A Metissage: Learning in Nature with Indigenous Ways -

Environmental Studies, Culture and 'Play' - Lessons that meet PLO's

by

Mary Louise Wright

Bachelor of Education, University of Victoria, 1992

A Paper Submitted in Partial Fulfillment of the Requirements for the Degree of

MASTER OF EDUCATION

in the Department of Curriculum and Instruction

Supervisory Committee

Dr. James Nahachewsky, Department of Curriculum and Instruction
Supervisor

Dr. Todd Milford, Department of Curriculum and Instruction
Departmental Member

Abstract

The purpose of this project is to introduce metissage as a method for creating curriculum for First Nations and non-First nations students; curriculum that combines Indigenous pedagogy, environmental studies and experiential play learning in and about nature. The metissage suggested is created by braiding three types of lessons - western/eurocentric environmental lessons, 'play' lessons and local First Nations Culture lessons - together in a cohesive unit tied together with the commonality of local nature environments and Indigenous pedagogy. The benefits of nature, Indigenous pedagogy, play and environmental studies are discussed. Guidelines for creating such a unit are also laid out for the purpose of allowing teachers to create such a curriculum to suit the needs of the students in their local culture and environmental location.

Table of Contents

Abstract i

Table of Contents ii

List of Tables v

List of Figures vi

Acknowledgements vii

Dedication viii

CHAPTER 1: Introducing Myself and My Project 1

My Professional Journey - A Metaphor 1

My first party as a Party Planner. 1

Not the right party for my guests 2

The Real 'Party' 4

My Connection to Nature 5

Natural History 'Defined' 5

Benefits of Nature 6

The Project: A rational 6

Plans for a New 'Party' 6

The Project Focus 8

Purpose and plan 8

CHAPTER 2: Literature Review 13

Introduction 13

Why Children Should, But Don't, Play and Learn Outdoors 14

World Views Regarding the Benefits of Nature Learning 17

Reviewing the Benefits of Early Learning Experiences In Nature.....19

An ethic of care.....19

Physical and emotional well-being. 19

Literacy and communication development. 22

Social development.....22

Community. 24

Meaningful local curriculum. 25

Indigenous Knowledge.....25

A Metissage of Traditional Indigeneous and Western Knowledge 31

Towards Decolonization.....32

Chapter 3: A Unit Of Nature Lessons :

"A Metissage; Learning in Nature with Indigenous Ways -

Environmental Studies, Culture and 'Play' in Nature -Lessons that meet PLO's"....36

The Purpose.....36

The Lessons.....38

Rationale 39

Indigenous Pedagogy and Principles.....42

The Common Thread in the Braid/Metissage 44

The Sample Lessons.....48

The 'Play' Lesson -The 'Nature' of Play 51

Cultural Lesson with an Elder.....54

Conclusion **56**

Appendix A **58**

References **59**

List of Tables

Table 1 *Examples of the classification of possible lessons for this Unit*

Table 2 *Compare and Contrast of Indigenous and Western/Eurocentric Pedagogy*

Table 3 *Applied Lil'wat Principles*

Table 4 *Important Aspects of Indigenous Pedagogy*

List of Figures

Figure 1 Lesson 1 Environmental Studies lesson exemplar

Figure 2 *L*esson 2 Play lesson exemplar

Figure 3 Lesson 3 Culture lesson exemplar

Acknowledgements

I would like to acknowledge those that envisioned the idea of a North Island MEd cohort and then made it happen. Thank you to those on the North island and to the University of Victoria and the Department of Curriculum and Instruction in particular.

I would also like to acknowledge all the members of the cohort; it has been an honour and a pleasure to get to know you as professionals and as individuals.

Dedication

This paper is dedicated to my parents without whose encouragement, guidance, enthusiasm, and financial and emotional support it would have been impossible for me to have completed my MEd degree. It is also dedicated to my husband and my son whose support and patience was so appreciated while I spent many weekends and evenings working on my project and courses in front of my computer. Lastly it is dedicated to all the students I have taught and to all those I will teach in the future.

CHAPTER 1: Introducing Myself and My Project

My journey to becoming an educator began in my childhood. I describe this journey in a metaphor. My interest in nature also began in childhood. I have had the opportunity to spend much of my time as child and an adult exploring nature on the beach and in the forest at our family cabin on the Southern Gulf Islands. I have had the opportunity and the joy of a career learning, living and teaching in a variety of isolated communities in BC thus enabling me to combine my love of nature and my passion for teaching.

My Professional Journey - A Metaphor

As a child I attended the best party ever. I knew what to wear, how to behave, and what to say and when. I wore a smart pleated skirt with a neat white shirt and blazer, approvingly admired by the hostess. The hostess, who planned the party, was a wonderful woman. She was an inspiration; smart, witty, kind, and just a little awesome. I aspired to give a party just like the one I attended someday. Other parties followed and they were just as much fun. I studied the art of party planning. I was anxious to plan and hostess a party myself.

My first party as a Party Planner.

The day of hostessing a wonderful party for young children finally arrived! The young guests were invited. They were not from a neighbourhood I knew, but naively I did not understand what being from a 'different' neighbourhood meant. I was a trained hostess. I was sure everyone would enjoy my carefully planned party. The party favours were ready, the chairs, tables, and decorations were all neat and tidy, and I was dressed in my nicest party clothes. My party looked just like a picture right out of *Better Homes and 'Classrooms'*.

I noticed the reluctance of a number of my guests to join in the games. I had invited the parents to come. I felt the parents only brought the children out of politeness and quite obviously did not want to attend the party. My efforts were not appreciated. After much cajoling and coercing of my guests to fit into and enjoy *my* party, rearranging the party decorations, and attempting an assortment of different party games, I realized that *my* party was a flop. My guests and my party plan were incompatible. My party bombed!

Not the right party for my guests

I realized that I needed a new party plan, one better suited to the guests. A party planner's role is to ensure the success of the party and the participation and enjoyment of each guest. As a party planner, I realized that every party may have a different purpose and a variety of guests. A well-planned party must be designed for the guests and not for the pleasures of the hostess and society. As an emerging curriculum thinker, I realize that one party plan does not fit all. There are those who are not well served by what served me so well.

Friere (1993) might have likened my context to a bank rather than a party. "Education…[was]…an act of depositing, in which the students [were] depositories and the teacher [was] the depositor….The students patiently receive[d], memorize[d] and repeat[ed]…" (p. 58) what was deposited. Friere posited that in this empirical-analytic paradigm, knowledge is considered as a gift bestowed on students who know nothing, by teachers who know everything, and that this projecting of ignorance on the students is a characteristic of oppression that alienates those same students.

Throughout my party metaphor, I was never the alienated one. I smiled, I said thank you for the 'party favours' - knowledge, diploma and university graduation! The party I had attended

and enjoyed was well suited for an urban, upper middle class, Canadian, caucasian, female born to university educated parents during the 1960s, educated in the 1970s and 80s, and then readied with a touch of feminism, to take a productive, professional journey.

Upon reflection, the empirical-analytic paradigm/the party that I attended was hostessed by someone who spoke to me as a student with a positive voice. As an experienced teacher it echoes of limited suitability and for some cultures, socio-economic groups, and marginalized persons this party and its messages may be incompatible; even irrelevant. After teaching First Nations students in several small First Nations communities, I believe that many of the First Nations students I continue to work with are extremely alienated by this style of teaching, as are their families and communities. They would be in complete agreement with Friere. Which is why it is essential for me to interweave or *metissage* Indigenous principles of teaching, learning, living and being with my teaching methods and ways of being.

I have struggled to make the school curriculum fit the students' and community's needs, not the other way around. It is essential that "education must be integrated with the everyday local experiences of a child's life" (Dewey, 1929, p. 36). I have always endeavoured to create my own curriculum with and for my students and their needs. I was, without fully appreciating it, something of a curriculum theorist and planner. It is the curriculum and pedagogical paradigms that need to be changed not the students. The students should not be forced to accommodate to a learning system that does not recognize their personal and cultural differences and uniquenesses.

In my Master of Education studies (MEd), I am now a scholar gathering ideas that I hope to have the courage to implement. This graduate program - to extend my introductory metaphor

- might be described as being akin to attending a party planners' convention on how to throw the best party. My present teaching position supports my scholarly process.

The Real 'Party'

My entire teaching career has been in First Nations Independent Schools on small, isolated and remote communities; teaching mainly K-3 in the classroom and as a special education teacher. I have been at my present school on a First Nation's reserve for 20 years. Most people would consider it isolated. The First Nation Reserve on which I teach is often perceived, by others, as isolated in more ways than just geographically. Initially, these communities , students and their socio-economic status, culture and customs were new to me and incompatible with the paradigm in which I had been a student. Little in my 'party planning book' fit the culture, the environment or the needs of my students. Forcing students and community to fit into my own paradigm was not an acceptable answer.

I have come to understand the results of previous attempts to subdue First Nations people through education and politics, and the ongoing trauma of colonization. I find this persists as I attempt to encourage local government to make educational changes to support the students whom I teach. The students and I often feel unheard and unacknowledged.

Cole and O'Riley (2010) state that the education system alienates its First Nations students and forces them to drop out due to its persistence in using only western ideas and methods. This is causing the death of joy in education. Joy is an integral part of learning. Instilling the joy of being a life long learner is one of my goals as an educator.

I loved my students and the communities that, although a little reluctantly at first, welcomed me as I began to take an interest in each child; as a participant in their fascinating and

rich communities and cultures. I want to support a discourse between colonizer and the colonized. I have come to appreciate that a cross-cultural discourse is desirable between people whose traditions may be different. Seeing things as they are without political, theoretical or moralistic opinions allows for cross-cultural dialogue between people and traditions that may seem to be at odds. Reaching out and seeking dialogue with students, parents, elders and community, beginning a respectful discourse while neither appropriating nor altering their ways to fit 'my way', but rather accepting, understanding, and bringing them together with my gifts is essential.

I now consciously make plans for my students with their best interests in mind. As a kindergarten teacher, a special education teacher, an independent school teacher, and as a teacher in isolated communities I have had the luxury to teach in a way not necessarily prescribed by 'officialdom'. Perhaps no curriculum paradigm is ever correct, but as I learn to try something different, and then different again, my party plans improve. As does the party….Party On!

My Connection to Nature

Natural History 'Defined'

My passion for nature is in its observation more so than through experimentation. I consider myself more of a Naturalist or Nature Historian than a scientist. Natural History means different things to different people. The *Oxford Dictionary of English* (online edition, 2005) defines "natural history" as "the scientific study of animals or plants, especially as concerned with observation rather than experiment, and presented in popular rather than academic form." There are many definitions of natural history or naturalism ranging from scientific study to the esthetic study of 'nature'. Nature itself has been defined from the broad more-than-human world

to merely plants and animals in their natural environment (Fleischner, 2002). My definition is the more expansive one, including all of the more-than-human world, and its relationships with humans and its esthetic values as well as its connections to broad scientific fields such as ecology, botany and zoology.

Benefits of Nature

I encourage others to be environmentally conscientious as I am myself. I desire others to understand their local ecology in a way that supports and maintains a healthy natural environment. I believe in 'thinking globally and acting locally' about the environment. I believe that my experiences and time spend in nature have been an enriching and balancing focus in my life; experiences that many young children are missing today regardless of their proximity to natural environments. Recent research has proven that there are educational and health benefits to just being in and experiencing nature, not to mention the benefits of being knowledgable about nature ecologically and culturally.

The Project: A rational

Plans for a New 'Party'

As I reflect on what I have seen and learned as a teacher, and what I have read and learned since beginning my MEd program (and what I think I have always known), is the importance of nature in education, learning, and health and well being. I believe that there is a connection between academic success, personal, community and global relationships, health and well-being, environmental stewardship, and learning in and about nature.

I have noticed that many of the First Nations students I teach, although they live in a community surrounded by nature - the forest, the beach and the rivers - know little about that

natural environment in either traditional cultural terms or western terms. The reasons for this could easily be the topic for countless projects. My project is intended to hopefully begin to provide reasons for and ways to recreate this connection rather than to research the causes of the lack of knowledge and connection.

By teaching the young First Nations students that I work with in and about nature, I will hopefully favourably impact their academic success; something which First Nations students experience too infrequently. Lessons designed to reconnect them to their traditional learning methods and to the land are essential to their cultural identity, as well as to foster a sense of respect for themselves as First Nations People and for the world around them.

My project is intended to be a unit of curriculum designed with my First Nations students in mind to fit their particular needs through academically and culturally relevant approaches to support their learning about their local and traditional environment. The purpose of creating these lessons that allow children to learn in and about nature is multi-purpose. It is a a small and practical step in creating a transformation that I would like to see in the education provided to the First Nations students such as those that I teach, but also for all students. Further, I would hope that such an approach would support a transformation within the students themselves.

I want to introduce the children to the natural environment surrounding their community in a holistic way. I hope that this will help to recreate a bond to nature that I believe plays an integral role in their cultural identity and even in eventual decolonization. These lessons may take a small step towards a discourse between native land use and colonial/western views of nature.

I want to try something that research indicates is important; that is the importance of Nature in education and life. Research has indicated that the application of Indigenous teaching principles which have been ignored in eurocentric teaching communities are indeed beneficial to all students, not just Indigenous learners. Taking education and classes out onto the land and into nature is a way to bring back that joy into education, especially for First Nations students whose cultural identity is so strongly connected to the land.

I have noted that although my students are surrounded by nature and it is an important aspect of their culture and heritage, they are for a multitude of reasons not getting opportunities to experience nature nor learn either traditional or western concepts of nature. I see the need to interweave or *metissage* these concepts of nature for these First Nations students to help them fit into the modern world with a solid respect for themselves, for their culture and for nature.

The Project Focus

Purpose and plan.

The Unit of Lessons I am calling *A Metissage: Learning in Nature with Indigenous Ways - Environmental Studies, Culture and 'Play' - Lessons that meet PLO's* (the Unit) is to teach students to observe nature, respect nature, respect themselves and others, to respect and reconnect with their cultural identity, and to begin a discourse between the colonial view of nature and First Nation's traditional way of being with nature. The metissage in this project is in the weaving of three different types of lessons that will occur within a single unit. The commonality that will unify the metissage is the use of Indigenous teaching principles and that all the lessons occur in nature.

By metissage I mean a literary term referring to the interweaving or braiding of two or more separate stories or parts of stories to create a braided story. A literary metissage is a:

> site for writing and surviving in the 'interval between different cultures and languages' (Lionnet, 1989)….[It is] a hopeful act to begin a 'genuine dialogue with the dominant discourses' in order to 'transform these discourses thus favoring exchange rather than provoking conflict' (Lionnet, 1989, p. 3). Particularly for curriculum theory and practice, we see literary metissage offering the possibility of *rapprochement* between mainstream and alternative curriculum discourses (Chambers, Donald and Hasebe-Ludt, 2002, para. 2).

I refer to the teaching in the Unit as teaching in and about nature as whenever possible the two should happen together. One learns best about nature when one is in or experiencing nature. Learning in nature is beneficial to all learning, whether learning about nature or any other subject area.

The focus of creating the Unit is to expose young children to the natural environment surrounding their community in a holistic way that combines their cultural identity, their connection to the land, and environmental stewardship, improves health and well being, increases learning and improves academic success. It may be a great expectation for a small unit, for little children,…but everything has to start somewhere.

Children need exposure to Nature. It has educational and health benefits. First Nations children also have a strong cultural connection to nature that needs to be recognized and respected in their education. In our community we are surrounded by an abundance of nature - in the local forest, streams/river and beaches. Recent research has indicated the benefits of using

Indigenous teaching principles in teaching all students indigenous or otherwise. When teaching in and about nature I find these Indigenous teaching principles particularly appropriate. I believe that it is essential to begin to teach students about nature at an early age. It has been my experience teaching in this First Nations community that although nature is readily available many students are lacking exposure to, knowledge about and a respect for the land around them.

The purpose of the project, then, is to create a Unit of Lessons that takes students' learning out into nature, as well as teaching them about the local environment and culture. An effective method of teaching about nature and a way to make learning in a nature effective is to employ Indigenous principles of learning. This will hopefully have added benefits to the First Nations students for whom I am designing my lessons. As a non-aboriginal teacher I hope to also create a respectful balance between local First Nations knowledge and use and my western concepts and knowledge about nature to strengthen their cultural identity and increase respect for themselves and the world of nature around them.

Some of the non-Aboriginal yet important aspects of the Unit's focus is on what Louv (2008) refers to as 'nature deficit disorder'. I believe it is important to provide students with alternatives to video games and other 'screen' activities. I believe in the importance of play and experiential learning, especially in nature. The natural environment provides an excellent classroom for critical thinking and observing as advocated by those who believe in space-based learning (Smith, 2002). There is also an ever-increasing need to be more environmentally aware and this will be part of the focus.

My goals for this MEd project include:

- Exposure to Nature. 'Nature deficit disorder' is a term Louv (2008) coined to describe a more and more common problem. Children are not getting exposure to nature. This impacts both health and learning negatively. This may be easily solved by taking children, and their learning/play back into nature.
- Indigenous Pedagogy. Teaching using Indigenous methods is beneficial to all students, First Nations or not, and will be used whenever possible throughout the Unit.
- Cultural identity. Taking students, especially First Nations students out into nature and educating them about their local environment through the use of Indigenous educational principles and ways of living and being is a way to strengthen their cultural identity and increase respect for themselves and the world around them.
- Environmental awareness. In our globally expanding world we need to learn from an early age to care for our world. The best place to start is at home, in the local community.
- Place-based learning. Observation skills, critical thinking, literacy, math and other opportunities for learning are abundant in nature through taking advantage of place-based learning opportunities and practices.
- Play. The importance of play for young children is recognized. We are aware of how play has an important part in young children's learning. What better place to play than outside in nature and to learn through playing in nature.

- Counteracting excessive technology use. Providing students with knowledge and appreciation for nature gives them alternatives to technology use. Excessive screen time and inappropriate use of technology is harmful to students' health and learning.
- Metissage. The braiding of three types of lessons - environmental studies, culture and 'play' lessons - enhances the benefits so that students can learn the benefits of two-eyed seeing which the Institute for Integrative Science and Health refer to as "Two-Eyed Seeing…[which]…refers to learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing ... and learning to use both these eyes together, for the benefit of all." (Retrieved from http://www.integrativescience.ca/Principles/TwoEyedSeeing/ on July 30, 2013, para. 3)

This curriculum unit takes kindergarten children out of the classroom and into nature. It employs Indigenous principles of learning and being. Ideally, it will help to improve the students' success at school and in their life, as well as increase respect for themselves and for nature. It attempts to metissage local cultural and First Nations traditional uses and beliefs about the land with western environmental studies and stewardship concepts and global ideas and experiential play all taking place in nature. In the next section of this paper I will explore the research about the key themes discussed above.

CHAPTER 2: Literature Review

Terms Defined - The 2010 *Accord on Indigenous Education* describes nomenclature as problematic. To name a person as " 'Aboriginal, Indigenous, First Nation, Indian, Metis, Native, North American Indian or Inuit' is to participate in a complex process of either self-identification or as Chartrand (1991) puts it 'outside-naming'….This process is often fraught with interactional discord and can be either emancipating, painful or both for Indigenous persons" (Archibald, Lundy, Reynolds, & Williams, 2010, p. 3) Please note that for the purposes of this paper I use the following terms Indigenous, Aboriginal and First Nations. "...Indigenous is a term used throughout the world to refer to the original inhabitants of the land. Aboriginal is a Canadian constitutional term that refers to First Nations, Metis and Inuit. First Nations refers to those who are formerly known in Canada as Native Indians" (Tanaka, Williams, Benoit, Duggan, Moir & Scarrow, 2007, p. 100).

Introduction

Throughout the world, there is a resurgence of interest in taking young children into nature; teaching them about nature in natural settings. The concept of learning in nature has been a part of Indigenous learning since the 'beginning of time'. It has also been a key aspect of learning paradigms proposed by Rousseau in the mid 18th century and Dewey in the early 20th century. Both Rousseau and Dewey expressed the need for experiential learning, outside of the school, that would be meaningful to students. "All studies arise from aspects of the one earth and the one life lived upon it" (Dewey, 1915, as cited in Woodhouse & Knapp, 2000, para. 1). Learning in nature is forwarded as being good for children's well-being; enhancing their learning and helping to create ecologically conscientious citizens willing to care for their world.

Nature is an ideal learning environment for young children. The environment is a key teaching strategy. It should be flexible, creative and varied and provide independent and cooperative use of stimulating materials and activities (Barrett, Littleford, Valee & Wannamaker, 2000). "When provided with suitable conditions for learning, children naturally learn" (Barrett et al., p. 27). From a First Nations perspective the First Nations Health Authority (2009) recommends learning about the natural environment. The First Nations Health Authority encourages First Nations people to "go to the land to find your first foods. Be active in

exercising your rights to hunt, fish, harvest and gather in your territory. Ask the old people and the traditional environmental knowledge keepers how to do this in a good way. It will be good for the mind, body and spirit and contribute to a self reliant future" (np).

As will be seen throughout this literature review, a key aspect of nature programs is to employ Indigenous teaching principles when implementing these programs. This aspect is also essential to the nature program within the First Nations community on the North end of Vancouver Island, where I teach and situate my MEd project. The place in which children play and learn has an effect on their learning. This literature review examines that impact, and how it applies to my project - locating children's learning in the local outdoor nature environment. It begins by looking at reasons why children do not connect with natural settings in their play.

Why Children Should, But Don't, Play and Learn Outdoors

As a child I spent a great deal of active and enjoyable time outside in nature; often more time outside than inside. Today's children do not always have this opportunity, nor do they know what to do with it if they do. There are many reasons for this change: there is less natural space available; parents have fears about a variety of dangers - real and imagined - with outdoor play; and there is a plethora of 'screen-based' and other indoor activities available. As one child said, "I like to play indoors better 'cause that's where all the electrical outlets are" (Louv, 2007, p. 1). Lack of exposure to nature is an increasing concern for a number of reasons. Louv (2008) has coined the expression 'nature deficit' disorder to describe this. Due to safety concerns, an increase in screen time, and limited natural areas children are suffering from reduced exposure to nature. Richard Louv in his 2007 Testimony to the United States House of Representatives stated that only 6 percent of children ages 6 - 9 play outside on their own. Louv (2007) claims

that for decades there have been people involved in trying to get children outside and into nature but that without government and educational support 'nature deficit disorder' may prevail.

There is a close connection for me as educator between my aspirations as a naturalist, my desire to share this passion with my students, and the sharing of local Indigenous Knowledge through the use of Indigenous pedagogy. Louv (2005) describes the importance of teaching students not just about the abstract concepts of ecology and environmental dangers, but of relating them directly to their environment. He writes, "[i]f educators are to help heal the broken bond between the young and the natural world, they and the rest of us must confront...the consequences of an overly abstract science education: ecophobia and the death of natural history" (p. 135). First Nations people can be viewed as the original natural historians of the local natural environment. As Chief Dan George (1974) said, "My people's memory reaches into the beginning of all things" (p. 85). He further wrote of a recognized reason for learning about the local environment in that it creates respect for the local, and eventually, for the global environment:

> *If you talk to animals they will talk with you*
> *and you will know each other*
>
> *If you do not talk to them you will not know them*
> *and what you do not know you will fear*
>
> *What one fears one destroys* (p. 33).

Non-Aboriginals also recognize this need for children's outdoor experiences. David Suzuki, as quoted in The David Suzuki Foundation's (nd) *Connecting with Nature* curriculum, wrote "our children have exchanged the experience of outdoors and nature with the enclosed world of electronics. This is disturbing because a person for whom nature is a stranger will not

notice, let alone care about, environmental degradation" (p. 3). The *Connecting with Nature* curriculum also suggests that spending time in nature improves students' recall and memory, problem solving, creativity and physical health. The key concepts outlined in *The Connecting with Nature* curriculum guide coincide with Indigenous knowledge and principles of learning: nature is valuable; everything in nature is connected; it is important for humans to connect with nature; individual and collective relations need to be formed; good discussions can be controversial.

The adage 'sooner is better than later' may be true in terms of taking students into nature. For First Nations students, culturally suitable and relevant material such as those found in natural settings needs to be included in their early learning and school experiences. Perceptions of nature are developed at an early age, and early positive experiences will help to support students' life-long engagement with nature and with learning. The extended effect of early exposure to nature is noted by Louv (2007) who states "studies show that almost to a person conservationists or any adult with environmental awareness had some transcendent experience in nature when they were children" (p. 2). Barnhardt and Kawagley (2005) relate the story of a First Nations Elder in an Alaskan community and the lessons that he learned as a child in nature from his father. He describes these lessons as being still clear at 70 as when he learned them. Students who have positive experiences with nature in their childhood retain the sense of wonder and awe that they had when they first experienced them. Louv (2007) claims that to deny children these life lasting experiences that involve all their senses is a travesty. O'Brien (2008) comments that children who do not have experiences in nature tend to become adults who do not use or visit nature and green spaces. Kitson and Bowes (2010) state that early childhood

experiences and education "are significant in setting children's life trajectories" (p. 81), and are important to "improving the future for Indigenous children" (p. 86).

Creating the Unit of Lessons *A Metissage: Learning in Nature with Indigenous Ways - Environmental Studies, Culture and 'Play' - Lessons that meet PLO's'* for my MEd project is based on the above effects, as well as studies by Mygind (2008) and Limstrand (2008, 2001). They indicate that it is easier for primary teachers to put this type of curriculum into practice, rather than wait for government curriculum guidelines to reflect place-based and experiential learning pedagogy (as cited in Bentsen et al., 2009). My MEd project nature lesson unit is informed by the above experiences and views, incorporating and building upon the concepts outlined below developed during my literature review research. The next section examines the various manifestations of nature based learning programs around the world.

World Views Regarding the Benefits of Nature Learning

Nature learning programs are being developed and implemented in many countries. In Denmark, nature programs are called *udeskole,* in Norway *friluftsliv,* in Great Britain and Germany *Forest Schools*, in Australia *Bush Kinder*, in Canada *Nature Kindergarten*, and in Zimbabwe *Environmental Education/Permaculture*. It is becoming a commonly held belief in Scandinavian countries that nature must play a role in children's and adolescents' education (Bentsen, Mygind & Randrup, 2009). In Denmark, *Udeskole* is a term used to describe a method of teaching based on a theory that education "…exists in a social, economic. political and geographic context…." (Bentsen et al.,2009, p. 32). The Danish *udeskole* is aimed at students up to the age of 16 years (Bentsen et al., 2009). *Udeskole* has mainly been practiced in natural

settings and the term nature classes has been used (Mygind, 2005). *Udeskole* activities are often cross-disciplinary and cross-curricular activities." (Bentsen et al, 2009, p. 32).

Forest schools in Great Britain are "characterized by positive relationships, achievable tasks and fun….The *Forest School* principles include building on individuals' innate motivations and positive attitudes to learning, offering them opportunities to take risks and make choices and initiate learning for themselves" (Rea &Waite, 2009, p. 3). O'Brien's (2009) observations of students participating in these programs in Great Britain found "improvements in the student's confidence, motivation and concentration, language and communication and physical skills" (p. 45). She noted that these changes occur over time and suggested programs include repeated and regular exposure to natural settings.

In Norway and Sweden *friluftsliv* - meaning 'free air life' - is used to describe outdoor education. Nature is considered a space to heal, relax, learn and enjoy (Gelter, 2000). Nature in learning is becoming an important part of the Norwegian pedagogical practice (Melhuus, 2012). It is a eurocentric philosophy that parallels Indigenous Knowledge and its approaches. Cohn (2010) finds *friluftsliv* in Norway follows Traditional Ecological Knowledge (TEK) and creates connections with ancestral history and the environment.

For my MEd project, the definition of nature lessons is informed by the ethos of the nature programs described above. It is centered on nature and the outdoors, but will include Culture lessons, with assistance from Elders, incorporating key aspects of Indigenous ways of knowing and perhaps affecting a 'decolonization' of Kindergarten education in my community based on the successes noted above and throughout the literature. In the following sections I examine key benefits of learning in nature including: an ethic of care; physical and emotional

well-being; literacy and communication development; social development; community and; meaningful local curriculum. I will also examine the benefits of Indigenous pedagogy and the use of metissage in curriculum.

Each of these elements contain both Euro-centric and Indigenous pedagogy, which I later argue, can be metissaged to educate and decolonize young students' learning in and about nature.

Reviewing the Benefits of Early Learning Experiences In Nature

An ethic of care.

The care ethic focus of nature lessons is a starting place for creating individuals who care about people and environments (Beames and Antencio, 2008 p. 106). Noddings' (1984) care theory suggests that caring is not about individualization, a typically western ideal, but about moral interdependence which I find similar to Indigenous pedagogy. Nature lessons create a caring classroom environment with two-way relationships between teacher and student but also between student and nature. Positive relations between students and teachers create an environment where democracy can be modeled and developed allowing students to control their learning experiences and be their own meaning makers (Aasen, Grindheim, & Waters, 2008) and enhance their lives, their communities and environments.

Physical and emotional well-being.

Louv (2007) suggests that "getting kids outdoors more...especially experiencing nature - could be the antidote to much of what ails the young" (p. 2). His book *Last Child in the Woods* discusses the benefits many have found nature has on obesity, depression, ADHD and autism. Louv (2009) describes how Ansel Adams, the renowned photographer who suffered from ADHD, was expelled from every school he attended but whose parents claim nature had a

calming affect. O'Brien (2009) suggests that learning in nature benefits all students "including those on the autistic spectrum, those with emotional and behavioural difficulties and with learning problems" (p.46). Louv (2007) also cites research from the California Department of Education that has found in studies that students who participated in outdoor studies had significantly better scores in science, social studies, language arts and math. O'Brien (2009) reports similar findings in Great Britain.

Studies by Mygind (2007) and Gronningaester et al. (2007) as cited in Bentsen (2009) used two different methods for measuring physical activity and fitness and both found that both physical activity increased during *udeskole* as did physical fitness levels.

Not only is it important to consider how the environment can affect health negatively, for example through air pollution, but it is important to look at the positive health effects of nature. Louv (2007) indicates that this an aspect being researched by many in the fields of environmental studies, medicine and pharmaceuticals and the findings indicate a positive correlation. In contrast to the young American boy who preferred to play indoors 'near the outlets' (Louv, 2007), Norwegian children who participate in nature kindergarten prefer to play outside (Aasen et al., 2009) and suggests that the Norwegian cultural attachment to nature is passed between generations.

Forest Schools in Great Britain provide "an 'inspirational process that offers children, young people and adults regular opportunities to achieve and develop confidence and self esteem through hands on learning experiences in a woodland environment' (Murray and O'Brien 2005; Forest Education Initiative 2007)" (O'Brien, 2009 p. 45). O'Brien (2009) noted teachers observed increased self esteem and self confidence, motivation and concentration, improved

social skills, enhanced development of language and communication skills, increased knowledge and understanding, and better physical motor skills in students (p. 50).

Many studies have connected increased physical activity, improved health and higher ability to concentrate in students who participate in learning in nature (Mygind, 2007, p. 162). Mygind (2007) indicates that studies are now being done that suggest a positive correlation between physical activity in children and improved cognitive ability (p 173). Bentsen et al. (2009) suggest "udeskole can add value to normal classroom teaching especially with regards to health, social and well-being perspectives" (p. 30), and "Udeskole can contribute to school pupils' academic, social, personal and physical education and development" (p. 35).

Aansen et al. (2009) describe the outdoor play environment as providing better options for choice and for children to organize learning in a manner that makes sense to them and allows them to construct meaning. This can be enhanced when the western versions of nature education are taught in combination with Indigenous pedagogical principles. Learning outdoors in nature integrates cognitive, social, and emotional behaviors (O'Brien, 2009) as well as health, well being and physical activity. It can also teach "the national curriculum and foundation stage objectives such as English, Maths and Science" (O'Brien, 2009 p. 46). Learning in nature allows students to participate in learning that is both academically significant and significant to themselves, their community and culture (Smith, 2002). Smith favourably reports about several schools and the students academic success in science when place-based learning is used. Literacy and communication development is also positively affected.

Literacy and communication development.

Verbal language used by students is different outdoors from indoor classes. "Outdoors there is greater opportunity for more pupil centered projects, less teacher control and more time for becoming absorbed in learning activities" (Jacobsen, 2005 as cited in Bentsen 2009 p. 34). The natural environment provides opportunities for imagination and creativity, which benefits all aspects of language communication and literacy.

Learning through the use of Indigenous pedagogy in nature involves many forms of literacy; from dancing and singing to storytelling and art. Providing these opportunities to First Nations students to express themselves in culturally appropriate ways will improve their literacy. "When literacy is viewed only as written language, difference is erased rather than embraced, and a valuable source of learning denied" (Kitson and Bowes, 2010, p. 83).

*"*Indigenous languages are an integral part of Indigenous knowledge systems" (Bernhardt and Kawagley, 2005, p 19). One's native language is inextricably connected to one's culture. It is important to include the local First Nations language in the lessons. It is important to consider that teaching in a different language fails to imparts the local traditions and knowledge as meaningfully as the traditional language. Ensuring that First Nations people preserve their language is essential to their personal and cultural identity (Barnhardt & Kawagley, 2005). Learning in nature has been shown as a factor that promotes care, increases physical fitness, and cognitive functioning in areas like math, science and literacy.

Social development.

The literature also explores its impact on social development and community. A study by Mygind (2008) as cited by Bentsen (2009) shows a correlation between learning in nature and

children's social relations with their peers and teachers. Mygind's study also indicated a positive impact on other social and psycological aspects for the children (p. 33).

As suggested by O'Brien (2009), *Forest School* is a place, in summary, where:

- Children are encouraged to be part of a team in the pursuit of tasks.
- Materials and tools are shared among the group and the children take turns.
- Children are given the freedom to play independently from adult intervention and are guided by the rules of games that encourage teamwork.
- Children relate positively to members of their peer group.
- Children become accustomed to working independently from adults.
- Children gain an increased awareness of other people's personal space and are able to form new friendships as they identify abilities that are valued by their peers.
- Children negotiate with each other to achieve team tasks.

O'Brien (2009) found that cooperation is created during nature activities that involve working as a team. She found that confidence was increased, that children started to talk more and that independence increased as did leadership skills. Maposah-Kandemin, Higgins, & McLaughlin (2009) research found the same conclusions of enhanced environmental learning, social and community, personal, cognitive and academic development of the students.

The concept of *social capital* is important to creating a nature unit of learning, especially one that would be ongoing. Social capital can be defined as social networks that have value (Beames & Atencio, 2008). Building social capital involves both bonding to create trust and reciprocity and bridging that builds "new relationships across social divisions" (Beames & Atencio, 2008, p. 103). My Nature Lessons would combine bridging and bonding and the

creation of social capital within the community and for students. Positive human relationships will be modeled and created within the class and will have a trickle down effect on the community at large as the students become more socially aware (Beames & Atencio, 2008, p. 104). Lessons embedded into students' home community bridge and will help create positive, relevant and unique social networks throughout the community. Brookes states that "outdoor education programmes need to incorporate knowledge of local patterns of community relationships with nature" (as cited in Beames and Antocio, 2008, p. 104). Beames and Antocio observe

> this 'place-based' approach involves creating an educational context that is more attuned to human and environmental relationships, and...supports the development of bridging social capital...by working with elders, artist or people in the community knowledgable about food gathering through valuing the local residents' skills and following their culturally appropriate ways (p. 105).

Community.

Norwegian studies by Aasen, Grindheim and Waters (2009) have found that learning in nature is a prime location for learning democracy. The relationship of the teacher to the students is paramount. Democracy is modeled by the teachers. The teachers provide experiences where students learn through experiential learning. Scaffolding is provided for students to be meaning-makers of their own learning. Barnhardt and Kawagley (2005) assert that "place based education practices have received widespread recognition and support as a way to foster civic responsibility while also enriching the education experience for all students...Indigenous and non-Indigenous" (p. 19). Kitson and Bowes (2010) cite studies in Canada by Hampton and Roy

(2002) that indicate relationships to community and the community environment are of importance to Indigenous students. Allowing for community input ensures that programs are relevant to the learners. Nature Kindergarten begins by creating a community in the class. When young children experience this positive community it prepares them to be constructive members of the larger community and then the global community.

Meaningful local curriculum.

The Danish example of having the government provide goals and targets for each subject and allowing the municipalities, schools and teachers to create their own curriculum has proven to be very successful in Denmark (Bentsen et al. 2009). Applying this type of curriculum development in our community would create more meaningful, relevant and engaging learning for students. Barnhardt and Kawagley (2005) cite Battiste (2000) that "the Indigenous student (as with most students) will become more motivated to learn when the subject matter is based on something useful to the livelihood of the community and is presented in a way that reflects a familiar worldview" (p. 12). These are enhanced by indigenous approaches to education that can be combined with western approaches to create a metissage as examined in the next sections.

Indigenous Knowledge

Cajete and Pueblo (2010) describe life stages in Indigenous education as "a path of evolution and transformation" (p. 1130). The summarized stages are as follows:

- the moment of birth revolves around gaining a sense of place;
- social learning, the natural environment, cultural history;
- relationships and developing a connection to tradition.

Later stages take place in 'the middle place of life'. If first stages are not begun at an early age the stages that follow cannot be met in a timely fashion.

Indigenous pedagogy is holistic and experiential. It is tied in with nature, spirituality and relationship and community, not just the 'taking in of' knowledge and ideas. A major factor of Indigenous knowledge that makes it superior to western knowledge for teaching nature education according to Stevens (2008) is that Indigenous Knowledge systems are holistic - all subjects are interconnected, making learning about nature more concrete. Assessment is also more relevant in Indigenous pedagogy. It addresses "whether a person is actually capable of putting [that] knowledge into practice in a real world sense" (Steven 2008, p. 11).

As each aboriginal group has differences and uniqueness so does each learner. Cajete and Pueblo (2010) note that Indigenous education has "an innate respect for the individual uniqueness of each person and that there are many ways to learn, many ways to educate, many kinds of learners, many kinds of teachers, each of which [has] to be honored for their uniqueness and their contribution to education" (p. 1131).

Many First Nations communities are now documenting their knowledge with recordings and videos. It is still essential to take students on to the land and to allow them to learn from Elders and the environment. Stevens (2008) describes how many school programs force students to focus on written material. In Indigenous traditions there is more to the knowledge than can be merely recorded. The recordings contain merely information not the 'knowledge'. Learning from Elders on the land is the way to prevent that knowledge being lost.

To use Indigenous Knowledge effectively you must include the holders of that knowledge in the teaching. According to McGregor (2008) from an Aboriginal point of view Indigenous

Knowledge describes a "relationship between knowledge, people, and all Creation (the 'natural' world as well as the spiritual). [It includes]...the process of *participating (a verb)* fully and responsibly in such relationships, rather than specifically as the knowledge gained from such experiences" (p. 145). Often from the western point of view Indigenous Knowledge is a noun that merely describes a method (McGregor, 2008). To ensure that it is more than that it is important to include the First Nations people in teaching the language and sharing their knowledge of the land. Indigenous knowledge as described by Snively and Crosigilia (2000) is knowledge "acquired over thousands of years of direct human contact with the environment (p. 11). Chief Dan George wrote "*My people's memory reaches into the beginnings of all things*" (p. 85).

All Indigenous populations are unique as are their methods of teaching and the ways in which they learn. However there are some commonalities within all Indigenous pedagogies. There are a number of themes that run throughout all Indigenous ways of teaching and learning (Snivley & Williams, 2008).

The holistic nature of Indigenous Knowledge is summarized well by the editorial title "Indigenous Ways of Knowing, thinking and doing", by Kanonhsionni (2002). She describes Indigenous education as "life-long and all-encompassing" (p. 283). It is relational and needs to be based on and the knowledge of ones ancestors'.

In BC the 'First Peoples Principles of Learning' were first identified in the English 12 First Peoples curriculum. These principles reflect the wisdom and knowledge of Elders and of educators in BC. These principles are outlined in *In Our Own Words* published by the First

Nations Education Steering Committee (FNESC) and the First Nations School Association (FNSA) in 2012.

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Learning is holistic, reflexive, reflective, experiential, and relational (focussed on connectedness, on reciprocal relationships, and a sense of place).
- Learning involves recognizing the consequences of one's actions.
- Learning involves generational roles and responsibilities.
- Learning recognizes the role of indigenous knowledge.
- Learning is embedded in memory, history, and story.
- Learning involves patience and time.
- Learning requires exploration of one's identity.
- Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations. (FNESC & FNSA, 2012, p. 8)

In Our Own Words summarizes many reasons for teaching First Nations students about nature, for taking them outdoors, teaching them Indigenous knowledge and using Indigenous pedagogy in collaboration with the local community.

That is why this guide has been developed. It provides an array of ideas and suggestions that can be applied in whole or in part to incorporate First Peoples content into a K-3 classroom. By following the suggestions provided here and remaining open to respectful dialogue and consultation with members of the local First Peoples communities, teachers will benefit their students and expand their own comfort with this material. And while mistakes will inevitably occur (as in any undertaking), no mistake arising from

> application of the suggestions provided here will prove as serious as the mistake of failing to work toward a more accurate portrayal of First People realities in the classroom or a pedagogy that is more inclusive of Aboriginal learners (FNESC & FNSA, 2012, p. 8).

Some of the common traits of Indigenous learning identified in the 2010 *Accord on Indigenous Education* that coincide with nature learning include holism and life long learning. Spiritual, emotional, physical and intellectual learning are all intertwined unlike western education that focuses only on the intellectual and misses much of the wonder that nature has to offer. The holistic approach uses diverse differentiated and multiple strategies to ensure all types of learners can learn at their maximum potential. Learning is relational. It is relations with oneself, one's family and one's community and the environment.

Sanford, Williams, Hopper & McGregor (2012) compare the differences between Indigenous ways of Knowing and eurocentric ways of teaching. Their paper draws from Lil'wat scholar Lorna Williams' knowledge of Indigenous principles and Lil'wat words to describe some of its principles. These principles are relevant to my Nature Lessons. The paper discusses the desire to embrace ideas such as inclusivity, community building, celebration of individual uniqueness and the development of respect. The paper suggests that moving away from the eurocentric point of view and accepting, understanding and even embracing the Indigenous principles can improve education for all.

The following Lil'wat principles shared by Lorna Williams and listed by Halbert & Kaser (2013) and discussed by Sanford et al. (2012) are common throughout Indigenous population and are also beneficial and powerful concepts for non-Indigenous learners:

Cwelelep - This is the feeling of not knowing, of anticipation. It is a place of uncertainty and dissonance. Students, even First Nations students who may traditionally be comfortable in nature, may experience this as we venture into nature and on to the land due to the lack of exposure so far in their lives. But this feeling is part of the learning process.

Kamucwkalha - This is the energy felt as a group comes together for a common purpose. It creates an environment where students feel safe to express their own views and embrace their uniqueness as well as their relationship to the group. Most studies of nature education programs conclude that this is naturally a part of the learning process when students learn in and about nature.

Celhcelh - This principle is about finding oneself, being responsible for ones own learning and then offering ones knowledge to benefit the work of the group as a whole. Again research has found that this typically occurs when learning takes place in nature. It is important for the teacher to help guide students through this process.

Emhaha7 - This principle means "learners work respectfully and with good thoughts" (p 16). In nature education lessons students are taught to respect all things and people.

Responsibility - Students are responsible for helping the class as a whole accomplish tasks in a good way. In nature lessons this could be a garbage clean-up day or a berry picking trip to make jam for an upcoming feast.

Watchful Listening - Being open to listening to ideas that may not be the same as our own. It is also the awareness of what is around you. This will be especially important to the teachers of nature lessons as they will have to be open to these Indigenous principles that may be very different from the teaching principles they know and are familiar with. It is also important

to the students as eventually they to will have to find ways to make sense of their cultural principles and how they can work in the 'modern' world.

A7xkcal - This principle is of importance to both the teacher/teaching and the learner/ learning. It is "the way teachers help to locate the infinite capacity in each learner. It involves developing each person's individual gifts and expertise in a holistic way" Halbert & Kaser 2013, p. 16). This principle again requires the teacher to b open to accepting Indigenous principles as beneficial.

Kat'il'a - This means to find stillness. Stillness will be a part of most lessons. It is difficult in today's busy society but it is necessary to have stillness to learn. In nature it is easy to find peace and stillness.

A Metissage of Traditional Indigeneous and Western Knowledge

Ritter and Dauksta (2012) writing from a western/european perspective suggest it is necessary to consider cultural connections to the forest and nature in learning. It is white and european colonizers who need to consider our roots and connections to the forest and how they have affected the development of our civilization. It is important to be aware of ones own place before beginning a discussion that allows for equal weight to be placed on two possibly diverse and dichotomous views of nature. Barnhart and Kawagley (2005) agree and state:

> It is imperative, therefore, that we address these issues as a two-way transaction. Native people may need to understand Western society, but not at the expense of what they already know and the way they have come to know it. Non-Native people, too, need to recognize the coexistence of multiple world views and knowledge systems, and find ways

to understand and relate to the world in its multiple dimensions and varied perspectives (p 9).

I propose to interweave my western/eurocentric ideas with Indigenous Knowledge in my metissage in order to maximize the learning of my students. I will do this through the braiding or metissage of environmental studies, Culture and play lessons within one cohesive unit of lessons in nature. I neither want to give up my knowledge nor appropriate the knowledge of First Nation's people. I look at it as a metissage - a literary term referring to the inter weaving of two or more separate stories. This will begin a discourse towards decolonization. Where information and learning can flow between two equal cultures rather than from colonizer to colonized.

Towards Decolonization

In a recent sermon on reconciliation at Christ Church Cathedral in Victoria, renowned First Nations expert on creating resilience in children and youth, Rev. Canon Dr. Martin Brokenleg, listed steps necessary for the colonized Aboriginal and the non-aboriginal colonizer to take in order to avoid the "risk [of] the continued heritage of being an effective, racist country" (November 2013, The Diocesan Post, p. 5). Decolonization for the colonized aboriginal will most effectively be met by Brokenleg's third step " We [Aboriginal] must recover the strength that comes from our identity and traditional culture. We must learn or relearn our Aboriginal cultural ways" (p. 5). Decolonization for the non-aboriginal colonizers, their lessons and their teachers will have to "acknowledge the absolute equality of Aboriginal thoughts and practices with those that came from Europe to Canada" (p. 5).

Nature education for First Nations students has the added benefit of helping with self-determination and decolonization. By encouraging students, community members and elders to participate in the lessons, the planning and the direction the lesson and the unit takes, by including and accepting as equal the local knowledge and wisdom in the lessons my students and community will experience self-determination. This will not only be a benefit to themselves but also to the education community and all learners as they are exposed to the benefits of Indigenous practices (Barnhardt & Kawagley, 2005).

Cohn (2011) recognizes the human-nature relationship. He provides suggestions for "an alternate paradigm for outdoor education...it is millennia old, has roots all over the globe and is a living, breathing and evolving tradition - indigenous ways" (p. 15). He states that "Indigenous ways have the potential to inspire a fundamental change in outdoor education, while providing working models for theory and practice" (p. 15). Lessons in nature, even for the young that incorporate Indigenous principles of teaching such as those stated by Williams & Tanaka (2007) "including: mentorship and apprenticeship learning; learning by doing; learning by deeply observing; learning through listening; telling stories and singing songs; learning in community; and sharing and providing service to the community" (p. 3) are critical.

I believe that a course offered to students at the University of Victoria that included elements of Indigenous knowledge will also benefit young children participating in nature kindergarten lessons. These elements include inclusivity, community building, recognition and celebration of individual uniqueness" (Williams & Tanaka, 2007, p. 2). These are elements that naturally occur during learning experiences in nature as noted in Great Britain, Norway,

Denmark, Australia, Canada, and African nations. Therefore the use of Indigenous ways with European ways of knowing can be beneficial and improve learning.

The Challenges of Nature Education

The idea that Nature education is entirely positive is not without cautions, regardless of the fact that Indigenous people have successfully been passing on knowledge and wisdom in and through nature successfully since the 'beginning of time'. Bentsen et al. (2009) concedes that the scope of 'modern' eurocentric research and development is limited. Most of the studies have been case studies or action research, methods less recognized and accepted as valid by some modern eurocentric researchers and educators. However, Bentsen et al. argue that analysis does "lead[s] to a strong positive hypothesis towards benefits of *udeskole* and thus highlight the potential of *udeskole*" and other programs and forms of nature kindergarten and education. Bentsen et al. (2009) found that the analysis supports the supplement of nature education with 'normal' classroom teaching and that it does improve modern schooling. In Denmark - and arguably in many of the countries cited in this literature review - it has been found to increase the possibilities of achieving government curricular aims and goals in the areas of academic success, health and fitness, psychological and social perspectives as well as the cross-curricular connection to green space and environmental education (Bentsen et al., 2009, p. 40).

My MEd project encompasses environmental, outdoor education, environmental stewardship, outdoor adventure learning and much more. They will affect each student as an individual, as a class and as part of a greater community. The lessons are created to ideally develop students' independence, creativity, academic achievement, social and emotional development, citizenship, physical fitness, health, and personal well-being. Because these

lessons will be taught using a metissage of both western and Indigenous pedagogy - clearly acknowledging Indigenous teaching principles and Indigenous ways of thinking, knowing and being - benefits may be experienced in an even more significant way.

A nature kindergarten program that involves children in regular contact over a period of time with nature, the beach, forest, and streams, can play an important role in children's development. It can promote self-esteem, "children's confidence, motivation and concentration, language and communication [and] physical skills" (O'Brien, 2009, p. 45) and physical fitness, health and mental well being towards understanding (Mygind, 2009)). Dylan as cited by O'Brien (2009) lists a whole range of positive impacts from Nature Kindergarten programs from "cognitive impacts, affective, interpersonal/social [to] physical and behavioural impacts" (p. 45). O'Brien describes Nature Kindergarten programs as being important factors in life-long learning, health and well being and in creating "ecologically sustainable societies" (p. 46).

There is little research that indicates that learning in and about nature, with or without the use of Indigenous principles, is not beneficial. Bentsen et al. (2009) do however concede that there may "places on earth where the concept of *udeskole* does not give any meaning; for instance where individuals are working hard to obtain 'normal' classroom teaching, or in other cultures and societies that only have education outdoors" (Brookes 2004, p. 38). My MEd project utilizes the many benefits of learning in nature for young local students, while acknowledging that there is no one correct approach. Most importantly, my series of lessons is informed by the literature on learning in nature, along with my own valued experiences.

Chapter 3: A Unit Of Nature Lessons :

"*A Metissage; Learning in Nature with Indigenous Ways - Environmental Studies, Culture and 'Play' in Nature -Lessons that meet PLO's"*

The Purpose

This project offers support for the design of a Unit of Nature Lessons for First Nations kindergarten students. It was conceived with the needs of the First Nations students I work with in mind. It will take the students out of the classroom, on to the land and into nature. I have called the Unit of Nature Lessons *"A Metissage; Learning in Nature with Indigenous Ways - Environmental Studies, Culture and 'Play" in Nature - Lessons that meet PLO's"*. A metissage, as defined in Chapter 2 of my paper, is a literary term describing the interweaving of two or more separate stories. In a metissage information and learning flows between different but equal cultures to facilitate a dialogue of exchange rather than conflict. Metissage also assists the decolonization of education by beginning a dialogue and discourse of reconciliation between traditional western/eurocentric teaching methods and Indigenous pedagogy and Ways of Knowing (Chambers et al, 2002). The concept was developed largely as a result of what I perceive as the needs of my current students, reflects my MEd studies, particularly my literature review, and is also based on my 20 years experience teaching First Nations students and living in proximity to First Nations communities.

The purpose of my Unit of Nature Lessons is to metissage three styles of lessons (a) western/eurocentric traditional environmental studies lessons, (b) lessons devoted to 'play' in nature and (c) local, culturally authentic lessons with the involvement of Elders and Community members together in a single unit of lessons with the common thread of local environments and

Indigenous pedagogy. Power and Roberts (as cited in Kitson & Bowes, 2010) state that "...the key is to focus on developing children's ability to step in and out of the mainstream system…." (p. 85). The metissage of the Unit's lessons will, as Canadian tribal Elder Louis Opekekew observed, assist First Nations students to learn to "walk in both worlds" (Kitson & Bowes, 2010, p. 85). The metissage is accomplished by braiding the three types of lessons, of which examples are given later in the paper, with the common thread of nature and Indigenous ways of teaching into a cohesive Unit of Nature Lessons.

Louv (2008) indicates that all naturalist and good environmental citizens had positive nature experiences as children. It is essential that learning in and about nature begin in the preschool years and continue throughout the school years (Tsekos, Christouforidou, & Tsekos, 2012). Hence the need to design these lessons for kindergarten.

My Unit for kindergarten would contain three types of lessons. The first type of lessons will be environmental studies and stewardship lessons. The second type of lessons will be devoted to 'play' in nature and the third will be local traditional Culture lessons with Elder and community member assistance and support. The lessons' goal and focus will either be learning and encouraging naturalism and environmental stewardship, 'play' in nature, or learning local First Nations cultural activities on the land. All are to take place in the local natural environment - the forest, the river and the beach. The metissage braids the environmental studies lessons, 'play' in nature lessons and local Culture lessons in one cohesive Unit.

The lessons will include western/eurocentric traditional methods, experiential learning and Indigenous pedagogy and methods and will all be tied to learning outcomes in the BC

Ministry of Educations Kindergarten Curriculum Package (BC Ministry of Education, 2010) (PLO's). This will be accomplished by the metissage of the lessons into a cohesive Unit.

The Lessons

The Unit of Nature Lessons for First Nations kindergarten students consists of nine lessons, one of each type (i.e., environmental studies, 'play' and Culture), in each of the three key nature environments associated with the community where I teach on the North Coast of Vancouver Island: the forest, the river and the beach. The lessons chosen and listed in Table 1 as an example unit may easily be modified or changed to lessons suited to the needs of the day. Some are seasonal and may be affected by forces beyond the teacher's control such as weather and to the extent based and dependent on the participation by Elders and other community members, therefore subject to their availability. The number of lessons that can be included in the unit is also flexible to suit individual environments and needs.

Table 1

Examples of the classification of possible lessons for this Unit

	Environmental	Play	Culture
Forest	Looking up, Looking down	In the Forest	Cedar bark gathering (May)
River	A listening walk	At the River	Blackerry picking (September)
Beach	Whose home is this?	At the Beach	Clam digging (February)

Three of the above lessons from Table 1 have been chosen as illustrative of each of the three styles of lessons that would comprise a Unit of Nature Lessons.

Rationale

The three lessons illustrate the collaboration between student and teacher, and as noted in Tsekos et al. (2012), show the features of (a) independent and self-determined activity where students are encouraged to undertake initiative, (b) mutual cooperation is promoted among students, (c) creative thinking is cultivated and (d) the teachable material is linked to everyday life. Rogoff (as cited in Tsekos et al., 2012) refers to "the process of learning through the help of adults as a guided participation so as to place special emphasis upon the cooperation of the children with the other participants so that they can proceed to more sophisticated knowledge and skills levels" (p. 2). This is one of the reasons why I have included participation by Elders and other community members.

I believe that by the metissage of lessons within one unit it is possible to fit these lessons into an already busy kindergarten year. It will assure that the students have exposure to the things discussed in my literature review as being important: culturally relevant curriculum, the use of Indigenous pedagogy in teaching and assessment, 'play' as part of learning and the most important from the perspective of my MEd project, positive experiences in nature (Archibald et al., 2010; Barnhardt & Kwagley, 2005; Barret et al., 2000; Bentsen et al., (2009); Cole & O'Reilly, (2010); Cajete & Pueblo, 2010; Kitson & Bowes, 2010; Louv, 2005, 2007, 2009; Maposha-Kandimiri et al. 2009; Melhuus, 2012; O'Brien, 2009; Snively & Williams, 2008; Woodhouse & Knapp, 2000).

Based on my two decades of teaching in First Nations Schools and having observed the maturing of students with whom I have endeavored to use this type of teaching, that I now know as Indigenous pedagogy, it is my opinion that the metissage or braiding of these ideas and styles

of lessons will create an environment and culture for learning that will help the students I teach attain an excellent learning experience, maximize their learning and create culturally secure citizens who are environmental stewards and naturalists (Cohn, 2010; Louv, 2007; Tsekos et al., 2012). It will also provide a relevance often lacking in First Nations instruction that eventually and frequently results in disinterest in learning and eventually drop out. It has been noted that the traditional education system alienates First Nations students and forces them to drop out of school due to its persistence in using only western ideas and methods (Cole & O'Riley, 2010).

The knowledge that Indigenous peoples such as the First Nations People that I work with is often referred to as Traditional Ecological Knowledge (TEK).

> [It] has been defined as "...the knowledge base acquired by indigenous and local people over many hundreds of years through direct contact with the environment. It includes an intimate and detailed knowledge of plants, animals, and natural phenomena, the development and use of appropriate technologies for hunting, fishing, trapping, agriculture, and forestry and a holistic knowledge, or 'worldview' which parallels the scientific disciplines of ecology" (Inglis, 1993, vi). TEK is similar in many respects to the long-term observational data that have been referred to as natural history. Natural history has contributed to the formation of environmental science, ecology, biology, geology, and geography. Two factors have resulted in a decreased emphasis on this type of data collection. One factor is the emerging importance of "hard data" (quantitative) as part of the scientific method, as opposed to the more qualitative approach of observational data collection. In

addition, long-term studies are costly and funding for scientific research is limited (Sutherland, 2013, p. 13).

I have noticed in my research that in the plethora of environmental studies lesson plans available in books and on the internet many (e.g., those found at www.davidsuzuki.org or www.plt.org) follow this qualitative approach rather than a hardline scientific approach or at least use a combination of qualitative and quantitative methodologies.

This leads me back to naturalism. Barnhardt and Kawagley (2005) stated, "Aboriginal people are the original naturalists" (p. 12). I consider myself, by interest, a naturalist and indicated in Chapter 1 of this paper that I have enjoyed the benefits of this interest. Bringing these ideas of naturalism, culturally relevant curriculum and Indigenous pedagogy together in the local nature environment will create an ideal learning and teaching situation within the community and benefit the students. It would be a beneficial learning environment and situation for any student and easily adapted to specific learning environments.

The Unit will contain place-based environmental studies and stewardship lessons and learning that is based on the local environment. It will focus on math, science, social studies and literacy learning related to the local environment, community and culture.

The 'play' lessons will be experiential lessons where the students, teacher and whenever possible Elders and other community members will go out onto the land. This will allow the students as a group and as individuals to find their own learning and with teacher guidance be responsible for their own learning. For learning to be experiential for students, it is the students who will lead the lessons and create the lessons plans as class time unfolds. It is the job of the

teacher to find a way to make teaching and instruction follow, scaffold, support and extend the students' lead to learning (Aasen et al., 2009; Barret et al., 2000; Melhuus, 2012; O'Brien, 2009).

There will be local First Nations Culture lessons where Elders and community members will share seasonal knowledge of local plants and animals and local legends, stories and beliefs related to these plants and animals. These lessons with Elders will have direction and teacher guidance but will depend largely on the Elder and what area of traditional Knowledge they have expertise and what may be currently available to observe, study or gather in the environment at the time.

Activities, equipment and materials will include the use of iPads for photos and recording information (or the teachers' camera) which will facilitate later classroom review and discussion and possible assessment of outcomes required to meet PLO's and essential learnings. A class set of gumboots and raincoats is also useful and if this cannot be provided by all parents a class set can usually be found at the local thrift store for sharing. Magnifying glasses are great tools for some lessons but most equipment for the environmental studies lessons can be found around a school or home.

Indigenous Pedagogy and Principles

To ensure the use of Indigenous pedagogy I have used Table 2, adapted from Sanford et al. (2012), to use in planning the different styles of lessons. Table 2 will enable the teacher to compare and contrast Indigenous and Western pedagogy and ensure the use of Indigenous teaching or at least a balance between the two in all three types of lessons.

Table 2

Compare and Contrast of Indigenous and Western/Eurocentric Pedagogy

Indigenous - Learner/Teacher/Elder Collaboration	**Western - Predetermined Curriculum**
Learning is emergent but PLO's still met	PLO's are predetermined
Student/teacher interaction is a focus	Teacher to student focus
Learning happens in nature/place-based	Learning occurs in classroom
Students gather and construct learning - learning is experiential	Knowledge transmitted from teacher to student
A variety of groupings is used - independent, whole group small group, partners, etc	Students work independently
Assessment is done in context - and is used to diagnose learning	Teacher evaluates learning - not in context
Learners are guided to find their own answers and solutions to their questions	Teacher monitors and corrects students responses
Teaching and assessing are intertwined (metissaged) students and teachers assess their own learning and each others	Teaching and assessing are separate
Multiple opportunities and methods are provided for success and to display learning - quiet recognition is given frequently	Students ranked by predetermined criteria
Students have some choice in activities and topics	Teacher or curriculum chooses learning
Learning is multidisciplinary	Focus on one discipline
Class culture is cooperative, collaborative, supportive and respectful	Class culture is competitive and individualistic

Although I have attempted to distinguish between the three types of lesson there is overlap between traditional and Indigenous methods. Barnhardt and Kawagley (2005) indicate the common qualities between Indigenous Knowledge and western science that can be incorporated into lessons, such as, observation, the use of natural settings, and knowledge of plant and animal behaviour. The diagram in appendix A displays these common qualities (Barnhardt & Kawagley, 2005). There is overlap between the two methods but it is imperative to use aspects of each method that are exclusive to that method. It is my experience that it is in the best interest of all participants to use Indigenous methods when suitable and to use whatever

method works for the teacher when necessary. For example, if the lesson is berry picking and there are no berries ripe be prepared to teach an environmental studies lesson on climate change. Be flexible within lessons and between lessons. The metissage or braiding of the three styles of lessons, with the connecting thread of Indigenous pedagogy and the use of the local environments throughout, is of much more importance and significance than the content of the lessons themselves. Table 2 and appendixA will assist teachers to achieve a balance. Indigenous pedagogy is being increasingly recognized as a superior method of teaching (Snively & Williams, 2008). In this Unit the use of some western traditional science is also important to the metissage especially when tempered with Indigenous principles listed in the following section.

The Common Thread in the Braid/Metissage

Although the lessons do have differences they also have many commonalities. They all accomplish many of the PLO's and are therefore valuable lesson tools for accomplishing important curriculum goals. They are multidisciplinary in that they meet PLO's and essential learning questions from many different disciplines - Language Arts, Science, Social Studies, Physical Education, Art Education and Health and Career Education. For example all three of the sample lessons contain PLO's from different disciplines; the clam digging lesson will meet PLO's from Social Studies, Language Arts, Physical Education and Health and Career Education.

Another significant similarity is that they all occur in the three local traditional environments the forest, the river and the beach. Having students participate in place-based learning in their own local and traditional territories is also key to the success of this Unit.

The most significant commonality that relates to my literature review other than nature is that all lessons include Indigenous pedagogy. Many of the principles of Indigenous learning that were discussed in Chapter 2 are included and imbedded in the lessons and the way the lessons will be taught and the way the students will be assessed.

The three types of lessons all touch on and incorporate one or more of the following Lil'wat principles. These principles are imperative to this Unit and what I believe will help to make it successful. The eight Lil'wat principles were more fully explained in the Literature Review portion of this project (Halbert & Kaser). For example, *Cwelelep*, the feeling of not knowing and of anticipation is found in the environmental studies as the students wonder, and predict what sounds they may hear in nature and what the sources are. *Cwelelep* is also a feeling of dissonance that First Nations students might experience during a lesson on their traditional land that uses western scientific methods or vice versa for non-native students. Tact and respect can be of assistance in these cases to ensure that the dissonance is helpful rather than overwhelming. *Kat'il'a*, which is the need for stillness and quiet in learning, is found in the cultural and play lessons and to an extent in the environmental studies lesson. In the play lesson a time is even set aside for quiet in the nature setting.

Some of the principles do not apply only to the teaching but to the teachers' acceptance and respect for the role Indigenous pedagogy can play in teaching. *Emhaka7* and *Responsibility* are particularly evident in the play lessons that develop cooperation, respect and a community of learners responsible for their own as well as others' learning. It is fostered by the teacher, who needs to embody and model doing one's best and respect for others and nature, as important attitudes in learning and teaching. *A7xekcal* is the developing of each person's gifts and

expertise and is evident in the types of assessment a teacher might use. The assessment should be qualitative and used to improve future teaching and lessons. *Kamucwkalhalh* describes the moments when individuals become groups and a community of learners is created. Each participant brings their own uniqueness but a common goal brings all together. *Kamucwkalha* acknowledges the positivity of a common group goal such as often found in environmental studies and stewardship lessons that could be included in the Unit. For example, a lesson on the types of garbage found on the beach with a garbage clean-up as one of the lesson activities. The Lil'wat principles are met in each of the sample lessons later in this paper. Table 3 indicates which of these Lil'wat principles are met in the three different lesson styles.

Table 3

Applied Lil'wat Principles

Lil'wat Principles .	**Environ-mental**	**Play Lesson**	**Culture Lesson**
celhcleh - learning ultimately supports the well-being of the self, family, the community, the land, the spirits and the ancestors	x	x	xx
kamucwkalha - the energy felt as a group comes together for a common purpose	x	xx	xx
emhaka7 - work respectfully with good thoughts	x	x	xx
Responsibility - learning recognizes the consequences of one's actions	x	x	xx
Watchful listening - being open to ideas that may not be the same as your own	x	x	xx
a7xekcal - learning requires the exploration of one's identity	x	xx	xx
Kat'il'a - to find stillness	x	xx	xx
cwelelep - the feeling of not knowing, of anticipation	xx	xx	xx

Table 4 lists other important aspects of Indigenous pedagogy and indicates how the three styles of lessons, although different, frequently have Indigenous pedagogy, teaching and methods in common (Sanford et al., 2012; Halber & Kaser,2013).

Table 4

Important Aspects of Indigenous Pedagogy

Indigenous Pedagogy	Environ-mental	Play Lesson	Cultureal Lesson
Is holistic and multi- and interdisciplinary	x	x	x
Learning is emergent and intuitive		x	x
Learning happens in many locations both in and out of the classroom in local areas	x	x	x
Students gain knowledge through gathering and synthesizing information	x	x	
A variety of group, individual and small group situations occur	x	x	x
Teachers guide learners to find solutions and answers		x	x
Teaching and assessing are intertwined - students evaluate their own learning, teachers evaluate students learning and their own learning/teaching - assessment is used to diagnose learning and promote further learning		x	x
Lessons provide multiple opportunities for success and quiet recognition and work is celebrated and shared		x	x
Collaboration, cooperation, respect and supportiveness are fostered between students and between teacher and student within the learning community/class	x	x	x
Learning is holistic, reflexive experiential and relational - focusing on connectedness, reciprocal relations and a sense of place		x	x
Learning ultimately supports the well-being of the self, family, the community, the land, the spirits and the ancestors	x	x	x
Learning involves generational roles and responsibilities			x
Learning recognizes the role of Indigenous Knowledge		x	x
Learning is embedded in memory, history and story		x	x

Indigenous Pedagogy	Environ-mental	Play Lesson	Cultureal Lesson
Learning is moral and spiritual and recognizes that some knowledge is sacred and only shared with permission and/or in certain situations	x	x	x

Table 4 illustrates and shows the strength of the commonality and the application of indigenous teaching principles and methods to each of the three styles of lessons. There is a thread of commonality in the lesson goals and focus, the PLO's and the use of the Indigenous Principles outlined in Chapter 2.

The Sample Lessons

The three sample lessons that follow (Figures 1, 2 and 3) are an example of the three different types of lessons (i.e., environmental, play and cultural) create the metissage within the Unit. Each of the three locations (i.e., forest, river and beach) are also represented in the three lesson sample. The environmental studies lesson of taking a 'Listening Walk' is one of my favourite nature lessons with young children. This will use traditional western style science lessons combined with the use of Indigenous principles in the planning and teaching where possible. The remaining two lessons - 'play' lesson and the Culture lesson are presented in a similar format for comparison.

The 'play' lesson and the Culture lessons are based on my career experience and what I have learned in my research for this MEd project. Each of the three 'play' and Culture lessons will follow a lesson format which I have portrayed in a linear manner but are intended to flow, flex and adapt to the students as the lesson is experienced and unfolds. The activities are suggestions for things that could be used to help the lesson flow and learning take place but by no means need to be followed rigidly or at all as the lesson progresses (indeed this will also be

true of the more traditional environmental studies lesson as any good teacher knows). The students will guide the direction of the lessons or follow the lead of the Elder and teacher or of 'Nature'.

The suggested lessons are illustrative of the three different styles of lessons that braid or metissage into a cohesive Unit of Lessons. The thread of commonality that makes this metissage effective as a teaching tool is the use of Indigenous pedagogy in nature - the local traditional territory. The lessons themselves need not be fancy or complicated. It is the mixture and metissage of styles and the surprising fact that Indigenous pedagogy is in all of these lessons even the traditional western style environmental studies lesson (Cohn, 2012; Melhuus, 2012) and as indicated by Barnhardt and Kawagley (2005) in appendix A.

An Environmental Studies/Stewardship Lesson

The Environmental studies lessons will be fairly 'traditional' style lessons but will include teaching using Indigenous pedagogy and develop respect for the land and environmental citizenship. They focus on using the five senses for the purpose of observing and communicating about and coming to know local nature which are the Science PLO's as well as Social Studies and Language Arts PLO's (see Figure 2). The goal is creating young naturalists who will have a lifelong love of and respect for nature and their land. These lessons would be focused around learning about the traditional local lands - the forest, the river and the beach in a western/Eurocentric traditional science style lesson.

These lessons are traditional in their setup, objectives and planning but connected to the other lessons by the use of Indigenous principles and teacher attitudes influenced by Indigenous principles of learning. These attitudes touch on decolonization, cultural sensitivity, a belief in

experiential learning, respect for nature, place-based learning, the fostering of independence, moral development being a part of education, respect and acceptance of other differing beliefs and ways and a willingness to experiment with new ideas and paradigms.

A Listening Walk - By The River
Goals: To use our sense of hearing to explore and observe the local river environment and to become familiar with the river environment. Spend 45 to 60 minutes in Nature.
Objectives: •To listen to and record sounds heard at the river. •To identify and learn what makes the sounds heard at the river . •Create a class book that illustrates knowledge of the river ecosystem.
Focus PLO's (BC Ministry of Education, 2011): Language Arts •A7 experiment with language and demonstrate enhanced vocabulary usage •C4 engage in discussions before writing and representing to generate ideas when responding to text and classroom experiences Science •use the five senses to make observations •share with others information obtained by observing •demonstrate the ability to observe their surroundings Daily Physical Activity •participate in physical activities for a minimum of 30 minutes during each school day Visual Arts •use imagination, observation and stories to create images Social studies •participate cooperatively in groups
Preparation: Read the book The Listening Walk by Paul Showers. List the things that the girl in the story heard on her walk through city streets and a city park. List what she did to listen carefully. Save for comparison and discussion with our river walk findings. Predict what we might hear at the river.
Materials: iPads

A Listening Walk - By The River
Activities: 1.10 minute walk to the river. 2.Set up boundaries at the river and a signal to gather together. 3.Explore the area. 4.Review how the girl in the book listened. 5.Listen for 30 seconds and then tell a friend what you heard. 6.Record on the iPads for 1 minute and then have students take pictures of what they think they heard. 7.Choose a nearby location (tree, rock etc.) to walk to. Walk as quietly as possible and record sounds with iPads. Have students take one picture of something they think they heard. 8.Form a circle to allow each child to share one thing they heard and make 'field notes' on an iPad. 9.Allow a bit more time for exploration, encourage using the sense of hearing as they explore and observe. 10.Walk back to school. 11.List what the students remember hearing. 12.Listen to 1 or 2 of the iPad recordings and add any more sounds. 13.Highlight the nature noises compared to the man made noises that may have been heard. 14.Have students draw, create or find a photo of one of their favourite sounds that they heard, eg a mallard duck, the sound of the water flowing etc. 15.Create a pattern book. Each child should contribute a page. 16.I heard _____ at the river today.
Assessment and Evaluation: Participated and was engaged by activities at the river. Participated in discussions after the field trip. Volunteered to share sounds heard in discussions Created a page for the book.

Figure 1: Lesson 1 Environmental Studies exemplar

The 'Play' Lesson -The 'Nature' of Play

There is some debate about the relevance of play in nature as part of schooling. Many PLO's can be accomplished in lessons that focus on play in nature (Figure 2). Even though the lessons may appear without structure, there is focus, goals, outcomes, activities, routines and assessment (O'Brien, 2009). For example, lessons could start with the same song, dance, prayer or ceremony as the cultural lessons do or perhaps a cedar bark cleanse. All play lessons include a quiet time to rest, relax, meditate or be still.

However the ‘play’ lessons are not without structure. The opportunities for learning through play abound. Boundaries are set, group and individual activities are established, rules are created, independence, cooperation and creativity are encouraged and development of respect for nature is instilled. And much learning occurs (Aasen, 2009; O’Brien, 2009; Wardle, 2007).

Play is an integral and essential part of learning for young children as noted previously in the literature review (Wardle, 2007). Nature is one of the best environments for children to play in and for the benefits of play to be maximized. The lesson environment is also paramount to the success of the learning experience. Putting play together in nature is therefore obvious (Barret et al, 2000).

These lessons’ goal and focus is ‘play’ - specifically play in nature. The learning environment is an integral part of learning and of what is learned. Putting play together with nature leads to superior learning situations and experiences and is essential to creating children who will grow up with a respect and love of nature. Beginning nature experiences and play at a young age is supported by many researchers as noted in my literature review (Louv, 2007; Tsekos et al., 2012).

‘Play’ in the Forest
The ‘Nature’ of ‘Play’: 1.The play is undirected and the learning is experiential. The students will lead the play and the learning. However the adults do have an important role and learning outcomes are achieved. The teacher’s role is not merely supervision. The teacher is an active participant. 2.The lessons are not without structure. 3.Time - One hour to half a day or longer 4.Teachers role: model and foster independence, cooperation, creativity, curiosity, exploration, observation, resourcefulness, inventiveness and imagination. 5.Create a community of learners that can ‘play’ independently and as a group.

‘Play’ in the Forest

Goals:
Physical activity.
Authentic learning independence, cooperation, creativity, inventiveness (eg. stick for digging), challenges (eg. climbing over a log).
Respect for nature and the world around us.
Curiosity, appropriate risk taking, resourcefulness.
Develop independence, cooperation, creativity through the use of inventive tools, inventive games, building forts, climbing stumps, wading in puddles...

PLO Possibilities (BC Ministry of Education, 2011):
Daily Physical Activity
- •participate in physical activities for a minimum of 30 minutes during each school day

Arts Education - Drama
- •A2 explore and imagine stories by taking on roles

Socials Studies
- •B2 identify groups and places that are part of their lives

Health and Career education
- •A1 identify opportunities to make choices

Language Arts
- •A1 use speaking and listening when engaging in exploratory and imaginative play to express themselves, ask for assistance, exchange ideas, experiment with new ideas or materials

Possible Sequence of Suggested Activities In the Forest
1.Walk to the Forest - 10 minutes
2.Opening song, dance or prayer and recognition of traditional territory owners.
3.Set boundaries with physical features of the environment eg. rocks, stumps or trees.
4.Review respect of Nature and of classmates.
5.‘PLAY’ eg.
- •Fort Building
- •Digging holes with sticks
- •climbing stumps and logs
- •make believe dramas and creative play
- •singing
- •creative drama
- •pretending to be animals
- •…the sky’s the limit

1.Teacher models, scaffolds and fosters:
- • independence
- •cooperation
- •creativity
- •inventiveness
- •challenges
- •respect for nature and the world around us
- •curiosity
- •appropriate risk taking
- •resourcefulness

2.quiet time individual space
3.snack
4.play
5.wind up song, game or story
6.walk back to school

‘Play’ in the Forest
Assessment and Evaluation Suggestions: Use an iPad to document children’s activities during the time in nature and review for specific desired outcomes (eg. appropriate risk taking, cooperation). Create a floor map/book to illustrate learning - can be done in the forest or in the classroom. Have students create dances, dramatizations, illustrations or iPad stories of what occurred in their time in the forest.

Figure 2: Play lesson exemplar.

Cultural Lesson with an Elder

The Unit will contain three cultural lessons that would follow traditional seasonal activities. A winter activity (February): clam digging; spring (May): cedar bark collecting; and summer (June or September): berry picking.

I have suggested a number of activities that I have found the Elders in my community are usually comfortable doing with children. When all these activities are done as a group in the nature environment much can be learned, taught and shared. Elders often know and will share legends, stories about their peoples’ beliefs and history. They often have personal stories about their childhood, how and what they learned from their Elders and now want to pass on to the young people in the community. With teacher support and assistance in the past I have had many Elders welcome the opportunity to join in teaching lessons.

Culturally relevant and authentic learning is important, as is having the community members participate in the learning of their children (Cole & O’Riley, 2010). Including this type of lesson is important to creating a positive learning situation especially for First Nations students (Barnhardt & Kawagley, 2005; Kitson & Bowes, 2010). An example of such a Cultural lesson is provided in Figure 3. Multidisciplinary PLO’s are met and listed, the content is relevant to the local environment and culture and assessment suggestions are offered.

Clam Digging at the Beach With Elders
Goals: To learn traditional locations, methods and uses for collecting traditional food - clams. To gain knowledge and understanding of cultural traditions. To learn through story and watchful listening.
Preparation: •Become familiar with the local customs and culture. •Meet local community members and Elders and enlist their help and find their areas of expertise. •Respect local customs and accept differences. •Plan lesson with Elder if possible.
Possible PLO's (BC Ministry of Education, 2011): Social Studies •C1 describe their roles and responsibilities as members of the classroom and school community •D2 identify work done in their community •E1 identify characteristics of different local environments Science •describe features of local plants and animals (e.g., colour, shape, size, texture) Health and Career planning •A2 identify sources of support and assistance for children at school
Suggested Activities: For example a clam digging lesson led by an Elder might include: 1.Walking to the beach. 2.A short discussion of whose traditional land it is. 3.A story about the Elder learning to gather clams when young. 4.Demonstration of traditional ways to gather and dig the clams. 5.Students could then collect some to eat or share with Elders later. 6.Another group discussion about how we plan to use the clams. 7.The Elder's favourite clam digging story. 8.On returning to the class the lesson could continue with cooking, cleaning and eating the clams or sharing the clams with Elders or community members. 9.Making a poster with photos taken at the beach and captions written by the students to depict and describe the process of clam digging.
Assessment and Evaluation Discussion with students and Elder after lesson to check for knowledge and understanding. Discuss with Elder subjective learning of students (eg. attitude and participation). Students create a self evaluation "Two things I learned…. One thing I am still wondering is...?" Did we get clams?

Figure 3: Culture lesson exemplar.

Conclusion

A major aspiration of this paper is to promote and encourage the creation and continuation of improving the education - the learning and teaching - of students. Or to refer back to my metaphor from Chapter 1 - to Party on!

The intent of this part of my MEd Project was not to design but to provide the reason, support and rationale for the design of a Unit of Nature Lessons for First Nations kindergarten students and to illustrate by sample lessons the application of the concept. The metissage of Indigenous pedagogy, western teaching methods and culturally authentic teaching and learning, carefully designed, implemented and teacher monitored will ensure the Unit will meet, compliment and fulfill the educational needs of the students well beyond the criteria for Kindergarten set out by the PLO's and Essential Learnings, with cultural and environmental sensitivity and have relevance to the First Nations students in their early and formative years. Important ideas that led me to this project are ideas from my Instructors, Lorna Williams and Kathy Sanford in our courses at the University of Victoria in the summer of 2013. My belief that Indigenous ways of Knowing can and should be incorporated into my teaching for the benefit of all students arise not just because I work with First Nations children. I do not want to appropriate Indigenous ways of Knowing, Living and Being but I need to continue to better understand my way of knowing so that I can bring my gifts to my teaching and that in combination with the Indigenous ways of Knowing I can support my students and provide the best learning opportunities possible for all my students. Creating Units that include Indigenous ways in all types of learning and teaching can start and deepen the discourse towards

decolonization of the people I teach, work with and live amongst. Bringing the best of different yet equal world paradigms together in a metissage is my goal.

What we cannot see we cannot respect

We have taken so much from your culture

I wish you had taken something from ours

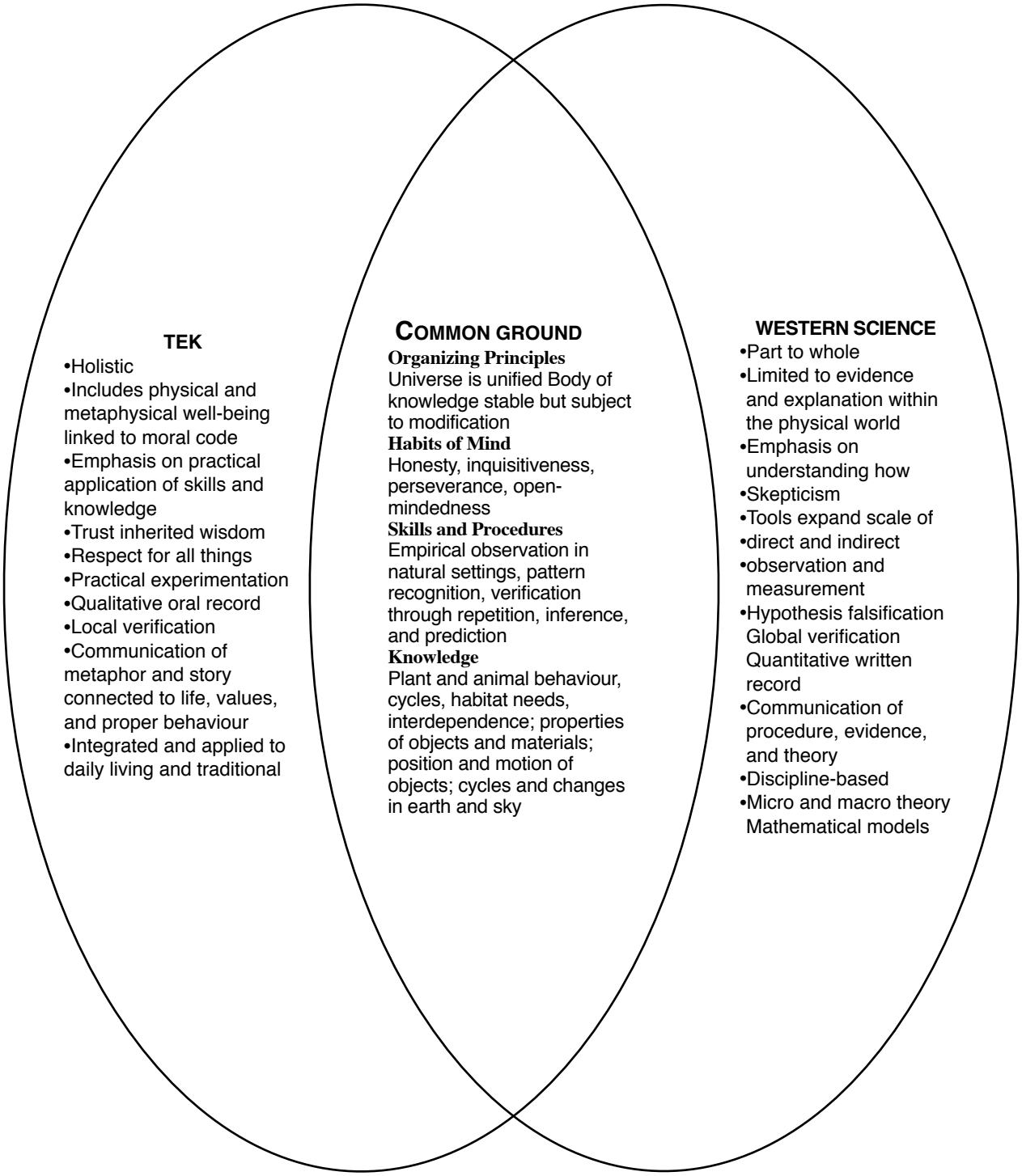
- Chief Dan George -

We should, we can, I will

- Mary Louise Wright -

Appendix A

Qualities associated with TEK and Western Science
(Barnhardt & Kawagley, 2005, p. 36)



References

Aasen, W., Grindheim, L., & Waters, J. (2009). The outdoor environment as a site for children's participation, meaning-making and democratic learning: examples from Norwegian kindergartens. *Education 3-13: International Journal of Primary, Elementary and Early years, 37*(1), 5-13. doi: 10.1080/03004270802291749

Archibald, J., Lundy, J., Reynolds, C. &Williams, L. (2010). *Accord on Indigenous Education.* Retrieved from http://www.csse.ca/ACDE

Barnhardt, R., & Kawagley, A. (2005). Indigenous knowledge systems and Alaskan native ways of knowing. *Anthropology and Education Quarterly, 36*91), 8-23. Retrieved from http://onlinelibrary.wiley.com.ezproxy.library.uvic.ca/store/10.1525/aeq.2005.36.1.008/asset/aeq.2005.36.1.008.pdf?v=1&t=hpgi5m2m&s=e691d503f5d66c451545a44a27d900f99721b76a

Barrett, J., Littleford, J., Valee, J. & Wannamaker, N. (2000). *Kindergarten years: Learning through play.* Ontario: Teachers Federation of Ontario.

Beames, S., & Atencio, M. (2008). Building social capital through outdoor education. *Journal of Adventure Education and Outdoor Learning, 8*(2), 99-112. doi 10.1080/14729670802256868

Bentsen, P., Mygind, E., & Randrup, T. (2009). Towards an understanding of udeskole: education outside the classroom in a Danish context. *Education 3-13: International Journal of Primary, Elementary and Early years, 37*(1), 29-44. doi: 10.1080/03004270802291780

Brokenleg, M. (2013, November). Is reconciliation necessary. *The diocesan Post. November , 2013 p. 5.*

Cajete, G., & Pueblo, S., (2010). Contemporary indigenous education: A nature-centered American Indian philosophy for a 21st century world. *Futures, 42,*1126-1132. doi 10-1016/jfutures.2010.08.013

Chambers, C., Donald, D., & Hasebe-Ludt, E. (2002). Creating a curriculum of métissage. *Educational Insights, 7*(2). Retrieved from http://einsights.ogpr.educ.ubc.ca/v07n02/metissage/pdf/whatis.pdf on July 13, 2013.

Cohn, I. (2011) Indigenous ways - fruits of our ancestors. *Journal of Adventure Education and Outdoor Learning 11*(1), 15-34. doi: 10.1080/14729679.2010.532992

Cole, P. & O'Riley, P. (2010). Coyote and Raven [p]revisit environmental education, sustainability, and run-away capitalism. *Canadian Journal of Environmental Education, 15,* 25-48

David Suzuki Foundation (nd). *Connecting with Nature and educational guide for grades four to six.* Retrieved from: http://www.davidsuzuki.org/what-you-can-do/connecting-with-nature-education-guide/

Dewey, J. (1929). My pedagogic creed. In D.J. Flinders, S.J. Thornton (Eds.), *The curriculum studies reader* (p. 134-141). New York: Routledge

First Nations Health Authority, (2009). *First Nations traditional foods fact sheets.* British Columbia: First Nations Health Authority

Fleischner, T. (2005). Natural history and the deep roots of resource management. *Natural Resource Journal, 45*(winter), 1-13. Retrieved from: http://lawlibrary.unm.edu/nrj/45/1/02_fleischner_management.pdf

Friere P. (1993). *Pedagogy of the Oppressed.* (Myra Bergman Ramos trans.). New York: Continuum. (Original work published 1970).

Gelter, H. (2000). *Friluftsliv*: The Scandinavian philosophy of outdoor life. *Canadian Journal of Environmental Education, 5*(1), 77-91. Retrieved from http://jee.lakeheadu.ca/index.php/cjee/article/viewFile/302/222

George, D. (1974). *My heart soars*. Surrey, BC, Canada: Hancock House publishers Ltd.

Halbert, J., & Kaser, L. (2013). *Spirals of inquiry for equity and quality.* Canada: The BC Principals' & Vice-Principals' Association.

Institute of Integrative Science and Health (nd). *Principles of two-eyed seeing.* Retireved from www.integrativescience.ca/Principles/TwoEyedSeeing/

Kanonhsionni/Hill, J. (2002). Indigenous education: Ways of knowing, thinking and doing. *McGill Journal of Education , 37*(3), 281-286. Retrieved from http://mje.mcgill.ca/issue/view/535

Kitson, R., & Bowes, J. (2010). Incorporating Indigenous ways of knowing in early education for Indigenous children. *Australian Journal of Early Childhood, 36*(4) 81-89. Retrieved from http://web.ebscohost.com.ezproxy.library.uvic.ca/ehost/pdfviewer/pdfviewer?sid=96f9ea9e-30fc-463a-bb7f-46f64b2aad55%40sessionmgr4004&vid=2&hid=4106

Louv, R. (2005). *Last child in the woods: saving our children from nature-deficit disorder.* Chapel Hill, North Carolina: Algonquin Books of Chapel Hill.

Louv, R. (February 27, 2007). *Leave no child inside*. Testimony before the Interior and Environmental Subcommittee. United States House of Representatives. Retreived from: http://www.funoutdoors.com/files/Richard%20Louv%20Congressional%20Testimony%202_07.pdf

Louv, R. (2009). Do our kids have nature-deficit disorder. *Health and Learning, 67*(4), 24-30. Retrieved from http://www.childrenandnature.org/downloads/DoOurKidsHaveNatureDeficitDisorder.pdf

Maposha-Kandimiri, M., Higgins, P. & McLaughlin, P. (2009). Outdoor learning: curriculum imperatives and community relevance in a rural setting. *Education 3-13: International Journal of Primary, Elementary and Early years, 37*(1), 15-28. doi: 10.1080/03004270802291756

McGregor, D. (2008). Linking traditional ecological knowledge and western science: Aboriginal perspectives from the 2000 state of the lakes ecosystem conference. *The Canadian Journal of Native Studies 28*(1), 139-158. Retrieved from http://www3.brandonu.ca/library/cjns/28.1/06McGregor.pdf

Melhuus, E. (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. doi: 10.1080/1350293X.2012704766

Mygind, E. (2007). A comparison between children's physical activity levels at school and learning in an outdoor environment. *Journal of Adventure Education and Outdoor Learning, 7*(2), 161-176. doi: 10.1080/147296707017580.

Natural History. (2005). *Oxford Dictionary of English* (online edition). Retrieved from: http://oed.com/

Noddings, N. (1984). *Caring: A Feminine Approach to Ethics and Moral Education*. Berkeley: University of California Press

O'Brien, L. (2009). Learning outdoors: The forest school approach. *Education 3-13: International Journal of Primary, Elementary and Early years, 37*(1), 45-60. doi: 10.1080/03004270802291798

Rea, T., & Waite, S. (2009). International perspectives on outdoor and experiential learning. *Education 3:13 International Journal of Primary, Elementary and Early Years Education, 37*(1), 1-4. doi: 10.1080/03004270802291699

Ritter, E., & Dauksta, D. (2012). Human-forest relationships:ancient values in modern perspectives. *Environment, Development and Sustainability, 15*(3), 645-662. doi: 10.1007/s10668-012-9398-9

Sanford, K., Williams, L., Hopper, T., & McGregor, C. (2012). Indigenous principles decolonizing teacher education: What we have learned. *In Education, 18*(2), 18-34. Retrieved from http://ineducation.ca/ineducation/article/view/61

Showers, P. (1961). *The listening walk.* Mexico, Harper Collins Publishers.

Smith, G., (2002). Place-based education: Learning to be where we are. *The Phi Delta Kappan, 83*(8), 584-594. Retrieved from http://www.jstor.org/stable/20440205

Smith-Brillon,K., Hooper, D., Hunt, J., Smith, J. & Hill, A. (2012). *In Our own Words Bringing Authentic First peoples Content in the K-3 Classroom.* British Columbia: First

Nations Education Steering Committee and First nations Schools Association. Retrieved from www.fnesc.org

Stevens, A. (2008). A different way of knowing: Tools and strategies for managing Indigenous knowledge. *Libri, volume 58.* Retrieved from http://www.librijournal.org/pdf/2008-1pp25-33.pdf

Snively, G., & Corsigilia, J. (2000). Discovering indigenous science: Implications for science education. *Science Education, 85*(1), 6-54. doi: 10.1002/1098-237X(200101)85:1<6::AID-SCE3>3.0.CO;2-R

Snively, G., &Williams. L. (2008). "Coming to know": Weaving Aboriginal and western science knowledge, language and literacy into the classroom. *L1 - Educational Studies in Language and literature, 8*(1), 109-133.

Snively, G., & Williams, L. (2005). The Aboriginal Knowledge and science education research project. *Connection '05. ED Roth, W-M. p233-250 Retrieved from* http://education2.uvic.ca/Research/conferences/connections2005/proceedings2005.pdf

Sutherland, D. (2003). *A teachers guide for the video Sila Alongotok - Inuit observations on climate change*. Manitoba Education and Youth, Winnipeg, Manitoba. Retrieved from http://www.edu.gov.mb.ca/k12/docs/support/sila_video/sila_video.pdf

Tanaka, M., Williams, L., Benoit, Y., Duggan, R., Moir, L. & Scarrow, J. (2007). Transforming pedagogies: pre-service reflections on learning and teaching in an Indigenous world, *Teacher Development, 1I*(1), 99-109. doi: 10.1080/1366450701194728.

Tsekos, C., Christouforidou, E., & Tsekoa, E, (2012). Planning an environmental education project for kindergarten under the theme of "the forest". *Review of European Studies,*

4(2), 111-117. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1021195238?accountid=14846

Wardle, F. (2007). Play as curriculum. *Early Childhood News.* Retrieved from http://earlychildhoodnews.com/earlychildhood/article_print.aspx?ArticleId=127

Williams, L., & Tanaka, M. (2007). Schalay'nug Sxwey'ga emerging cross-cultural pedagogy in the academy. *Education Insights, 11*(3), 1-21. Retrievd from http://www.ccfi.educ.ubc.ca/publication/insights/v11n03/articles/williams/williams.html

Woodhouse, J., Knapp, C. (2000). *Place-based curriculum and instruction: Outdoor and environmental education approaches.* Retrieved from http://wwwercidigests.org/2001-3/place.html