

Fostering Culturally Responsive Pedagogy using
Aboriginal Resources in the Science Curriculum

by

Jennifer A. Skrivanos

Bachelor of Education, University of Victoria, 2009

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

MASTER OF EDUCATION

In the Area of Early Childhood Education
Department of Curriculum and Instruction

©Jennifer Skrivanos, 2017

University of Victoria

All rights reserved. This Project may not be reproduced in whole
or in part, by photocopy or other means, without the permission of the author.

Supervisory Committee

Fostering Culturally Responsive Pedagogy using
Aboriginal Resources in the Science Curriculum

by

Jennifer A. Skrivanos

Bachelor of Education, University of Victoria, 2009

Supervisory Committee

Dr. Chris Filler, Primary Supervisor
Department of Curriculum and Instruction

Dr. Jodi Streeelasky, Secondary Supervisor
Department of Curriculum and Instruction

Abstract

This capstone project examines one educator's response to the word hegemony and her understanding of Culturally Responsive pedagogy. It defines Culturally Responsive pedagogy and considers the implications, within the science curriculum, for both Aboriginal and Non-Aboriginal students. The capstone project explores both Western European and Aboriginal Epistemologies and presents a middle ground to consider. It acknowledges challenges educators may face while fostering Culturally Responsive pedagogy within their practice. The project explores possible materials and Aboriginal resources available to educators to support this pedagogy. Finally, it suggests areas for further research and provides recommendations to consider.

Key Words: Aboriginal Education, Aboriginal Resources for Educators, Culturally Responsive Teaching, and Science Curriculum.

Table of Contents

Supervisory Committee	ii
Abstract.....	iii
List of Figures	v
Dedication	vi
Chapter 1: Intorduction	1
Chapter 2: Literature Review	10
Aboriginal People of Canada, A Brief History.....	10
Residential Schools.....	11
Moving Forward, Reconciliation	14
Education Today	15
Epistemological Orientation, Aboriginal View	17
Epistemological Orientation, Western-Eurocentric View	21
Incorporating both Views within an Education Curriculum.....	22
Challenges of Incorporating both Views	26
Culturally Responsive Pedagogy	27
Fostering Culturally Responsive Pedagogy	30
Chapter 3: Project Poposal	34
Chapter 4: Reccomendations and Reflection.....	53
References.....	57

List of Figures

Figure 2.1: First Nations Holistic Lifelong Learning Model17

Figure 2.2: First Peoples Principles of Learning Poster19

Dedication

A sincere thank-you to those friends, colleagues, and family who guided me through this two-year journey, your unconditional love, patience and, support was greatly appreciated and did not go unnoticed. I am truly blessed.

Chapter 1

Introduction

Culturally Responsive pedagogy with respect to Aboriginal People of Canada is an important topic to address in contemporary Canadian classrooms, particularly since many educators, myself included, lack the confidence when embracing Aboriginal curriculum and pedagogy in their practice (First Nations Education Steering Committee, 2012). Educators are often “anxious about perpetuating misconceptions, making mistakes, or giving offence” when approaching Aboriginal content (First Nations Education Steering Committee, 2012). Canada has a deep history of relations with Aboriginal People and yet many Canadians lack knowledge of Aboriginal history, their contributions to Canada or “understand that by virtue of the historical and modern Treaties negotiated by our government, we are all Treaty people” (Truth and Reconciliation Commission of Canada, 2015, p. 4).

It was in my first year of postgraduate courses that I came to understand that the majority of my education and upbringing had been presented to me through an Eurocentric view. In my experience, my elementary, middle and secondary school teachers along with my University professors presented limited aspects of Canadian history to me. Lessons and lectures focused on European settlers, first European discoveries and the occupation of land. This revelation forced me to reflect on my unconsciously privileged white, middle class childhood and school experiences. Through reflection, I came to realize that as an educator, my avoidance of Aboriginal curriculum was hurtful and harmful to all of my students, both Aboriginal and non-Aboriginal. I was doing the same to my students as my teachers had previously done to me. Growing up on the West Coast of Canada, I lived naïvely with these social privileges as I contributed to the hegemony of society. Through my found awareness, I felt an unfilled

obligation to both my students and myself to address this disparity. There are many cultures represented within Canadian classrooms, but for the purpose of this project I have chosen to focus on the incorporation of Aboriginal ways of knowing within the science curriculum. This project has allowed me to put Culturally Responsive pedagogy at the forefront of my practice and has enabled me to recognize and identify some of my own Eurocentric views and biases.

Key Terms

The term science classroom will be defined as any environment that supports and fosters the science curriculum and is not limited to a traditional four-walled classroom.

The term, Aboriginal will be defined as “all indigenous people in Canada, including status and non-status ‘Indians’ (as identified by the *Indian Act*), Metis, and Inuit people” as defined in the Constitution Act of 1982 (First Nations Education Steering Committee, 2012).

Lastly, the definition of Indigenous is important to mention, as it will arise within the following chapters. Although no official definition of “indigenous” has been adopted by any of the United Nations-system bodies the following definition has been developed and is used as the modern understanding of this term.

[Indigenous People practice] unique traditions, they retain social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live. Spread across the world from the Arctic to the South Pacific, they are the descendants - according to a common definition - of those who inhabited a country or a geographical region at the time when people of different cultures or ethnic origins arrived. The new arrivals later became dominant through conquest, occupation, settlement or other means. (United Nations)

Reflection, Reflective, Reflexive

This project will draw upon Dewey's (1910) definition of reflective thought, stating that reflective thought is "deliberately sought and adequacy to support the belief examined" (p. 2). "Reflection involves not simply a sequence of ideas, but consequence—a consecutive ordering in such a way that each determines the next as its proper outcome, while each in turn learns back on its predecessors" (p. 2-3). Thompson and Pascal (2012) add by saying "reflective refers to the process of thinking about the work we undertake—that is, we reflect on our actions either at the time (reflection-in-action) or at a suitable opportunity thereafter (reflection-on-action). In this regard, the hallmark of reflective practice is *informed* practice" (p. 319).

Reflexive practice is a "form of practice that looks back on itself and has an ability to recognize one's own influence" (Thompson & Pascal, 2012) and makes contributions to reflective practice.

Rationale

Currently, Aboriginal learners represent a growing population in Canada (Anuik, Battistie, & George, 2010; Friesen & Ezeife, 2009). B.C. schools have been largely unsuccessful in providing quality education for Aboriginal students (White, Budai, Daniel, Rickson Deighan, & Gill, 2012). Across the province of B.C. more work is needed for change and increased success in school for Aboriginal students (British Columbia Ministry of Education, 2015). Aboriginal students have shown to have the lowest rate of academic success and graduation of any identifiable group. Canadian schools and current educational practices are not meeting the needs of today's Aboriginal students (Crooks, Chiodo, Thomas, & Hughes, 2010; White, Budai, Daniel, Rickson Deighan, & Gill, 2012). Evidence is shown through standardized testing and

research focusing on the measurement of educational deficits of Aboriginal students (Friesen & Ezeife, 2009). It is also seen in low graduation rates and underrepresentation of Aboriginal students in Universities and colleges (White, Budai, Daniel, Rickson Deighan, & Gill, 2012).

As a educator working with children ages 5 to 9 in the public school system, I am interested in defining Culturally Responsive Pedagogy and strive for a practice that respects and values all cultural backgrounds. This project will examine how educators use Culturally Responsive pedagogy to foster a reflective practice and honour Aboriginal ways of knowing within the science classroom. For the purpose of this project, I will refer to Culturally Responsive pedagogy, as “using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively” (Gay, 2002, p. 106). Culturally Responsive pedagogy argues that, “no ethnic group should have exclusive power, or total cultural and political dominion over others, even if it is a numerical majority” (Gay, 2002, p. 125).

Theoretical Framework

Multicultural theory will be used to guide this capstone project. James Banks describes multicultural education as “a movement designed to empower all students to become knowledgeable, caring, and active citizens in a deeply troubled and ethnically polarized nation and world” (1993, p. 23). “Multicultural education views citizen action to improve society as an integral part of education in a democracy; it links knowledge, values, empowerment, and action” (Banks, 1993, p.23). Multicultural education is a complex and multidimensional concept defined by “five dimensions” (McGee Banks & Banks, 1995, p.152). These five dimensions are: content integration, the knowledge construction process, prejudice reduction, an equity pedagogy, and an

empowering school culture and social structure” (McGee Banks & Banks, 1995, p.152) As this capstone project will look at the implementation of Aboriginal ways of knowing within a science classroom, Multicultural Theory fits well with the implementation of Aboriginal Epistemology within the dominant white society of British Columbia. Multicultural Theory can also guide the implementation of Culturally Responsive pedagogy, which will be looked at in further detail in Chapter 2.

Multicultural Theory is divided into five parts, the first being content integration. Content integration is how an educator informs the students and is shaped by ‘what’ is taught. Both equity pedagogy and curriculum influence the form and function of learning (McGee Banks & Banks, 1995). Teaching must reflect the lives and interests of students and students must be provided opportunities to construct meaningful knowledge (McGee Banks & Banks, 1995). Information accessibility is increasing at an astronomical rate. Equity pedagogy provides a rationale and a process that can help teachers focus on the essence of the curriculum rather than on isolated and rapidly changing facts (McGee Banks & Banks, 1995, p. 155).

Knowledge construction occurs when educators “make informed decisions about when and how to use knowledge about the cultural and ethnic backgrounds of students” (McGee Banks & Banks, 1995, p. 157) this aids the educators in making pedagogical decisions.

“Many teachers are unaware of the extent to which they embrace racist and sexist attitudes and behaviors that are institutionalized within society as well as how they benefit from these societal practices” (McGee Banks & Banks, 1995, p. 152). Reflecting on your own life journey by writing your life story can be a powerful tool for helping gain a better understanding

of the ways in which institutionalized conceptions of race, class, and gender have influenced your life and reduce prejudice (McGee Banks & Banks, 1995).

Multicultural theory reveals that equity may not always mean treating different groups the same (Gay, 1993). “It may sometimes be necessary to treat groups differently in order to create equal status situations for marginalized students” (McGee Banks & Banks, 1995, p. 152). Banks defines equity pedagogy as “teaching strategies and classroom environments that help students from diverse racial, ethnic, and cultural groups attain the knowledge, skills, and attitudes needed to function effectively within society” (McGee Banks & Banks, 1995, p. 152). “Equity pedagogy actively involves students in a process of knowledge construction and production. It challenges the idea of instruction as transmission of facts and the image of the teacher as a citadel of knowledge and students as passive recipients of knowledge. Equity pedagogy alters the traditional power relationship between teachers and students” (McGee Banks & Banks, 1995, p. 153). “Equity pedagogy is student focused. It incorporates issues, concepts, principles, and problems that are real and meaningful to students. Teachers who embrace equity pedagogy assume that all students can learn. They work to develop student potential and to create a classroom environment that is encouraging and filled with opportunities” (McGee Banks & Banks, 1995, p. 155).

When effectively implemented, [Multicultural Theory] enriches the lives of both teachers and students and enables them to envision and to help create a more humane and caring society (McGee Banks & Banks, 1995).

Significance

“Multiple studies have found that culturally, linguistically, and racially diverse children are likely to be confronted with the challenges of being assimilated into mainstream values which conflict with familiar practices and or familiar values” (Souto-Manning & Hanson Mitchell, 2010, p. 269). Children “who experience cultural discontinuity between home and school may perceive themselves as poor learners and may develop a negative self-concept” (Souto-Manning & Hanson Mitchell, 2010, p. 270).

The incorporation of Aboriginal ways of knowing into the public education system is important because, Canada recognizes the rights of Indigenous Peoples outlined by the United Nations (Government of Canada, 2016). In May 2016, the Minister of Indigenous and Northern Affairs announced that Canada is now in full support of the United Nations declaration of the Rights of Indigenous Peoples (Government of Canada, 2016). For Canada to fulfill the Declaration of Rights of Indigenous Peoples, society must honour the rights to have Indigenous culture, traditions, and histories reflected in education and for public information. Society must work to eliminate prejudice and discrimination and promote tolerance and understanding (United Nations, 2008).

According to two Indigenous scholars, Battiste and Henderson (2009) Indigenous Knowledge is a growing field both nationally and internationally. Public investment in education and training is vital to improve the completion rate of high school and university of Aboriginal students, thus allowing Aboriginal youth to gain employment prospects in the existing job market (Government of Canada, 2010). It is important to the economic future of Aboriginal communities that youth are motivated and supported to complete their education. Aboriginal youth need to feel valued and treated equally by contemporary society (Government of Canada,

2010). Canadian educators have failed to implement educational treaties that were negotiated with the Queen's representation. Federal residential schools and assimilative provincial schools have done nothing to fulfill these obligations (Anuik, Battiste & George, 2010). It is vital for the future education of all Canadian children that we as educators, and a society become more culturally aware and sensitive in our teachings (Anuik, Battiste, & George, 2010).

In the last two decades, Indigenous scholars, educators and activists in Canada have demonstrated support for the usefulness, significance and importance of Indigenous Knowledge (Battiste & Henderson, 2009). Within my own school district of Saanich, The Education Enhancement Agreement was put in place to support educators and increase Indigenous student success. The Agreement is meant to support shared decision-making and specific goal setting between the school district and local Indigenous communities in hopes to meet the educational needs of all Indigenous learners.

Project Outline

In this Chapter, I introduced my topic, which examines Culturally Responsive pedagogy with respect to Canadian Aboriginal ways of knowing within the science curriculum. I introduced my rationale and the theoretical framework guiding this project.

Chapter 2 will provide a brief overview of Canadian Aboriginal history focusing on influential Treaties regarding Aboriginal Peoples relationship and experience with education including residential schools. It will define and elaborate on Aboriginal and Eurocentric views, and how these views are considered within the science curriculum. Lastly, Chapter 2 will include a literature review of Culturally Responsive pedagogy and how this pedagogy can be fostered within a science classroom to validate ethnically diverse students.

Chapter 3 will examine the implications of the research and how the presented ideas and theories can be applied to current educational practice. It will focus on the implementation of Culturally Responsive pedagogy with children ages 5-9 and examine classroom practices and instructional materials accessible to educators to support the implementation of Reconciliation. Chapter 3 aims to provoke educators to consider other ways of knowing and foster the use of Culturally Responsive pedagogy.

Chapter 4 includes my reflections as I elaborate on how my own learning has been extended through this project. It also provides a discussion on recommendations for further research and practice, and addresses the challenges for educators when implementing Culturally Responsive pedagogy and honoring Aboriginal ways of knowing within the science curriculum.

Chapter 2

Literature Review

Chapter 2 will provide the reader with a brief history of Aboriginal People of Canada. It will focus on influential Treaties that shine light on the education of Aboriginal children, Residential school and Reconciliation. As Canadians' we must know our history if we are to change the future. The focus of this chapter will be to define and elaborate on European and Aboriginal epistemological orientation, and how each of these views perceives science curriculum and its teachings. Finally, this chapter will describe Culturally Responsive pedagogy and how this method of teaching can be used to validate ethnic learners within an elementary classroom.

Aboriginal People of Canada, A Brief History

Canada has a long history of colonialism in relation to Aboriginal Peoples starting as early as the 19th century. “This history and its policies of cultural genocide and assimilation have left deep scars on the lives of many Aboriginal people, on Aboriginal communities, as well as on Canadian society and have deeply damaged the relationship between Aboriginal and non-Aboriginal peoples” (Truth and Reconciliation Commission of Canada, 2015, p. 19). One issue that has arisen between Aboriginal Peoples and the Crown is the interpretation and intent of these Treaties.

Generally, government officials have viewed the Treaties as legal mechanisms by which Aboriginal people ceded and surrendered their lands to the Crown. In contrast, First Nations, Inuit, and Metis people understand Treaties as a sacred obligation that commits both parties to maintain respectful relationships and sharing lands and resources equitably (Truth and Reconciliation Commission of Canada, 2015, p. 34).

The history of Canadian legislation affecting Aboriginal People began in 1857 and started with the Province of Canada's Gradual Civilization of the Indian Tribes Act (White, Budai, Mathew, Gill, & Deighan, 2012). Canadian authorities introduced the Gradual Civilization Act of 1857 with the intention of civilizing Aboriginal populations of Canada and encouraging First Nations people to give up their Aboriginal title, culture, and traditions to become members of the broader Canadian society (White, Budai, Mathew, Gill, & Deighan, 2012). Previous to 1857 all responsibility for Aboriginal affairs lay with British authorities that recognized Aboriginals as "distinct communities with a national identity" (White, Budai, Mathew, Gill, & Deighan, 2012, p. 44).

In 1867, the British Parliament passed the Constitution Act, granting the Canadian Parliament legislative authority over Indians and Lands reserved for the Indians. "This confirmed previous assimilationist policies into law, effectively establishing Aboriginal peoples as wards of the state. While there have been numerous key revisions legislated into the Indian Act since 1876, the Act remains fundamentally unchanged to this day" (White, Budai, Mathew, Gill, & Deighan, 2012, p. 44). "The 'civilizing' intention of Aboriginal education in BC was a tragic and violent act of colonial oppression"(White, Budai, Mathew, Gill, & Deighan, 2012, p. 44).

In 1920, the federal government revised the Constitution Act and made attendance at residential schools mandatory for every Aboriginal child between the ages of 7 and 15 (White, Budai, Mathew, Gill, & Deighan, 2012).

Residential Schools

Residential schools have left deep mistrust amongst Aboriginal People and the education system. The government's mission of residential schools was to colonize and assimilate Aboriginal Peoples. This paired with the remote nature of many Aboriginal communities spurred

the creation of centralized residential schools to which children were brought. “This incredibly violent disruption of communities and families has left an unforgivable legacy on future generations” (White, Budai, Mathew, Gill, & Deighan, 2012, pp. 44-45). “Education has not been benign or beneficial for Aboriginal peoples. Rather, through ill-conceived federal government policies Aboriginal peoples have been subjected to a combination of unquestionably powerful but profoundly debilitating forces of assimilation and colonization” (Battiste, 1998, p. 19).

Residential school students were forcibly raised in an isolated setting without the opportunity for strong parental bonding or the opportunity to learn from appropriate Aboriginal role models. This forced and prolonged separation of children from their parents and community resulted in significant cultural and language loss and disrupted the oral and experiential transfer of traditional knowledge. This separation continues to impact current-day parent-child relationships in this community and represents a continuing challenge and obstacle for maintaining Aboriginal culture and traditions. (White, Budai, Mathew, Gill, & Deighan, 2012, p. 45).

“Survivors of this experience continue to suffer from many social and mental health issues due to psychological, physical, or sexual abuse during the time of their residential school attendance as well as loss of knowledge of their own culture and/or language” (White, Budai, Mathew, Gill, & Deighan, 2012, p. 45). “Many Canadians are only now becoming aware of this boarding school abomination” (Battiste, 1998, p. 20). Many Canadians assumed that the situation had changed with the trend of First Nations bands taking control over their schools, as the Federal government accepted a policy in 1972, which permitted Indian control of Indian education, however, this colonial siege had not ended (Battiste, 1998).

It wasn't until the 1980s that the church apologized for their treatment of Aboriginal people and the disrespect of their cultures through the use of Residential schools (Truth and Reconciliation Commission of Canada, 2015). Succeeding the closure of the last Residential school in 1996, the Report of the Royal Commission on Aboriginal Peoples provided a glimpse into just how bad things had become in the previous year. It made hundreds of recommendations, and outlined a twenty-year renewal plan that would rebalance the political and economic power between Aboriginal Peoples and governments. The report showed that if Canada was to thrive in the future, the relationship between Aboriginal Peoples and the Crown must be transformed (Truth and Reconciliation Commission of Canada, 2015).

In 1998, the federal government released Gathering Strength: Canada's Aboriginal Action Plan. The action plan focused on four priority areas: renewing partnership, strengthening Aboriginal governance, developing a new fiscal relationship, and supporting strong communities, people and economics (Truth and Reconciliation Commission of Canada, 2015, p. 24).

In "2006 Parliament enacted the First Nations Jurisdiction over Education in British Columbia Act, establishing a First Nations Education Authority in the province, authorizing agreements for Aboriginal communities for jurisdiction over education, effectively nullifying educational provisions in the Indian Act for participating communities" (White, Budai, Mathew, Gill, & Deighan, 2012, p. 45).

In 2007, the United Nations adopted the Declaration of Rights of Indigenous People (Truth and Reconciliation Commission of Canada, 2015).

June of 2008, the Canadian Prime Minister made an apology in Parliament along with the apologies of all other parliamentary leaders (Truth and Reconciliation Commission of Canada, 2015).

In the year 2010, Canada endorsed the Declaration of Rights of Indigenous Peoples, however, it did so conditionally as a non-legally binding aspirational document (Truth and Reconciliation Commission of Canada, 2015, p. 26).

Moving Forward, Reconciliation

The Truth and Reconciliation Commission mandate describes reconciliation as an ongoing individual and collective process, [that] will require commitment from all those affected including First Nations, Inuit, and Metis former Indian Residential Schools students, their families, communities, religious entities, former school employees, government, and the people of Canada. Reconciliation may occur between any of the above groups (Truth and Reconciliation Commission of Canada, 2015, p. 11).

Reconciliation is in the best interests of all Canadians. It is needed not only to resolve the ongoing conflicts between Aboriginal Peoples and institutions of the country but also to remove a stain from Canada's past (Truth and Reconciliation Commission of Canada, 2015, p. 19).

“Reconciliation must support Aboriginal peoples as they heal from the destructive legacies of colonization that have wreaked such havoc in their lives” (Truth and Reconciliation Commission of Canada, 2015, p. 4). “Through inspiration Aboriginal and non-Aboriginal peoples can transform Canadian society so that our children and grandchildren can live together in dignity, peace, and prosperity on these lands we now share” (Truth and Reconciliation Commission of Canada, 2015, p. 4).

Not only does reconciliation require apologies, reparations, the relearning of Canada's national history, and public commemoration, but it also needs real social, political, and economic change. Ongoing public education and dialogue are essential to reconciliation. Governments, churches, educational institutions, and Canadians from all walks of life are responsible for taking action on reconciliation (Truth and Reconciliation Commission of Canada, 2015, p. 20).

From an Aboriginal perspective, Reconciliation between Aboriginal and non-Aboriginal Canadians also requires reconciliation with the natural world. "If human beings resolve problems between themselves but continue to destroy the natural world, then reconciliation remains incomplete" (Truth and Reconciliation Commission of Canada, 2015, p. 13). "[Reconciliation] is about coming to terms with events of the past in a manner that overcomes conflict and establishes a respectful and healthy relationship among people going forward" (Truth and Reconciliation Commission of Canada, 2015, p. 3). "Reconciliation is not about 'closing a sad chapter of Canada's past' but about opening new healing pathways of reconciliation that are forged in truth and justice" (Truth and Reconciliation Commission of Canada, 2015, p. 7).

Education Today

Moving forward, schools "must teach history in ways that foster mutual respect, empathy and engagement" (Truth and Reconciliation Commission of Canada, 2015, p. 17). All Canadian children and youth deserve to know Canada's honest history, including what transpired in the residential schools, and to appreciate the rich history and knowledge of Indigenous nations, which continue to make such a strong contribution to Canada, including our very name and collective identity as a country" (Truth and Reconciliation Commission of Canada, 2015, p. 17).

Not only do Aboriginal students need to know their history, but non-Aboriginal students do as well.

Non-Aboriginal children and youth need to comprehend how their own identities and family histories have been shaped by a version of Canadian history that has marginalized Aboriginal peoples' history and experience. They need to know how notions of European superiority and Aboriginal inferiority have tainted mainstream society's idea about, and attitudes towards, Aboriginal people in ways that have been profoundly disrespectful and damaging. They too need to understand Canada's history as a settler society and how assimilation policies have affected Aboriginal peoples. This knowledge and understanding will lay the groundwork for establishing mutually respectful relationships (Truth and Reconciliation Commission of Canada, 2015, p. 21).

As teachers begin to confront new pedagogical schemes of learning, they will need to decolonize education. This is a process which includes "raising the collective voice of Indigenous peoples, exposing the injustices in our colonial history, deconstructing the past by critically examining the social, political, economic and emotional reasons for the silencing of Aboriginal voices in Canadian history" (Battiste, 2002, p. 20). Teacher must also recognize Aboriginal content as a dynamic context of knowledge and knowing (Battiste, 2002). "On going public education and dialogue are essential to reconciliation. Governments, churches, educational institutions, and Canadians from all walks of life are responsible for taking action on reconciliation" (Truth and Reconciliation Commission of Canada, 2015, p. 20). There is a need for increased professional development for all educators and greater awareness of Aboriginal epistemologies and pedagogies. (White, Budai, Mathew, Gill, & Deighan, 2012, p. 56).

Epistemological Orientation, Aboriginal View

Aboriginal “knowledge systems are known as ecological, holistic, relational, pluralistic, experiential, timeless, infinite, communal, oral and narrative based” (Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003, p. 141). Aboriginal knowing is more about the journey than the destination as it takes place within verb-based languages (Hatcher, Barlett, Marshall & Marshall, 2009). Aboriginal views have taught us that learning is ultimately a subjective experience tied to a place, environmentally, socially, and spiritually. Teaching and learning is intertwined with the daily life of both teacher and learner (Cajete, 2005). The First Nations Holistic Lifelong Learning Model (see Figure 2.1) uses nature, specifically a tree to depict the enquiry of knowledge.

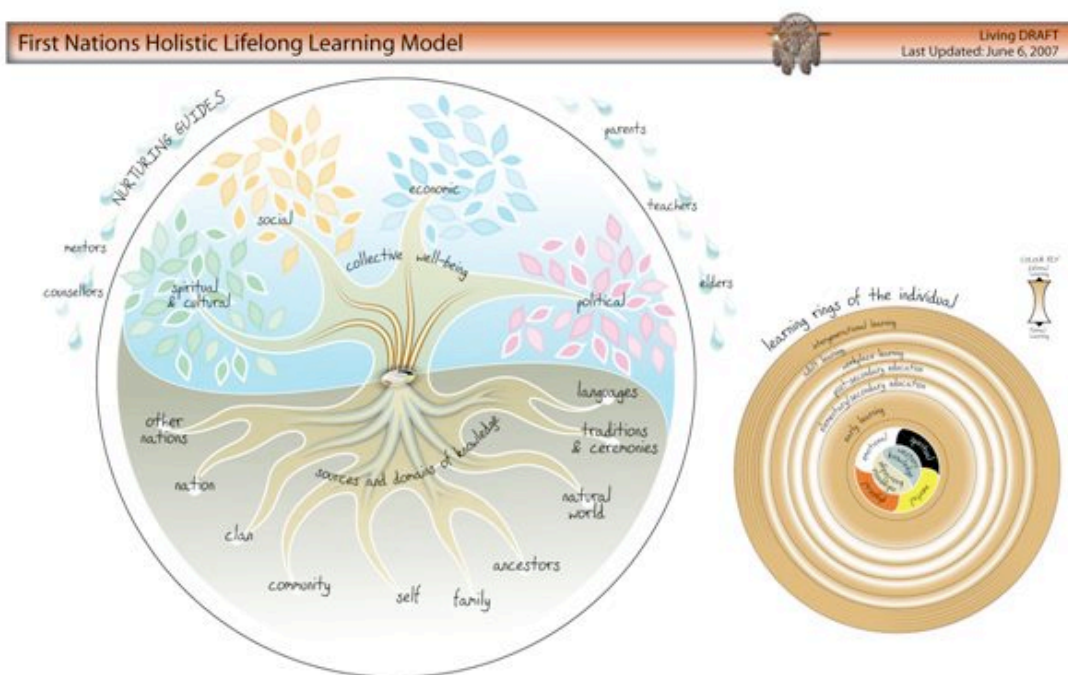


Figure 2.1 First Nations Holistic Lifelong Learning Model. Retrieved January, 15, 2017 from http://www.afn.ca/uploads/files/events/fact_sheet-ccoe-4.pdf. First Nations Holistic Lifelong Learning Model. Copyright 2007 by Aboriginal Learning Knowledge Centre.

“Indigenous Knowledge is a growing field of inquiry both nationally and internationally, particularly for those interested in educational innovation and problem solving. It includes Indigenous science, arts, humanities, and legal traditions. Each manifestation reflects an ecological centered way of life or expresses a sustainable humanity” (Battiste & Henderson, 2009). “In Indigenous knowledge systems, generations of knowledge starts with ‘stories’ as the base units of knowledge; proceeds to ‘knowledge,’ an integration of the values and process described in the stories; and culminates in ‘wisdom,’ and experiential distillation of knowledge. This process can be viewed as cyclical, as ‘wisdom’ keepers in turn generate new ‘stories’ as a way of disseminating what they know” (Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003, p. 141). “Indigenous Knowledge is systematic, covering both what can be observed and what can be thought. It comprises the rural and the urban, the settled and the nomadic, original inhabitants and migrants” (Batiste, 2005, p.5). “An intimate association with nature has led to a circular view of time in most Indigenous Worldviews. With a long history of observation, the cycles of nature become an important method of time-keeping” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 145). The following is a summary based on the work of two Indigenous scholars, Battiste and Henderson (2005). Indigenous ways of knowing is knowledge of unseen powers in the ecosystem, knowledge of the interconnectedness of all things, knowledge of the perception of reality based linguistic structures or ways of communicating, knowledge that personal relationships bond people, communities, and ecosystems, knowledge that traditions teach specialized knowledge related to morals and ethic, and knowledge that extended kinship passes and social traditions and practices from one generation to the next (Battiste and Henderson, 2005).

The First Peoples Principles of Learning poster can be seen displayed in many Saanich Schools throughout district (see Figure 2.2).

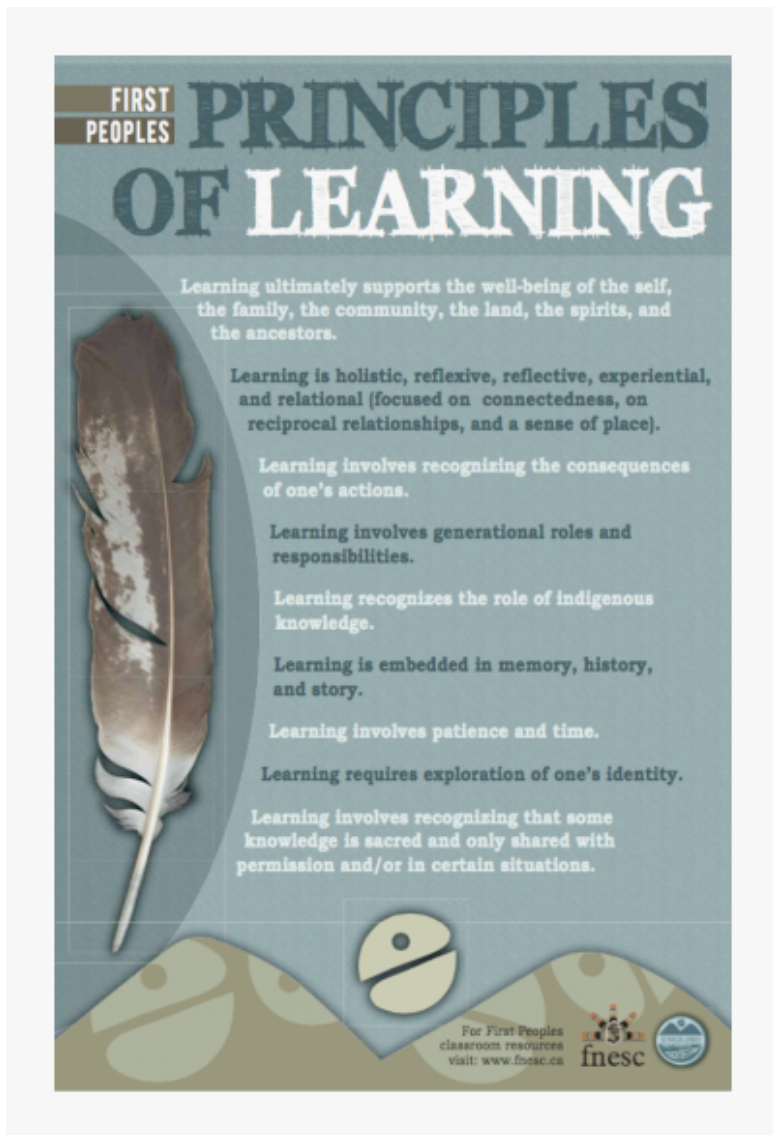


Figure 2.2 The First Peoples Principles of Learning poster.

Retrieved January, 15, 2017 from <https://fner.wordpress.com/2013/09/15/first-peoples-principles-of-learning-poster/>. The First Peoples Principles of Learning poster. Copyright 2017 by FNER.worldpress.com.

Aboriginal education is learning about life through participation and relationships to community, including people, plants, animals, and the whole of nature (Cajete, 2005, p. 69). It reflects the understanding that our lives are truly connected to other people and the physical world. To gain knowledge one must engage in first hand experiences in the world and then transmits them through ritual, ceremony, art, and appropriate technology (Cajete, 2005). The distribution of power is more evenly shared and does not reside solely with the teacher (Aikenhead, 2001, p.343). Aboriginal education historically occurred in a holistic social context that developed a sense of importance of each individual as a contributing member of the social group (Cajete, 2005). It relied on language through story telling, oratory, and song as a primary tool for teaching and learning (Cajete, 2005). “Ceremonies were used as an introduction to sacred and environmental knowledge, graduated and programmed in such a way that individuals were presented new levels of knowledge when they were physically, psychologically, and socially ready to learn” (Cajete, 2005, p. 72). In Aboriginal cultures, children are allowed to make mistakes in order to learn.

The main ethical educational rule is to not give direct advice or criticism. Children learn by close observation and not by being verbally taught. They have to learn to be close observers of nature. Advice is given indirectly in the form of legends and stories because there is a trust in human consciousness and the ability of students to draw the conclusions that are best for them” (Hatcher, Barlett, Marshall, Marshall, 2009, p. 147).

The goal of Aboriginal science is to become open to the natural world with all of one’s senses, body and spirit (Hatcher, Barlett, Marshall & Marshall, 2009, p. 143). Aboriginal science has been described as “the study of systems of knowledge developed by a given culture to classify the objects, activities, and events of its universe” (Snively & Williams, 2006, p. 230).

“Indigenous science is a metaphor for a wide range of tribal process of perceiving, thinking, acting, and coming to know that have evolved through human experience in the natural world, their territories and home place” (Snively & Williams, 2006, p. 236). It “evolved in relationship to places and is therefore instilled with a sense of place” (Snively & Williams, 2006, p. 231).

Hatcher, Barlett, Marshall & Marshall (2009) describe Indigenous Sciences as the large range of coming to know processes that result from human experiences in the natural world (p. 143). “It is participating within nature’s relationships, not necessarily deciphering how they work” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 141).

Epistemological Orientation, Western-Eurocentric View

Today’s scientists embrace fundamental worldviews that are shaped by science’s origins and evolution, a knowledge system, which is largely based on one authority of empirical evidence. “Many of the principles of Western science rely on a type of logic that assumes hierarchical thinking” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 142). In Eurocentric or Western sciences, eradication of mystery is a key goal and seeks to understand how the Universe works (Hatcher, Barlett, Marshall, & Marshall, 2009). In 1831, with the birth of the British Association for the Advancement of Science, the term *science* became applied to the Eurocentric or Western approach as commonly practiced today, replacing the term natural philosophy (Hatcher, Barlett, Marshall, Marshall, 2009). Western science is seen to gain power over nature. The quantitative and objective approach of Western science involves a disconnection between the observer and the observation (Hatcher, Barlett, Marshall & Marshall, 2009). Western science is described as “reductionist, linear, objective, hierarchical, empirical, static, temporal, singular, specialized, and written” (Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003, p. 141). In Western science, the knowledge system process involves “the organization of individual data

into abstract theoretical systems, composed of multiple components, each of which requires a ‘specialist’ to be fully understood” (Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003, p. 141). “Knowledge is a noun, to be passed objectively from one person to another” (Hatcher, Barlett, Marshall, & Marshall, 2009, p. 146). “Ecology is the Western science that is closest to Indigenous science. The distinct difference is Spirituality, which is present in Indigenous sciences but not yet in most mainstream ecology” (Hatcher, Barlett, Marshall, Marshall, 2009, p. 148).

Incorporating both Views within an Education Curriculum

According to Richards, Brown & Forde (2007) educators must create a bridge between the needs of students and the dictated curriculum. Hatcher, Barlett, Marshall & Marshall, (2009) describe this bridge as Integrative Science. It is described as the interface between Aboriginal sciences and Western sciences where one does not have to relinquish either position but can come to understand elements of both. Within Integrative science there is an approach called, Two-Eyed Seeing. It is used to intentionally and respectfully bring together different ways of knowing. It motivates people to use all their gifts so we leave the world a better place and do not compromise the opportunities for our youth. “The concentration on the common ground between Aboriginal and Western ways of knowing means that one does not have to relinquish either position but can come to understanding elements of both” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 146). Hatcher, Barlett, Marshall & Marshall (2009) describe an approach used within Integrative Science as Two-Eyed Seeing. Two-Eyed Seeing teaches you to awaken the spirit within you. You become the student of life and the observant of the natural world. Western science sees objects, but Indigenous languages teach us to see subjects. Humans are a very small part of the whole (Hatcher, Barlett, Marshall & Marshall, 2009, p. 146). “Using the Two-Eyed

Seeing approach means that education within Integrative Science incorporates a more holistic mindset and is transcultural as well as multidisciplinary, multidirectional, and multisensory” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 146). Aboriginal students are aided to find their own voice within the classroom. They are encouraged to bring who they are into schools and be respected for their family background, culture and prior experiences (Baskerville, 2009, p.462). A framework, such as the Two-Eyed Seeing framework, seems to be most successful when each student feels direct connection to Mother Earth. (Aikenhead, 2001, p.343). “A physical, emotional, mental and spiritual connection helps ensure respect for the community’s Indigenous knowledge and begins to nurture students’ coming to knowing” (Aikenhead, 2001, p.343).

According to Battiste (2005) educators must blend educational context that respects and builds on both Indigenous and Eurocentric knowledge systems. “Aboriginal perspectives have the potential to give great insight and guidance to the kind of environmental ethics and deep understanding that we must gain as we attempt to solve the increasingly complex problems of the 21st century” (Snively & Williams, 2006, p. 243). “Although the two perspectives often interpret the world differently, students should see that in many instances the two overlap and can reinforce one another and the communities frequently would be better served if a dual approach to problem-solving were employed” (Snively & Williams, 2006, p. 243). In a cross-cultural approach, “[Indigenous] knowledge and language are treated as an asset in the science classroom, rather than adopting a deficit model” (Aikenhead, 2001, p.349). “Western science does not replace Aboriginal science, it enriches a small aspect of it” (Aikenhead, 2001, p.347). Students learn best when they are engaged in their environments. This engagement happens when students feel validated as members of the learning community and when the information presented is accessible to them (Rychly & Graves, 2012).

Connecting Western and Aboriginal science involves more than a simple translation. The science educator must be sensitive to the culturally embedded meanings of words in both cultures (Aikenhead, 2001). The educator must be mindful to create a learning environment where the students are safe to take risks (Baskerville, 2009, p.465). Educators must acknowledge students prior knowledge and identify experts to lead the teaching (Baskerville, 2009). We are all learners together who value one another's opinions. The classroom must allow for time for others to voice their opinions (Baskerville, 2009). Creating a circle contributes to a shared power relationship where all participants could see one another and are partners in the learning conversation (Baskerville, 2009, p.465).

Currently school science conveys an ideology that privileges Western science over all other ways of knowing (Aikenhead, 2001). "Scientism is scientific fundamentalism, science is the only way of knowing" (Aikenhead, 2001, p.337). Science teachers tend to harbor a strong allegiance to values associated with scientism (Aikenhead, 2001). Scientism acts as a hidden curriculum when students learn to "think like a scientist" (Aikenhead, 2001, p.337). Each value system whether it be Western scientific or Aboriginal orients a student differently toward nature. "Western science values revealing nature's mysteries for the purpose of gaining knowledge for the sake of knowledge and material growth. Aboriginal science strives for living with nature's mysteries for the purpose of survival" (Aikenhead, 2001, p.346).

The Aboriginal content is not just tacked on for the sake of creating interest. It frames the unit in a way that nurtures the enculturation of Aboriginal students into community's culture (Aikenhead, 2001, p.347). Science teachers must acknowledge students' personal preconceptions and Aboriginal worldviews (Aikenhead, 2001). "Some teachers use two different black boards- one for Aboriginal science, another for Western science" (Aikenhead, 2001, p.347). It is

important “not to distort local knowledge by making it conform to Western epistemology endemic to school culture” (Aikenhead, 2001, p.343). “Unless Indigenous knowledge coexists with Western science in the science classroom, many Indigenous students will continue to find the science curriculum inaccessible and culturally irrelevant” (Snively & Williams, 2006, p. 230).

“A cultural approach to science education recognizes that learning Western science for most Aboriginal students is a cross-cultural event. Students move from their everyday cultures associated with home to the culture of Western science” (Aikenhead, 2001, p.340). A cultural approach to teaching and learning engages students in cultural negotiations, these negotiations occur in a context where learning science is experienced (Aikenhead, 2001, p.339). To facilitate a cultural approach to teaching, teachers and students both need to be flexible and playful, and to feel at ease in the less familiar culture (Aikenhead, 2001, p.340). Aikenhead (2001) suggests that educators who foster a cultural approach to teaching provide students with opportunities to engage in the following types of activities:

1. Students have opportunities for talking within their own life-world cultural frameworks without sanctions for being ‘unscientific’,
2. Students have opportunities for being immersed in either their everyday Aboriginal culture or the culture of Western science as students engage in some activity,
3. Students are consciously aware of which culture they are participating in at any given moment (p.341).

A culturally inclusive learning environment is co-constructed with students, it has a clearly defined agreement that makes explicit the principals guiding the learning process and the responsibilities to one another. It fosters an environment conducive to teaching and learning

focused on establishing quality relationships (Baskerville, 2009). By providing cross-cultural science education, the educator acknowledges the issues of social power and privilege in the science classroom (Aikenhead, 2001, p.341).

Challenges of Incorporating both Views

“Indigenous Sciences have spirituality at their core, which may be difficult to treat sensitively in the conventional classroom. As a first step toward incorporating spirituality, students can be taught to respect their environment” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 151). “Indigenous Sciences contain deep and subtle wisdom, which Mother Earth needs, but that is difficult for those with a Western culture to practice authentically because they generally do not have the underlying beliefs, values, and cultural connections to nature and each other” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 145). “Teachers face the dilemmas of finding ways to recognize and work to the individual learning needs of students, and to foster respect for difference in their culturally diverse classrooms” (Baskerville, 2009, p.461). “Indigenous Sciences are a living knowledge that requires less dependence on knowledge transfer from books and more on knowledge “gardening’ with living knowledge-keepers. Knowledge-gardening in the classroom is accelerated by the inclusion of community members such as Elders and other resource people” (Hatcher, Barlett, Marshall & Marshall, 2009, p. 151). “With the aging population of the Elders in the community, traditional science knowledge is quickly slipping away, and the urgency to research and document this knowledge is vital to Aboriginal peoples and to our global society” (Snively & Williams, 2006, p. 230). Another challenge is the lack of classroom resources. Indigenous science puts emphasis on “change, wholeness, and balance” whereas Western science emphasizes knowledge that is compartmentalized into disciplines (Hatcher, Barlett, Marshall & Marshall, 2009, p. 151). A

further challenge is the lack of connection between many students and their natural environment. Educators can provide many out-of-doors learning activities for students to sharpen their interest and their powers of observation (Hatcher, Barlett, Marshall & Marshall, 2009, p. 152).

Culturally Responsive Pedagogy

Culturally Responsive pedagogy will be define as “using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively” (Gay, 2002, p. 106). It is teaching practices that attend to the specific cultural characteristics present within the learning environment (Rychly & Graves, 2012). Culturally Responsive pedagogy connects new information to students’ background knowledge, and presents the information in ways that respond to students’ ethnic ways of learning (Rychly & Graves, 2012). The trouble with Culturally Responsive pedagogy is many teachers are “inadequately prepared to teach ethnically diverse students” (Gay, 2002, p. 106). “Culture encompasses many things, some of which are more important for teachers to know than others because they have direct implications for teaching and learning.” (Gay, 2002, p. 107). For example, teachers need to know which ethnic groups give priority to communal living and cooperative problem solving and how these preferences affect educational motivation, aspiration, and task performance. How different ethnic groups’ have certain protocols that are appropriate for children and adult interaction within an instructional setting and the implications of gender role socialization in different ethnic groups for implementing equity initiatives in classroom instruction (Gay, 2002). Educators must acquire detailed information about the cultural particularities of specific ethnic groups. (Geneva, 2002). “Many teachers do not know enough about the contributions that different ethnic groups have made to their subject areas and are unfamiliar with multicultural education” (Gay, 2002. P. 107). What educators think they know

about cultural diversities is “often based on superficial or distorted information conveyed through popular culture, mass media, and critics” (Gay, 2002, p. 107). To correct these inadequacies educators must acquire more knowledge about the contributions of different ethical groups. Educators must thoroughly understand the existing obstacles to cultural responsive teaching before they can successfully remove them (Gay, 2002).

“Three kinds of curricula which are routinely present in the classroom are; formal, symbolic, and societal curriculum, each of which offers different opportunities for teaching cultural diversity (Gay, 2002).

Formal curricula is the policies and the governing bodies of the educational system, they are usually adopted by textbooks and other curriculum guidelines issued by national commissions departments of education and local school districts. Effective culturally responsive educators know how to determine strengths and weaknesses of curriculum designs and instructional materials and are able to make revisions to better represent cultural diversity and improve the overall quality (Gay, 2002). “These analyses should focus on the quantity, accuracy, complexity, placement, purpose, variety, significance, and authenticity of the narrative texts, visual illustrations, learning activities, role models, and authorial sources used in the instructional materials” (Gay, 2002, p. 108).

Symbolic curricula includes “images, symbols, icons, mottos, awards, celebrations, and other artifacts that are used to teach students knowledge, skills, morals, and values” (Gay, 2002, p. 108). Culturally responsive educators must be conscious of the power symbolic curriculum holds as an instrument of teaching and use it to help convey important information, values, and actions about ethnic and cultural diversity (Gay, 2002). The most common forms of symbolic curricula are bulletin board decorations; images of heroes and heroines; trade books; and

publicly displayed statements of social etiquette, rules and regulations, ethical principles, and tokens of achievement. “Therefore, classroom and school walls are valuable ‘advertising’ space, and students learn important lessons from what is displayed there. Over time, [students] come to expect certain images, value what is present, and devalue that which is absent” (Gay, 2002, p. 108).

Societal curricula is the knowledge, ideas, and impressions about ethnic groups that are portrayed in the mass media (Gay, 2002). Television programs, newspapers, magazines, and movies construct knowledge that convey a particular cultural information where both minority and majority groups are negatively affected by these images and representations (Gay, 2002).

Cultural Responsive teaching considers the quality of the relationships between educators and students and the acknowledgement of students’ cultural experiences and understanding. It includes caring for the child as a culturally located human being, having high expectations of the learning and behavioural performance of the child and having high expectations of their own performance (Baskerville, 2009). Richards, Brown & Forde (2007) outline some key aspects that comprise Culturally Responsive teaching. First, educators must understand their institution and what policies and values it upholds. Second, educators must consider their personal mind frame. They must engage in self-reflection and honestly examine their own attitudes and beliefs about themselves and others. Educators must discover who they are before they can confront the biases that have influenced their own value system. It is important that educators explore their own histories as well as those of their students and families. “With knowledge comes understanding of self and others, and a greater appreciation for differences” (Richards, Brown & Forde, 2007, p. 65). Richards, Brown & Forde (2007) provide 10 specific activities for Culturally Responsive Instruction.

- (1) Acknowledge students' differences as well as their commonalities,
- (2) Validate students' cultural identity in classroom practices and instructional materials,
- (3) Educate students about the diversity of the world around them,
- (4) Promote equity and mutual respect among students,
- (5) Assess students' ability and achievement validity,
- (6) Foster a positive interrelationship among students, their families, the community and school,
- (7) Motivate students to become active participants in their learning,
- (8) Encourage students to think critically,
- (9) Challenge students to strive for excellence as defined by their potential,
- (10) Assist students in becoming socially and politically conscious (p. 66-67).

Fostering Culturally Responsive Pedagogy

“As more and more students from diverse backgrounds populate 21st century classrooms and efforts mount to identify effective methods to teach these students, the need for pedagogical approaches that are culturally responsive intensifies” (Richards, Brown & Forde, 2007, p. 64). Historically the educational system has fostered the achievement of one segment of the school, white middle class (Richards, Brown & Forde, 2007, p. 65). These culturally biased standards and values are perpetuated in curriculum development and instructional practices, which have been detrimental to the achievement of students from culturally diverse backgrounds (Richards, Brown & Forde, 2007, p. 64). “Culturally responsive pedagogy facilitates and supports the achievement of all students” (Richards, Brown & Forde, 2007, p. 64). A Culturally Responsive classroom supports learner-centered context, where the strengths students bring to school are

identified, nurtured, and utilized to promote student achievement for all (Richards, Brown & Forde, 2007, p. 64). Culturally responsive teaching is creating a classroom climate that is conducive to learning for ethnically diverse students (Gay, 2002). Educators impose “cultural scaffolding” (Gay, 2002, p. 109) meaning educators use the students’ own culture and experiences to expand their intellectual horizons and academic achievements (Gay, 2002). Educators who care for ethnically diverse students accept nothing less than high-level success from those students (Gay, 2002, p. 109). “Building community among diverse learners is another essential element of culturally responsive teaching” (Gay, 2002, p. 110). Many ethnic students grow up in environments where the welfare of the group takes precedent over the individual and they are taught to pool their resources (Gay, 2002, p. 110). These ethnic working styles tend to be quite different from the typical ones used in schools, which give priority to the individual and working independently (Gay, 2002). “Culturally responsive teachers understand how conflicts between different work styles may interfere with academic efforts and outcomes, and they understand how to design more communal learning environments” (Gay, 2002, p. 110). “Cooperative group learning arrangements and peer coaching fit well with the communal cultural systems of African, Asian, Native and Latino American groups (Gay, 2002, p. 112).

Educator desire is essential if they are going to effectively design and implement culturally responsive pedagogy. Rychly & Graves, (2012) outline 4 practices that educators should carry out. They are:

- (1) empathetic and caring,
- (2) reflective about their beliefs about people from other cultures,
- (3) reflective about their own cultural frames of reference,
- (4) knowledgeable about other cultures (p. 45).

Caring refers to teachers' unwillingness to tolerate underachievement (Rychly & Graves, 2012, p. 45). Empathy refers to the teachers' ability to understand the classroom from her students' perspectives (Rychly & Graves, 2012, p. 45). Becoming a reflective educator means, educators must come to terms with their preconceived notions of the abilities of students from diverse backgrounds if they are to see past the stereotypical underachievement of diverse students. As well as uncover their worldviews and be conscious of 'cultural blindness', which is defined as "any policy, practice, or behaviour that ignores existing cultural differences or that considers such differences inconsequential" (Rychly & Graves, 2012, p. 46). Lastly, educators must inquire a deeper knowledge about other cultures that is more sophisticated than differences in food and holiday celebrations. Educators must also experience what it is to be a member of a nondominant culture (Rychly & Graves, 2012). According to Rychly & Graves (2012) educators "must not stop their learning about these cultural ways at generalizations or stereotypes. [Educators] must learn to balance the facts that, while students are members of cultural groups that have distinct practices, they are also at the same time individuals, and stereotyping them could have effects similarly negative to just ignoring them" (p. 47).

Moving forward, Chapter 3 will examine the implications of the research and how the present ideas and theories can be applied to current educational practice. The project proposal will focus on the implementation of Culturally Responsive pedagogy with children ages 5-9 and draw upon Richards, Brown & Forde (2007) 10 specific activities for Culturally Responsive Instruction, looking specifically at number 2, which is, validate students' cultural identity in classroom practices and through instructional materials. The project proposal will consider

classroom practices and materials readily available to classroom teachers in the Saanich School District.

I have chosen to look at practices and instructional materials as a focus because I believe it combines tangible objects such as materials while considering classroom practices and pedagogy.

Chapter 3 will be presented in the form of an all day workshop. Participants will be exposed to literature on Culturally Responsive Pedagogy as well as Western and Aboriginal Epistemological Views. Participants will be given an opportunity to explore current resources available to educators in Saanich School district and how these resources foster the implementation of Culturally Responsive Pedagogy. The workshop will conclude with a story from a Local Elder and participants will be invited to stay connected with one another through a Google Document. The project aims to provoke educators to consider other ways of knowing and how educators can use Culturally Responsive pedagogy to foster a reflective practice and honour Aboriginal ways of knowing within their classroom.

Chapter 3

Project Proposal

In Chapter 1 I discussed my personal experience and limited experience with Culturally Responsive pedagogy, within my own upbringing as well as my education degree. Due to the lack of experience and exposure to Culturally Responsive pedagogy I harbored anxious feelings “about perpetuating misconceptions, making mistakes, or giving offence” (First Nations Education Steering Committee, 2012) when approaching Aboriginal content with my students and or colleagues. This combined with the realization of my white, middle class privileged childhood and school experience brought me to action. I would no longer contribute to the hegemony of society blindly. I made a conscious decision to choose a project topic that caused me some discomfort, knowing that this discomfort would be necessary for both personal and professional growth.

Chapter 2 provided a snapshot of Aboriginal People of Canada’s history with government and formal schooling. It focuses on major Treaties with regards to education, relaying the deep mistrust and impact that Residential schools have left amongst Aboriginal People and the education system. The literature acknowledges the importance of Reconciliation, and how educators can use and incorporate reconciliation within their own practice. It reviewed both Aboriginal and Western epistemological orientations and the importance of incorporating and valuing both to create a balanced science curriculum. Finally, it suggested ways in which Culturally Responsive pedagogy can be fostered within a science curriculum.

To further inform other educators of the importance of Culturally Responsive pedagogy with respect to Aboriginal People of Canada, I propose the implementation of a one-day workshop presentation. Below is an outline of the content proposed for the workshop, which will be titled *Fostering Culturally Responsive Pedagogy using Aboriginal Resources*.

Introduction

- a. My Journey
- b. Key Terms
- c. Why is Culturally Responsive Pedagogy Important?

(2) Reflection Activity

- a. A quick write of one's own life story
- b. Teacher Beliefs

(3) Resources

- a. Resources Available
- b. Activity, How do you see yourself incorporating these resources?

(4) Content vs Learning Style

- a. Epistemological Views
- b. Story from an Elder

(5) Staying Connected

- a. Google Document

Rationale for Workshop Presentation

All public school districts within British Columbia are equipped with an Aboriginal Contact person. This resource list can be found on the B.C. Government Website at <http://www.bced.gov.bc.ca/apps/imcl/imclWeb/AB.do>. Some schools within B.C. are fortunate to have an Indigenous Resource teacher present within their school full time. Educators need to be aware of these important resource teachers within his or her district and the knowledge and

guidance he or she can provide. Although these resources teachers provide support and guidance they also require commitment and reciprocal support from classroom teachers.

With the support of my Indigenous resource teacher it was important to me that my students did not perceive that Aboriginal Education could only be learnt from a resource teacher or within a specialized classroom within the school. Although I am grateful to have a specialized resource room and teacher within my school, I felt there was more that needed to be done to add to the fluidity of Aboriginal Education between classroom and resource room. My aim was for my students to see the connection between what we were learning in the resource room to what we were learning in our classroom and not view these learning's as mutually exclusive. The goal of the workshop is to support and encourage classroom teachers to incorporate Aboriginal Resources within their own classroom within a culturally respectful and conscious way.

Workshop Presentation

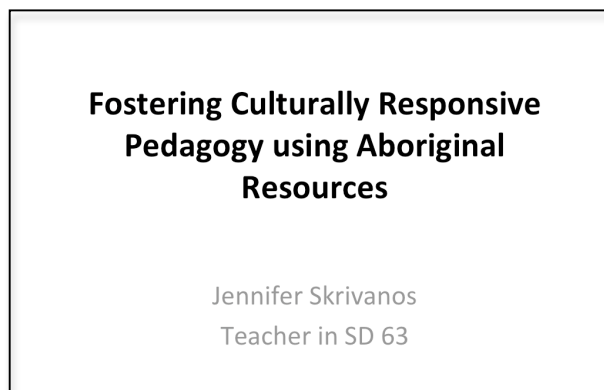
Fostering Culturally Responsive Pedagogy using Aboriginal Resources.

Target Audience: SD 63 Educators who are interested in Culturally Responsive pedagogy and exploring district resources.

Set Up: Chairs and tables will be arranged in a 'U' shape facing the power point presentation so that all participants can see the presentation as well as one another.

I will use an interactive Power Point Presentation to conduct this workshop presentation. The Power Point Presentation will be shared with participants via email it will also be accessible through the shared Google Document outlined near the end of the presentation.

Slide 1 –Title Page of Presentation



Slide 2 –Land Acknowledgement

I would like to take a moment to acknowledge that this workshop presented today, will take place on the traditional, ancestral lands of the _____. As guests to this land, I am thankful and consider it a privilege to be able to live and do our learning here today.

It is good protocol to thank the host nation because you are acknowledging that that Nation has had a relationship since time immemorial with the land you are standing on. It is a sign of respect and recognition (Joseph, 2013).

1a. My Journey

Slide 3 - picture of me as a child.

I feel it is important share my journey with the audience as a way to connect with them. I believe the audience is more likely to invest in what I have to say if they have been provided with the opportunity to relate or make a connection to my story first. I want the audience to be aware that I did not start out where I am today, it has taken me time and I continue to grow each day as an educator.

My Journey

My journey here today began with my realization of my White privileged upbringing. It was through this realization that I started to wonder how my childhood had been different from others growing up. As a child I didn't put much thought into this, I grew up naively thinking that most of my peers at school were as much like me as anyone else. Through the discovery of Culturally Responsive pedagogy I reflected on my own teaching philosophy and what my goals as an educator were. As an educator I was aware that I struggled with Aboriginal education, as I had had no previous teachings regarding Aboriginal Education. With the launch of the Redesigned Curriculum I knew I was not going to fulfill my teaching duties if I did not take the time to better educate myself in Aboriginal Education. Together Culturally Responsive pedagogy and Aboriginal Education have guided my journey and the creation of today's workshop.

1b. Key Terms

Slide 4

Key Terms

Science Classroom
any environment that supports and fosters the science curriculum

Aboriginal
"all indigenous people in Canada, including status and non-status 'Indians' (as identified by the *Indian Act*), Metis, and Inuit people" as defined in the Constitution Act of 1982 (First Nations Education Steering Committee, 2012)

Indigenous
no official definition of "indigenous" has been adopted by any UN-system body, the system has developed a modern understanding of this term.

Those who inhabited a country or a geographical region at the time when people of different cultures or ethnic origins arrived. The new arrivals later became dominant through conquest, occupation, settlement or other means. Indigenous People practice unique traditions, they retain social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live. (United Nations)

It is important to define some of the key terms at the beginning of the workshop so that all participants have the same references as we proceed through the day.

Slide 5 and 6 Culturally Responsive Pedagogy

Culturally Responsive Pedagogy

- Is “using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively” (Gay, 2002, p. 106).
- It is teaching practices that attend to the specific cultural characteristics present within the learning environment (Rychly & Graves, 2012).
- It connects new information to students’ background knowledge, and presents the information in ways that respond to students’ ethnic ways of learning (Rychly & Graves, 2012).
- It includes caring for the child as a culturally located human being, having high expectations of the learning and behavioural performance of the child and having high expectations of their own performance (Baskerville, 2009).

Culturally Responsive Pedagogy

Rychly & Graves, (2012) outline 4 practices that educators should carry out to engage in Culturally Responsive Pedagogy.

They are:

- empathetic and caring,
- reflective about their beliefs about people from other cultures,
- reflective about their own cultural frames of reference, and
- knowledgeable about other cultures (p. 45).

Richards, Brown & Forde (2007) state that educators must:

- understand their institution and what policies and values it upholds,
- consider their personal mind frame,
- engage in self-reflection and honestly examine their own attitudes and beliefs about themselves and others,
- must discover who they are and explore their own histories before they can confront the biases that have influenced their own value system.

Slide 7 Multicultural Theory

Multicultural Theory

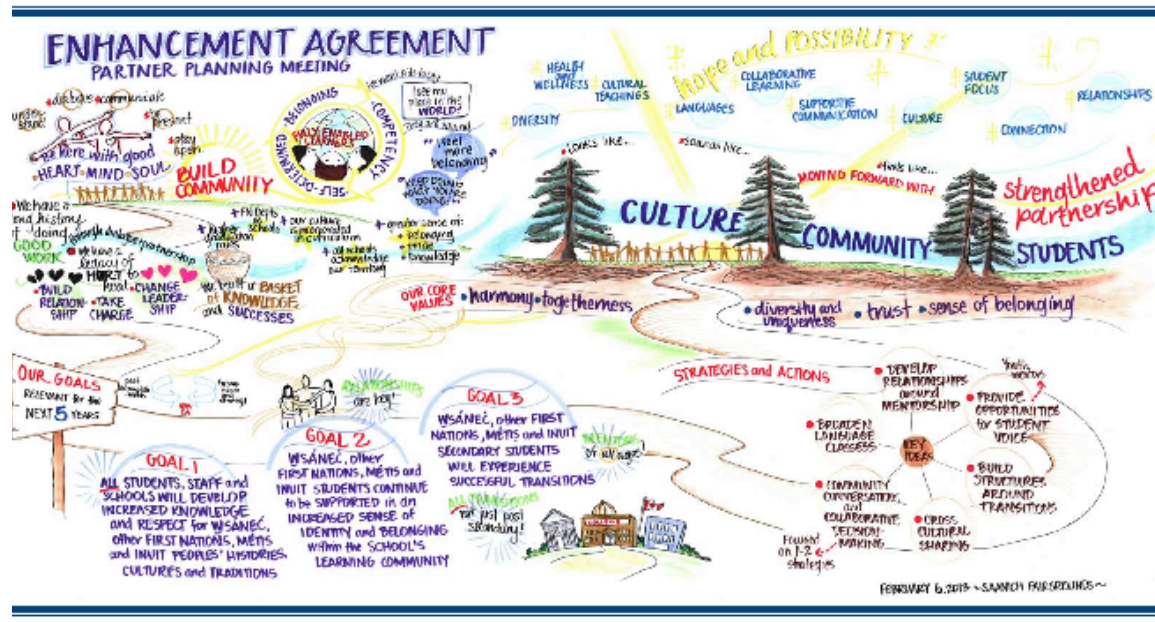
- Is “a movement designed to empower all students to become knowledgeable, caring, and active citizens in a deeply troubled and ethnically polarized nation and world” (Banks, 1993, p. 23).
- “Multicultural education views citizen action to improve society as an integral part of education in a democracy; it links knowledge, values, empowerment, and action” (Banks, 1993, p.23).
- Multicultural education is a complex and multidimensional concept defined by “five dimensions,”
 1. content integration
 2. knowledge construction process
 3. prejudice reduction
 4. equity pedagogy
 5. empowering school culture and social structure
 (McGee Banks & Banks, 1995, p.152)

1c. Why is Culturally Responsive Pedagogy Important?

Educators have a responsibility on a National Level to contribute to Culturally Responsive Pedagogy. Canada recognizes the rights of Indigenous Peoples outlined by the United Nations (Government of Canada, 2016). In May 2016, the Minister of Indigenous and Northern Affairs announced that Canada is now in full support of the United Nations declaration of the Rights of Indigenous Peoples (Government of Canada, 2016). For Canada to fulfill the Declaration of Rights of Indigenous Peoples society must honour the rights to have Indigenous culture, traditions and histories reflected in education and for public information. Society must work to eliminate prejudice and discrimination and promote tolerance and understanding (United Nations, 2008). Children “who experience cultural discontinuity between home and school may

perceive themselves as poor learners and may develop a negative self-concept” (Souto-Manning & Hanson Mitchell, 2010, p. 270).

Slide 8- SD 63’s Commitment



Retrieved March, 1, 2017 from <https://www.sd63.bc.ca/programs-and-services/indigenous-education>. Saanich School District (63).

As an educator employed by Saanich School District, I have a responsibility to honour the Enhancement Agreement of my district. Above is an illustration depicting what the Enhancement Agreement entails. The 3 main goals are as follows:

Goal 1

All students and staff will develop an increased knowledge of, and respect for WSANEC, other First Nations, Metis, and Inuit peoples’s histories, cultures and tradition.

Goal 2

WSANEC, other First Nations, Metis, and Inuit students will strengthen their sense of identity and belonging within the school's learning community

Goal 3

WSANEC, other First Nations, Metis, and Inuit students will have successful transitions into school, throughout school, and into their world beyond graduation.

Retrieved March, 1, 2017 from : <https://hub.sd63.bc.ca/course/view.php?id=103>. Saanich School District (63).

Non-Aboriginal children and youth need to know how their own identities and family histories have been shaped by a version of Canadian history that has marginalized Aboriginal peoples' history and experience. Students need to know how notions of European superiority and Aboriginal inferiority have tainted mainstream society's idea about and attitudes towards, Aboriginal people in ways that have been profoundly disrespectful and damaging. It is important that all students understand Canada's history as a settler society and how assimilation policies have affected Aboriginal peoples. This knowledge and understanding will lay the groundwork for establishing mutually respectful relationships moving forward (Truth and Reconciliation Commission of Canada, 2015, p. 21).

2a. Reflection Activity, Your Story

At this point I would invite the audience members to take 2 to 3 minutes to write down some of their own life story.

Reflecting on your own life journey by writing your life story can be a powerful tool for gaining a better understanding of the ways in which institutionalized conceptions of race, class, and gender have influenced your life and reduce prejudice (McGee Banks & Banks, 1995).

Some Questions to Consider

- Where did you grow up? (Were you majority/minority ethnic group?)
- What decade? (Were there any historical events that occurred that shaped your thinking of the world?)
- Who lived in your household? (Did you grow up with extended family?)
- Who were your friends? (Were they the same race and economic class as you?)
- Did the materials/resources such as textbooks, novels, storybooks, and posters, used at school represent your culture?

2b. Reflection Activity, Your Teaching Beliefs

For the second part of this reflection activity I will invite the participants to write down 3-5 items that he or she values the most within their teaching practice.

Teacher beliefs about ethnic, racial, and cultural diversity determine their instructional behaviors. Much research indicates that beliefs and behaviors are indeed interactive. In school situations, teachers who believe that students deserve high quality education and are capable of high levels of achievement provide them with intellectually rigorous curriculum content, and imaginative, engaging, and uplifting learning experiences (Fives & Gill, 2015; Gay, 2010a, 2010b, 2015; Stipek, 2002; Tyler, Stevens, & Uqdah, 2009).

The slides above all contain live links. This would provide an opportunity to demonstrate what each of the resource sites looks like at this point in the presentation. I would give a brief overview of each resource site and how the resource could be used within the science curriculum. I would also have some hard copies available for participants to view, such as the Government resources, resources available from the First Nations Steering Education Committee and Strong Nations.

Government Resources

Aboriginal World Views and Perspectives

Shared Learning

Online Resources

Strong Nations website has a variety on books for purchase. Educational books, story books, novels and early readers. (Some SD 63 schools have the early readers in their schools).

First Nations Education Steering Committee, have wonderful teacher resources, which can be downloaded for free as well as purchased. These resources contain implementation ideas some in the form of lesson plans.

First Voices, is a website where you can hear a local language. There are a variety of Indigenous languages and words recorded on this website.

District Resources

SD63 HUB Indigenous Resources, our school district has a large selection of resources that can be signed out and delivered to you through district mail. These resources include: book

bags and novel sets (both in English and French), DVD collections, Resources Kits as well as First Nations, Metis and Inuit Resource People list. I will provide 4-5 district resource bins at the workshop to show participants what they look like and the variety of the bins.

3b. Activity, How do you see yourself incorporating these resources?

Part 1

A variety of SD 63 resources bins would be displayed around the room, approximately 4 to 5 bins. I would describe each of the resource bins and the grade level which the bin was created for. The resource bins would then be distributed throughout the room (4 corners and the centre). The participants would then have an opportunity to move around the room and choose the resource bin that interests them the most. I would encourage participants to choose a bin they would like to explore deeper. Some participants may choose a bin based on interest others may choose one based on grade level. Once all participants have chosen a bin they will work together as a team to go through the items. That will look different in each group depending on the items in each of the bins.

Part 2

Set Up: Each group would receive a curriculum packaged K-5 for Applied Design, Skills, and Technologies, English Language Arts, Arts Education, Science, Social Studies, and Mathematics. Although my project focuses on Early Childhood Education ages 5-9, I would not want to exclude any intermediate educators that could be present at the workshop presentation. My literature for this project focused heavily on the implementation within the science curriculum, however after reviewing a sampling of these resources bins it is undeniable to see

their cross curriculum potential and making limited connection to only the science curriculum would limit the resource bin's potential.

Once the participants had a chance to explore the items within the bin I would direct them to the hard copies of the redesigned curriculum provided. Part 2 of the activity would be to go through the curriculum standards and see where these materials could be used to support the learning outcomes of the curriculum. Although I could have stood at the front of the room and told participants where I thought each of the materials could be used within the curriculum, as the presenter I feel I can learn just as much if not more from the participants (my colleagues) as than they can from me. I chose to practice the distribution of power, as it does not reside solely with the teacher (Aikenhead, 2001). There is already a wealth of knowledge among educators, in part this workshop is providing the space and time for educators to gather together and share what they already know as a collective.

4 The Incorporation of Aboriginal Content vs Aboriginal Learning Styles

4a. Epistemological Views

Slide 17 and 18

I am assuming that most of the participants will be of European decent and have conducted the previous activity with a Western or European mindset. This next section is to make the audience aware of their own mindset and how it affects their teaching beliefs and philosophy. Being aware of your own biases is a critically piece of Culturally Responsive Pedagogy (Richards, Brown & Forde, 2007, and Rychly & Graves, 2012).

Western Epistemological View

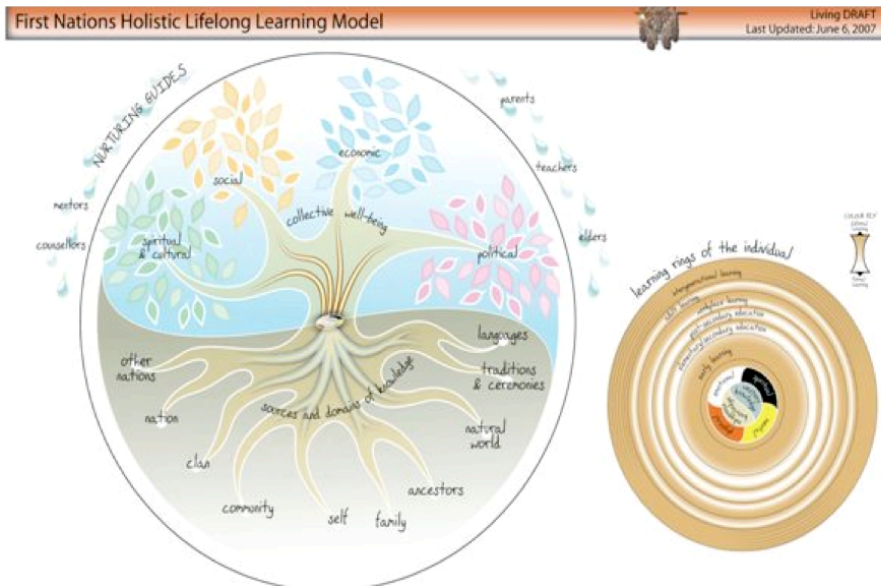
In Eurocentric or Western sciences, eradication of mystery is a key goal and seeks to understand how the Universe works (Hatcher, Barlett, Marshall, & Marshall, 2009).

In 1831, the term *science* became applied to the Eurocentric or Western approach as commonly practiced today, replacing the term natural philosophy (Hatcher, Barlett, Marshall, Marshall, 2009).

Western science is seen to gain power over nature. The quantitative and objective approach of Western science involves a disconnection between the observer and the observation (Hatcher, Barlett, Marshall & Marshall, 2009).

Western science is described as “reductionist, linear, objective, hierarchical, empirical, static, temporal, singular, specialized, and written” (Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003, p. 141).

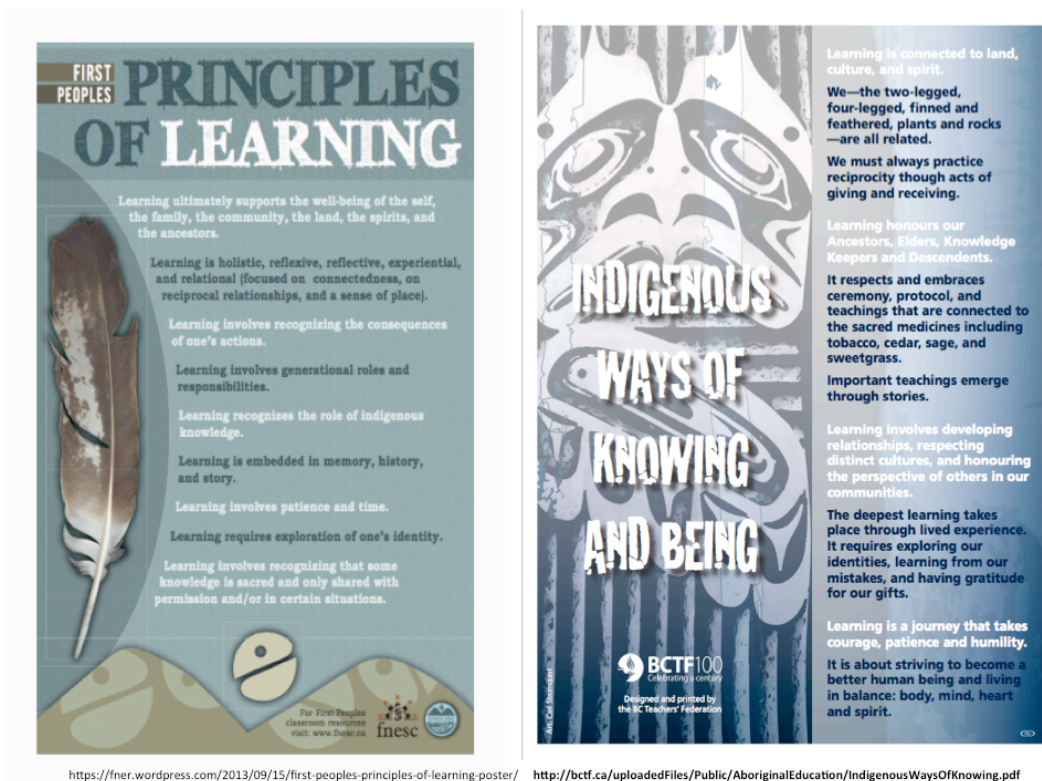
Aboriginal View



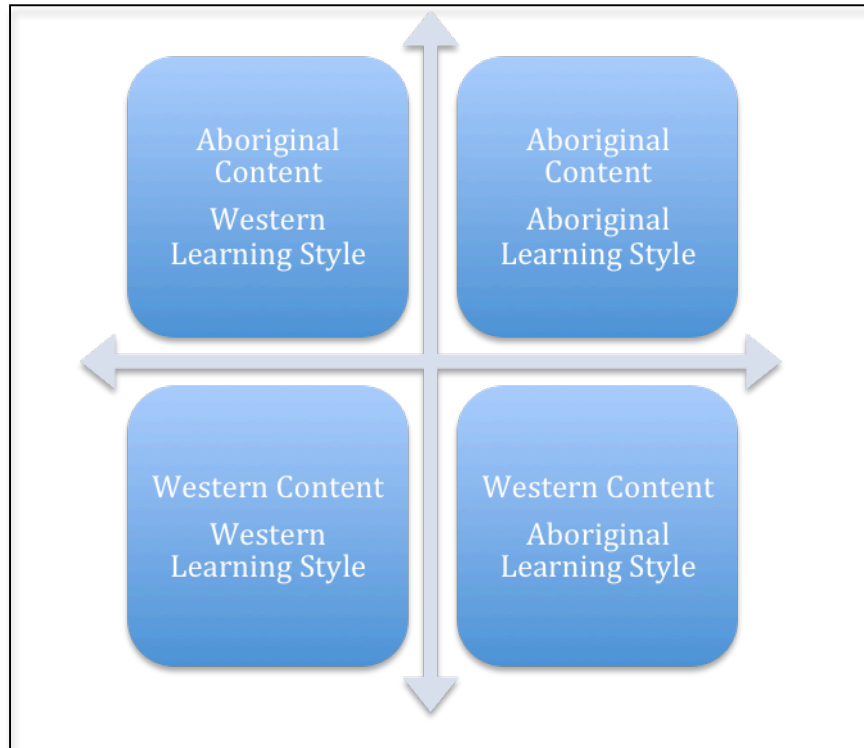
Aboriginal Views are seen as “ecological, holistic, relational, pluralistic, experiential, timeless, infinite, communal, oral and narrative based” (Smylie, Martin, Kaplan-Myrth, Steele,

Tait & Hogg, 2003, p.141). Aboriginal knowing is more about the journey than the destination as it takes place within verb-based languages (Hatcher, Barlett, Marshall & Marshall, 2009). The First Nations Holistic Lifelong Learning Model uses nature, specifically a tree to depict the enquiry of knowledge. It relies on language through story telling, oratory, and song as a primary tool for teaching and learning (Cajete, 2005). Aboriginal views teach us that learning is ultimately a subjective experience tied to a place, environmentally, socially, and spiritually. Teaching and learning is intertwined with the daily life of both teacher and learner (Cajete, 2005) and the distribution of power is more evenly shared and does not reside solely with the teacher (Aikenhead, 2001, p.343).

Slide 19



Slide 20 Content vs Learning Style



The incorporation of Aboriginal content is a more likely an easier place for educators to start; however it would be naive of an educator to believe they are fully honoring their Aboriginal students by stopping there.

Remind participants of the five dimensions of Multicultural education.

1. content integration,
2. knowledge construction process,
3. prejudice reduction,
4. equity pedagogy,
5. empowering school culture and social structure (McGee Banks & Banks, 1995, p.152).

How does your teaching philosophy reflect the culture you favour?

Do you allow for group work and assignments to be completed cooperatively?

How are the students arranged within your classroom? (rows, pods, horseshoe)

Do the students experience knowledge first hand, learning through experience or are they told the “answers” to the teachings?

What types of books do you have in your classroom library?

What do you display on your bulletin boards?

Moving forward: How can we move from solely content integration to both content integration and honouring Aboriginal learning styles?

4b. Story From an Elder

I would connect with my district Resource Teacher Melissa Austin about having a guest speaker, an Elder or herself speak to this topic within our district. What are her thoughts on where to get started when tackling Aboriginal Education in the classroom?

5a. Staying Connected

I would send out a link to a Google Document to all the participants of the workshop encouraging them to stay in contact with one another. This Google Document would serve as a place where educators could share stories, resources, trials and tribulations in regards to Culturally Responsive Pedagogy or Aboriginal Education.

Slide 24 is an example of what the Google Document could possible look like.

SD63 Educators Fostering Culturally Responsive Pedagogy

Please use this Google Doc to share resources, strategies, lessons plan, etc. with one another. It would be beneficial to the group if you also shared what worked and what you would change. Thank you for taking the time to contribute to this document.

Resource	What Worked	What Would You Change?

Concluding Remarks

Inspirational Quote and thank participants for joining me today.

“With knowledge comes understanding of self and others, and a greater appreciation for differences” (Richards, Brown & Forde, 2007, p. 65).

Chapter 4

Recommendations

In conclusion to this capstone paper I can offer three main recommendations to educators. First, educators must increase their knowledge bank of cultures within Canada. Second, educators require time to reflect on their own histories and consider the biases they hold. Lastly, educators should gain knowledge of Culturally Responsive pedagogy and consider how or if this pedagogy fits within his or her own teaching philosophy and beliefs.

I believe acquiring content knowledge of a cultural and knowledge regarding Culturally Responsive pedagogy can be obtained in a similar manner.

One recommendation I would make would be that pre-service teachers receive classes, at the University level, informing students of local cultures within the community, this should not be limited to Indigenous cultures. This would only be a limitation to those students who plan on moving once they complete their schooling, as the content should be a specific to the location as possible. Universities should implement a Culturally Responsive class requirement within their Education Degree. Each University within Canada should focus on their local Indigenous populations as well as other cultures present within local communities. As educators, time is limited. The more knowledge one can gain about various cultures before entering the work force is beneficial to all members of society. It is important for educators to be aware of various culture's values and ways of knowing so they can avoid teaching in a tokenistic manner. Pre-service educators should also have the opportunity to reflect on their own history and beliefs. Reflection takes time and practice like any other skill in life.

Current educators, must either take it upon themselves to seek and gain knowledge of local cultures or be granted time by the employer. There are many places this information can be

found and accessed, such as government websites, scholarly articles, specialized resources teachers, professional development workshops, and other resources as described in Chapter 3. Most major conferences provide sessions touching on cultural subjects. However there is no mandate to ensure current educators are seeing information to become culturally aware or exposing themselves to Culturally Responsive pedagogy. I believe it would be beneficial for all educators to be aware of Culturally Responsive pedagogy as well as gain knowledge of cultures present within their communities. This could be in the form of a mandatory Professional Developmental day such as the Professional Developmental days provided for the implementation of the Redesigned curriculum. If the government seeks to uphold its commitment to Restitution I believe it would be beneficial that educators are provided with the time and resources to become aware of what it is meant by Restitution. It is difficult to expect teacher to teach something they know little about. An obvious limitation to this recommendation is funding as well as knowledgeable resource people who could take on educating current educators.

Although these recommendations requires the educators to reflect and seek out their own knowledge one cannot forget the children present within the classroom. If we are not teaching for the well being of the students whom are we teaching for? Continue to put the children first. Together create a classroom where the children feel welcomed, safe, and valued. It is in these classrooms where the most learning will take place.

Continue to build positive and respectful relationship with local Indigenous and minority Communities. Don't forget to contact your local resource teacher as an ally, guide and reference.

Future Research

I believe future research could be conducted in the field of implementation. How does one transfer this knowledge to educators currently practicing in the field? What are the best methods to inform educators of Culturally Responsive topics? Currently it is only those educators who have a desire that obtain information regarding Indigenous issues and Culturally Responsive pedagogy.

Continued research is required on the outcomes of Culturally Responsive pedagogy. Is this pedagogy still currently the best practice for Indigenous and minority communities within Canadian society? Does Culturally Responsive pedagogy support Restitution within Canada? By implementing Culturally Responsive pedagogy, are the desired outcomes fulfilled? Such as, are Indigenous students more successful in school as well as later in life?

Reflection

Unfortunately during the time it took me to complete my undergraduate degree, I was not made aware of Culturally Responsive pedagogy nor did I receive any teachings on local communities Indigenous or other. It wasn't until my postgraduate classes that I was made aware of the term 'hegemony'. To be honest I don't think I had ever heard this word be used before and I definitely did not know its definition or meaning. I can still remember where I was when I heard this word for the first time and the activity that our prof asked us to take part in to demonstrate the definition. It sometimes surprises me that one word could spark such a change within me. Growing up and till that day I was always aware that I was apart of the majority however I never fully understood my role as being part of the majority.

This capstone has deeply changed the way I view knowledge and my role within society. Prior to the literature review I would have described myself as a very linear thinker. I like deconstructing knowledge into its parts and the reasons why and how things work. I have come to better understand the knowledge of relationships and the value of how things work together. Everything is very interconnected and to think in only linear patterns would limit one's knowledge. Although I will probably always favour linear thinking, I believe there is great strength in knowing and realizing this about myself. Through this process I have come to understand that understanding our differences and knowing our difference is part of the process. Prior to this I was oblivious to any of the biases I held towards my own ways of knowing as well as others. In the future these biases may change or remain the same. However now that I am conscious of these biases I believe I can now make better decisions.

References

- Absolon, K. E. (2016). Wholistic and Ethical: Social Inclusion with Indigenous Peoples. *Social Inclusion*, 44-56.
- Absolon, K. E. (2010). Indigenous Wholistic Theory: A Knowledge Set for Practice. *First Peoples Child & Family Review*, 5, 74-84.
- Aikenhead, G. (2001). Intergrating Western and Aboriginal Sciences: Cross-Cultural Science Teachings. *Research in Science Education*, 31, 337-355.
- Almarza, D. J. (2005). Connecting Multicultural Education Theories with Practice: A Case Study of an Intervention Course using the Realistic Approach in Teacher Education. *Bilingual Research Journal*, 527-539.
- Anuik, J., Battiste, M., & George, N. (2010). Learning from Promising Programs and Applications in Nourishing the Learning Spirit. *Canadian Journal of Native Education*, 63-82.
- Archibald, J. A. (2001). Editorial: Sharing aboriginal knowledge and aboriginal ways of knowing. *Canadian Journal of Native Education*, 25 (1), 1-5.
- Banks, J. A. (1993). Multicultural Education: Development, Dimension, and Challenges. *Phi Delta Kappan*, 75 (1).
- Bassey, M. O. (1997). Multicultural Education: Philosophy, Theory and Practice. *The Western Journal of Black Studies*, 21, 232-241.
- Battiste, D. M. (2005). Indigenous Knowledge: Foundations for First Nations.

- Battiste, M. (1998). Enabling the Autumn Seed: Toward a Decolonized Approach to Aboriginal Knowledge, Language, and Education. *Canadian Journal of Native Education*, 22 (1), 16-27.
- Battiste, M. (2005). Indigenous Knowledge: Foundations for First Nations. *World Indigenous Nations Higher Education Consortium website*.
- Battiste, M., & Henderson, J. (2009). Naturalizing Indigenous Knowledge in Eurocentric Education. *Canadian Journal of Native Education*, 5-13.
- Battiste, M., Kovach, M., & Balzer, G. (2010). Celebrating the Local Negotiating the School: Language and Literacy in Aboriginal communities. *Canadaian Journal of Native Education*, 4-12.
- British Columbia Ministry of Education. (2015). *Aboriginal Worldviews and Perspectives in the Classroom Moving Forward*. Victoria, BC: Crown Publication.
- Cajete, G. A. (2005). American Indian Epistemologies. *New Directions For Student Services*, 109, 69-78.
- Cohen, L. M. (1999). *Module One: History and Philosophy of Education*. Retrieved June 10, 2016, from Section III -Philosophical Perspectives in Education Part 3:
<http://oregonstate.edu/instruct/ed416/PP3.html>
- Crooks, C. V., Chiodo, D., Thomas, D., & Hughes, R. (2010). Strength-based Programing for First Nations Youth in Schools: Building Engagement Through Healthy Relationships and Leadership Skills. *International Journal of Mental Health and Addiction*, 160-173.
- Dewey, J. (1910). *How We Think*. Boston: D.C. Heath.
- Dray, B. J., & Wisneski, D. B. (2011). Mindful Reflection as Process for Developing Culturally Responsive Practices. *Teaching Exceptional Children*, 28-36.

- First Nations Education Steering Committee. (2012). *In Our Words Bringing Authentic First Peoples Content to the K-3 Classroom*. Retrieved 12 1, 2016, from First Nations Education Steering Committee: <http://www.fnesc.ca/wordpress/wp-content/uploads/2015/05/PUB-LFP-K-3-In-our-Own-Words-for-Web.pdf>
- Friesen, J. B., & Ezeife, A. N. (2009). Making Science Assessment Culturally Valid for Aboriginal Students. *Canadian Journal of Native Education* , 24-37.
- Gay, G. (2002). Preparing for Culturally Responsive Teaching . *Journal of Teacher Education*, 106-116.
- Government of Canada. (2010, Septemeber 15). *Hlghlights from the Report of the Royal Commission on Aboriginal Peoples*. Retrieved June 18, 2016, from Indigenous and Northern Affairs Canada: <http://www.aadnc-aandc.gc.ca/eng/1100100014597/1100100014637>
- Government of Canada. (2016, May 9). *Indigenous and Northern Affairs Canada*. Retrieved June 18, 2016, from United Nations Declaration on the Rights of Indigenous Peoples: <http://www.aadnc-aandc.gc.ca/eng/1309374407406/1309374458958#a2>
- Hatcher, A., Barlett, C., Marshall, A., & Marshall, M. (2009). Two-Eyed Seeing in the Classroom Environment: Concepts, Approaches, and Challenges. *Canadian Journal of Science, Mathematics and Technology Education*, 9 (3), 141-153.
- Hill, G., & Wilkinson, A. (2014). INDIGEGOGY A Transformative Indigenous Educational Process. *Canadian Social Work Review*, 31 (2), 175-193.
- Leitch, R., & Day, C. (2000). Action research and reflective practice: towards a holistic view. *Educational Action Researc* , 8 (1), 179-193.

Little Bear, L. (2012). Traditional Knowledge and Humanities: A Perspective by a Blackfoot.

Journal of Chinese Philosophy, 39 (4), 518-527.

Maslak, M. A. (2004). The Global and the Local: Social Theory and Multicultural Education.

Journal of Thought, 39 (1), 11-23.

Ormiston, N. (2010). Re-Conceptualizing Research: An Indigenous Perspective. *First People*

Child & Family Review, 50-56.

Rychly, L., & Graves, E. (2012). Teacher Characteristics for Culturally Responsive Pedagogy.

Multicultural Perspectives, 14 (1), 44-49.

Saanich School District. (n.d.). Retrieved March 28, 2016, from Indigenous Education:

<https://www.sd63.bc.ca/programs-and-services/indigenous-education>

Sammel, A. (2009). Turing the focus from 'Other' to science education: exploring the invisibility

of Whiteness. *Cultural Studies of Science Education*, 649-656.

Smith, M. D., & Glenn, T. L. (2016). "Reflecting on the Reflection. . .": Exploring Teacher

Canidates' Assumptions of Self and Others through Facilitated Reflection. *The Teacher Educator*, 314-334.

Smylie, J., Martin, C., Kaplan-Myrth, N., Steele, L., Tait, C., & Hogg, W. (2003). Knowledge

Translation and Indigenous Knowledge. *Circumpolar Health*, 139-143.

Snively, G., & Williams, L. (2006). The Aboriginal Knowledge and Science Education Research

Project. *Canadian Journal of Native Education*, 229-244.

Souto-Manning, M., & Hanson Mitchell, C. (2010). The Role of Action Research in Fostering

Culturally-Responsive Practices in a Preschool Classroom. *Early Childhood Education Journal*, 269-277.

- Thompson, N., & Pascal, J. (2012). Developing critically reflective practice. *Reflective Practice*, 3 (2), 311-325.
- Tremblay, M., Gokiert, R., Georgis, R., Edwards, K., & Skrypnek, B. (2013). Aboriginal Perspectives on Social-Emotional Competence in Early Childhood. *The International Indigenous Policy Journal*, 4 (4), 1-19.
- Truncellito, D. A. (n.d.). *Epistemology*. Retrieved June 10, 2016, from Internet Encyclopedia of Philosophy: <http://www.iep.utm.edu/epistemo/>
- Truth and Reconciliation Commission of Canada. (2015). *Canada's Residential Schools: Reconciliation* (Vol. 6). Montreal, Quebec: McGill-Queen's University Press.
- United Nations. (n.d.). *Indigenous People, Indigenous Voices Fact Sheet*. Retrieved 12 17, 2016, from United Nations:
http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf
- United Nations. (2008, March). *United Nations Declaration on the Rights of Indigenous Peoples*. Retrieved June 18, 2016, from
http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf
- Watts, V. (2013). Indigenous place-thought & agency amongst humans and non-humans (First Woman and Sky Woman go on a European world tour!). *Decolonization: Indigeneity, Education & Society*, 20-34.
- White, K., Budai, J., Daniel, M., Rickson Deighan, & Gill, H. (2012). Educators' Perspectives about a Public School District's Aboriginal Education Enhancement Agreement in British Columbia. *Canadian Journal of Native Education*, 35 (1), 42-60.