. Erin Kenny wrote in the May 2012

newsletter that “An on-going project is the increasingly elaborate dams that are being constructed to hold back the water flow from the “river” to our mud puddle. The children are experimenting with design: does a hard-packed dam work better or a loosely constructed one that can absorb the excess before it overflows?” (See Appendix B for Newsletter handout). The students came to the conclusion that the perfect damming system involves a dam that can adsorb any excess water, and then a more hard-packed dam to catch the water that escapes the loosely constructed dam.

By the end of the day, there were eight smiling, muddy faces that could not wait to show their parents how they had worked together to achieve their community goal of building a functioning dam.

4.2.3 Creative Play-Based Learning

Universal Childhood Activities. Clive participated in many of the UCAs during his afternoon class. I would often see him digging, building, carrying sticks and rocks, going barefoot, running, collecting, rolling on the ground, transporting, nature art, water play, and making his own tools. Sometimes he would find a quiet spot and just dig by himself while other times he would be engaged with many other students while working on a team project. I always observed Clive barefoot while at Cedarsong Nature School. He was also very attracted to sensory-based play, which seemed to calm and comfort him. I did not see Clive actively participate in play wherein he pretended to be a special character from a movie or show. Clive’s creative and imaginative play was more serious and usually had to do with building and creating something and imagining what its purpose would be and how it would work. However, since he was a part-time student, I

was only able to observe him at Cedarsong Nature School for four days, which was not enough time to fully witness all types of his outdoor play.

Critical Thinking and Problem-Solving. Clive's critical thinking and problem-solving skills are more than impressive. The following dialogue summarizes how well he is able to make relevant connections and how seriously he thinks about the bigger questions in life.

Erin: Yes, but what does the sun do? How does it make the plants grow?

Elodie: The plants make sugar.

Erin: Yes, the plants need the sun to make sugar with the leaves. Good thing the plants have its leaves, right!

Erin: There is a big word called photosynthesis that explains how the plants need the sun to create sugars. Have we talked about this big word before?

Jane: Yes, it means change.

Erin: Good memory, Jane. Metamorphosis means change. What kind of animals do metamorphosis?

Jane: Butterflies.

Erin: Yes. Very good, what else?

Reiko: Frogs.

Clive: Salamanders.

Mary: Plants!

Erin: Yes! They metamorphose from a seed to a plant.

Mary: …and then to soil.

Elodie: What about a carcass? Because a carcass turns into dirt.

Clive: When plastic decomposes all the way, it turns into petroleum oil.

That conversation was documented while the students were eating their snack. Teacher Erin takes this 20- to 30-minute time frame when all of the students are together to talk about their morning and to ask what I like to call 'big picture questions'. The example above shows the Cedarsong team talking about why plants need the sun, what metamorphosis means, and decomposition — all sophisticated topics for this age group. All of the students show excellent examples of critical thinking, but I feel that Clive really takes the conversation to the next level. His remark, "When plastic decomposes all the way it turns into petroleum oil", started an entirely new conversation. Erin and the students began discussing the materials we use in our day-to-day life and what naturally decomposes, what does not, what takes a long time, or needs help. Clive wasn't wrong in his statement above, as plastic can be changed into crude oil or other types of liquid fuel through a high heat process — it just doesn't happen naturally. By the end of snack time, the students had concluded that everything made by nature fully and naturally decomposes. That level of critical thinking is astounding for three six-year-olds.

The next time I observed Clive during snack time, Teacher Erin asked the students a philosophical question: What came first, the seed or the plant? She explained that "There is actually no answer to that question…another is what came first, the chicken or the egg…that is what is called a philosophical question. A kind of question that you ponder and ponder and ponder…you think and you think, but that no one really knows the answer to " (Card, 2012).

Accordingly, the guessing game began and the students wondered if there was a magic seed, a golden seed, maybe the seed and plant arrived at the same time, and one

even said that God put the seed there. All of their thoughts were respected, heard, and considered by the group. It was a safe environment in which to share.

Clive sat and ate his snack and did not contribute to the conversations until he had heard what others were thinking. In fact, at first I wasn't sure he was even listening and was maybe too busy eating his apple slices, but he was very aware and absorbed in the discussion. When he was ready, Clive shared his thoughts with the group:

"I think it came from a kind of metal or rock in space. I was thinking there was a special rock in space that broke open and it fell on to our planet and all the seeds fell out and started all kinds of plants on our planet, so it started out like that" (Card, 2012). Erin's response to him was, "So, the origins of all the plants are from outer space? Wow. That is a good idea" (Card, 2012).

Clive's space idea is actually a very real theory. Cambridge University's *International Journal of Astrobiology* has published an article postulating that "the first 'seeds of life' were deposited on our planet from space 3,800 m years ago…microbes from outer space arrived on earth from comets, which then 'multiplied and seeded' to form all life on Earth" (Hough, 2010). Again, Clive's critical thinking and problem-solving skills were promptly noted.

Creative Artistic Play. During a rainy afternoon I found Clive working away under a huckleberry bush at the Main Camp. I approached and with his permission watched him dig up the roots of the bush and place them in his bucket, as seen in Figure 14. He was obviously collecting the roots, but for what reason? When asked the question he replied, "Um. I am making string out of huckleberry roots…that big plant right there" (Card, 2012).

Clive's natural and creative play of choosing and preparing huckleberry roots revealed his fine motor skills and patience since he had a special way in which he used his hands to remove the tiny root hairs that were growing off of the main root in order to get the most smooth and flexible finished product.

Figure 14: Clive choosing and preparing the roots (Card, 2012).

Again, there are only a few manufactured play props at Cedarsong Nature School. If the students want to play or make something they have to critically think of ways to make the toy or craft with only what is available to them in their forest playground.

In the following narrative Clive explains why he needed to make huckleberry bush root into string:

Clive: I am going to use it for beading.

Breanne: For beading? What are you making?

Clive: Ya, to put on my wrist.

Breanne: Very cool!

Clive: I have some more string over here. [shows a bucket]

Breanne: Oh, you have a lot.

Clive: Ya, these ones are for tiny beads and these ones are for big beads. They are really string and really flex…look, this one is so flexible.

Breanne: Yes it is! (Card, 2012)

I inquired as to how he made the beads, or what he used for beading, and he simply explained that "I use a lot of nature stuff. We can even make bark into beads by taking a piece of bark off and poking a hole in it, or doing the big piece of bark like this and put a hole in it. Also you can make huckleberry leaves into beads by punching a punching a hole in it with a sharp stick" (Card, 2012). Clive showed me how to use a sharp stick to punch holes in huckleberry leaf beads, but first he taught me how to find just the right bendable stick for times when you cannot access huckleberry roots. Here Clive explains how to find the right nature material, "To make loops…hummm, that isn't one…you have to really good at checking the sticks… This stick is bendable enough...this stick is bendable enough…there … Okay, this stuff is bendable and so is this…" (Card, 2012).

It was also very common to see Clive making his own tools out of natural objects and using them as 'shovels' to help him dig or as 'hammers' to assist him during one of his creative projects. The following is an example of a forest tool he shaped from the only strong part left of a decomposing log:

Breanne: What did you make?

Clive: A dagger! Look, an old heart from out of this soft log.

Breanne: Oh?

Clive: Ya, they are really hard. I will let somebody have this one. (Card, 2012)

Clive's ability and talent to create and make his own toys, tool, and crafts were extremely inspiring and innovative.

4.3 Erin Kenny

Erin Kenny, founder and head teacher of Cedarsong Nature School, has always had "a core need to be outdoors" and was "always the one going barefoot, listening to the birds, seeking the trail less traveled" (Card, 2012). Kenny identifies with being a born naturalist thanks to the quality time she spent with her mother, who was also an avid and experienced naturalist.

Erin also has fond memories of a childhood in rural Ontario. Her adventures took place by Lake Ontario, where she spent hours "playing and exploring unsupervised for hours. The days were long with many adventures: swimming, boating, hiking, exploring, horseback riding, camping out, toasting marshmallows, watching the night sky, and listening to the loons" (Kenny, 2011). I could relate to Erin's childhood experiences and we talked fondly of how such meaningful memories have helped shape who we are as adults. Cedarsong Nature School helps to create opportunities for young children to make meaningful connections and memories while being immersed in a natural forest setting. By taking an interest-led, place-based, experiential, and seasonal approach to education, Kenny and her staff hope to "increase awareness of and connection to the natural world in order to foster compassion and empathy for the earth and all its inhabitants" (Kenny, 2011).

4.3.1 Forest Kindergarten

Program Development. Cedarsong Nature School opened in 2008 and since then the program has grown and flourished. Such success would indicate that there is a great

need for this type of educational model within our society (Kenny, 2011). Cedarsong Nature School went from offering two morning programs a week to running five mornings a week and two afternoons, and the demand for more classes continues to grow.

Erin Kenny and the board of directors' Teaching Philosophy and Program Development provides a number of unique features that makes a clear distinction between Cedarsong's program and other outdoor or nature-based preschools (Card, 2012).

Erin Kenny and her team are committed to the following principles:

- Nature immersion, "all outdoor all the time"
- Interest-led, flow learning
- Emergent Curriculum
- Place-based Education, Permanent Location
- Open-Ended Questioning style
- Authentic Play
- Small class size, Low teacher: student ratio
- Exposure to Moderate Risk. (See Appendix C for Teaching Philosophy)

Staying true to their program principles is part of the program's success. However, Kenny also provided a list of other factors that ensure all children are happy, safe, and healthy while attending their forest program, such as:

- Closely and carefully monitor basic requirements: clothing, potty, hunger, thirst
- Dedication to appropriate clothing: fund, library
- Importance of Teachers: embraces emergent curriculum, models respect, awe and wonder, a naturalist and a nurturer, elicits trust

- Parent involvement and support: creating community, networking, family events, encourage play outside school time
- Assessing risks and hazards. (See Appendix C for Teaching Philosophy)

As mentioned earlier, when Kenny started her nature immersion program, she did not have a model to guide her. What she had learned and observed facilitating her Camp Terra Nature Immersion Summer Camps would prove to be a huge asset. Erin explains how the program was developed:

> The very first year when we were running the program we had no model other than these few German Forest Kindergarten schools that I found on the Internet. I didn't get a whole lot of information because really it is culturally different there and the weather is different, so the types of clothing are going to be different. Plus, European clothing manufacturers already understand that children want to spend extended periods of time outdoors, and so the clothing for children is MUCH more durable than the clothing that is made in the U.S. for young children. So, I really had to do my own research about what clothing was in America/United States that would be good for our children.
>
> So, that first year was a lot of trial and error ... we realized pretty quickly what was going to be important to us to ensure the success and started making note of those things. A lot of it was learning by doing and, now, again, that is why I feel that it is so important for us to be passing along this information because we want these programs to succeed, and if someone starts one of these programs and does a lousy job of it they are going to give the whole movement a bad name. Not just them as a bad educator and bad businessperson, but if their kids aren't

> dressed appropriately and if their kids are cold and miserable most of the time and wanting to go home, they are going to destroy those kids' love and enthusiasm for nature and do this whole movement a disservice.
>
> So, the first year we were just really paid attention a lot to what our mistakes were and we were able to institute those by the second year and started to put in place things like required clothing, so the parents HAVE to provide this clothing. We wrote a handbook for the parents and that kind of thing — putting key things in place to get the parents on board and get them to understand what we were trying to do a little more so that we were in a better position. (Card, 2012)

The Cedarsong Nature School's *Forest Kindergarten: An Outdoor Preschool Program for ages 3-6 2012-2013 HANDBOO*K was developed as a resource for parents (See Appendix D for Handbook). It covers Cedarsong Nature School's teaching philosophy, commitment to safety, and the care for the child's emotional well-being, essential gear and clothing, weather, toilet and washroom routine, food, drop-off times and location, sick day policy, scholarships, the importance of the Cedarsong family, community, and much more. The handbook is three pages (front and back) and acts as an easy information guide for attending families or interested parents. Having parents on board, educated, and informed is an important element to running a program smoothly and effectively.

The three major categories that make Cedarsong Nature School such a success are: 1) Clothing, 2) Teachers 3) Parents (2012). In the narrative below, Erin Kenny explains why these three factors are critical to the survival of her model and program:

The first thing is clothing. One of the main writers in the *Waldkindergarten* movement in Germany talks about that children's basic needs have to be met before they can ever immerse themselves and enjoy nature the way that we would want them to, and so it is not just clothing from his perspective…it is clothing, hunger, potty, thirst — all of those things need to be met. The number one thing from my perspective is clothing, and that is why I put clothing at the top of the list of things that are going to ensure the success of the program, and that was a piece that was really hard for us to put into place. And now that we've got it in place it just seems so second nature. We ended up getting sponsorships with a couple of the clothing and footwear manufactures that we felt offered superior USA-made clothing [Bogs Boots and Columbia Sportswear].

What we found right away was in the United States — since it is basically is an 'indoor culture' — that the clothing manufacturers are only designing clothes for young children for very short periods of time outdoors, maybe ten to fifteen minutes, so basically where they are going from the house to the car, from the car to their preschool, from the preschool back to the car from the car to the store. The clothing is very cheaply made and the boots — those cute little froggy boots and ladybug boots and all that, they crack really easily, they are non-insulated, the kids' feet are always cold in those boots, they are not worth anything. The funny thing is that most people just don't want to spend $60 on a pair of kid's boots, but they will spend $20 a pop for those cheaply made ones.

By the time they have bought three pairs of cheap boots, they could have just bought the Bogs. So that is the first thing, figuring out how to keep their feet

dry, hands dry, their torso warm, and so we even require a certain type of mittens and they are actually made in Canada — they are called Gordini Mittens — they are very waterproof on the outside and they go up high above the kid's wrists, so the wrists aren't exposed, then they have what we prefer to call a sleeping bag style, and they zip all the way down to the tip of the fingers from the wrist, so it is really easy to get cold little hands…you just lay the hands in there and then zip them up.

The other thing was making sure the kids had a full set of extra clothes on site kept in our dry storage building, and then on top of that we also have tubs of extra clothing of all types and all sizes for preschoolers in our storage shed, so that if we find that the parents have not provided what we need to change the kid into, we have it on site and the kid doesn't have to suffer for any minute longer than they need to, because like I said it doesn't make sense for me to let a child be cold or wet any more than he or she needs to, because that is going to give our program a bad name, and that child is going to have a bad feeling about being out in nature.

The second thing is the teacher. You have to have the right kind of teacher, so it can't just be someone in the early childhood education field. You have to have someone who craves being out in nature. Who can keep a cheerful attitude no matter what the weather. Who can give the right positive messages to children about the weather and about nature and who can convey positively the connection with nature, so even if it is a teacher, for example, who has a phobia about spiders, they would never say, "OH GROSS IT'S A SPIDER! OH RUN!"

or something like that. You have to put aside your own fears and own queasiness, even if that's what it is, and say, "Oh my goodness, look at that spider!"

It doesn't mean you have to touch it. You don't have to pick it up. You don't even have to get within five feet of it, but it is the messages that you are giving to the children, or say you don't really care for touching a slug, but you wouldn't say, "EWWW THAT IS SMELLY…OH GROSS…OH! WHO WOULD WANT TO TOUCH THAT?"

And there are teachers who would do that. So it is very important that it not only be someone who is really skilled with working with young children, but also someone who understands the importance of connecting children with nature and who is going to be giving them those positive messages about connecting with nature and how all of nature is filled with wonder. I like to use the phrase "awe and wonder". I think it is critical that a teacher have retained their own sense of "awe and wonder" about the natural world. I get truly excited when I see a dragonfly, or a towhee, or a slug, and so that is infectious…the kids know what is authentic and what isn't, so it has to be from an authentic place within, inside that teacher.

While I was at the European Conference we talked a lot about whether that was a quality that could be taught as we are training our new teachers to be Forest Kindergarten teachers. Is "awe and wonder" something that can be taught? As a group we concluded that it was not. That it was something — an inborn, innate quality that you know it when you see it, but it is hard to put into words on a job description, and so it really is an amorphous quality. That it is someone who

> has retained that childhood sense of "awe and wonder" about the natural world and truly loves being outdoors, no matter what the weather, and it's giving the kids positive messages.
>
> The third thing that I think is critically important is the parent — both parental support and parental attitudes because you have parents who want this model for their child, but when they wake up on a pouring rain day saying, "OHH Yuck! Oh, what a miserable day! Awful weather!" and then dropping their kid off for three hours in the rain, they are setting them up with all the wrong messages. So, that is an important thing — the parents' attitudes and their messages that they are giving to their young children on a continuing basis. The other thing is parents supporting their child's need to be outdoors, so modeling being outdoors and not just leaving it to the school to do that. The final thing regarding the parents is connecting the parents with other parents because first of all, that is our best advertising. Most of our new enrollees come from word of mouth. I think connecting the parents helps in the way it also helps that the parent feel really supported. So building that community of parents, I think is really important. Plus, then the kids, if they get time outside of our school environment to play, they are reinforcing their own nature lessons. (Card, 2012)

Erin has found that proper gear, enthusiastic teachers, parental support, and communication all contribute to a solid program foundation. Appropriate gear is essential, and Cedarsong Nature School does provide extra clothing for children who need an additional sweater or pair of dry and warm mittens. What the data has revealed is that the Cedarsong students are actually becoming experts on necessary outdoor gear and

will self-advocate and self-regulate themselves throughout their morning or afternoon session. For them, to be cold and wet means less exploring and play time, and that is not a desirable option for these children once they set foot on to the forest floor.

Since this type of education is so new to North America, I have detailed a typical day at the school to show that the students are outside for the entire morning or afternoon, and to show how Erin and her team manage the day and programming. The Cedarsong Nature School schedule includes:

> ARRIVAL - 9:00 a.m. Meeting families at the entrance trail and heading to main camp, where children check in on their favorite places, engage in creative and imaginative play, spend time at the music blanket, or nibble on edible plants. Cedarsong Nature School is committed to small class sizes. A full class consists of eight students and two teachers (1:4 ratio).
>
> MORNING ADVENTURE #1 - 9:45 a.m. A teacher will ask who wants to go on an adventure. Students either jump at the opportunity or inform a teacher that they are busy playing at main camp and would like to stay. The Adventure group hikes or runs down the Heart Trail, making its way to Forest Theater or Squirrel Camp. When the group splits, this is honoring the students' interests, thus honoring a flow-led and emergent model. The other group that stayed at Main Camp eventually makes its way down the Heart Trail and finds the other group by making animal calls. By the time they meet up it is time for snack.
>
> SNACK - 10:30 a.m. Erin sets her alarm for 10:30 because that is exactly halfway through the Cedarsong day. She honors their sense of self by asking questions like "Whose belly is telling them that it is time for snack?" and "My belly is telling me

> that I am hungry for snack, is yours?" She then leads the crew back down the trail singing their snack song. Erin and her teachers are committed to providing entirely organic snacks. Organic foods have zero artificial flavors, additives, or chemicals. They are also very low in sugars. Such a healthy meal will eliminate behavioral issues associated with highly processed and sugary snacks. The wholesome foods that Cedarsong provides support the emotional and physical needs of the child while reducing environmental impacts. Snack food includes a protein, grains, fruits, and vegetables. During the winter months Erin will bring what the kids called *edible hand warmers* — baked potatoes. They are a tasty snack and keep small hands warm at the same time. (Card, 2012)

Snack time is also a very social time for the students. Kenny often talked about the value of everyone coming together to eat as a group, as it represents a sense of friendship and community. She commented that "the kids come together as a group for snacks and lunches because I think that eating is a really good time for humans to be social and it allows the group to sort of reconnect and to create a really tight group bond" (Card, 2012).

> MORNING ADVENTURE #2 - 11:00 a.m. After snack, the students are allowed to jump and splash in the mud puddle. Erin believes that getting soaking wet after they eat and an hour before home makes for a happier and warmer child than first thing in the morning. During this last hour the kids usually stay around Main Camp since their parents walk in and meet them there at noon. Sometimes a group of interested students will make its way down another trail to go on an adventure or back to Forest Theater to finish a play they have started.

> PICK UP - 12:00 p.m. Parents start to arrive and there are always a few minutes for their child to show them what they were working on, creating, or playing with. Most children are covered in mud and couldn't be happier. Some parents greet their child with a hot drink or a treat from the bakery to help with the transition as they peel off their wet clothes in the back of the car and put on cozy new items for the ride home. While I observed that students were happy to see their parent, they were never really ready to leave Cedarsong Nature School. On Tuesdays and Wednesdays the teachers have 30 minutes to eat before the afternoon class arrives full of energy and ready to explore. As described in the students' narratives, the morning adventures could consist of climbing trees, balancing, imaginative and creative play, collecting, nature art, building, water play, digging, and making crafts, to name a few. There was never a dull moment and there were numerous times I wished I could have been in two places at once since the rich data poured as heavily as the spring rain. (Card, 2012)

Another key aspect of program development is meeting parental needs and expectations. Finding out potential concerns and needs of parents is imperative when thinking about developing a Forest Kindergarten in Canada. I asked Erin what she thought parents wanted and needed from her outdoor model and how she addresses their expectations and concerns. The following narrative shares a section from my interview with Kenny:

> I think what the parents want and need for the most part is absolute insurance that if their child is cold or miserable, that they are going to be dealt with. It is a big leap for these parents to drop their three-to-six-year-olds off in 40-degree weather

> in the pouring rain and drive away. I think the most important thing they want to know is that we are diligent about monitoring their child for any discomfort. The other thing is I convey to parents that it is absolutely not in my interest to have any miserable children here because it would defeat my forward motion with this movement. My whole message is that it is possible to connect children in a positive manner for extended playtime and have them enjoy it. So I think for the children what they are expecting is —what they want is uninhibited play, and that is what I have come to realize, that through play children are learning plenty about nature. I didn't have to organize those activities and once I let go of sort of imposing my agenda and truly allowing this interest-led, child-driven curriculum to emerge, that is really what the children truly wanted from the experience. (Card, 2012)

As shown in the student narratives, parent expectations have been met on all levels. The students are receiving three hours of outdoor 'uninhibited' playtime while at Cedarsong Nature School through Kenny's emergent curriculum philosophy. Erin also had some insights as to what the children need from her forest model and how she and her teachers ensure that each child is successful in their program:

> Erin: So, I think what children want is what I remember from my childhood and children today just don't get that experience. So our school, our program, is the place where they come to expect that. And it is really interesting to watch someone who is brand new to our program. They walk around aimlessly because they have never been given the opportunity to be out in nature without a schedule, without a structured activity, so they are sort of at a loss, they are

> wandering around like ‘what am I supposed to do’ until they realize that there is no ‘supposed to’ — it’s like, well, what do you want to do? We are also really adept at knowing when children do need to be gently guided into a new activity, we can sense when the focus is starting to wane. Sooner or later things start to falter, and three-to-six-year-olds are losing their focus and are not engaged or as interested as they were, and that is when the teachers can call out several different activities — “Hey does anyone what to go on an adventure?” “Does anyone feel like doing some climbing?” “What about the thing we worked on the other day? Do you want to see if it is still there?” The kids are free to say yes or no. Always having some of those activities in your back pocket as a way to gently guide them is, I think, something that the kids expect, even though they want this free flow, and they enjoy that they also appreciate when we are able to offer up different activities and invitations to shift up the activity. That is another example of how we are empowering these young children. They actually have a choice. It’s not like in many early learning environments, where what the teacher says is what you are going to do next. We will have none of that at our school [laughter]. It is not what children want — especially at that age. (Card, 2012)

Again, Erin describes in rich detail how the Cedarsong Nature School staff promotes self-confidence, self-advocacy, and privileges the students to have a keen sense of self. Kenny feels that providing an opportunity for choice and making good choices at this young age is an important and significant step in their social development. The only time Erin softly intervenes is if their choice is dangerous, selfish, unfriendly, hurtful to

others, or if it is snack time. She learned that if the snack was put off then upsets do occur.

It is important to note that young children tend to lead very busy and scheduled lives in North America. Families are now continually on the move from soccer practice to piano lessons, and eating a fast dinner in the car on the way to the next event. This leaves little time for unstructured play in a child's day. For some of these Cedarsong students, the three hours of uninterrupted play at Forest Kindergarten may be rare and very much needed as they unplug from their home lives and plug into their sense of self and place — the forest.

While the location of Vashon Island was discussed in Chapter 1, I did ask Erin if site location really mattered and what advice she would have for teachers choosing a Forest Kindergarten locale. Kenny explains why locations should be chosen with care and mindfulness:

> I think it really does [matter] and not just in terms of weather because I had people at my talk — the ECE conference I just spoke at in BC — who were from Winnipeg, saying "Well, when I was a kid we would play out in the winter for three hours in -20 weather and we didn't care…" So, it's doable there. The other thing is cultural concerns or cultural issues and sensitivities that I think certain areas of the United States are going to be more or less embracing of this particular model. So I am not trying to convert people to this model. I am not trying to sell this model. I am trying to offer an alternative to people who already understand why it is important for young children to get this kind of nature immersion experience. So I do think that it would be important to choose communities that

> already have an openmindedness about this type of nature immersion. (Card, 2012)

Kenny has an incredibly ideal location on Vashon Island. The weather never gets too cold and the kids are prepared for the rainy weather. However, I agree that it is possible to establish a Forest Kindergarten model in colder climates. Literature and best practice have shown that outdoor preschool and kindergarten programs are being effectively facilitated in areas that have dark and cold winters, such as Norway and other Scandinavian countries. In all of these cases, it comes back to the three main necessities, 1) proper clothing/gear, 2) excellent teachers, and 3) parental support.

Since 2008, Kenny has been taught many lessons and encountered several surprises along her path to success. Her biggest surprise is shared in the tale below, as she reflects on her hurdles and accomplishment:

> I had no idea that the school would grow this quickly, or that we would get national and international attention. I think the first thing I'd say is just the phenomenal success of the program and that obviously people here, right in my location, are ready for this model. Seeing people willing to make the commute by ferry over here with their three-year-olds and four-year-olds to take advantage of this program. How strongly people feel about how important it is, is really exciting for me. I think the other thing that suspired me is how much actual learning takes place when kids are playing. Being an early childhood educator, I understand the value of play, but it is usually put in terms of building their social skills. What I learned through their play was how much they learned about their natural world. (Card, 2012)

Erin also shared as a personal testimony that her son had spent huge amounts of his childhood playing and learning in Vashon's wild spaces. Kenny attributes those years of emergent curriculum to the fact that he is now ahead of his grade level in both mathematics and language arts. Erin truly believes that Cedarsong Nature School students will excel academically through their education. I had the pleasure of meeting Kenny's son and a few older children who had Erin as a nanny years ago. We went to the beach that day, and within seconds the three children were engaged and completely immersed in strategic creative play.

The future goals and long-term plans for Cedarsong Nature School are very bright. Erin Kenny and the board of directors have already set up a Teacher Training Course called Cedarsong Nature School's Forest Kindergarten Teacher Training and Certification Program Level 1, 2 and 3. (See Appendix E for Teacher Training handouts).

Emergent curriculum. Rain or shine, the students of Cedarsong Nature School were always happily engaged in their emergent curriculum and flow program. As an educator and researcher, the curricular benefits of outdoor play especially caught my attention. It was fascinating to watch and pinpoint specific curricular outcomes while the students were naturally playing in the forest. It was very clear that they were learning what they really needed to 'know, do, and value' as far as staff, parents, and the government are concerned.

Cedarsong Nature School's team of teachers keeps track of their emergent curriculum by recording the morning's activities, weather, and adventures in Erin Kenny's Vashon Island Nature Journal. Kenny explained that the traditional school board curriculum naturally comes up throughout the changing seasons of the year and that

everything gets covered at the students' own pace, without forced timelines. The students come together at snack time, which makes for the perfect opportunity to ask children about their morning, observations, nature sighting, and activities. As one teacher facilitates the snack, the other records the student's information in the journal. Erin is then able to use the journal as a resource to identify patterns and to compare from past years. She provided me with her teaching philosophy and a list of curriculum outcomes that she and her teachers cover throughout the school year. Erin also provided me with a list of Specific Natural Science Study Subjects in the Forest Kindergarten program, which include:

- Forest ecosystems
- Biology
- Botany
- Ethnobotany
- Etymology
- Ornithology
- Zoology
- Mathematics
- Physics
- Engineering (Card, 2012)

I recorded many more academic subjects naturally occurring and taking place while the students played happily in their forest playground. I observed and documented the following subjects:

a) Music: signing, using sticks and logs as a drum set, making musical toys, making fun rhythms with forest objects;
b) Drama: creative imaginative play and Forest Theater;
c) Social Studies: local history, teamwork, sharing ideas/communication skills;
d) Physical Education: running, dancing, climbing, balancing, crawling, jumping, hiking, throwing, hopping, rolling, and friendly wrestling;
e) Literacy and eco literacy: Making letters in the dirt and mud, advanced words (decomposition, camouflage, predator, erosion), alphabet and letter sounds, reading, storytelling, and rhyming;
f) Art : nature art, coloring with chalk, making nature crafts, tools, and toys. (Card, 2012)

My initial research question seeks to uncover the answer to whether provincial outcomes can be achieved based on the characteristics and benefits of a Forest Kindergarten program. To address and answer that question, I charted and compared the emergent curriculum I observed at Cedarsong Nature School with Newfoundland and Labrador's specific curricular outcomes for the kindergarten subjects of science, language arts, mathematics, and art. Figure 15 is an example of the kindergarten mathematics provincial outcomes comparison with Cedarsong Nature School emergent curriculum.

Emergent Mathematics (Physics, Engineering) Curriculum At Cedarsong Nature School	Specific curriculum outcomes (SCO) Descriptions – Newfoundland Labrador	Observed Student Demonstrations of Emergent Mathematics Curricula at Cedarsong Nature School

Numbers and counting/counting games	**KN1** Say the number sequence by 1s: starting anywhere from 1 to 10 and from 10 to 1 Forward from 1 to 30. **KN2** Subitize (recognize at a glance) and name familiar arrangements of 1 to 5 objects, dots or pictures.	Collecting parts of the plant counting aloud. Number sequence games — Hoot n' Seek, Dragon Tears and the what is missing number game What's Missing game — count items
Sorting and grouping of natural objects/ Finding shapes in Nature	**KSS1** Shape and Space (Measurement) Use direct comparison to compare two objects based on a single attribute, such as: attribute, such as: length, height, mass and capacity. **KSS2** Sort objects using a single attribute and explain the sorting rule. **KSS2** Sort objects using a single attribute and explain the sorting rule.	Find and identify nature object that looked like different shapes. A bendable sick would become a circle, or oval. Sorting and categorizing old fort materials into the various piles of small, medium, medium large, and large. Sorting and grouping was documented when students collected natural objects in a little cup. A student made different kinds of mud balls and classified them by giving each mud ball a name such as: sandy mud, twiggy mud, and silky mud. She then sorted them into their appropriate groups based on their classification.

Object games /Comparing Nature objects	**KSS1** Shape and Space (Measurement) Use direct comparison to compare two objects based on a single attribute, such as: attribute, such as: length, height, mass and capacity **KSS2** Sort objects using a single attribute and explain the sorting rule. **KSS3** Build and describe 3-D objects.	Comparing and sorting different sized ferns. Comparing water levels in various puddles.
Strategic building of fort and dams	**KSS1** Shape and Space (Measurement) Use direct comparison to compare two objects based on a single attribute, such as: attribute, such as: length, height, mass and capacity **KSS2** Sort objects using a single attribute and explain the sorting rule. **KSS3** Build and describe 3-D objects**.**	Successful damming projects, building shelters, hideouts, and forts. Using sticks, feet, and hands for measurement.
Measurements in water displacement	**KSS1** Shape and Space (Measurement) Use direct comparison to compare two objects based on a single attribute, such as: attribute, such as: length, height, mass and capacity	Exploring water flow and water patterns. Measuring water levels and talking about the process of water displacement.

Finding and creating patterns	**KPR1** Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds, and actions. **KPR 1.2** Act out a rhythmic pattern.	Lessons on patterns were documented during nature art, vegetation sorting, and the students observing and noticing patterns in nature.

Figure 15: Curriculum Charts for Mathematics (Card, 2013).

Figure 16 is an example of the kindergarten science-specific curricular outcomes comparison with Cedarsong Nature School emergent curriculum.

Emergent Science Curriculum At Cedarsong Nature School	Specific curriculum outcomes (SCO) Descriptions	Observed Student Demonstrations of Emergent Science Curricula at Cedarsong Nature School

Experimenting with natural and local materials	**100 -1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought . **100 -2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **101 -1** explore how characteristics of materials may change as a result of manipulating them. **101 -2** identify and explore ways to use tools to help carry out a variety of useful tasks. **102 -8** describe and demonstrate ways we use our knowledge of solids and liquids to maintain a clean and healthy environment. **200 -4** select and use materials to carry out their own explorations. **201 -4** observe, using one or a combination of the senses. **202 -1** use personal observations when asked to describe characteristics of materials and objects studied. **203-2** identify common objects and events, using terminology and language that others understand. **203 -4** respond to the ideas and actions of others in constructing their own understanding.	Students using local materials to make nature crafts or tools. Students would search for the right item to make a crown, hair decoration, or the perfect bendable stick to make forest jewelry. Comprehension of decomposition and non-human made items. Erin often set up experiments such as ‘which leaf will decompose the fastest’. The students make their predictions and document their daily findings.

Critical thinking and problem-solving	**100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **101-1** explore how characteristics of materials may change as a result of manipulating them. **101-2** identify and explore ways to use tools to help carry out a variety of useful tasks. **200-1** ask questions that lead to exploration and investigation. **200-4** select and use materials to carry out their own explorations. **200-5** identify materials and suggest a plan for how they will be used. **201-2** manipulate materials purposefully. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Being resourceful and using plant roots as string. Observed students using the forest setting to soothe and calm themselves (such as the salamander/Clive example). Erin also used snack time conversations as a time to ask questions that promoted critical thinking and problem-solving skills. Topics as large as metamorphosis and early conversations about photosynthesis were common during that time.

Predicting outcomes	**100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **101-1** explore how characteristics of materials may change as a result of manipulating them. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	A student made four different groups of 'mud balls' and predicted which group would dry up and crumble first. Her predictions were correct, as the 'sandy mud balls' were the first to crumble.
Life cycles	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand.	Comprehension of life cycles. Students described that when the trees die and fall over they turn to soil, but that trees grow from the soil, so it is a cycle. This conversation led to her making other connections, and she then told me all about the life cycle of the butterfly in rich detail. Another example took place when the students found a dead baby bird and Erin Kenny facilitated a rather extensive conversation about the life cycle of the birds. The students could even tell Erin what types of living things help bird decompose once the dead baby bird was under the ground, such as mold and insects.

Ecosystems: Living and non-living	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **100-7** describe the different ways that humans and other living things move to meet their needs. **200-1** ask questions that lead to exploration and investigation. **201-4** observe, using one or a combination of the senses. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **203-1** communicate questions, ideas, and intentions while conducting their explorations.	I observed the students peer teaching about what constituted a living thing within their play environment. The terms 'living' and 'non-living' beings were used as a way to teach the students to respect themselves, others, and their environment. Erin would teach the students to play gently with all of nature's living beings or softly remind a student that what they were playing with was a living being and they should kind to it.

Recording observations in nature journal	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **200-1** ask questions that lead to exploration and investigation. **201-4** observe, using one or a combination of the senses. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	At snack time the teachers would ask the students about their morning and record all of their activities, sightings, and nature discoveries in Erin Kenny's Nature Journal.

Sensory exploration of natural world	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **201-4** observe, using one or a combination of the senses. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Barefoot walking and forest forging (edible vegetation), listening to birdcalls, touching and commenting on all textures and temperatures of their forest world. For example, many would take off their socks and shoes if they were getting too hot and needed to cool down. Their bare feet were used to indicate what was cold, warm, dry, sticky, and muddy when exploring their natural environment.

Collecting and identifying plants	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **201-4** observe, using one or a combination of the senses. **202-2** place materials and objects in a sequence or in groups according to one or more attributes. **202-3** identify the most useful method of sorting for a specific purpose. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Two younger students were observed collecting and identifying all of the different parts of a plant. With Erin's gentle guidance they then spent time identifying the functions of each part of the plant. During this process they were delighted to eat many of the various parts they had collected (flower, seed, leaf, etc.).
Scientific vocabulary	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Elodie, Clive and many other students understood and used words such as decomposing, camouflage, predator, erosion, habitat, native, invasive, pollinators, and metamorphosis.

Insects, flora and fauna identification	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-2** explore and select different ways to represent ideas, actions, and experiences and to communicate with others. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **100-7** describe the different ways that humans and other living things move to meet their needs. **200-1** ask questions that lead to exploration and investigation. **201-4** observe, using one or a combination of the senses. **202-1** use personal observations when asked to describe characteristics of materials and objects studied.	I recorded Elodie and Clive identifying the following: **Birds:** towhees, crow, robin, sparrow. **Small Mammals:** Douglas fir squirrel and Oregon vole. **Plants & Fungi:** Turkey tail mushroom, salmon berry, miners lettuce, dock, nettle, Douglas fir, madrona tree, huckleberry, salal, red cedar. **Insects** Crane flies, moths, ants, beetles, dragonflies, centipedes, caterpillars. and bumblebees. **Herps:** Salamanders.

Building dams, forts, and nests	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-7** describe the different ways that humans and other living things move to meet their needs. **101-1** explore how characteristics of materials may change as a result of manipulating them. **101-2** identify and explore ways to use tools to help carry out a variety of useful tasks. **103-1** choose materials to build a variety of real and imaginary settings, and play roles that correspond to these settings. **200-4** select and use materials to carry out their own explorations. **200-5** identify materials and suggest a plan for how they will be used. **201-2** manipulate materials purposefully. **201-3** use appropriate tools for manipulating and observing materials and in building simple models. **201-4** observe, using one or a combination of the senses. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	The creation of dams, forts, and nests. The children experimented with design. Elodie played a very nurturing role while making her penguin nests and took part in building the giant nest for everyone to use and enjoy.

Identifying color, texture, and shape of a natural material	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **101-1** explore how characteristics of materials may change as a result of manipulating them. **201-4** observe, using one or a combination of the senses. **200-4** select and use materials to carry out their own explorations. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Elodie was observed talking about the different colors found in nature, which included a pink she found on a decomposing leaf. She then described the leaf to me — its shape and texture. She also correctly identified the species of the leaf. The students also have at least 30 different names for the variety of mud textures that surround their community mud puddle.

Water displacement	**101-1** explore how characteristics of materials may change as a result of manipulating them. **200-1** ask questions that lead to exploration and investigation. **200-4** select and use materials to carry out their own explorations. **200-5** identify materials and suggest a plan for how they will be used. **201-1** follow a simple procedure where instructions are given one step at a time. **201-2** manipulate materials purposefully. **201-4** observe, using one or a combination of the senses. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Clive made many observations of water flow and displacement. He also learned how to manipulate his surroundings to obtain the results he wanted while working on his dam. Elodie observed that the water level in the community mud puddle had lowered greatly since they started their damming and water-transporting project. Elodie was determined to move a larger rock to trap and displace water runoff from the dam in hopes of stopping a small leak. Both Clive and Elodie were observed talking about water erosion.

Density	**101-1** explore how characteristics of materials may change as a result of manipulating them. 200-1 ask questions that lead to exploration and investigation. **200-4** select and use materials to carry out their own explorations. **200-5** identify materials and suggest a plan for how they will be used. **201-1** follow a simple procedure where instructions are given one step at a time. **201-2** manipulate materials purposefully. **201-4** observe, using one or a combination of the senses. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **203-1** communicate questions, ideas, and intentions while conducting their explorations. **203-2** identify common objects and events, using terminology and language that others understand. **203-4** respond to the ideas and actions of others in constructing their own understanding.	Erin Kenny would ask students what would happen if they placed a rock in the mud puddle. They would predict the outcome and then experiment. The rock would sink and she would ask why they thought that happened. The response from the students was that a rock was heavier than the water. She would ask the same questions but use a leaf for the next experiment. Again the students would predict and experiment with the conclusion that a leaf is lighter than water, therefore it floats.

Classification and sorting	**100-1** develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought. **100-3** detect consistency and pattern in objects and events and use language to describe these patterns. **101-1** explore how characteristics of materials may change as a result of manipulating them. **201-4** observe, using one or a combination of the senses. **202-1** use personal observations when asked to describe characteristics of materials and objects studied. **202-2** place materials and objects in a sequence or in groups according to one or more attributes. **202-3** identify the most useful method of sorting for a specific purpose.	A student made different kinds of mud balls and classified them by giving each mud ball a name, such as sandy mud, twiggy mud, and silky mud. She then sorted them into their appropriate groups based on their classification.

Figure 16: Curriculum Charts for Science (Card, 2012).

In each chart, I was able to match a specific curriculum outcome with every Cedarsong Nature School activity that I recorded and documented during my two-week site visit. I was limited to selecting a few examples in my comparative charts.

Upon analysis, I found the data I collected revealed that Kenny's emergent curriculum exceeded the Newfoundland and Labrador specific curriculum outcome expectation for children attending a kindergarten program in terms of vocabulary and communication skills, social skills, physical education, and science. Kenny admits that she and her teachers do not spend a lot of time on numbers and letters, but those lessons and topics naturally come up while in an outdoor setting and the students absorb the

information (Card, 2012). She trusts that "the more relaxed someone is and the more fun they are having, the more learning actually takes place…because the children are ultimately having fun, everything they are learning is bathed in that fun and is retained that much better" (Kenny, 2011). In truth, all Cedarsong students seemed to be at an appropriate level with their numbers based on their ages. The older students, ages five and six, had a solid grasp on their letters and numbers, even though it was not taught overtly at Cedarsong. However, more research would need to be conducted in this area since my ten-day site visit did not allow time to assess each student's literacy and numeracy levels. (See Appendix F & G for specific curricular outcome comparison charts for, art and language art)

Kenny and her team taught important life skills and social skills, which also meet Newfoundland and Labrador specific curricular outcomes. The teachers at Cedarsong Nature School help to develop the following skills:

- Social development (language arts and social studies specific curriculum outcomes)
- Conflict resolution (language arts and social studies specific curriculum outcomes)
- Instilled kindness (language arts and social studies specific curriculum outcomes)
- Compassion (language arts and social studies specific curriculum outcomes)
- Empathy (language arts and social studies specific curriculum outcomes)
- Emotional balance (social studies and health specific curriculum outcomes)
- Risk assessment (physical education specific curriculum outcomes)

- Increased upper, lower body and hand strength (physical education specific curriculum outcomes)
- Better balancing and flexibility (physical education specific curriculum outcomes) (Card, 2012)

I discovered that the students at Cedarsong Nature School had advanced social development for their age and was surprised by their ability to self-advocate, patiently listen to a classmate, wait their turn without having to be reminded, assess risks, show compassion and empathy for all living beings, play inclusively and gently, and solve their own problems whether with a peer or play scene.

Another observation was that the weather never seemed to affect the students in a negative way and often added to the excitement and learning of the day. Erin describes this further:

> So, when it is pouring rain it is a great opportunity to talk about water flow. There is a lesson that comes in right away about where does rain come from? Where does it go? How does it get back? We even wrote a song about it to describe the whole water cycle. We see our mud puddle fill up with water and then a couple days it hasn't rained, we start to see the water go back down. Where is the water going? When it is pouring rain we do a lot of the puddle-stomping and splashing, we do a lot of making mud pies, mud cakes and cookies — that kind of thing. So really tactile exploration of the mud. We also will notice on slopes that the water is coming down like a river so the kids will make deep channels and then block them and see where the water goes and take buckets of water and start at the top of the slope and pour the water down and see how it flows — there is really no

> shortage of activities in the rain. Children immersed in nature to me is a natural combination. So you are almost going against what is a natural tendency when you keep children indoors (Card, 2012).

I observed playing in the rain, stomping in mud puddles, and making mud pies as an active and fun morning outside. Children and nature are a natural combination. In the next narrative, Kenny describes how her effective model of emergent curriculum naturally occurs without the stress of meeting outcomes or deadlines, and how she privileges the students to lead their day of learning:

> Also the same thing with curriculum. When we first started this program we were still very concerned. Being from the United States, we were very concerned about proving these kids were actually learning something. Learning something academic, so we were bringing books out — they were nature books and bird ID books and those kinds of things, but we were bringing books out into nature and were doing environmental activities with the kids, leaf rubbings, different nature paintings, and slowly after the first year and into the second year we had dispensed with all of that. We have no props for the kids anymore — we didn't even bring out paint, or paper, or books, or anything like that. We realized that what the children were doing and we got a better sense on how they were learning through just exploring, that it was okay if this child just wanted to dig for an hour, that it just wasn't a quote-on-quote waste of time. That there was actually real learning that was going on through the child's observation and manipulation of their own environment through their socialization with their peers — over the aspect of nature that they were interested in.

> I think we felt a lot better by the second and third year about our commitment to this type of emergent curriculum and flow learning. That was really reinforced when I was finally able to go over and visit in person some of these Forest Kindergarten, or *Waldkindergarten,* in Germany. I had the opportunity to go in the fall of 2011 to a conference in the Netherlands that was put on by the Nature Action Collaborative for Children and it was titled Early Child Care and Nature Education*,* and I knew I had to go because I had never seen, as I had said, any of these *Waldkindergarten* in operation, and now I was running my own. So I went over and we observed not only in the Netherlands, but the conference took us to Germany as well and we were able to go to some of these *Waldkindergarten.* It was fantastic. And it has been going on for years there, and the government completely supports it and these preschools are paid for by the government, like all the academic preschools because the German government understands that learning is taking place. It's not just kids playing in nature…like, you know, in America we have this idea that if kids are playing in nature it is just play… "Oh, they are just playing" and nothing could be further from the truth. In all of my experience of working with young children between the ages of three and six, it is when they are engaged and interested in nature that all kinds of learning is taking place. (Card, 2012)

Kenny maintains that the success of the program is because of their main principles and that having students lead the day is the key to achieving the social and academic benefits of the program. In the next narrative, Erin explains why a free flow and emergent curriculum is so successful:

Again, it is the children leading the teachers and not the teachers leading the children. That is the single most distinguishing feature of our program and that we directly got from the Forest Kindergartens and the way they are operating in Germany. It is outside of most teachers' comfort levels to allow the children to be the ones that lead, and a lot of teachers become fearful that they are not going to be doing their job or giving the children enough information. So, what becomes more important is when they are in the moment of their own exploration of some aspect of nature, and that is when you come in and give that 30-60-second science lesson on whatever it is that they are exploring. You don't have this preset schedule or agenda for the day that you having to bring the children back to. So, it is a much more organic and free-flow method. It is really being committed to letting the children lead the day, every day… Educators have been taught that they need to have control because that is our dominant paradigm when we train teachers; for most educational models, it is about the teachers being in control over the kids. Some teachers may be uncomfortable to have the students be in control over what is going to be taught and presented, but really nature does the presenting and then we do the teaching based on what nature is presenting and what the children are interested in. So even if I notice something is there, there may be only a brief moment that I call it to the children's attention, and if they are not interested I don't then go, "Hey over here…look!… I am trying to get your attention…come over here!" No, we don't do that…they are either interested or they are not. It is not up to me to push an interest on them…the less pressure there is to learn then they learn more. (Kenny, 2011)

The many benefits of teaching early years students outdoors have been receiving greater credibility and international research attention as the movement gains publicity and academic recognition. In the following account, Kenny touches on the proven benefits of children learning outdoors:

> Well, there have been many proven benefits to children in this kind of outdoor preschool; since they have been operating so long in Germany, there is some really good evidence specifically about Forest Kindergarten. There is also evidence in the United States of studying outdoor education programs and what has been found is basically that children in outdoor preschools are physically stronger, and healthier, they are emotionally more balanced, they have better critical thinking and problem solving skills, they have stronger immune systems, they have better eyesight, they have stronger strength in their hands and upper body, motor skills, they have very highly developed fine motor skills, and gross motor skills, so all of this prepares them for academics later on. My belief philosophically as an early childhood educator (three- to-six-year-olds) is that the most appropriate way for them to learn is through play — and play in the natural world. So I see all of those things that I just mentioned and all those benefits as preparing them for academic success later on, and another thing that has been found is that the more time children spend outdoors, the better they are able to focus when they go indoors.
>
> So the findings coming out of Finland are that — one of the reasons their educational system is so successful is that for every 45 minute class indoors there is a 15-minute recess where the kids can then run around outdoors, and then when

> they go back in they can sit still, they can concentrate, and they can focus. Studies have been done in this country on ADHD children that find that both in a scientifically measurable way and as far as their parents' testimonials later on that spending time outdoors causes these ADHD children, when they go back indoors, to be more focused and to be able to sit and concentrate better. One of the studies decided to see if it was a product of being in 'green space' or just being outdoors, so they had two groups of ADHD-diagnosed kids — one was outdoor in a green space in a park and the one was just playing on a cement and metal playground. What they found was that it absolutely was a byproduct of spending time in green space. It wasn't enough to just be outdoors — you actually have to have contact with nature and the natural world. (Card, 2012)

There are incredible opportunities for further research on the concept and practice of Forest Kindergarten and preschools. This is especially the case in North America, as the concept is really still in its formative years. Parents and educators are starting to understand that young children may in fact learn more successfully when taken from behind a desk and out of a building with fluorescent lighting and recycled air.

4.3.2 Place-Based Learning

Sense of Self and Place. The participants, discussed earlier provide excellent examples of how a Forest Kindergarten program creates a strong sense of self and place. While at Cedarsong Nature School I witnessed students painting their own faces with mud or asking a friend to paint their face for them using their fingers or sticks. Students were able to find whatever nature-based sensory learning and sensory needs they were not getting at home. Erin Kenny, her team, and the forest, appeared to be able to provide

the students with all of the natural material they needed in order to address the whole child. Thanks to this sense of self and place, the students were able to identify what they needed at a young age, and were able to find the sensory materials necessary to fulfill certain sensations, such as mud between their toes, mud on their faces and in their hair, or covering themselves in the earth's soil and duff.

Kenny talks about why a confident sense of place and self are important, and how she and her teachers privilege their students to connect with self and place in the following narrative taken from our interview:

> One of the things we really stress is individual empowerment and group bonding. So I think I a lot of kids are getting a very strong sense of self-empowerment because we allow them to challenge themselves and we don't put artificial limits are their explorations. So I have seen a lot of kids willing to step outside their own comfort zone, and that is something that we have watched progress as the children spend a year then another year with us. Their sense of self-confidence and sense of self-empowerment all an create a sense of self-worth. I think that again that goes back to our very small student to teacher ratio. Each child feels really nurtured and respected as an individual. That being said, we remind them a lot that we are a group. We are a tribe. We don't allow any exclusionary behavior. We expect everyone to play together, and if one child says, "Can I play with you?" The correct response is "Yes!" We try and guide them into co-creating imaginative play…that they are always willing to include someone in play. We don't allow children to designate another child's role. We are very attuned to when a child is starting to feel frustrated, not heard, or respected, and we

> immediately address that. We also encourage children to figure things out for themselves through communication and to find a way to include each other. That is definitely something that parents have reposted back to me that when they see a group of random children playing compared to a group of Cedarsong Forest Kindergarten kids play it is so different. The Forest Kindergarten kids play so gently and kindly and inclusively that it is really noticeable. (Card, 2011)

Place-based education is becoming more commonplace and is being recognized as best practice for children of all ages. Yet there are many children in North America who are not given the opportunities to create a healthy sense of self or place within a safe and natural environment. Erin talks about the importance of providing safe spaces for children to connect with themselves, others, and their natural world:

> Well, I think there is a lot of concern that people don't have a sense of feeling grounded and a sense of place in the world. There was an article that just came out recently about how today's children don't know their way around their community at all because they are being driven from place to place and so they don't have a map inside their head of their community. So we talk about our program being a placed-based education, and basically the kids are learning about their community — our particular island — what plants live here, what animals live here, what snakes, what reptiles, what amphibians. For me, this is so much more important than the kids understanding the plight of the Amazon rainforest, or to know all about lemurs, but they don't even know about the native Douglas fir squirrel. (Card, 2012)

The students at Cedarsong Nature School knew those five acres of forest very well. I was able to witness three-year-olds telling me which way to go in the forest, or giving me a choice between the short cut and the long trail. The students would even redirect themselves without adult prompting if they decided that another trail would be a better choice, or if they went down the wrong path by mistake. It was as if they really had that "map inside their head of their community" that Erin referred to in her interview. Kenny also spoke about the connection that the children, who attend, her school feel with their forest school environment and how that sense of place can support a stronger sense of self through their early years development:

> Sense of self stems from having a sense of place on the earth. It also helps you feel that connection with the earth too. It allows their self-worth and self-esteem to grow as their connection to their community grows — in the sense of their peers being their community, which is one of the reasons we are really comminuted to small class sizes. So we have a unique opportunity with small class sizes to really be continually being observing their social interactions and correcting them where we need to, and more importantly, praising all of the positive behaviors that we see occur in the moment. (Card, 2012)

One observation that I found to be representative was how often the children at Cedarsong Nature School self-advocated for themselves. For example, on a cold and rainy day one student expressed to Erin that his mother had not sent him to nature school with enough layers of clothing. The teachers try to connect children with their inner experience and to trust those needs, which is why the Cedarsong Nature School staff find it frustrating when parents argue with their child about overdressing or underdressing for

the weather. According to Kenny, she has found that every individual experiences hot and cold differently and that parents and childcare professionals need to honor a child's experience of whether they are hot or cold, or tired or hungry (Card, 2012). Kenny often has to explain to parents that just because they are cold doesn't mean their child is cold, but also that she and her team is adept at monitoring their child and that they will absolutely put on the child's coat when that child starts to get cold. This privileges the child to have his or her own experience of whether they are hot or cold and then finally to trust that the child will let a teacher know when they are getting hot or cold. However, at a certain point as a teacher and as a caregiver, you have to insist that the child take a break and go potty or take a break and put their mittens on (Card, 2012).

The Cedarsong team teaches self-advocacy, self-confidence, and they honor a child's voice to know what they require to be successful in their outdoor environment. Such lessons and gentle reminders (interrupting play for a second to take care of a need such as potty, water, snack, and clothing) are taught.

Sense of Community. Kenny works hard to ensure that her Cedarsong community is always up-to-date with the school's activities and discoveries. She achieves this by using the Cedarsong Nature School official website and Facebook page as two of her main social media resources. There, families can find monthly newsletters (See Appendix B for Newsletter Handout) and regular 'posts', pictures, and updates. The Cedarsong Facebook page is used to share the latest academic journals and articles on relevant research that supports her model and passion. Erin is very approachable and is eager to address any parental concerns. Parents are invited to contact her over the phone, but her most preferred way to communicate is in person.

If new families are interested in being a part of the Cedarsong Nature School team, Kenny and the Cedarsong Board of Directors provide parents with the *Cedarsong Nature School's Forest Kindergarten: An Outdoor Preschool Program for ages 3-6 2012-2013 HANDBOOK*, Cedarsong Nature School's Forest Kindergarten Teaching Philosophy, and an hour-long DVD called *Cedarsong Nature School*. The introductory documentary on Forest Kindergarten is an excellent visual account of what a typical day looks like at an outdoor school and what to expect when attending such a school. Kenny covers important topics such as the school's values and philosophy, organic snacks, risk assessment, emergent curriculum, and proper outdoor clothing and gear. The video also gives many examples of students being completely engaged in active creative and imaginative play, UCA, critical thinking and problem-solving, teamwork, and enjoying their community organic snack. New Cedarsong families are well informed and are even invited to an afternoon play date and a meeting with Erin Kenny.

Kenny feels very strongly about a healthy sense of community. In the following account she shares her beliefs on how nature immersion and a sense of community go hand in hand:

> One of the things about children immersed in nature is that we notice a lot more opportunity for cooperation and teamwork and that it helps to build early on a sense of compassion and empathy and a sense of community, and you see our program three- to four-year-old being very concerned if another child appears to be injured or uncomfortable or said…they are all going up and patting them on the back asking, "Are you okay?" They are really developing on the early end of the spectrum a very finally tuned sense of compassion and empathy, which you

usually don't see until the age of five at times, but these three-year-olds are nurturing and aware (Card, 2012).

The powerful sense of community and a deep sense of compassion and empathy were observed among the group of classmates, as noted in the student narratives. All of the students seemed to have a special connection and respect for themselves and others. Many children shared with me that they ask to see their Cedarsong friends outside of school or told me that they play with their Cedarsong classmates outside of the forest program. In fact, Cedarsong families are encouraged to set up play dates outside of school hours because this reinforces nature immersion and emergent curriculum in other natural settings. Many of the parents I interviewed mentioned that their children ask to have Cedarsong peers over to play and have told their parents that their Cedarsong Nature School pals are their best friends. Furthermore, many families have met at the school and decided to share in carpooling, as many parents are traveling up to 45 minutes with their three- to six-year-old to be a part of the Cedarsong family. A sense of community has been developed not only for the students but also for the parents and families.

4.3.3 Creative Play-Based Learning

Universal Childhood Activities. Erin Kenny coined the term Universal Childhood Activities (UCA) in 2011 after a professional development conference she attended in Germany. Erin reflected that she was "Struck over and over by the fact that these children three- to six years old were all playing in the same ways that I had seen our children play" (Card, 2012).

After Kenny retuned from the conference she made a list of the types of activities she observed. She documented that most children wanted to and gravitated towards doing the following things on their own. Listed below are some of the main UCA:

- Climbing,
- building,
- balancing,
- digging,
- hiding,
- going barefoot,
- running,
- collecting/carrying sticks and rocks,
- imagination play,
- rolling on the ground,
- sand play,
- transporting water/water play,
- making tools,
- throwing,
- yelling/shouting/singing,
- nature art, and
- wrestling (Card, 2012; Kenny, 2013)

While Kenny was visiting these other outdoor nature schools for children ages three to six, she realized that she could communicate with these children. She explains how she was able to overcome a language barrier at these international schools:

> What was fascinating to me was when I was both in Holland and in Germany I was able to interact with these preschool aged children even though I didn't speak the language at all. I spoke the language of play! I didn't even realize that until I was with this group of preschool children in Europe and not speaking their language, and I decided I wanted to interact with them. Most of the other conference participants were standing back and sort of observing and taking photos, and I just felt like I missed my kids [at Cedarsong Nature School] and I really wanted to play with these kids, so I just went up to them while they were looking at the bark on a tree, and I, with great exaggerated movements and body language, just mimicked what they were doing and then moved the play a little bit in a different direction until they were putting little bits of bark into my hands and then I was pretending that I couldn't hold it anymore and that I was spilling it. I was making funny noises and they were in hysterics and we were totally having this game and we did not speak the same language, except we did — we spoke the language of play — of childhood play, and it was just fascinating to me that wherever I went I could play with these children and get a play scene going without any verbal instructions. (Card, 2012)

Speaking the universal language of play inspired Kenny to make connections and document her observations. Erin's realization that she could communicate effectively with students from another country (through dramatic expression, acting, body language, and making funny noises) is how she found that child within, and she remembered how to speak the language of play.

Play at Cedarsong Nature School is stimulated by the imagination and creative mind. Manufactured items and toys are sparse at Cedarsong, but there are a few drums and musical instruments that are available to be used while singing, dancing, or just to enjoy and explore different sounds.

Kenny, also a musician, has written many fun songs about the water cycle, the Earth in orbit, and Mother Earth. When Erin and the kids sing these songs, the kids dance and act out the lyrics. To truly convey these creative and educational songs, I have listed the ones I heard the students singing as a group, to themselves, and to each other:

- "Down below where the worms move slow, way up high where the birds fly. Trees in the forest and the flowers in the field is part of the earth and it is part of us too [The kids get low like worms, flap their arms like birds in flight, and sway like the trees] (Card, 2012)
- "Hey! Hey! What do you say? Who is going to dance in the forest today? Well we hop hop til we drop then we sway sway, that's the way. Then we twirl twirl just like the world…" (Card, 2012)
- "Round and round the earth is turning. Turning always round to morning and from morning round to night. Round and round the earth is turning. Turning always round to morning and from morning round to night" (Card, 2012).

Active singing and dancing is also a way to warm up on a cold and wet morning or afternoon. The cold rain never once interrupted their UCA and, as mentioned above, the rain seemed to add to their fun and learning. I watched the students play in heavy rain and in beautiful sunny weather, and not once did I hear a child complain about being

cold, wet, or too warm. I only saw creative ways to use that weather to their play advantage.

It is important to note the following topic that Erin and I discussed regarding the theme of creative play-based learning. In the narrative below, Erin explains and shares what she has observed and documented throughout her years as an outdoor early childhood educator on the subject of gender and play:

> I do notice that when I am in an indoor preschool environment that the boys tend to be playing with the vehicles and doing building more and the girls are doing more of imaginative play, and I have seen that in virtually every indoor preschool environment that I have been in. So I was amazed when I started reflecting on that in the outdoor preschool. The kids between ages two to six — there is NO gender distinctions in how they play. The boys equally play imaginative play and they are as likely to choose to be a princess as a prince, or the mother as the father. I also noticed that the girls liked to climb just as much as the boys, they like to throw things just as much as the boys, they can be as active as the boys. In fact, it is interesting because a lot of people are under the impression that our program would be mostly boys because this is the kind of program that is outdoors active — people tend to think, *Oh, that is a boy thing*. It is not! Ironically, we have way more girls than boys in our program. All of this truly fascinates me! Really, what I would say, is that in my…what I have noticed is that there is no distinction between genders in the way kids play in nature. When all props — manmade props are removed and all toys are taken out of the choices and it is just loose parts — nature thing that they are playing with they play in identical ways. Same

> number of girls and boys are digging, climbing, throwing, and running — all of those Universal Childhood activities that I had mentioned. Fascinating! (Card, 2012)

Gender play in an outdoor environment was not something I was specifically looking for. However, after Erin mentioned her observations I began to notice it immediately. The boys were pleased to play the sister or the nanny in imaginative creative play. The girls were happiest when running barefoot down a forest path or pretending to be the father penguin. All of society's gender pressures seemed to vanish, if only for three hours. Additionally, there were very few arguments amongst the students regarding 'toys'. One parent mentioned that in some preschools there are a limited numbers of dolls to play with or trucks to claim, and children often fear that someone will take their doll or ball away before they are finished using it:

> …I think in traditional schools there might be more cliquey environments or more saying "Oh I didn't get to play with that doll" Their survival skills in a different way are put more into a threatened state — on a primal level, whereas here there is a stronger sense of community and everyone having their role and their particular identity. So their identities are able to — and their role within the community or within the group is able to blossom and grow in a non-threatening way. (Card, 2012)

As Kenny says, "Nature provides and there is always enough to share" (Card, 2012). So if a student is making pies and cakes in "The Bakery" there is more than enough baking supplies (mud and soil) for everyone to share. Nor were there any

judgmental looks from staff or other children if a girl wanted to play Spiderman or pretend a log was a high-powered train heading for South Africa to feed the monkeys.

Kenny also describes her concern for the lack of UCA in more traditional academic settings and the North American need to eliminate all types of potential risks:

> So I thought more about these Universal Childhood Activities, and it really kind of made me sad because it made me realize that how few of these childhood activities are honored in any preschools in the United States? How many of these preschoolers are really get to dig in real dirt, or do the kind of water transporting water play that we do, or run and run and run, climb…at my child's primary school they are forbidden to pick up sticks. They are not allowed to pick up sticks at all. They were happily playing in this huge mud puddle that had developed on the far end of the playground, and they are now forbidden to do that because they get too muddy…apparently. (Card, 2012)

Risk assessment and potential risks in the outdoor classroom are a very serious topic among outdoor educators and will be discussed in the next theme of critical thinking and problem-solving.

Critical Thinking and Problem-Solving. At Cedarsong Nature School, teamwork, cooperation, being kind, and supporting safe risk-taking are all part of the daily routine. In the Cedarsong Nature School information documentary, Kenny explains that "we are teaching the kids a lot about teamwork, cooperation, being helpful, being kind, and we have opportunities everyday to work this into our lessons. At least half of what we are guiding the children to do during the day is to have kind and thoughtful

social interactions…we are laying the foundation for the rest of their lives — we like to think we are providing them with lifelong skills" (Card, 2012).

Erin shared her opinion that if we give the students the 'tools' to use their words and speak kindly, then most upsets will be diverted before they even happen (Card, 2012). During our interview I mentioned that I documented students relocating themselves if another student was in their personal space. Sometimes I would hear a gentle reminder from a student that he/she was 'feeling crowded' and could the other child please move over. Other times no words were spoken, there was no pushing, crying, yelling, or complaining to a nearby teacher — the student just moved to the other side of the mud puddle. If a child encountered a social problem he or she was able to successfully address concerns without issue. Kenny describes how she privileges the students to work out their own small conflicts:

> Exactly! Giving them the tools — we teach them early on about their personal space — that is another thing where sense of self comes in. I don't think it is ever too early to teach kids that they have a right to their personal space and the space immediately around their body. We give these young three- to six-year-olds tools for saying "I'm feeling crowded" or "I don't like when you are pushing on me" or just getting up and moving if it is uncomfortable. Again, encouraging them to solve their own problems and empowering them with the tools to solve their own problems and this all feeds back into their own self — sense of self-confidence and self-worth and also their place in their community. Not just their place on Earth but their place in a community and that they are worthy of their place in that

community. We all have special strengths — everyone is different and yet we are all needed.

Visiting the *Waldkindergarten* was huge, as I was also able to see different teaching styles. Like the teachers in Germany, they hardly interact with their kids…for three hours they are just standing off about 20 feet away from the group. Basically having their backs to the kids letting the kids do all the interaction with nature and with each other. They are there if there is any serious conflict and negotiations need to happen, but for the most part they let the kids negotiate their own conflicts, which is a very different model than here in the U.S., where parents and teachers are VERY quick to jump in anytime there is conflict that needs to be resolved. They do not let the children figure it out for themselves. So we started doing more of that at our school, and when I came back I talked to my teachers about this model I had observed and how I was really intrigued and how I wanted to do more of that.

We try and do more of a blend now, and even though we have always been committed to the interest-based ideal, we still are doing a lot of real interaction with our children and incorporating a lot of science lessons along the way. We stared to pull back a little bit and just let the children play uninterrupted from us. So that has been really neat to see and we have found that even up to 20 minutes we can leave them, and even if there is a little bit of wrangling going on or argument — if the teacher isn't right there to jump in or if they are encouraged to negotiate on their own, that they are highly successful at it and then it just reinforces for them that they have the ability to do that. (Card. 2012)

One thing that Erin has found is that with any nature immersion program, “you observe a lot more cooperation and teamwork amongst participants in the programs. You see greater problem-solving and patience…” (Card, 2012).

Community snack time is a great chance to talk about the morning and what the students saw, found, and made. Kenny takes this very precious time to ask those big picture questions that encourage, develop, and teach critical thinking and problem-solving skills. The following narrative is an example of a snack time conversation with Erin and eight students:

Erin: You kids are really excited to tell Breanne what you found today?

Calvin: A baby bird that died.

Jim: A baby bird died.

Lizzy: There were lots of ants on it.

Erin: How do you kids think it died? Do you have any ideas?

Jack: I thought it fell.

Erin: You thought it fell from where?

Jack: From a nest. Or maybe the branch broke.

Lizzy: Maybe the baby bird was in someone else nest…like a crow’s nest…a bird crow’s nest…and she said, “That is not my baby” and she pushed that bird right out of the nest and fell the ground and he hurt his self.

Erin: Oh maybe, so what did you kids do with the baby bird?

Lizzy: We made a little hole and put the baby bird in and put dirt over it and we tied ribbons around it and then we put rocks on it.

Erin: So now that dead baby bird is underground and now what is going to happen to it?

Calvin: It might turn into a madrona tree.

Erin: Now, Calvin, on the way back to Main Camp you were talking about what might happen to that baby bird now that it is underground. What could happen to it?

Calvin: I think it could turn into a madrona tree or a huckleberry bush.

Breanne: How would it turn into a huckleberry bush?

Calvin: It decomposes!

Erin: So the dead baby bird under the ground is going to decompose and then what is it going to turn into then?

Calvin: Soil.

Erin: Right, soil and then what comes out of the soil?

Calvin: Plants.

Teacher Karen: Jack noticed something interesting about the dead baby bird. Jack, would you like to tell Teacher Erin?

Jim: I noticed lots of ants crawling all over it.

Erin: Oh! I wonder why the ants were crawling all over it!

Jack and Alex: TO EAT IT!

Erin: Is there anything underground that could eat it?

Jim: Mold!

Calvin: And some ants live underground and they were eating the bird.

Erin: That is right! So they will eat it underground too?

Calvin: Yes.

Jim: The ants might eat dirt by accident.

Erin: The ants might eat dirt when making the bird into dirt. (Card, 2012)

While observing this conversation I was amazed at how the students all took turns sharing their ideas, suggestions, and making impressive connections. What really caught my attention was Lizzy's answer as to why she thought the baby bird fell out of the nest. She said, "Maybe the baby bird was in someone else's nest…like a crow's nest…a bird crow's nest…and she said, "That is not my baby" and she pushed that bird right out of the nest and fell the ground and he hurt his self" (Card, 2012). Her reply was well thought out and so accurate that I had to remind myself that she was only three years old. Her idea of how the baby bird fell is actually something that happens in the birding world. For example, the cuckoo is known for pushing baby birds out of a nest and then laying its own egg as a replacement.

That snack time conversation covered why the bird fell and what happens to the bird after it dies (decomposing), as well as what eats the bird once it is buried (including answers of mold and ants). All of this is a very advanced science lesson that was causally discussed over a snack.

Another noteworthy example of teamwork, critical thinking, and creative problem-solving was documented when an old fort was starting to fall apart. The next section captures how the students solved the problem of what to do with the old fort material and how they worked together to make their next project happen:

Erin: So we have decided that because our forest house has fallen apart ,there was no way we could fix it, and so Reiko had this idea to take it apart, and how can we take it apart?

Reiko: Jump on it?

Jane: It could be a nest!

Erin: Wow. Look at all these needles that have come off!

Reiko: I think I know why… They are rotten and I kicked them off with one tap.

Erin: I think so too!

Reiko: I think we should take it apart and sort it and then make it.

Erin: Yes, we could just start grabbing branches. What pile would this one go in?

Jane: This might be medium.

Erin: And this one, Clive?

Clive: Big!

Erin: Yep, I agree!

Jane: This one is medium large!

Erin: Who knows how to untie a knot?

Jane: I do! Hey, I did it! I got it out, but it is under the log.

Erin: Good, Jane! Do you need help? Why don't you ask a friend? What is going to work?

Everyone: TEAMWORK! (Card, 2012)

All of the participating helpers worked very hard to sort their materials into large, medium large, medium, and small piles (specific curricular outcome mathematics). Reiko had a wonderful suggestion and felt safe and confident enough to share his idea with the

rest of the group. His proposal to “take it apart and sort it and then make it” made a lot of sense (Card, 2012). It allowed the group to categorize and organize their supplies so that they were able to visualize how much material they had and how much material they still required. Once that was determined, other helpers volunteered to gather the new materials needed in order to make their next project, a large nest for everyone to use and enjoy (Figure 17).

Figure 17: The Group Nest (Card, 2012).

In the Cedarsong Nature School Introduction DVD (2011), Kenny suggests that one of the reasons Cedarsong Nature School students are so adept at creative problem-solving and critical thinking is due to their interest-led model:

> Children this age learn so much more when they are the ones who initiate the interest. So they will stop and look at something. Something catches their eye,

like a spiderweb, a decomposing log, or a mushroom. They will stop and point it out to us, or look at it themselves, and then we take it to the next level and encourage them to use all of their sense to explore the item… How does it feel? How does it smell? Is it cold? Is it hard?

Another thing I want to mention is that our teaching style is all about open-ended questions. We don't give answers to the children at all, and that is another thing that I think distinguishes us from a lot of programs. Even if I see something as obvious as a mushroom, I won't say, "Oh kid, look, a mushroom" I will say "Oh my gosh! What is that? Look what I am seeing. What is that?" They might say, " a mushroom"…"Oh wow…why do you think that is here? Is that a clue to anything? Look at something was nibbling on that. What do you think it might be?" And even if I don't get the answers that I think I am looking for, as a teacher I will rephrase the questions to stimulate the child answering the question. Always trying to get the child to answer the question and expand their mind and think about the different way in which the problem can be approached, and that is why these kids have greater problem-solving abilities when they get to an academic school.

In the same Cedarsong Nature School Introduction DVD (2011), Kenny continues to say that it surprised her how well the students are layering information and making deep-rooted connections. She gives an example of their knowledge and understanding of decomposition:

They have definitely surprised me in their ability to layer information and then sort of extract information from one problem-solving set to another. So, for

> example, when we are talking about decomposition and at first they are just pulling apart the log and we are looking for insects inside, but we are talking about what is going on with the log: Why is it soft? Why is it falling apart? What is helping it fall part? So they don't just learn that wood breaks apart in nature, they learn the actual process of decomposition and what is helping it. They can tell you that it is warms, insects, and mold helping this wood to decompose. They can tell you that the wood when it decomposes becomes a part of the soil and they can tell you how soil is formed. They can tell you why the topsoil looks different than the soil a little underneath, and that is all information that has been layered and you can clearly see this with the third-year students compared with the students who are new this year. Their ability to retain information and then add on new information increases exponentially. What I am noting is that they understand this one thing and it branches out to theses two other things, which then branch out to four, and they get such a more holistic view of the world because they are out in nature and they are observing holistic systems and can take that as a model and see how nature is all connected…and look at the rest of life like that.

The data collected confirms Kenny's testimonial, and I was able to witness and record many examples of how the students not only layer their information, but how they also share it and peer teach the younger students.

Creative Artistic Play. When asked how Cedarsong Nature School provides an environment for creativity and in what ways students are observed being creative, Erin provided the following statement:

> Too many preschool environments today have toys with pre-described ways to play with them. Often they are tied to a TV or movie character and the kids get stuck in rigid ways of playing with them. In nature, the ‘toys’ are all natural objects and the children use their imagination to pretend that a stick is a wand, an umbrella, a vacuum, or a seat belt. These children’s creative minds are continuously stimulated as they encounter different natural stimuli. The inquiry-based teaching style encourages and enhances the children's creative problem-solving as well. (Card, 2012)

I observed many fun and exciting nature projects, such as building the huge nest out of the fallen fort materials. Figure 18 shows a beautiful butterfly Erin Kenny and a student made out of Douglas fir cones. Other nature art projects consisted of leaf spinners, leaf art, and chalk art, as seen in Figure 18.

Figure 18: Cedarsong Nature School Art Projects (Card, 2012).

The ever-changing seasons provide the students with endless opportunities to create artwork and make their own ‘toys’ by using their imagination and forest resources. Nature supplies and offers the most creative materials that in turn inspire students to

follow their every creative whim.

4.4 Summary

Chapter 4 focuses on three major themes, which emerged in the data through analysis: Forest Kindergarten, place-based and place-conscious education, and creative play-based learning. All of these themes or emerging patterns show how a Forest Kindergarten Program can create a sense of community, sense of a place, and sense of self through creative play-based learning while meeting curriculum goals, as well as the academic, physical, and social needs of the child. For the first time the curriculum charts show a comparison between the emergent curriculum of Cedarsong Nature School and the provincial outcomes for Newfoundland and Labrador.

As a descriptive narrative single case study, this analysis provides an account of the school founder, Erin Kenny and two Cedarsong Nature School families. Chapter 5 will present the study's findings as well as reflect on the limitations of the study, and identify implications for further research.

Chapter 5: Findings, Conclusions, and Recommendations

Along this academic journey it has become clear how disconnected North American children are from their natural world. Prior to my literature review for this study, I did not realize how much time children spend in front of multiple sources of digital technology in comparison with how little time they actually spend outside. Again, the practice of Forest Kindergarten is very new to North America. When I started my research on the topic in 2011, there were only a few outdoor preschools operating in Canada. In 2008, Carp Ridge Forest Preschool and Forest Kindergarten opened in Ottawa, Ontario, and soon after Maplewood Forest School in Guelph, Ontario, started their program in 2010. Currently, there are now twelve established Forest preschools and kindergarten programs across the country. The organization of Forest Schools Canada will help to monitor the standards of such programs and promote this growing model of education across Canada while acting as a major contributor in curriculum resources. It will also offer Forest School practitioner training courses and bring together like-minded educators to collaborate and connect.

Chapter 5 will summarize my connection to the research, findings, conclusion, limitations of the research, and implications for further research.

5.1 Reflection of Self and Connection to Research

As an experienced outdoor educator, I have had a chance to witness the power of the *outdoor classroom.* I have chosen to focus on ‘early years’ and what Forest Kindergarten has to teach us. I explored the benefits of play-based learning in the outdoor classroom and questioned whether or not a Forest Kindergarten program meets the mainstream curriculum outcomes for Newfoundland and Labrador. As introduced in the

beginning of this work, I bring my context to this research through my early learning years of growing up in the countryside of Bruce Country, Ontario, on a hobby farm. I had the privilege of wandering with purpose and playing outside until dusk. My connections with nature and those witnessed in the data collection have strengthened my belief that it is every child's right to experience the freedom of playing in nature — to find frogs in a sticky swamp, to collect wild flowers in the hay field, to run barefoot in the warm soil, and to find a salamander under a decomposing log in the woods.

My time at Cedarsong Nature School reawakened my childhood memories. Those early play experiences on my family's hobby farm defined my childhood and shaped who I am today. The independence and sense of self I achieved from playing outdoors supported me through a K-12 education system that I found to be strict and inflexible. It was for this reason that I recognized parts of myself in the participant, Clive. The outdoor classroom was calming for him, and in particular how he used the materials around him as a source of self-soothing. This was especially true when he was feeling socially overwhelmed or when angered by a social interaction. The narrative of Clive and the salamander is perhaps the best example of self-regulation with Clive's solution of surrounding himself in the soft layers of soil and leaf litter. Here, Clive shows a strong sense of self and place while exhibiting impressive critical thinking and problem-solving skills supported by his ability to self-regulate. The teachers did not focus on skills that he could not achieve. Instead, they celebrated what he could achieve. Clive displayed many early signs of being intellectually bright and connected to others and place. While engaged in his natural play, Clive was able to show sustained focus on the activity, topic, or project that had caught his interest, which illustrated the strength and power of child-

centered/interest-based curricula. Clive demonstrates advanced depth of thought, analysis, and communication skills, as demonstrated in his explanation of how life arrived on planet Earth. He delivered this theory with both accuracy and confidence.

Elodie's creativity and imagination also resonated with me as an educator. As a senior student she was eager to help and engage in the teaching process through peer teaching. She would gently remind the younger students of the rules and would self-advocate if she felt there had been an injustice. Elodie continued to show wonderful examples of being a leader in training with a strong sense of self and community. She was the first participant to show me around her Cedarsong home and took me on an adventure to collect and eat forest candy. It was very clear that Elodie felt at home in the woods of Cedarsong Nature School. Elodie and Clive are both strong examples illustrating that outdoor play has many benefits and that to deprive young children of that experience could be seen as social injustice to our youngest citizens. It is my hope that this study will contribute another voice to the growing research advocating for unstructured outdoor play.

This qualitative study is rigorous through its inclusion of three participants' experiences, ensuring that the data would be rich in description. Through identifying gaps in the early learning, place-based education, play literature, emergent curriculum, environmental pedagogy, outdoor education, and Forest Kindergarten, I focused on three major foci: 1) Forest Kindergarten programming, 2) place-based and place-conscious education, and 3) creative play-based learning. All of these areas speak to particular resonating themes and patterns as to how a Forest Kindergarten program can create a sense of community, a sense of a place, and a sense of self through creative play-based

learning while meeting curriculum goals as well as the academic, physical, and social needs of the child. The purpose of this study was to examine if provincial curriculum outcomes could be achieved based on the characteristics and benefits of a Forest Kindergarten.

As a descriptive narrative single case study, this analysis provided a narrative account of the school founder and head teacher, Erin Kenny, as well as two Cedarsong Nature School children and their families. At Cedarsong Nature School, I collected data while the students were engaged in their natural play. The study took place over six weeks and my time at Cedarsong Nature School in May 2012 was more than informative; it was inspirational.

5.2 Findings: Reconceptualizing Curriculum in Outdoor Play

"In the end we will conserve only what we love,

We will love only what we understand,

We will understand only what we teach. ”

- Author Unknown

As discussed in Chapter 2, there is growing concern that the world will lose what we do not understand and value. Again, Charles Jordan from the Conservation Fund believes that “What they do not know, they will not protect, and what they do not protect, they will lose” (Merrill & Schei, 2010). There is currently a deep disconnect between our youth and their natural world. Such a gap could have potentially devastating effects on our world, economy, and ourselves if not addressed. For the purpose of this study I have redefined curriculum as a set of essential components that guides school districts, administrators, teachers, parents, and students in achieving clearly articulated educational

goals — all driven by a clear notion of what children need to understand about themselves, others, and the environment (the planet) in which they live. Defining what they need to know, do, and value is a beginning, and deciding on appropriate learning outcomes and teaching strategies will follow. This, together with an outline of the criteria for assessment, will provide the necessary data to evaluate both student and program success. To build meaningful curriculum, one must *keep the child in mind, always*. Learning through the act of outdoor play seeks to support the curriculum by providing a wide variety of meaningful experiences (in many disciplines) using resources (such as access to various plants and animals, space, and the opportunity to witness life cycles over a natural progression) and learning opportunities that are not available in the regular classroom nor scheduled frequently during the regular school day.

The following sections contain the findings of how provincial curriculum outcomes are being met within the model of Forest Kindergarten. As well as how Forest Kindergarten programming created a sense of community, sense of a place, and sense of self through creative play-based learning.

5.2.1 Findings: Curriculum Outcomes

The findings of this study have been established based on my narrative analysis in Chapter 4, in which I examined Cedarsong Nature School's outdoor emergent curriculum with the kindergarten specific curriculum outcomes for Newfoundland and Labrador. As defined in the Kindergarten English Language Arts Curriculum Guide, specific curriculum outcomes are "statements that identify what students should know and be able to do at a particular grade level. These outcomes represent a continuum of learning" (Government of Newfoundland and Labrador, 2014, p. ELA3). All of the specific

curriculum outcomes for this study were taken from the Kindergarten Curricular Guide — Interim Edition (2014), which is found on the Government of Newfoundland and Labrador Department of Education website under the heading *Completely Kindergarten*.

Below I have expanded on the curriculum charts from Chapter 4 (and Appendix F & G) and examine how Cedarsong Nature School's emergent curriculum meets the specific curriculum outcomes for Newfoundland and Labrador.

Specific curriculum outcomes: Mathematics. Both Elodie and Clive showed an understanding of specific curriculum outcomes for kindergarten mathematics in the strands of numbers, space, geometry, measurement, and patterns.

In terms of specific curriculum outcomes for numbers, I observed the children participating in various number games, which included a favorite game of hoot n' seek. The seeker would have to count to ten in order to give the group a chance to hide around Main Camp. This simple act of counting to ten meets the specific curriculum outcome of saying a number sequence by 1s (KN1). Another example of practicing numbers was noted during the popular activity of collecting. Elodie often enjoyed collecting various parts of plants while in the process of making an edible forest salad. She would identify all of the different items such as Salal leaves, Douglas fir, miners lettuce, salmon berry and flower, and madrona flowers. She would then count how many pieces were in her salad before snacking on her delicious collection. Again, counting the items in her forest snack meets the number sequence outcome (KN1).

An additional number activity the students participated in was playing the 'what nature item is missing' game. Forest items would be collected by the students and then lined up in a row. The group of students playing would then count how many items were

there before one was taken away (KN2 Subitize (recognize at a glance) and name familiar arrangements of 1 to 5 objects, dots or pictures; KN1 Say the number sequence by 1s: starting anywhere from 1 to 10 and from 10 to 1. Forward from 1 to 30). Elodie and Clive would also count the dragon tears before throwing them into the mud puddle to play a game of 'how many dragon tears can you find'. Both students counted up to twenty, which coincides with specific curriculum outcomes of recognizing at a glance and naming familiar arrangements of 1 to 5 objects as well as saying numbers in order from 1-30 (KN1; KN2).

Through Elodie's natural play and discovery she would find and identify nature objects that looked like different geometric shapes. A bendable stick would become a circle, oval, or square. Rocks and leaves were also identified as 3-D or two-dimensional shapes. Here she was meeting the requirements to build and describe 3-D shapes (KSS3). The teachers and students, including Clive, sorted and categorized the old fort materials into the various piles of small, medium, medium large, and large (KSS1 Shape and Space – Measurement - Use direct comparison to compare two objects based on a single attribute, such as: attribute, such as: length, height, mass and capacity; KSS2 Sort objects using a single attribute and explain the sorting rule). This allowed the group to organize their materials and to determine what new materials they needed to gather for their nest-building project. Sorting and grouping was also documented when Elodie collected natural objects in a little cup. She would dump out the contents of the cup and organize the different parts of the plant into separate groups: the leaves, roots, stems, and flowers. The act of placing her parts of the flower into groups also indicates that Elodie was becoming familiar with grouping numbers from one to twenty, which is a an specific

curriculum outcome for grade one. A conversation between Clive and Erin was recorded wherein he compared two different roots. He notified Erin that one root was bigger than the other. He wanted to use the smaller root for a craft and to enhance his natural play, which he explained and showed to Teacher Erin (KSS2 Sort objects using a single attribute and explain the sorting rule). Another example of sorting objects took place when Elodie and another student made different kinds of mud balls (or mud spheres) and classified them by giving each mud ball a name such as: sandy mud, twiggy mud, and silky mud. The two girls then sorted them into their appropriate groups based on their classification (KSS1: shape, space, and comparison; KSS2: sort objects using a single attribute and explain the sorting rule). Further, during this play activity both Elodie and her peer were experimenting with building and making 3-D objects (KSS3).

Students were also observed filling up water buckets and transporting the water to the top of the dam. This activity showed them exploring water flow and water patterns while making a successful dam. Topics like water level (volume) and water displacement were also discussed. The group measured the water level using their index finger and discovered that the level came up to their second knuckle, which meets the specific curriculum outcome of measurement (KSS1). The students then continued to check the level of water throughout the day while transporting water to their new dam. Measurement was often taken using feet, fingers, hands, and sticks during exploration and strategic building endeavors. The forest setting provided endless resources and space for the children to fully engage themselves in their creative play. This is of great importance since the research would suggest that through the outdoor play-based projects and activities, significant learning is taking place.

The specific curriculum outcome to build and describe 3-D objects (KSS3) was observed during the construction of forts, hideouts, shelters, and damming projects. Without pause Clive and Elodie were excited to share how they planned and created their 3-D toys or projects.

Lessons on patterns were documented during nature art, vegetation sorting, and the students observing and noticing patterns in nature (spiderwebs, leaf patterns, and seasonal patterns). Patterns were explored through singing, dancing, and playing musical interments. This demonstrated an understanding of repeating patterns and rhythmic patterns (KPR1; KPR 1.2). As mentioned in Chapter 4, teachers supplied drums and taught the students at Cedarsong Nature School educational songs with fun rhythmic actions. The students loved to dance barefoot in the forest while Erin sang and played the drum (KPR 1.2).

Specific curriculum outcomes: Science. Elodie and Clive showed an understanding that went above and beyond the specific curriculum outcomes for Kindergarten Science, such as observing living and non-living things, characteristics of living things, life cycles, a closer look at plants, a closer look at animals, habitats, observing things around us, observing local weather, a look at soil, and introducing water, and the food chain. Due to the benefits of the outdoor learning experience on a daily basis, children achieved many outcomes in a single Cedarsong Nature School emergent curriculum example, as seen in Figure 16. As a result I have chosen two examples of creative play-based learning and will discuse in great detail how specific curriculum outcomes for Kindergarten Science were achieved through an outdoor emergent curriculum model.

The specific curriculum outcomes for experimenting with natural and local materials (building dam, forts and nests, identifying colors, water displacement, density, soil exploration, and collecting plants/plant recognition) was documented in a number of outdoor play scenarios.

Elodie and Clive were observed experimenting with design by building dams, forts, and nests. Clive took great pride in his section of the damming project. The group wanted to find out if a hard-packed dam worked better than a squishy one that absorbs the excess water before it overflows. The children found out that the two types of dams each played a role and worked perfectly together (SCO100-2: explore and select different ways to represent ideas, actions, and experiences and to communicate with others).

Clive made many observations about water flow and displacement. He also learned how to manipulate his surroundings to obtain the results he wanted while working on his dam (SCO 201-2: manipulate materials purposefully; 101-1: explore how characteristics of materials may change as a result of manipulating them). A classmate observed the water displacement in the puddle and how the water level had lowered since they started their damming and water-transporting project, but Clive was not satisfied with how the water was still seeping through his dam, so he expressed his concerns and observations to his peers and built an old plastic bucket into the dam structure to prevent further water loss (SCO 200-5: identify materials and suggest a plan for how they will be used; 101-2: identify, and explore ways to use tools to help carry out a variety of useful tasks; 101-1: explore how characteristics of materials may change as a result of manipulating them; 202-1: use personal observations when asked to describe characteristics of materials and objects studied; 203-1: communicate questions, ideas, and

intentions while conducting their explorations; 203-2: identify common objects and events, using terminology and language that others understand).

This creative idea did capture the excess water and prevented it from draining back into the pond. Clive then covered up the yellow bucket with mud and twigs to make the new addition to the structure look natural (SCO 101-2: identify and explore ways to use tools to help carry out a variety of useful tasks; 101-1: explore how characteristics of materials may change as a result of manipulating them). Clive is quoted in Chapter 4 as saying, "I used mud, piece of log, and a bucket… It helps hold the water because in the middle it is runnier than in other places. I need to get the mud out…I need to rake it and pull it out" (Card, 2012). Again, Clive is able to identify common objects and events, using terminology and language that others understand (SCO 203-2). Within the active of strategically designing and building a fully functional three-system dam, Clive was able to attain at least 14 kindergarten specific curriculum outcomes for Newfoundland and Labrador.

Another example of experimenting with natural and local materials took place when Erin Kenny would ask students what would happen if they placed a rock in the mud puddle. In response, they would predict the outcome and then conduct their experiment (SCO 200-4: select and use materials to carry out their own explorations; 203-1: communicate questions, ideas, and intentions while conducting their explorations; 200-1: ask questions that lead to exploration and investigation). Once the rock sank she would ask why they thought that had happened. The response from the students was that a rock was heavier than the water. She would ask the same questions but use a leaf for the next experiment. Again the students would predict and experiment with the conclusion that a

leaf is lighter than water, so it floats.

Experimenting with classification and sorting was a common activity at Cedarsong Nature School. As mentioned above, Elodie and a peer made different kinds of mud balls and classified them by giving each mud ball a name, such as sandy mud, twiggy mud, and silky mud (202-2: place materials and objects in a sequence or in groups according to one or more attributes; 202-3: identify the most useful method of sorting for a specific purpose). She then sorted them into their appropriate groups based on their classification and predicted which group would crumble the fastest once dried. Her predictions were correct, and the sandy mud ball group crumbled first (SCO100-1: develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought; 100-2: explore and select different ways to represent ideas, actions, and experiences and to communicate with others; 101-1: explore how characteristics of materials may change as a result of manipulating them; 200-4: select and use materials to carry out their own explorations; 201-4: observe, using one or a combination of the senses; 202-1: use personal observations when asked to describe characteristics of materials and objects studied; 203-2: identify common objects and events, using terminology and language that others understand, and 203-4: respond to the ideas and actions of others in constructing their own understanding).

Again, this critical questioning and experimental approach touches on grade five science concepts and showed critical comparisons on the part of the students.

Elodie and Clive and many other students understood and used words such as decomposing, camouflage, predator, erosion, life cycle, habitat, native, invasive, pollinators, and metamorphosis. Therefore, the observation and data analysis of the

vocabulary used by the participants exceeds the kindergarten specific curriculum outcomes for Newfoundland and Labrador under scientific vocabulary (See Appendix H). Furthermore, I recorded Elodie and Clive identifying birds (towhees, crow, robin, sparrow); small mammals (Douglas fir squirrel and Oregon vole); numerous plants, flowers, and fungi (turkey tail mushroom, salal, dock, miners lettuce, salmon berry and flower, madrona flower and tree, red cedar, Douglas fir, nettle, rattlesnake plantain, huckleberry bush); insects (crane flies, moths, ants, beetles, dragon flies, centipedes, caterpillars, and bumblebees), and salamanders. I found that the students also had at least 30 different names for the variety of mud textures that surround their community mud puddle. Elodie and Clive were either asking questions about their forest environment, or teaching the younger students about the forest, such as what was safe to eat or the difference between living and non-living. Such advanced scientific vocabulary and insect flora and fauna identification meet the following specific curriculum outcomes, which are outlined in the Kindergarten Science Curriculum Guide (2014):

- 100-1: develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought;
- 100-2: explore and select different ways to represent ideas, actions, and experiences and to communicate with others;
- 100-3: detect consistency and pattern in objects and events and use language to describe these patterns;
- 100-7: describe the different ways that humans and other living things move to meet their needs;

- 200-1: ask questions that lead to exploration and investigation; 201-4: observe, using one or a combination of the senses;
- 202-1: use personal observations when asked to describe characteristics of materials and objects studied;
- 203-1: communicate questions, ideas, and intentions while conducting their explorations; and,
- 203-2: identify common objects and events, using terminology and language that others understand (p. S3).

The terms 'living and non-living beings' were used as a way to teach the students to respect themselves, others, and their environment. Kenny would share with the students ways to play gently with all of nature's living beings. Children seem to understand this but at times needed a gentle reminder of what is living and non-living. While on their morning or afternoon adventures, Erin always privileged a child's curiosity through building on what knowledge they had with a great 30-second science lesson. It could be about a spider, slugs, flowers, or fungi. She could facilitate a very fun and exciting discussion building on their interest (SCO 100-7: describe the different ways that humans and other living things move to meet their needs; 201-4: observe, using one or a combination of the senses). She could facilitate a very fun and exciting discussion with the students while they were focused and interested.

Topics as complex as metamorphosis and early conversations of photosynthesis were common during that time. Many students, including Clive and Elodie, understood life cycles and had no trouble explaining and giving examples of what the term entailed. I recorded students describing in great detail that when a tree dies and fall over it turns to

soil, but that trees grow from the soil, making it a cycle (202-1: use personal observations when asked to describe characteristics of materials and objects studied; 203-1: communicate questions, ideas, and intentions while conducting their explorations; 203-2: identify common objects and events, using terminology and language that others understand). These conversations would continue to other connections such as life cycles (butterfly and moth).

Snack time conversations were opportunities to ask questions that promote critical thinking and problem-solving skills. An example of advanced critical thinking and heightened awareness of the natural world was scaffolded through these invitations when the students found a dead baby bird. As this type of critical inquiry was a daily occurrence, the students could tell Erin what types of living things (insects and mold) would help to decompose the bird after they covered it up in soil and forest duff. In fact, a few students insisted that a new tree would grow where the bird had been buried. Again, cycles are understood; the decomposing bird would add extra nutrients to the soil and a new plant would emerge over time.

Homes and habitats were discussed regularly at Cedarsong Nature School. Students found living creatures such as banana slugs, insects, birds, small mammals, and amphibians. I often witnessed Elodie making habitats and pretending to have homes and habitats in their imaginary play scenario (SCO 103-1: choose materials to build a variety of real and imaginary settings, and play roles that correspond to these settings). Elodie played a very nurturing role while making her penguin nests and tending to her egg. She helped to make nests, dens, and found protected areas to have a quiet moment if needed. Clive decided to recreate a salamander's home by camouflaging himself as a forest log

after he and Erin found a salamander under a fallen tree. The two of them talked about why the salamander was found under a decomposing log and why it liked to live there (SCO 200-1: ask questions that lead to exploration and investigation).

Lastly, specific curriculum outcomes for sensory exploration were observed daily, as Elodie and Clive often walked barefoot, ate forest candy (edible vegetation), listened to birdcalls, touched and commented on all textures and temperatures of their forest world. For example, Elodie would take off her socks and shoes if she was getting too hot and needed to cool her body temperature. She would then use her bare feet to tell her what was cold, warm, dry, sticky, and muddy when exploring her natural environment (SCO 100-1: develop vocabulary and use language to bring meaning to what is seen, felt, smelled, heard, tasted, and thought).

A powerful example of nature immersion, emergent curriculum, and how a green setting has that calming and soothing effect is the story of Clive and the salamander. When Erin asked that the salamander not be disturbed, Clive was on the verge of an emotional upset as he was not ready to watch the amphibian disappear. However, he chose to camouflage himself in the earth's soil and leaf debris to not only trick the salamander into coming back (SCO 200-5: identify materials and suggest a plan for how they will be used; 200-4: select and use materials to carry out their own explorations), but to also literally ground himself in a calming and relaxing manner. All of this was accomplished when nature was seen as a natural playmate.

Specific curriculum outcomes: Language arts. Students showed an understanding that went above and beyond the specific curriculum outcomes for kindergarten language arts, such as speaking and listening and writing and representing

(See Appendix F). Further, social development, communication skills, and literacy are all covered at this Forest Kindergarten. The teachers encourage students to communicate in a clear and age appropriate manner while at school. Elodie was observed printing her name in the sand with a stick. She also printed her name backwards just for fun. A younger student approached and wanted to join. Elodie gently and patiently taught the other students a few letters and how to print their name in the sand (SCO1.6: explore aspects of language such as sounds, rhymes, rhythms, language structures, and language activities). I documented a lot of rhyming, letter sounds, and connection to the alphabet (SCO 1.6: explore aspects of language such as sounds, rhymes, rhythms, language structures, and language activities). The students loved to tell stories to the group and had no fear of speaking in front of their peers. Elodie would often tell me her creative play stories that she and a friend were acting out, such as Rapunzel, ponies, penguin family, fishing, cooking/bakery, and house, to name a few (SCO 2.2: begin to communicate and follow directions with more than one step; 2.3: begin to engage in oral presentations; 2.4: begin to respond appropriately and respectfully to oral presentations; 2.5: begin to express ideas, feelings and opinions respectfully).

Teamwork and community is a huge element of Forest Kindergarten. There is a strong sense of community, communication, and empathy at Cedarsong Nature School, as was shown one morning when Elodie came to school a little upset. Her friend came and took her by the hand and the two of them walked down the path as Elodie expressed why she was crying to her attentive and caring friend. This example shows that the children could not only communicate information and ideas effectively and clearly but could also problem solve and more importantly respond personally and critically in social

interactions (SCO 1.1: begin to use oral language to coherently describe personal experiences; 1.2: begin to listen respectfully to experiences and feelings shared by others; 1.3: begin to ask questions to seek more information; 1.4: begin to respond to questions that seek clarification).

All students, including Elodie and Clive, have a strong sense of self and are able to communicate openly and clearly with their peers and teachers. There is a high sense of self-confidence among the group of students and they are comfortable speaking up and self-advocating if needed. The students inform the teachers if they need another layer of clothing, are hungry, or need to use to the bathroom. They felt safe enough to share their ideas and thoughts when asked questions about what they saw or played with during the morning. It was also common for the students to politely tell the teachers what they did or did not prefer when it came to the morning class adventure. Teacher Erin would supply gentle reminders to students to use their words to help with potential conflicts and then would step back to have the students work out the conflict themselves (SCO 3.2: demonstrate an understanding of how word choice affects the feelings of others). Such social development, conflict resolution, instilled kindness, compassion, empathy, emotional balance, and risk assessment were all observed and documented. Students were communicating information and ideas effectively and clearly, as well as responding both personally and critically (SCO 3.3: begin to use appropriate tone, volume, pace, intonation, and gestures when interacting in different situations and settings). This speaks to the specific curriculum outcomes of being expected to interact with sensitivity and respect, considering the situation, audience, and purpose.

Specific curriculum outcomes: Art. Students showed an understanding that reached beyond the specific curriculum outcomes for kindergarten art (See Appendix G) such as creating, making, and presenting, understanding and connecting contexts of time, place, and community, and perceiving, reflecting, and responding.

During observation, I saw very creative and beautiful nature art. Elodie often made crowns out of bendable sticks and used fern stems to tie both ends of the sick together to make a circle. She also made a wonderful osprey out of bark, ferns, sticks, and leaves (SCO 1.1.1: investigate the elements of design [color, shape, line, texture, space, value, and form] in the visual environment).

Elodie loved to use the community chalk to color all of the exposed roots and, with permission, make creative drawings on a friend's rain pants. She was always happy to share and explain her artwork and crafts. I witnessed both Elodie and Clive making all of their play props out of the forest material. They would often use a bendable stick and leaves to make forest cups and bowls, or use a sword fern and huckleberry roots to make forest jewelry and fishing line. All of the students at Cedarsong Nature School would search for the right colors and textures to complete their projects. Flowers, leaves, roots, vines, sticks, mud, pinecones, and Douglas fir needles were all used as artwork materials by Elodie and Clive, but also by many others at the school. I watched children use particular rocks to make a heart shape on the forest floor, or Douglas fir cones to create a forest butterfly (SCO 1.1.3: apply one or more of the elements and principles of design in creating artwork based on the senses and imagination; 2.1.1: create art for a variety of purposes and recognize there are many kinds of visual art; 5.1.2: refer to the natural and built environments when viewing and creating art). Through using their imagination,

critical thinking, and problem-solving skills, making anything was possible in their forest playground.

The students were always excited to explain how their creative crafts and tools were made. Sometimes Clive and Elodie would act in the teacher or leadership role, which meets the specific curriculum outcomes for Newfoundland and Labrador. It states that students need to be able to create, make, and present their artwork. More specifically, the child must be able to explain how and why they made their artwork (specific curriculum outcomes 8.1.1 and 8.1.2).

Clive spent a morning preparing huckleberry roots to make leaf necklaces for his friends. He was able to explain in great detail how and why he wanted to make his craft. I would argue that Clive's strategic damming system discussed above was also a work of art and a perfect example of the students collaborating during an artistic project (SCO 2.1.3).

Specific curriculum outcomes: Social studies. Students showed an understanding that appeared to be greater than the indicated specific curriculum outcomes for kindergarten social studies, such as identity, roots, and place. The students at Cedarsong Nature School make important connections between themselves and their world.

I observed that Cedarsong Nature School's emergent curriculum and forest location provides a positive foundation for a strong sense of self, place, and community. Clive and Elodie conscientiously provided examples of their connection to their sense of place, self, and roots. Both participants could identify many plants and animals that inhabited their forest playground. Clive and Elodie could describe some of the natural

and constructed features of their community (K.3.1). Both students knew how to use the trails and enjoyed showing me how to navigate the five-acre forest. They would fearlessly lead the way from Main Camp to Forest Theater or Squirrel Camp. All of the examples above are on par with the social studies specific curriculum outcomes for kindergarten, including the use of basic mapping skills to identify, locate, and name familiar places within the community (K.3.2).

During my interview with Elodie's mother she talked about how Elodie took her experiences from Cedarsong Nature School and was able to make connections to her environment at home. She was able to make connections between her community at school and other local communities on the island as well (K.3.3).

All specific curriculum outcomes for identity were successfully met in a forest setting, based on my observations. All students had a strong and confident sense of self and identity. Students, including Clive and Elodie, would self-advocate on a regular basis. Elodie would inform a teacher if she was not ready to leave her penguin nest, if another play invitation was put forth. She also understood how to ask for another layer of clothing if she was feeling chilled, or to politely advocate for herself in a student conflict while using gentle language and clear words.

Once I observed Elodie painting her own face with one of the various textures of mud found by the main camp puddle. This simple act demonstrates an instinctive understanding of sensory needs and a healthy sense of self (K.1.1: demonstrate an understanding of themselves as unique and special; K.1.2: identify needs and wants that are common to all children).

After having my face painted with mud by many students while at Cedarsong Nature School, I now know that it can be a very relaxing and soothing experience. This is probably why the students love this type of sensory-based play, as seen in Figure 19. Clive loved to be barefoot in the mud as often as possible. It is my opinion that the texture and temperature of the mud had a calming and grounding effect as Clive was observed burying himself in the soft leaf litter and soil of the forest floor instead of becoming emotionally upset. He knew the sort of sensory simulation that was needed to calm him (K.1.1: demonstrate an understanding of themselves as unique and special; K.1.2: identify needs and wants that are common to all children).

All students at this Forest Kindergarten understood that everyone is unique but that each person also has an important place in their school community. Gender-oriented toys do not exist at this Forest Kindergarten, which means that girls and boys were truly free to express themselves in the play they wished (K.1.1: demonstrate an understanding of themselves as unique and special). Boys were not limited to trucks and girls were not limited to dolls. There was a freedom to play without any judgment or gender boundaries, and that led to very creative and imaginative play. Everyone at Cedarsong Nature School is included in all activities. According to Kenny, if a student asked to play with another peer, the correct answer was always ‘yes’. I watched Clive and Elodie make a three-system dam with the help of their peers. The cooperation and teamwork demonstrated during that particular project was consistent with demonstrating an understanding that the need for cooperation is an important part of being a member of a group (K.1.4) Furthermore, this example of inclusion also covers the physical education specific curriculum outcome for cooperation and responsibility (affective), which specifies that

students demonstrate the ability to cooperate and work with others while respecting individual differences (GCO 4; KSCO 1) as well as demonstrate respect for the personal space of others (GCO 5; KSCO 1).

Figure 19: Mud Face Painting (Card, 2012).

Specific curriculum outcomes: Kindergarten physical education. Students showed an understanding that went above and beyond the specific curriculum outcomes for Kindergarten Physical Education, such as Games — Space, Directions, and Body Awareness, Locomotor Skills, Non-Locomotor Skills, Manipulative Skills: Projecting and Receiving Small Objects, Manipulative Skills: Projecting and Receiving with

Implements, Manipulative Skills: Accompanying Apparatus, Manipulative Skills: Accompanying Apparatus, and Manipulative Skills: Accompanying Apparatus.

At Cedarsong Nature School there was great energy, but there were also quiet moments. For example, when a child tucks herself into a huckleberry fort for a few minutes, that act in itself is an example of self-regulation, knowing and listening to a sense of self, and/or a fun prop for imaginative play. Children are encouraged to be active, as it is natural to their learning in this setting. The students were very active for the entire three-hour period. Clive and Elodie were observed running, climbing, balancing, jumping, puddle hopping, crawling, transporting water and soil, skipping, dancing, stretching, hiking, playing active games, participating in active songs, throwing small objects, catching small objects, pretending to act and move like numerous animals, carrying sticks and rocks, digging, rolling on the ground, and sand play. All of the examples listed above meet the specific curriculum outcomes for physical education, such as moving and doing (psychomotor), identify, maintain, and use space (GCO1; KSCOs 4, 7, 8, 9), understanding and applying (cognitive), demonstrate an understanding of paths of motion (GCO 2; KSCOs 1, 4), as well as cooperation and responsibility (affective) demonstrate the ability to cooperate and work with others while respecting individual differences (GCO 4; KSCO 1), and demonstrate respect for the personal space of others (GCO 5; KSCO 1).

The data in this study speaks to how beneficial physical activity and emergent learning is to early childhood education programs. Both Clive and Elodie were physically strong six-year-olds who displayed agility, flexibility, balance, endurance, strong legs and

arms, and an incredible confidence in their bodies' abilities when navigating around a naturally changing forest environment.

Specific curriculum outcomes: Music. Students showed an understanding of specific curriculum outcomes for kindergarten music, such as perform, listen to, and create (rhythm and metre, melody/pitch, expression, and contexts).

Drums and a few other musical instruments were made available to the students. There were many days when some children drummed while others danced around in their bare feet. There were many students who sang and danced for an entire morning and it was all a part of their creative and imaginative play. Erin also has many wonderful active nature and science-based songs that have a catchy beat and tune. I found myself singing them months after I had returned to Canada. Kenny also encouraged students to find interesting and fun sounds in hollow trees, vegetation, birdcalls, the wind, or to make their own animal calls. Rhythm, rhyming, and sounds were well represented and addressed at Cedarsong Nature School (rhythm and pitch 1 and melody/pitch 1& 2).

5.2.2 Benefits of Forest Kindergarten

Since my study is the first to compare an international Forest Kindergarten model, and its outdoor emergent curriculum, with the specific curriculum outcomes of kindergarten curriculum in the province of Newfoundland and Labrador, my findings will make a valid contribution to existing and developing research. Furthermore, I was able to take the future research considerations from key studies in the literature review and have built on these research implications to ensure contribution to this growing area. As a result, the prior research cited in my literature review is a strong foundation to support this study.

The data analysis of the participants' experiences showed that the following are all benefits of teaching young children outside in a natural environment setting:

- I recognized a strong understanding and respect for self, place, others, and community. In particular, when students were given a choice they showed a high level of self-confidence and self-advocated on a regular basis. An example of this would be when Elodie made it clear that she wanted to stay behind in her fort to tend to her penguin egg rather than go to Forest Theater.

- I documented Clive's understanding of the importance and need for sensory-based play. He and others engaged in activities that consisted of covering themselves in water, mud, soil, and forest duff. A few students also showed an understanding of how the forest could calm and balance their emotional needs because it gave them the space and setting to identify their emotional needs and regulate themselves.
- I noted that Clive and Elodie demonstrated advanced communication, social, and critical thinking and problem-solving skills. I witnessed such displays while each child was exploring and connecting with their ever-changing environment and during solo or community play projects.
- My findings uncovered that gender did not have any influence during creative imaginative play. All Cedarsong Nature School students played in individual ways that were unique to them. During imaginary play their characters varied from male to female, and neither gender had any problems with playing a member of the opposite sex. On many occasions Clive would initiate making forest jewelry and was very engaged and happy with his chosen activity. Another

example would be Elodie's love for climbing trees and being knee deep in the mud puddle fishing for sharks. The students demonstrated that by creating and making all of their own toys/props from nature that gender stereotypes had no significant influence on their natural emergent play experience.

- It is important to note that those opening and operating a Forest Kindergarten have the experience and appropriate staffing with educational qualifications to teach curriculum-based subjects in the outdoor classroom.

Based on the observations and analysis of the participants in this qualitative study, the findings have shown that Cedarsong Nature School's Forest Kindergarten program meets and exceeds specific curriculum outcomes for Newfoundland and Labrador. The students showed maturity, self-awareness, and confidence at a developmentally appropriate level for their age. They played together with mindfulness, compassion, kindness, respect, and patience. Teamwork and community is a solid backbone of the program, which was apparent in the way that students interacted with each other and their forest environment. Furthermore, sensory-based play was a desired activity among both Clive and Elodie and many other Cedarsong children. The creative sensory-based play appeared to nurture the growth of the students through their outdoor experience of emergent curriculum, character development, and play-based experiential learning, thus creating a positive experience for students, as it allows learning to be more self-directed, consequently increasing the student involvement, ownership, and learning success.

Through the process of observations and data analysis, it was found that the girls and boys played freely without any attention to gender roles. It was observed that without

external social gender pressures, the boys and girls play identically in regards to their energy level and play interests.

It is important to note that another benefit to this type of education model is that it can also be very successful in urban centers. A Forest Kindergarten, Nature School, or Forest School can exist in any major city. The students just need to be outside and in a natural green setting where they can safely explore and experience trees, grass, uneven ground, or even a shoreline/beach. As the data has proven, the curriculum will naturally occur with each season — the space and proper clothing is more of a challenge.

5.2.3 Forest Kindergarten in Canadian Aboriginal Communities and Schools

This study has much to contribute to our understanding of the concept of children learning through play and the environment. Aboriginal children have experienced their environment through teachings, ceremonies, exploration, and outside play for centuries. In this manner, they learned about themselves and how to appreciate the true value of their natural surroundings. Forest Kindergarten is an approach that is both current and authentic in its treatment of the real "necessities" of learning, which is why this type of education would be beneficial in Aboriginal communities and schools. From my experience living and teaching in Sheshatshiu, Labrador, I have witnessed that when cultural days are planned (such as ice fishing, snowshoeing, or an Innu tent is put up for the students), school attendance triples. This kind of rise in attendance at our school tells me that when the students see themselves and their culture reflected in the curriculum standards and outcomes, they are more likely to attend and participate. Therefore, there is a chance that a Forest Kindergarten could increase attendance, lower school dropouts, and provide an overall improved association and relationship between the community and

the school. Again, the themes (Forest Kindergarten, place-based education, and creative play-based learning) generated a solid foundation and model to achieve this ambition in Aboriginal communities, maybe even in Sheshatshiu, Labrador, as seen in Figure 20. This study illustrates that provincial curriculum outcomes can be achieved based on the characteristics and benefits of a Forest Kindergarten program.

Figure 20: Education taking place with Elders out on the land in Sheshatshiu, Labrador (Card, 2013).

5.3 Limitations of the Research

A qualitative narrative single case study was used to examine whether Newfoundland and Labrador's specific curricular outcomes can be achieved through a Forest Kindergarten program. This choice of methodology was applied in hopes of gaining greater understanding of the concept of Forest Kindergarten and its social and academic benefits. The use of a qualitative narrative case study offered a fine-grained account of Cedarsong Nature School's model. This offered insight into an emergent and play-based curriculum. However, the study had limitations, which must be made apparent. Such limitations entailed attendance issues, my large site location (five acres), conclusions being dependent on the researcher's observations, and the implications of playing the role of an 'active participant'.

The research questions were devised to inquire more deeply to uncover hidden themes and to obtain rich and descriptive data to answer the research questions. Many paths for further research exploration surfaced during the study, such as gender roles and gender play, a possible comparison between Cedarsong Nature School and a traditional kindergarten class, and the possible benefits of a Forest Kindergarten program in Aboriginal communities. Other ways I could have researched and studied this population in regards to data collection would have been to organize focus groups of parents to inquire why they value outside play and what they hope their children will learn. Also, other teachers at the school could have contributed to this study. Although a single case study worked well in gaining insight into the benefits to children in learning through a

Forest Kindergarten program, it would be interesting to see if there are long-term gains in literacy for children who began schooling in the outdoors. A longitudinal study of children in a nature learning program such as Forest Kindergarten would illuminate the benefit of an outdoor emergent curricular approach over the long term. Lastly, a study of the intricate ways and forms in which nature became the children's learning tools, or how children who have been diagnosed with conditions such as ADHD and sensory sensitivities are able to become very engaged and focused for longer periods in this learning space, would contribute to these fields of study, such as nature immersion therapy.

Although data was collected in the form of interviews, observations, field notes, artifacts, photographs, video recordings, and audio-visuals while students were playing, not everything can be captured. There is a possibility that I may have missed some particular learning moments and learning challenges experienced by the children. It is difficult to document all experiences.

It is not possible to generalize from the findings and conclusions of this study since every site is unique. Cedarsong Nature School is a private five-acre lot of wild and natural forest. There is no other Forest Kindergarten like it in North America; Erin Kenny has a distinctive way of running her school, as illustrated in this study. Due to context of place and application of model, the findings cannot be universal. Although generalization is not possible, the uniqueness of this study is what makes it so compelling and rich. Researchers should understand the limited scope to which this study may be applied. However, it is hoped that the detailed account of Forest Kindergarten as told by the

participants of Cedarsong Nature School provided in this study and the limitations outlined above will help others to conduct this type of study in a similar setting.

5.4 Implications for Further Research

This study further invites research in this area since the experience, data, and themes of this study provide just one rich narrative account. I feel that an ethnographic longitudinal study that follows Forest Kindergarten students into their high school careers is needed. I surmise that such a study could be the missing piece to show how early intervention and schooling in this form would benefit or address the student success challenges found in Aboriginal communities. Further to this, would Forest Kindergarten students be at an academic and social advantage to all Newfoundland and Labrador children, compared with those who were taught in traditional kindergarten classrooms? If so, will the education system embrace this outdoor model of education, or consider how this type of approach could be beneficial?

In closing, there are many beginning avenues that explore how a Forest Kindergarten program could make a valuable and vested interest in the lives of early learners. This study showed how the specific curriculum outcomes for the kindergarten curriculum could be accomplished through an outdoor curriculum, bringing a learning experience that is quite conducive to a child's way of engagement and learning in natural settings.

Chapter 6: Epilogue

6.1 My Perspective: The Future of Forest Kindergarten in Canada

The aim of this study was to determine if a Forest Kindergarten model could compare and meet Newfoundland and Labrador provincial outcomes, as well as how a Forest Kindergarten program creates a sense of community, a sense of place, and a sense of self through creative play-based learning while meeting outcomes of a Forest Kindergarten program.

I could have never anticipated how this study would shape my future goals and ambitions. Since analyzing the data and confirming my observations, the concept of starting a Forest Kindergarten program in an Aboriginal community has taken light. As a result, my long-term goal would be to start a Forest Kindergarten somewhere in eastern Canada that is inclusive of First Nations, Métis, and/or Inuit children. It will be the first of its kind in this part of the country. As an experienced outdoor educator and qualified teacher, I see a bright future for Forest Kindergarten models in Canada. I would recommend that more Forest Kindergarten programs and Forest Schools create partnerships with local Canadian school boards. The Forest Kindergarten on Vancouver Island is currently the only program that is affiliated with a school board, which is the Nature Kindergarten: Learning Outside the Box within the Sooke School District. All of the new Forest School programs that are currently opening in Canada are privately run. This means that parents must pay a fee for their child to experience a Forest School. Such a program must be available to families of all socio-economic backgrounds. In order for the Forest Kindergarten education model to be accessible to all students, the Department of Education must see it as a feasible and valuable model that meets all curriculum

outcomes. This study shows that a Forest Kindergarten model does meet provincial specific curriculum outcomes For Newfoundland and Labrador.

With increased screen time and scheduled afterschool activities, it is not surprising that children now spend 0.5% of their weekly time outside in natural areas and 53% of their time in front of a computer or television screen (Merrill & Schei, 2010). Forest Kindergarten will be a bridge to help reconnect our students to their natural world. Through descriptive narratives, the participants in this qualitative study helped to redefine and reconceptualize the link between provincial outcomes and emergent curriculum in an outdoor setting.

When I moved to Labrador in 2012, I began supply teaching for the Mamu Tshishkutamashutau Innu Education School Board at Sheshatshiu Innu School. I spent my first year in Labrador writing, skiing, snowshoeing, teaching at the school, and (when invited) spending time with Elders and students in traditional Innu tents. Every weekend was spent outside exploring what the locals call *The Big Land*, as seen in Figure 21.

Figure 21: Loving life in the Big Land: Labrador.

In 2013, I became a full time teacher at Sheshatshiu Innu School and incorporated the Innu culture as much as I could in my classroom. Many of the students like to call me Ms. Kanu (Ms. Card), and they are even teaching me Innu-Aimun (Innu language). I felt that Sheshatshiu would be the perfect location to start a Forest Kindergarten program and I decided to propose the concept of Forest Kindergarten to the Innu School Board. If the proposal is accepted at Sheshatshiu Innu School, it will be the first Aboriginal Forest Kindergarten in North America. The Mamu Tshishkutamashutau Innu Education School Board would also be the first to embrace the concept into their regular stream, thus ensuring that all of their kindergarten students have the opportunity to participate in the

outdoor program.

As the findings suggest, a sense of place and self are benefits of Forest Kindergarten and I am curious to document and record data on the benefits of operating a Forest Kindergarten program in an Aboriginal school (Federal School Board or Aboriginal School Board). Would such a program increase attendance rates and help to connect Aboriginal students to a sense of self, place, and community? Would school dropout rates be lowered? Many aboriginal communities across the country are struggling to keep their culture and languages alive. It would be interesting to explore whether a Forest Kindergarten Program would help to preserve traditional languages by reconnecting students with land, culture and language, with the help of aboriginal teachers, support staff, and Elders. My approach would be to welcome eight kindergarten students a day to a protected natural area. Sheshatshiu Innu School runs on a fourteen-day schedule, so I would see four groups of five students in a six-day cycle. In total, 20 students would be seen six times a month, or almost 50 times within the school year. The small class size is ideal, and with the help of an Innu Teacher there will be a 4:1 student to teacher ratio. Traditional Ecological Knowledge and Wisdom will be a huge focus when creating an Aboriginal Forest Kindergarten program, and I will look to local Elders for teachings, wisdom, and support. It is also my hope that Elders will attend and teach at the Forest Kindergarten School.

This concept would encourage Elders to share and model traditional ceremonies and teachings with the younger generation, strengthening a sense of community and teamwork, as well as maintaining traditional ecological knowledge and wisdom. The students would experientially learn about their traditional language through the act of

play and discovery.

The outdoor setting will provide a safe place for children to run, dance, jump, sing, balance, run barefoot, climb, snowshoe, and express themselves through creative and imaginative play. Kindergarten is an ideal time to introduce children to a healthy and active lifestyle while encouraging them to explore and connect their natural world and their cultural roots. Some other benefits might include: a) increased physical activity and exercise — a preventive measure to childhood obesity and diabetes, b) learning and practicing cultural traditions — ice fishing, snowshoeing, collecting berries, trapping, making, and preparing traditional foods, and c) the start of a mentorship and leadership program for high school students to join the Forest Kindergarten class to help while out on the land. This would count as part of their volunteer component.

Also, as discussed in Chapter 2, learning in a green and outdoor setting greatly benefits and calms students with diverse abilities (AHDH and FASD, to name a few). Lastly, by embracing an emergent curriculum, the students will be learning as members of the community did 50 years ago. Students would learn from the land in Labrador by being totally immersed in nature and learning from their Elders and the natural world as the seasons cycle. In fact, the circle is a very powerful shape in native culture, as there are circles of season, circles of family, and the circle of life. A circle has no beginning and no end, everyone is included, and it is traditionally a place for learning in Aboriginal communities.

While waiting to hear back about funding for a Kaussipitshet Nutshimit Auassat (Innu Forest Kindergarten program) I started an Outdoor Afterschool Club for grades one and two, as seen in Figure 22. Once a week, 10 students come over to my house, where

an Innu tent has been set up. During the cold winter temperatures we will spend most of our time in the tent learning how to make knots, using traditional tools, and cooking cultural foods. On warmer days we will snowshoe, ice fish, and play in the snow. Once the spring comes my co-teacher and I will take the students further into the bush to play and explore.

In conclusion, the data collected was so powerful and positive that it made me take notice of what is now a very obvious gap in Aboriginal education for early years students. Forest Kindergarten has an important role to play in Aboriginal communities in Canada. The Forest Kindergarten concept would meet both cultural and curricular outcomes, as it would support First Nations, Métis, and/or Inuit children to reconnect with their sense of self and place through emergent place-based programming. Again, a Forest Kindergarten program would be a bridge between traditional education and culture since the students would see themselves and their culture reflected in this emergent curriculum. It is my view that this venture will be revolutionary for the student success of Aboriginal children.

Figure 22: Sheshatshiu Innu School After-School Outdoor Club (Card, 2014).

References

Active Healthy Kids Canada. (2012). Is Active Play Extinct? The Active Healthy Kids Canada 2012 Report Card on Physical Activity for Children and Youth. Toronto: Active Healthy Kids Canada.

Balmford, A., Clegg, L., Coulson, T., & Taylor J. (2002). Why conservationists should heed Pokémon. *Science*, 29(5), 2367.

Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, 13(4), 544-559.

Bebbington, A. (2005). The Ability of A-level Students to Name Plants. *Journal of Biological Education*, 39(2), 62-67.

Bilton, H. (2010). *Outdoor Play in the Early Years Management and Innovation* (3rd ed.).London: David Fulton Publishers.

Blanchet-Cohen, N., & Elliot, E. (2011). Young Children and Educators Engagement and Learning Outdoors: A Basis for Rights-Based Programming. *Early Education and Development*, 22 (5), 757-777.

Bogdan, R., & Biklen, S.K. (1998). *Qualitative Research for Education: An Introduction To Theory And Methods* (3rd ed.). Boston: Allyn and Bacon.

Bredekamp, S. (2011). *Effective Practices in Early Childhood Education: Building a Foundation.* Toronto: Pearson.

Brown, B. (2012 June, 26). The Vashon-Maury Chamber of Commerce: About Our Island. Retrieved from: http://vashonchamber.com/about_vashon.htm.

Bui, Y. (2014). *How to Write a Masters Thesis* (2nd ed.). Thousand Oaks, Ca: Sage Publications.

Burke, A. (2010). *Ready to Learn: Using Play to Build Literacy Skills in Young Learners.* Ontario: Pembroke Publishers.

Burns, J. (2012 April, 10). Child's play not easy for modern parents, say experts. BBC News. Website: http://www.bbc.co.uk/news/education-17690875

Card, B. (2012 May). Cedarsong Nature School. Interview notes. Memorial University.

Carp Ridge Learning Centre (2012 July 1). Carp Ridge Forest Preschool & Forest Kindergarten. Retrieved from:http://www.carpridgelearningcentre.ca/

Charles, C., Louv, R., Bodner, L., Guns, B., & Stahl, D. (2009) A Repost on the Movement to Reconnect Children to the Natural World. *Children & Nature Network*. Santa Fe, NM: ecoAmerica, 1-55.

Clark, A. (2011). Breaking Methodological Boundaries? Exploring Visual, Participatory Methods with Adults and Young Children. *European Early Childhood Education Research Journal*, 19(3), 321-330.

Clark, A. (2001). How to listen to very young children: The mosaic approach. *Child Care in Practice*, 7(4), 333-341.

Clark, A., Kjorholt, A., & Moss, P. (2005). Beyond Listening: Children's perspective on early childhood services. London: National Children's Bureau.

Coffey, A., & Atkinson, P. (1996). *Making Sense of Qualitative Data: Complementary Research Strategies*. Sage Publications, Inc.

Connelly, F.M., & Clandinin, D.J. (1990). Stories of Experience and Narrative Inquiry. *Educational Researcher*, 19(5), 2-14.

Council of Outdoor Educators of Ontario. (COEO). 2007. Reconnecting Children Through Outdoor Education: Research Summary. Toronto, 1-78.

Creswell, J. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Boston: Pearson Education Inc.

De Pommereau, I. (2003 February, 15). All outdoors, all the time: Germany's 'forest Kindergartens' grow in popularity with families who want their children to have a direct link with nature. *Christian Science Monitor*. Retrieved from: http://www.csmonitor.com/2003/0513/p16s01-lecl.html

De Quetteville, H. (2008, July 1). Telegraph: Waldkindergärten: the forest nurseries where children learn in Nature's classroom. Retrieved From: http://www.telegraph.co.uk/education/3357232/Waldkindergarten-the-forest nurseries-where-children-learn-in-Natures-classroom.html

Duke, N.K., & Mallette, M.H. (Eds.) (2004). *Literacy Research Methodologies*. New York: Guilford Press.

Eisner, E. (2009). Educational Objectives-Help or Hindrance? in D. Flinders & S. Thornton (Eds.), *The Curriculum Studies Reader* (pp. 107-113). New York: Routledge.

Eick, C.J. (2011). Use of the Outdoor Classroom and Nature-study to support Science and Literacy Learning: A Narrative Case Study of a Third-Grade Classroom. *Science Teacher Education*, 23(7), 789-802.

Elkind, D. (2003). The lasting value of true play. *Young Children*, 58(3), 46-50.

European Network and Information Security Agency. (2008). Children on virtual worlds: What parents should know. Greece: The European Network and Information Security Agency. 1-45.

Fjørtoft, I. (2001). The Natural Environment as a Playground for Children: The Impact of Outdoor Play Activities in Pre-Primary School Children. *Early Childhood Education Journal*, 29 (2), 111-118.

Forest School Canada. (2013 May 25). About Forest School. Retrieved from: http://www.forestschoolcanada.ca/

Fraser, J., Heimlich, J., & Yocco, V. (2010). Children and Nature Network. Project Grow Outside: American beliefs associated with encouraging children's nature experience opportunities. Edgewater, MD: Institute for Learning Innovation.

Government of Newfoundland and Labrador. (January 22, 2014). Completely Kindergarten: Kindergarten Curriculum Guide – Interim Edition. Retrieved from: http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/earlybeginnings/index.tml

Greater London Authority. (2011). *Children in Nature: A quasi-systematic review of the empirical evidence.* London: Greater London Authority.

Greater London Authority. (2011). *Sowing the Seeds: Reconnecting London's Children with Nature.* London: Greater London Authority.

Greenwood, D. (2009). Place, Survivance, and White Remembrance: A Decolonizing Challenge to Rural Education in Mobile Modernity. *Journal of Research in Rural Education,* 24(10), 1-6.

Gruenewald, D. (2003). The best of both worlds: A critical pedagogy of place. *Educational Researcher,* 32(4), 3–12.

Gruenewald, D. (2003). Foundations of Place: A Multidisciplinary Framework for Place Conscious Education. *American Educational Research Journal,* 40(3), 619–654.

Hill, E. (2011 October, 30). Forest at Royal Roads University to host nature Kindergarten. Goldstream News Gazette. Retrieved from: http://www.royalroads.ca/rru-news/forest-royal-roads-university-host-nature kindergarten

Hough, A. (2010 June 20). Telegraph: All humans are 'aliens from outer space', scientist claims Humans are all aliens who came to earth from outer space, a leading British scientist has claimed. Retrieved from: http://www.telegraph.co.uk/science/space/7136269/All-humans-are-aliens-from outer-space-scientist-claims.html

International Montessori Index. (2011, October 8). Montessori FAQ's. Retrieved from International Montessori Index. Retrieved from:http://www.montessori.edu/index.html

Jason, L., Danielewicz, J., & Mesina, A. (2005). Reducing Media Viewing: Implications for Behaviorists. *Journal of Early and Intensive Behavior Intervention,* 2(3), 194-206.

Jones, A. (2011). Seeing the messiness of academic practice: exploring the work of academics through narrative. *International Journal for Academic Development*, 16(2), 109-118.

Jones, E. (2012). The emergence of emergent curriculum. *YC Young Children, 67*(2), 66-68.

Kane, A., & Kane, J. (2011). Waldkindergarten in Germany: How unconventional programs employ extended immersion in nature to foster empathy and stimulate intellectual development among young people. *Green Teacher*, 94, 16-19.

Karna, A. (2013). Why Montessori? Answers from a Parent's Perspective. *Montessori Life: A Publication Of The American Montessori Society*, 25(1), 24-29

Kenny, E. (2013). *Forest Kindergarten: The Cedarsong Way*. Vashon Island: Cedarsong Nature School.

Kenny, E. (2012 July,1). Therapeutic Nature Immersion. Retrieved from: http://cedarsongnatureschool.org/programs/therapeutic-nature-immersion programs/

Kenny, E. (2011). Cedarsong Nature School Introduction DVD. Vashon Island.

Kenny, E. (2011 November, 15). History and Background. Cedarsong Nature School. Retrieved from: http://www.cedarsongnatureschool.org/

Knight, S. (2011). *Forest Schools for All.* London: Sage Publications.

Kos, M., & Jerman, J. (2013). Provisions for outdoor play and learning in Slovene preschools. *Journal of Adventure Education & Outdoor Learning*, 13(3), 189-205.

Latta, A., Simmers, D. (2011 December, 2). Woodland Outdoor Kindergartens. Why an outdoor nursery in Glasgow? Retrieved from: http://www.woodlandoutdoorkindergartens.com/our-ethos/

Lincoln, Y.S., Guba, E.G. (1985). *Naturalistic Inquiry*. Thousand Oaks: Sage Publications.

Litmus Flims. (2008). Arctic Outdoor Kindergarten: Into. Retrieved from: http://litmusfilms.com/outdoorkindergarten.aspx

Little, H., Wyver, S. (2008). Outdoor play: Does avoiding the risks reduce the benefits? *Australian Journal of Early Childhood*, 33(2), 33–40.

Little, H., Eager, D. (2010). Risk, challenge and safety: Implications for play quality and playground design. *European Early Childhood Education Research* Journal, 18(4), 497–513.

Louv, R. (2006). *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder.* North Carolina: Algonquin Books of Chapel Hill, 7-267.

MacEachren, Z. (2013 December, 6). The Canadian Forest School Movement. *Learning Landscapes*, 7(1), 219-233.

Marshall, C., & Rossman, G. (1989). *Designing Qualitative Research*. London: Sage.

Mason, J. (2012 July 1) Maplewood Forest School: About us/Benefits of Forest School. Retrieved from: http://www.maplewoodforestschool.ca/

Maynard , T., Waters, J., &Clement, J. (2013). Moving outdoors: further explorations of 'child-initiated' learning in the outdoor environment. *International Journal of Primary, Elementary and Early Years Education,* 41(3), 282-299.

Mcketta, S., Rich, M. (2011). The Fault, Dear Viewer, Lies Not in the Screens, But in Ourselves: Relationships Between Screen Media and Childhood Overweight/Obesity. *Pediatric Clinics of North America*, 58(6), 1493-1508.

Mclean, C. (May 20, 2013). Today's Parent: Forest schools: When every day is a field trip day. Retrieved from: http://www.todaysparent.com/family/parenting/forest schools-when-every-day-is-a-field-trip-day.

Melhuus, C. (2012). Outdoor day-care centres – a culturalization of nature: how do children relate to nature as educational practice? *European Early Childhood Education Research Journal*, 20(3), 455–467.

Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation* (2nd ed.). San Francisco: Jossey-Bass.

Merrill, M. (Producer), Schei, T.H. (Director). (2010). Play Again: What are the consequences of a child removed from nature? (Motion Picture). Portland: Ground Productions.

Miles, M., Huberman, M. (1984). *Qualitative Data Analysis* (2nd ed.) ThousandOaks, CA: Sage Publications.

Miller, E., Almon, J. (2009). Crisis in the Kindergarten: Why Children Need to Play in College Park, MD: School. Alliance for Childhood, 7-72.

Moneo, S. (2011). Kindergarten in Victoria suburbs takes to the woods. Education: Globe and Mail. Retrieved from: http://www.theglobeandmail.com/news/national/british/columbia/kindergarten-in victoria-suburbs-takes-to-the-woods/article2235059/

Moser, T., Martinsen, M. (2010). The outdoor environment in Norwegian kindergartens as pedagogical space or toddlers' play, learning and development. *European Early Childhood Education Research Journal,* 18 (4), 457-471.

Nature Kindergarten (2011 October, 30) Nature Kindergarten: Learning Outside The Box: Proposal for a Nature Kindergarten. Retrieved from: http://naturekindergarten.sd62.bc.ca/proposal/

Nawrotzki, K. (2006). Froebel is Dead: Long Live Froebel! The National Froebel Foundation and English Education. *History of Education*, 35(2), 209-223.

Nicolopoulou, A., Barbosa de Sá, A., Ilgaz, H., & Brockmeyer, C . (2009). Using the Transformative Power of Play to Educate Hearts and Minds: From Vygotsky to Vivian Paley and Beyond. *Mind, Culture, and Activity*, 17(1), 42-58.

Palys, T. (2003). *Research Designs: Quantitative And Qualitative Perspectives* (3rd ed.), Thompson Nelson, Scarborough, Ontario.

Power, M. (April 14, 2013). Personal Communication. Forest School Canada: Practitioners Course.

Rappoport, A. (1994). *Thinking About Home Environments: A Conceptual Framework* in I. Altman and C.M. Werner (Eds.), *Home Environment*.. New York: Plenum Press.

Robertson, J. (2008). I UR OCH SKUR "Rain or Shine": Swedish Forest Schools. Creative STAR Learning Company, 1-17.

Robertson, J., Martin, P., Borradaile, L., & Alker, S. (2009). FK Feasibility Study. Forestry Commission Scotland. Creative STAR Learning Company, 1-62.

Robertson, J. (2009). APPENDIX 1: Forest Kindergarten Summary Sheet. Forestry

Commission Scotland. Creative STAR Learning Company, 1-48.

Rochman, B. (2012 April, 10). Why Are Parents Less Likely to Take Little Girls Outside to Play? Time Healthland: A Healthy Balance of Body Mind and Sprit. Retrieved from: http://healthland.time.com/2012/04/03/why-are-parents-less-likely-to-take-little-girls-outside-to-play/

Sandseter, E. (2009). Affordances for Risky Play in Preschool: The Importance of Features in the Play Environment. *Early Childhood Education*, 36, 439–446.

Saracho, O. (2002).Young Children's Creativity and Pretend Play. *Early Childhood Development and Care*, 175 (5), 431-438.

Singer, D., Singer, J., D'Agostino, H., & DeLong, R. (2009). Children's pastimes and play in 16 nations: Is free-play declining? *American Journal of Play*, Winter, 284-312.

Smith, G. (2002). Place-based education: Learning to be where we are. *Phi Delta Kappan*, 83, 584–594.

Smith, P. (2010). *Children and Play*. London: Blackwell Publishing.

Sobel, D. (1996). Beyond ecophobia: Reclaiming the heart in nature education. Great Barrington, MA: The Reiko Society and The Evrin Institute.

Sobel, D. (2014) Place-based Education: Connecting Classroom and Community. *Green Living Journal,* Retrieved March 10, 2014 from: http://www.greenlivingpdx.com/place-based-education/

Stake, R. (1995). *The Art of Case Study Research: Perspectives in Practice*. Thousand Oaks, CA: Sage Publications.

Sullivan, V. (2006). Review: Last Child in the Woods: Saving our Children from Nature Deficit Disorder. *Children, Youth and Environments*, 16 (1), 1-336.

The Indian Montessori Centre (2011, March 26) Maria Montessori - A Biography. Retrieved from The Indian Montessori Centre, Bangalore. Retrieved from: http://indianmontessoricentre.org/.

The National Advisory Committee on Creative and Cultural Education. (1999). All Our Futures: Creativity, Culture and Education, Report of the National Advisory Committee on Creative and Cultural Education, Department for Education and Employment, London.

Voce, A. (2012 April, 10). Research reveals parents' anxiety about play. Policy for Play. Retrieved from: http://policyforplay.com/2012/04/13/research-reveals-parents anxiety-about-play/

Waite, S., Rogers, S., & Evans, J. (2013). Freedom, flow and fairness: exploring how children develop socially at school through outdoor play. *Journal of Adventure Education & Outdoor Learning*, *13*(3), 255-276.

Waller, T. (2010) 'Let's throw that big stick in the river': an exploration of gender in the construction of shared narratives around outdoor spaces. *European Early Childhood Education Research Journal*, 18(4), 527-542.

Warden, C. (2010). *Nature Kindergartens*. United Kingdom: Mindstretchers Ltd.

Warden, C. (2012). *Nature Kindergartens and Forest Schools* (2nd ed.). United Kingdom: Mindstretchers Ltd.

Warden, C. (2011 February 24). Wild Things: Risks in Early Childhood Settings. *Rattler Community Child Care Co-operative Quarterly Journal*. Retrieved from: www.mindstretchers.co.uk/File/publications/rattler97.pdf

Westwood, R. (2013 July, 1). Maclean's Magazine. This is not a field Trip: More schools are adopting programs that put kids outside to learn, even in the rain. Retrieved from: http://www.macleans.ca/society/life/this-is-not-a-field-trip/?gallery_page=1 - gallery_top.

Wiecha, J., Hall, G., Gannett, E., & Roth, B. (2012). Healthy eating in out-of-school Time: The Promise and the Challenge. *After School Matters*, 15, 9-15.

Woodhouse, J., Knapp, C. (2000). Place-based curriculum and instruction: Outdoor and environmental education approaches. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. (ERIC Document Reproduction Service No. ED448012)

Yin, R.K. (1994). *Case Study Research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Appendix

Appendix A: Letter of Consent

May 16, 2012

Dear Parent/Guardian:

My name is Breanne Card and I am currently a Masters Candidate with the Faculty of Education at Memorial University. For my Masters thesis, I am conducting research under the supervision of Dr. Anne Burke and Dr. Elizabeth Yeoman. I am conducting a research study in the area of naturalistic leaning and the concept of Nature Kindergarten. Erin Kenny has invited me to spend 10 days at the school, where I will be observing as an active participant, and shadowing the day to day Cedarsong activities. The rationale for this research is to examine the benefits of play-based learning in the *outdoor classroom,* and how these ideas may support the integration of the Nature Kindergarten theory into mainstream Canadian education. In addition, there is a need to better understand the impact of such an approach on educators and students themselves.

As an experienced outdoor educator and qualified teacher I hope to share some of my own educational experiences with the Cedarsong community.

This is a small study. I am looking for approximately ten children to participate a focus group and individual interviews. If you choose to let your child participate:

a) I will have an audiotape/video-recorded ten- to fifteen-minute conversation with your child during school. I will ask your child to share what they think of their outside classroom.
b) Your child will be invited during school to participate in a small audio-taped/video-recorded group discussion about Cedarsong Nature School.
c) I will observe your child playing and interacting with their environment while the class is being run by principal Erin Kenny.

The photographs, audiotapes, and videotapes of the interviews and focus group discussions as well as participants interacting with their teacher and environment are necessary for the appropriate and thorough analysis of the students' comments and interactions. I will be using this data collection for research purposes only. These valuable educational research observations will be used for research analysis to be shared

with educators and policy makers on the value of outdoor education and how this type of foundation can be implemented into mainstream public education. Pseudonyms may be used so that your child cannot be easily identified, as well as blurring of faces of participants. During travel back to St. John's, Newfoundland, the data will be on my person at all times in a sealed envelope and will not be checked as baggage. All research will be kept for five years in a secure place as per Memorial University's policy on Integrity in Scholarly Research.

Please be assured that if you participate, as per the Interdisciplinary Committee on Ethics in Human Research at Memorial University standards, all information gathered in this study is strictly confidential and will be kept in a secure location at the University. At no time will individuals be identified by name. Participation in the study is voluntary and your child may withdraw at any time. The findings of this study will be published for teachers and researchers in education journal articles and/or conference presentations, but neither your child nor her/his school will be named.

This study has been approved by the Interdisciplinary Committee on Ethics in Human Research at Memorial University.

If you would like your child to participate in this study, please check off what you would like you child to participate in sign below giving permission for your child to participate. You will be given a copy of this letter. If you have any questions or concerns please do not hesitate to contact me at 709.770.5836 or e-mail me at bec057@mun.ca.

Thank you for supporting educational research about naturalistic learning in the outdoor classroom.

Sincerely,

Breanne Card
-Masters Candidate

Please check off what your child will be able to participate in throughout the ten-day study.

I hereby consent to myself_____ / my child (whose name is _____) being, videotaped and or audiotaped during

- ☐ Individual interview
- ☐ Focus group discussion
- ☐ Photographed
- ☐ Observed during day to day activities at Cedarsong
- ☐ Providing information though classroom drawings (artifacts)

I have been fully informed about the study and know that I may contact the researcher for information or explanations at any time.

I understand that:

a. participation is entirely voluntary and that my child and/or I can withdraw permission at any time;
b. any information gathered (as noted above) will be used only for educational purposes such as articles and conference presentations;
c. all information gathered is to be kept strictly confidential and to be used only for purposes stated;

d. any audio recordings and video recordings made of my child will be stored securely in a locked cabinet;
e. all data will be retained for at least five years as per Memorial University's policy on Integrity in Scholarly Research; and,
f. I have the right to revoke my permission at any time.

☐ I would like to be sent the results of the study

☐ I would like to be sent edited video footage that will be used at educational conferences

I understand that anonymous quotations from participants are likely to be included in research publications and I agree ☐ don't agree ☐ to such use.

_____ Signature of Consenting Parent/Guardian

_____ Printed Name of Consenting Party

_____ Date

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University ’s ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Appendix B: Cedarsong Nature School Newsletter

Forest Kindergarten newsletter - May 2012

by Cedarsong Nature School (Notes) on Tuesday, June 5, 2012 at 9:32pm

https://www.facebook.com/notes/cedarsong-nature-school/forest-kindergarten-newsletter-may-2012/10150893254563071

Forest Kindergarten Newsletter - May 2012

The sweet aroma of cottonwood infusing the forest air last month has been replaced by the delicate scent of the huckleberry and the elderberry flowers. As the weather warms, the children are stripping off their layers and going barefoot with more frequency.

The children's energy level keeps increasing and they have spontaneously engaged in several building projects this month. One of the projects involved building a little forest house. The kids exhibited a lot of team work and cooperation as they carried and manipulated the huge Doug fir boughs to make the structure and then by going deep into the forest to find fresh boughs with needles to make the walls of the hut. Finally, the kids brought in sword fern to make a carpet and some large pieces of bark for seating. Another project that they are currently involved with is building a giant nest "so we can all fit in together", as one of the kids put it. An on-going project is the increasingly elaborate dams that are being constructed to hold back the water flow from the "river" to our mud puddle. The children are experimenting with design: does a hard packed dam work better or a loosely constructed one that can absorb the excess before it overflows?

Building nests and sitting on eggs has been a common play theme this month as the children become aware of the birds' predominant activity this month. Many of the children had found baby bird eggs shells (usually blue robin eggs) in their adventures around their homes. One day we found a baby bird at Cedarsong that unfortunately had fallen out of its nest and perished. The children participated in creating a burial ceremony and then we talked about what would happen to the bird now that it is under ground. Most of the kids knew it would decompose however several of the kids insisted that a new baby bird would form instead of a plant. This month we have heard the nuthatch quite a bit and the kids think its call is so funny because it sounds like a truck backing up!

We have enjoyed observing the various animals that eat the leftovers from our snack. We always throw them in the same place and have observed a pair of towhees defending the spot from a song sparrow. There is an Oregon vole that has claimed the territory and has created an intricate network of holes in the mound. We often see the vole as we eat snack. The slugs have discovered this area too and it is a great place to study the differences in what they look like and to closely observe how they chew.

We have seen many more insects this month as it is finally warm enough consistently for even the most delicate insects to emerge from their hibernation. One day we found a

teeny baby millipede and were able to observe it closely with our magnifying glasses. We have seen quite a few of our native millipedes (the black one with yellow spots) and when we smelled them, they smelled very much like almonds just like the bracken fern! Crane flies, moths, ants, beetles, dragon flies, centipedes, caterpillars and bumblebees have become commonly observed this month. A crane fly is what most people erroneously call a "mosquito eater", although it has no mouth parts and only lives for a few days in its adult form.

We saw several salamanders this month with different groups of children. Usually they were discovered when we removed a big piece of wood from a decomposing log. We teach the children not to handle any amphibians because their skin is so porous that anything we have on our hands (antibacterial soap, sun screen, bug spray, lotion) will seep through their skin and could potentially kill them. It was a great opportunity to talk again about the word camouflage.

Pollen is ubiquitous and we can see it and feel it on all of the salal leaves. This is has opened up a conversation about what pollen is and what pollinators are. In our forest, there are many pollinators, including hummingbirds, bumblebees, wasps, hover flies, ants and beetles. We have also spent time discussing what the five main parts of a plant are: roots, stem/trunk/branches, leaves, flowers and seeds, and why each part is important to the plant. The kids were fascinated by the fact that leaves make sugar out of sunlight! On several days, each child got a collecting container and found as many different plant parts as they could. On other days, we got out the "sidewalk" chalk and colored the exposed roots one color and the trunks of the trees another. We noticed how different it felt to color a Doug fir's bark as opposed to a madrona's bark. This is a great way to identify different trees.

This month we enjoyed tearing apart very wet decomposing wood – we call it "chicken wood" for the way it looks. We gather a big hand full and then delight in squeezing it hard enough that water drips out of it. This is an amazing example of how wood decomposes and most of the kids can tell you that decomposition happens because of water, insects, worms and mold. We spotted several mushroom varieties this month and also quite a bit of the chocolate tube slime.

Our mud puddle had water in it for most of the month however the level rose and fell depending on how much rain had fallen in the previous day. The smooth mud at the edges provided great examples of animal footprints, including big and little birds, as well as raccoon. There were many days that the children pretended that they were fishing in the mud puddle and made very creative "fish" out of salal leaves and a Doug fir branch (body and tail). The kids have enjoyed exploring the mud puddle with their bare feet and describing the different quality of the mud each day; we have felt sticky mud, gooey mud, and slippery mud. One day, we made mud balls from these various types of mud and set them in a special place to watch which ones decomposed first.

The children love to pour water into the mud puddle and watch the different colors of dirt mix. This leads to discussion about why dirt is different colors and why the water changes color when we mix up the mud from the bottom of the puddle. There has also

been a lot of celebration with mud cakes and pretend birthdays, as well as fabulous mud face paintings.

We have enjoyed some of our nature games this month, including “Howl and Seek” and “What’s Missing?” We have also had many opportunities to encourage the kids to keep quiet for a bit and report back what they heard: rain drops, planes, birds, talking trees, etc. The children have been nibbling their way through the forest as the cornucopia of native edibles is at its peak. The children also really enjoy licking the raindrops off of leaves. Our forest tea blend this month has mostly consisted of elderberry flowers, new red huckleberry leaves and flowers, madrona flowers, young salmonberry leaves and fresh new cedar and Doug fir tips.

Crossing the log (Kenny, 2012).

Appendix C: Teaching Philosophy

Cedarsong Nature School's
Forest Kindergarten Teaching Philosophy

Several distinct features distinguish the Cedarsong program from other outdoor or nature-based preschools:
*Total commitment to nature immersion, "all outdoor, all the time"
*Interest-led, flow learning
*Emergent curriculum
*Place-based education, permanent location
*Open-ended questioning style
*Authentic play
*Small class size, low teacher to student ratio
*Exposure to moderate risk

Critical Factors for Ensuring the Success of a Forest Kindergarten Program:

1. Closely and carefully monitor children's basic requirements: clothing, potty, hunger, thirst'
2. Dedication to appropriate clothing: fund, library
3. Importance of Teachers: embraces emergent curriculum, models respect, awe and wonder, a naturalist and a nurturer, elicits trust
4. Parent involvement and support: creating community, networking, family events, encourage play outside school time
5. Assessing risks and hazards

Specific Natural Science Study Subjects in the Forest Kindergarten program:
Forest ecosystems, biology, botany, ethnobotany, etymology, ornithology, zoology, math, physics, engineering

Life Skills Gains in the Forest Kindergarten program:
Social development, conflict resolution, instilled kindness, compassion, empathy, emotional balance, risk assessment, increased upper and lower body strength, including hand strength, better balancing and flexibility

Cedarsong Nature School Founder Erin Kenny:
Erin Kenny has been connecting children with nature for over twenty years beginning with designing children's educational programs for the non-profit Northwest Wilderness Programs in her capacity as their summer wilderness hot springs caretaker. Erin has a B.A. in environmental education and a J.D. in environmental law. In 2007 Erin formed the non-profit Cedarsong Nature School and started the first U.S. Forest Kindergarten based on the German waldkindergarten model. Erin's extensive experience and her

resulting expertise inspired her to create Cedarsong's Forest Kindergarten Teacher Training and Certification Program to assist others in their dream of pursuing this exciting and unique early childhood educational model. Erin lectures at universities and presents workshops at international conferences on her successful development and implementation of Cedarsong's Forest Kindergarten.

Appendix D: Handbook

Cedarsong Nature School's

Forest Kindergarten

An Outdoor Preschool Program for ages 3-6

2012-2013 HANDBOOK

Cedarsong Nature School's Forest Kindergarten is an entirely outdoor education program that is interest-led, place-based, experiential and seasonal. Our program is designed to integrate children with nature and engage them in quality outdoor activities which stimulate their innate curiosity about the natural world. Our teaching style encourages children to learn through direct experience with nature. Friedrich Fröbel, a German educator, opened the world's first outdoor kindergartens (children's gardens), more than 150 years ago with the belief that young children should play in nature, away from an emphasis on too many numbers and letters. Today, Germany has several hundred of these Waldkindergärtens, or "forest kindergartens," in which children spend their entire class time outdoors year-round.

TEACHING PHILOSOPHY AND CURRICULUM: Our lesson plans flow organically from what nature presents us with each day. We believe that children between the ages of 3 and 6 learn best through direct experience with the natural world. Our goal is to tap into their sense of wonder about nature while teaching basic environmental and natural science principles. We promote individual empowerment and group bonding. We teach respect for all living beings and how to minimize our impact on the earth. We currently use the Council for Environmental Education's "Growing Up Wild" curriculum as a guideline however we also use our own northwest curriculum based on our detailed notes for the past three years.

TEACHERS: Our Forest Kindergarten teachers are Naturalists and Early Childhood Educators Erin Kenny (B.A., J.D.), Karen Olsen (BA, MA) and Kristen Spencer (AA in ECE, CNA). While school is in session, we can be reached on-site at 206-708-5945. Otherwise please email us at cedarsongnatureschool@yahoo.com. Detailed information about our teachers' qualifications can be viewed on our website. All Cedarsong teachers are current in their First Aid and CPR certification and have passed a criminal background check.

COMMITMENT TO YOUR CHILD'S PHYSICAL SAFETY AND EMOTIONAL WELL-BEING: As naturalists we are committed to inspiring and teaching respect for the earth and all its creatures. This includes modeling and fostering respect for self and for others at all times. We shun competitiveness in favor of cooperative activities, guiding children into co-creative adventures. We have a zero tolerance policy for hitting, grabbing, pushing, name calling, aggressiveness or any other demeaning behavior. If any of these behaviors occur, one of our teachers will immediately remove the instigating child to a calm place where the child's concerns can be heard one-on-one. We empower children in learning how to work with others while simultaneously enhancing their individuality. We will speak respectfully to your child and model appropriate responses to the range of your child's emotions. We will hold and carry your child if it is necessary to their feelings of safety. If your child ever reports any type of negative experience at Cedarsong, we ask that you please bring it to Cedarsong Principal Erin Kenny's attention immediately, so we can all communicate and work as a team to support your child's concerns or feelings.

DRESSING APPROPRIATELY: Dressing your child appropriately for three hours outdoors is CRITICAL to the success of our program. We adhere to the motto: There is no such thing as bad weather, only inappropriate clothing choices. You are required to keep a full set of extra clothes in a cubby in our library. Make sure you dress your children in clothes they can get messy in. Please do not dress your child in any one-piece clothing as it is very difficult to remove quickly when they have to pee. All clothing and footwear should be loose fitting and roomy to allow the body's own insulating layer to surround the skin.

In the winter months, we require that all children be dressed in the following clothing: Bogs boots, full Lands End or REI rain gear, two-piece silk or wool long johns, silk or wool sox, Gordini side zip mittens and a hat. Since this is a requirement, we have established a Clothing Fund for families who are in need of financial assistance in purchasing what we refer to as the Cedarsong "uniform". We also have sponsorships with some outdoor gear companies and can lend you some of this clothing and footwear if needed. You will be required to sign a Use Agreement and return these items at the end of the year.

Remember that this is an entirely-outdoor school. Make sure that you and your child are both okay with that. Remember too that your child may not experience cold in the same way that you do and to resist overdressing them. Send extra clothes and know that we will be very diligent about when to insist they put on more outer wear. Most important, keep YOUR attitude positive about blustery cold rainy days as some of our most fun days have been in this type of weather!

EXTREME WEATHER CLOSURE: Cedarsong Nature School is committed to its nature immersion programs regardless of the weather except in cases where driving becomes dangerous. If you are unsure about whether Cedarsong is closed due to extreme weather, please do NOT call the teachers. Cedarsong follows the Vashon School District lead: All Cedarsong classes will be cancelled if the Vashon School District has called for a snow day cancellation; Cedarsong morning classes only will be cancelled if the school district has called for a late arrival day due to unsafe morning driving conditions. You can find out whether the Vashon School District has called for a snow day or a late arrival day by checking the radio, their website, or by calling the school office for a recorded message. In cases when the Vashon schools are shut for break, but Cedarsong is open, please call or text Erin is you cannot safely make it to school. You can schedule a make-up day at a later point in time. Days missed due to extreme weather or dangerous driving conditions can be made up at any time during the school year; these days will not be added to the end of the school year.

TOILET PROFICIENCY: Although we can handle occasional accidents, all children MUST be toilet-proficient in order to attend our school. Children must be able to know when they have to go to the bathroom and be able to communicate that. Many children choose to pee outdoors however we also have an indoor composting toilet and a small child's potty available for their use. We regularly prompt the children to check in with themselves about whether they have a need to go potty.

CEDARSONG FAMILY: We strive to create a community among the Cedarsong families. To facilitate that, we host several gatherings throughout the year, including a September Family Meet and Greet, a Winter Solstice Party, a Parent-Child Nature Play Day, a Parent's Night Out, and an End-of-the-Year Party and Family Campout. We also hold Parent-Teacher conferences in January so that you can be informed about your child's progress. You will receive monthly newsletters throughout the school year detailing the activities your child is engaged in during the month and what they are learning.

APPLICATIONS: We invite all currently-enrolled students to apply for admission to the following year first, by April 27. After we see what space we have to offer new students in the following year, we hold our annual April Open House to give interested families a chance to see the school site, get their questions answered and meet currently-enrolled families and our teachers. At that time, new families who would like to apply for admission can fill out a registration application. After reviewing the applications, we will contact families to arrange a visit during school hours. After that, if both your family and Cedarsong teachers agree that your child is a good fit with the school, you will be required to sign the "Contract for Enrollment" and to pay a deposit to secure your child's place in the 2012-2013 class.

2012-2013 SCHOOL YEAR SCHEDULE: Cedarsong Forest Kindergarten will operate Monday through Friday 9am-noon, and Tuesday, Wednesday and Thursday, 12:15pm to 3:15pm, from September through June regardless of the public school academic calendar. We are the only preschool on Vashon that does not follow the Vashon school district calendar. We will only be closed for the following times this school year: Thanksgiving and the day after; one week during winter break; and the one week of Vashon School District's spring break. We DO hold classes on all state and federal holidays, except Labor Day. The first day for the Forest Kindergarten this year is Tuesday, Sept. 4, 2012 and the program runs through June 21, 2013. A summer preschool session is available only to the current year's class, during July and August, and requires registration in March with pre-payment in full by May 15.

DROP OFF/PICK-UP AND LOCATION OF SCHOOL: We call the school site "Camp Terra". The physical address is 12069 SW 208th. PLEASE DRIVE VERY SLOWLY IN THE FOREST OUT OF RESPECT FOR OUR NEIGHBORS (15mph MAX on the gravel road). We strongly encourage carpooling. When you arrive each morning, please wait at the entrance until the teachers come out and greet you. At pick-up, you will come in to Main Camp to get your children. Please be prompt in your pick-up. If childcare givers are picking up, please emphasize both the need to drive slowly on the gravel roads and the need for prompt pick-ups.

TUITION: Tuition is due by the first day of each month and no later than the fifth. Tuition can be dropped in the plastic tuition pouch on top of the cubbies. If we will not see your child before the fifth day of the month, please mail the tuition payment to: Cedarsong Nature School, P.O. Box 2845, Vashon, WA 98070. LATE PAYMENT POLICY: If your tuition is not paid by the fifth of the month, you will be assessed a $5 per day late fee penalty until the payment is made, unless you receive a special waiver from our school Principal.

At the time of your acceptance into our Forest Kindergarten program, we require all first and second year families to place a deposit equal to their monthly tuition. This deposit will be held as a security deposit and applied towards the June, 2013, tuition. We require one month's notice for any changes that may affect your child's schedule at Cedarsong. You will be responsible for any tuition due during that one month. See the "Contract for Enrollment" for complete details.

FOOD: We will provide your children with a healthy organic snack midway through each class and will make sure they drink lots of water. Please send a water bottle with your child that we can keep at the site. Snacks will be supplemented with foraged wild and seasonal plants, as well as forest tea which the children make each day.

SICK CHILD POLICY: We are fine with children coming to school with sniffles, sneezes, coughs or stuffy nose, since we are outdoors and there is less chance to pass germs than in an indoor setting. We do not allow children to attend if they have had a fever, diarrhea, or vomiting within the previous 24 hours. We are the only preschool on Vashon island that allows make-up days for days missed due to illness; however, in order to gain this credit you must call or send an email when you know your child will be out sick. You will then have one month in which to make up that missed sick day. You can choose any other day that fits in with your schedule, as long as you clear it with us first. It is well-documented that people do not get sick from being outdoors in the cold and rain. Viruses and bacteria cause illnesses and we have a better track record for kids' not getting sick than any other preschool because we are not indoors where those germs can spread.

ABSENCE POLICY: Please contact us if your child will not be in school on a particular day. This policy is a courtesy to our teachers to make them aware of any changes in schedule and so they do not end up worrying or waiting for absent children. MISSED DAYS: Send e-mail to the Cedarsong office when your family has vacation plans or your child will not be at school on a particular day for reasons other than illness. We will contact the teachers to let them know about your plans. Please do not tell the teachers at pick-up or drop-off time because it is a hectic time and they may forget. There is no make-up day for absences of any kind except for those due to illness or extremely dangerous driving conditions. SICK DAYS: If your child is sick and cannot attend school, please text Erin at 206-708-5945. You must contact Erin before 8 PM the night before class or after 8 AM on the day your child is to attend class. Erin will contact the teachers regarding your child's absence. In order to make up a sick day, you must contact Erin about your child's absence because of illness.

SCHOLARSHIP PROGRAM: As a 501c3 non-profit, Cedarsong Nature School is dedicated to ensuring that our programs are accessible to all regardless of ability to pay. Towards this end, we have established a scholarship fund to offer reduced fee on tuition or other assistance according to need. Contact us directly for a confidential application if your family is in need of financial assistance. Please also let us know if you need financial assistance in purchasing any of the clothing we require or if you would like to check out a pair of Bogs boots or a Columbia winter jacket from us for the school year.

Appendix E: Teacher Training and Certification Program

Cedarsong Nature School's Forest Kindergarten

Teacher Training and Certification Program

Cedarsong Nature School is the only school in the U.S. currently offering Forest Kindergarten Teacher Training and Certification. Cedarsong's educational philosophy is that children need to spend a large portion of their day outdoors to get the natural stimulation and hands-on learning experiences they require to thrive. Being outdoors encourages imaginative play, creativity, hand-eye coordination, balance, physical strength, and mental clarity, as well as increased problem-solving and critical thinking skills. Additionally, it leads to more cooperation and teamwork and raises children's environmental awareness. Cedarsong's mission is to educate others about the importance of this nature immersion time to a child's overall well-being and to be a model for the successful application of this approach to early childhood education.

Cedarsong's Forest Kindergarten Teacher Training Program is offered in three levels. Level 1 (one day) is for those interested in seeing the model in action and Level 2 (three days) is for teachers who want to add some committed nature immersion time to their existing program. Level 3 is for those who anticipate starting their own Forest Kindergarten program and consists of five days of observation of our 3 hour Forest Kindergarten class and an additional hour each day of direct teaching instruction by Erin Kenny. The program consists of a total of 20 hours of instruction and leads to the participant being certified by Cedarsong Nature School as a Forest Kindergarten Teacher. Program participants will learn about the distinguishing features of the Cedarsong Forest Kindergarten model including total nature immersion, interest-led flow learning, open-ended questioning teaching style and small class sizes. Participants also learn how to make their Forest Kindergarten a success by understanding the most critical elements such as appropriate clothing, working with parents and risk management. Cedarsong's Forest Kindergarten Teacher Training Program Level 3 is the equivalent of the level 3 UK Forest Kindergarten Teacher Training.

Cedarsong Nature School Founder Erin Kenny

Erin Kenny has been connecting children with nature for over twenty years beginning with designing children's educational programs for the non-profit Northwest Wilderness Programs in her capacity as their summer wilderness hot springs caretaker. Erin has a B.A. in environmental education and a J.D. in environmental law and after moving to Vashon Island 14 years ago she designed and taught all-outdoor homeschool classes, a year-long ethnobotany class for adults and a four-day nature immersion camp for

children. In 2006, Erin developed Cedarsong Preschool, a nature-based preschool, and observed how positively preschool-age children responded to the nature immersion lessons and how well the children retained information when they had hands on experiences. It gave her the inspiration to create an entirely outdoor preschool where the lessons arose organically as the students moved through the natural world. In 2007 Erin formed the non-profit Cedarsong Nature School and, with the help of Robin Rogers, a friend and former student, started the first U.S. Forest Kindergarten, an entirely-outdoor preschool that is based on the German waldkindergarten model. Erin's extensive experience and her resulting expertise inspired her to create Cedarsong's Forest Kindergarten Teacher Training and Certification Program to assist others in their dream of pursuing this exciting and unique early childhood educational model. Erin has lectured at universities, presented at international ECE conferences and attended the international Early Childcare and Nature Education conference in the Netherlands.

Cedarsong Forest Kindergarten Publicity

As word gets out about the importance of connecting children with nature, Erin Kenny and Cedarsong Nature School's Forest Kindergarten have received local, national and international publicity. Locally, Erin's work with connecting young children with nature was featured in the Seattle Times and on the news program Evening Magazine. Nationally, Erin's work has been featured in Sierra Club magazine, PEOPLE magazine, and American Forests magazine and on the news program ABC News Nightline. England's UK Daybreak morning program visited the school and produced a video segment. Erin has given lectures at several universities and presented workshops at international conferences on her successful development and implementation of Cedarsong's Forest Kindergarten.

Appendix F: Curriculum Chart For Language Arts Curricula

General Curriculum Outcomes for Kindergarten **English Language Arts – Newfoundland Labrador**	Specific curriculum outcomes (SCO) Descriptions – Newfoundland Labrador	Observed Student Demonstrations of Emergent **English Language Arts** Curricula at Cedarsong Nature School
GCO1 Students will be expected to speak and listen to explore, extend, clarify and reflect on their thoughts, ideas, feelings, and experiences.	1.1 begin to use oral language to coherently describe personal experiences 1.2 begin to listen respectfully to experiences and feelings shared by others 1.3 begin to ask questions to seek more information. 1.4 begin to respond to questions that seek clarification. 1.5 orally retell events and familiar stories in sequence. 1.6 explore aspects of language such as sounds, rhymes, rhythms, language structures, repetition and story telling through participation in a variety of oral language activities. 1.7 listen for the purpose of reflecting upon a variety of texts.	Social development, communication skills and literacy are all covered at this forest Kindergarten. Peer teaching of letters Advanced communication and listening skills Snack time conversations
GCO2 Students will be expected to communicate information and ideas effectively and clearly, and to respond personally and critically.	2.1 begin to participate in both small and large group conversations. 2.2 begin to communicate and follow directions with more than one step. 2.3 begin to engage in oral presentations. 2.4 begin to respond appropriately and respectfully to oral presentations. 2.5 begin to express ideas, feelings and opinions respectfully. 2.6 begin to respond critically to various forms of text.	All students have a strong sense of self and are able to communicate openly and clearly with their peers and teachers. There is a high sense of self-confidence among the group of kids and they are comfortable to speak up and self advocate if needed. The students inform the teachers if they need another layer of clothing, if they are hungry, or need to go to the bathroom. They felt safe enough to share their ideas and thoughts when asked questions about what they saw, or played with during the morning. It was also common for the students to politely tell the teachers what they did or did not prefer when it came to the morning class adventure. Teacher Erin would supply gentle reminders to students to use their words to help with potential conflicts and then would step back to have the students work out the conflict.
GCO3 Students will be expected to interact with sensitivity and respect, considering the situation, audience and purpose.	3.1 demonstrate an awareness of social conventions in groups and co-operative play. 3.2 demonstrate an understanding of how word choice affects the feelings of others. 3.3 begin to use appropriate tone	Social development, conflict resolution, instilled kindness, compassion, empathy, emotional balance, and risk assessment were all observed and documented. Elodie showing concern for friend's sore ear. Many students used their words to indicate if a student was standing too close to them. If they felt their personal

space was being invaded they would kindly ask the other students to move over, or they would just move themselves without causes any fuss or drama.

Risk assessment was documented when students were balancing on logs and climbing trees. They all knew and understood the rules and kindly reminded someone if a rule such as taking turns was forgotten.

Elodie taught me many times how one should stately climb a tree and balance on a log.

She clams that she is never worried about falling or slipping because the forest animals taught her how to climb and balance.

Appendix G: Curriculum Chart For Art Curricula

Emergent Art Curriculum Topics At Cedarsong Nature School	Specific curriculum outcomes (SCO) Descriptions – Newfoundland Labrador	Observed Student Demonstrations of Emergent Art Curricula at Cedarsong Nature School
Nature Art	1.1.1 investigate the elements of design (colour, shape, line, texture, space, value, and form) in the visual environment	I observed very creative and beautiful nature art.
	1.1.2 investigate the principles of design (pattern/repetition, variety, contrast, emphasis, rhythm/ movement, balance, and unity) in the visual environment	Elodie often made crowns out of bendable sticks and used fern steams to tie both ends of the sick together to make a circle. She also loved to use the community chalk and color all of the exposed roots and other students rain paints— with permission. Elodie was always happy to share and explain her artwork and crafts.
	1.1.3 apply one or more of the elements and principles of design in creating artwork based on the senses and imagination	
	1.1.4 explore a range of art materials, techniques, and vocabulary to develop art making skills	
	2.1.1 create art for a variety of purposes and recognize there are many kinds of visual art	Clive spent a morning preparing huckleberry roots to make leaf necklaces for his friends. Owen was also able to explain why he wanted to make his art and how he was proceeding to begin his craft. He also made forest tools he needed to aid his creative projects.
	2.1.2 choose, display, and talk about work from their portfolio	
	2.1.3 collaborate during the art making process	
	4.1.2 respectfully discuss their own and other's artwork, describing various reasons why the artwork was made	
	5.1.2 refer to the natural and built environments when viewing and creating art	
	8.1.2 describe how they made an artwork	

Appendix H: Interview Questions

Focus Group Semi-Structured Questions for the students

What do you think about playing outside all day?
What do you like about the forest?
Is there anything you don't like about being outside?
What do you like to play with?
What is your favorite thing to play at school? Why?
What did you learn about today?
What did you make today?
What games do you play?
How do you feel when you are outside?
Do you play when you go home? What do you play with? Who do you play with? Where do you play?

How many of you climb trees? Is it safe? Why? How so you climb a tree safely?
Are there plants you can eat in this forest? Which ones?

Individual Semi-Structured Interviews Questions — Students

What you think about playing in the woods?

Do you play when you go home? What do you play with? Who do you play with? Where do you play?

Can you tell me about some of the plants that grow in this forest?

Do you play in the rain? Do you play in the snow? What do you play with?

Do you like to play in the rain and snow? Why or why not?

Do you teach your friends about nature?

How do you feel when you play outside?
Who did you play with today? What did you play with? Why?

Individual Interviews with the Parents

Could you comment on why you choose to send your child to Cedarsong Nature School?

What has been your experience at Cedarsong?

What has surprised you about the concept of Nature Kindergarten?

How has your child responded to this school?

How has the experience at Cedarsong influenced your child?

How much time would you say your child spends inside? How much time outside?

What were your hopes and expatiations before you enrolled your child? Have they been met?

How has nature kindergarten supported your child academically, socially, and physically?

Could you comment on your child's connection to their natural world, sense of place, and sense of self since attending this school?

Do you have any concerns about sending your child to a traditional school when they are old enough to entre Grade 1?

Individual Interview with the Head Teacher, Erin Kenny

Can you tell me a bit about the history of the school?

Why did you start the school?

Was there a model that you followed to develop the programming, or did you let the students lead the way through interest -based learning?

What do you think parents want for their children when they enroll them here? Do you feel you meet their expectations?

What do you think parents want and need from this experience?

How do you address their expectations and concerns?
How do you make the curriculum guidelines fit into your core curriculum? Or do you?
What are you long term goals?

What would you recommend for anyone who would like to start their own Nature Kindergarten School?

What do you feel the benefits and challenges are to Nature Kindergarten?

What has suspired you about running this school?

What makes a nature kindergarten school successful?

How does Cedarsong Nature kindergarten School support students academically, socially, and physically?

How does Nature kindergarten help to connect children to their natural world, sense of place, and sense of self?

Appendix I: Matrix

3=High 0= low (P # of quote)	Universal Childhood Activities	Nature art	Program Development	Sense of Community
Clive, Sheila and Mum	3- mud puddle play#45;3-Imaginative play#46-53;2- Collecing#55-59;3- Imaginative play#61-68;3-Barefeet#90-92;3-strategy Building#105-136; 2- Collecting #153,176,194-195;3-train imaginative play#199-212;collecting flowers#225-227;3-collecting and I.Play# 257-268;**Mum**:0	3- Making nature toys and crafts #11-24;Creative play#76-83; Creative building#105-136; 3-Creative play on a train #199-212;3-making a leaf cup#214-224;3- PS finding natural tools#77-81(interview); **Mum**:0	**Mum:** 3- parent expatiations #6; 2-program challenges and successes #14	3- Teamwork data#1-36;3- teamwork#38-41; **Mum:0**
Elodie and Mum	3- Imaginative play #2,102; 3-hiding#70-74; 3- fort building, hideouts#79-81;3-digging/mud/climbing # 91, 100, 112;3-Penguin imaginative play#124-146; Mum:3- Imaginative play and benefits #42	3- Nature Crafts/forest salad#6-11; 3-Nature Art#14-18;3- Nature crafts#8; 3- making Nature toys#113-117;Pengiun imaginative creative play#124-146; 3-creative play#167-169; **Mum**: 0	3- Cedarsong Rules#76-78; **Mum**:3-Accomdating families #14;3-dealing with wet /dirty clothes #30,34;3-Teacher role in guiding students#42; 3-Benefits of smaller class sizes#44; 3-misconceptions about Cedarsong#45; 3-Social Values of why Cedarsong #2;	3-Teamwork and social skill#170-176; 3- Teamwork data#1-36; 3- CT PS and teamwork sandpit# 190-197; **Mum**: 2-Teamwork#28
Snack time conversations w/ Elodie, Clive, Reiko, Mary …etc..	3- UCA#40-48;	0	Archives data: Handbook, Cedarsong CD for prospective parents, teacher philosophy, and website.	examples of taking turns when talking, manners, being kind, eating together, talking at meal time.
Teacher Erin (and data examples of her quotes- to bring in a few examples of the other kids who signed consent forms)	3- Explains UCA #72,80; 3-UCA and risk# 83; 3- Gender play# 942-ELI/SPENCER/LEO/CASH imaginative play #2335;3- I.Play #2-6;2-I.Play #53-57; 3-Fishing in the puddle #58-67; 3- puddle play#85-94;3- mud play#21,23;3- mud and water play#37;3-Imaginative play #72,75,76;3-collecting #78;3-imaginative play #89,91,93; 3-collecting flowers with Lilly#228-224;	3-Creativity in outdoor play#1112-:Nature toys#87-89; :3- Creative mud face painting#41,41,44,51,53,54,56,65;3-nature crafts #81;	2- Program advertizing # 13; 2-PD #16&17; 3-Program location #23;2- clothing#25; 3-Program set up #30&31; 3-the three essentials to an FK #33,39,40; 3- 3-parental needs#53;3-Child needs and expatiations #56; 3-Future Plans for the model #109&110; 3-Program success#26&27;Success of program #42&51;Personal experience with benefits #70;3	Archives data: Handbook, Cedarsong CD for prospective parents, teacher philosophy, and website. Clive INTERVIEW 3-Teamwork data#1-36;

3=High 0= low (P # of quote)	Sense of Self	Sense of Place	Critical thinking and problem solving	Emergent Curriculum
Clive, Sheila and Mum	sense of self#71-74;3-Salander #93-100;2- self advocate #256;	3- sense of place and self#27-33;2-2- place#87-88;3- forest Candy#146-152; Mum:2- time in nature #10; family bonding#12; 2- connections to self and place# 20	3- CT and PS using making string #3-9;3- teamwork#38-41; strategy Building#105-136; 3- PS with plants#169-176;3- eating plants #251-256; **Mum: 0**	3-numbers and counting#55-59, 227;3-Salander/nature Im/Emergent curr #93-100;Emgergent Curr/engineering #105-136;Emergant Curr parts of the plant #153-158;3-Lilly Peer teaching flowers#230-244; Mum:3- Social values, emergent Curr#2; 3- Curr# 8;
Elodie and Mum	3- sense of Self and place# 87-89, 108;3-safe risks#92-95;**Mum**:3-Understanding self , nature and saftey#23;	3- Plant ID Place ed# 4-5,32-33, 148-152; 3-sense of palce#19-23;3-Plant ID#62-64; 3-fav.place#65-74; Mum: 3-Conection to self and place # 16,18,19;2- Social problem solving #20;	3-CT about a camouflage#24-31,43-53; 3-CT#179-182; 3-CT about human cells sandbox#45-56(interview;3-teawork&PS#57-76 (interview); Mum:3-Critical thinking#5; 2-Critical thinking and teamwork#28; 3- Critical thinking #38; 3-sloving social conflicts#12,20; ;3- critical thinking and problem solving #40;	3- Literacy with twigs#35-40;3-predator chat#55-57;3- Literacy making letter b#83; 3-Emergent Curr/peer teaching# 85, 154-161;3- Nat Im/Em Curr#183-188;3- Peer teaching and printing letters in soil#198-204; Mum: 3- Social Values of why Cedarsong #2; 2-peer teaching#4; 3-Understanding science of life, Emergent Curr&Nature Immersion #24.25 ; 3- parent Curr Expatiations #28;Social vales and concerns for child's happynes#28
Snack time conversations w/ Elodie, Clive, Reiko, Mary …etc..	3- clothing and sense of self #49-55;	3- edible plants#56-57; 3-berry ID #58-69;3-signs of sprig and Bird ID#90-127;	3-Dead baby bird #1-39; 3- CT about plants and sun and meto#70-89;3-Seed or plant question #138-175;	3-Life cycles and decom #1-39; 3- life cycles #73-89;3-adaptations #128-137;
Teacher Erin (and data examples of her quotes- to bring in a few examples of the other kids who signed consent forms)	3- teaching self adcoacy, sense of self and env#55,56&59; 3- Sense of self# 89;3-social communication and self advocate for personal space #91; 3-Sence of self and grounding #99,101,102,10:3-climbing saftey#95-97; :2- Sense of self #29,31,33,35;3-painting her own pace #48,50,82;	;3-connect to self, place and env #85; 3-Place based education #86; 3-Sense of place and mapping 5 aces#86-87:3-sense of place- edible plants#10,12,13,15; 3-Sense of place mapping #17,19;	3-Critical thinking and studies # 67; 3-social problem solving #91 Team work data in Cedarsong CD handbook Clive's INTERVIEW:3- CT and PS for building a fort# 394, 397, 399; Clive about water displacement :3- dead baby bird cycle #16-26; 3- lesson on wind #44-49;:3-Critical thinking #6,94-103; 3- face painting #59,60,62,64,;	3- Curr #8; 3- Social Values #11&15;3-Env Ped & curr#28&29;3-Env.Ped &Curr# 31; 3-social values of successful Ed model #42&5; Child needs and expatiations, Curr #56; Child needs and expatiations #56; Emergent Curr nature immersion benefits #64; 3- Proven studies #65-66; 3--Gender play# 94; 3-Emgent Curr and Nature Immersion #99,101,102,104:3-Emergent Curr#159-162(Owen's interview);3- Literacy and letters# 29-34;2-peer teaching #38-41; :3- colours #69; Program likes#85;3-