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Walking in Circles: Self-Location in Indigenous Youth Violence Prevention Research

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Four student researchers applied self-location, an Indigenous research method, to understand violence prevention research in which they are engaged with First Nations, Inuit, and Métis youth in Ontario and Saskatchewan. The framework 'looking twice' (Absolon & Willet, 2005) was used by the authors who share examples of their own process of self-locating. The use of this framework permitted the researchers to locate themselves, and by doing so, develop deeper understandings and heightened consciousness of the socio-economic and political conditions of violence with which Indigenous youth in Canada interact. By foregrounding the researchers' self-location, a space was opened for dialogue that positions Indigenous and decolonizing knowledges and research methods within the greater discourse of violence prevention and the authors found ways to expand their concepts of and commitments to violence prevention research.

MINOGIIZHIBAKWABIK

The Woman Who Goes Around Doing Good Things

I am lost in the forest

I don't know which way to go

I must rely on markers found in nature to find my way home

But the earth is blanketed in snow

I do not know what to look for

I have never learned this
I must try to learn using the little that I have
Or I will die out here

I think about the stories that I have been told
And the experiences that I have collected;
The things I know to be true
Can they help me now?
I need to learn all by myself
Or I will die out here

The trees are tall and dense
I look way up
I see the orange glow from the nearby town
And a dark storm rolling in towards me
I walk
West
Learning

Wait...
This place feels familiar
Have I been here before?
Oh no... (my heart sinks)

This is where I had started!
I must have been walking around in circles!
How many times have I been here before?
It has been so long
I am tired
Cold
My body is weak

I sit down and look all around me
Something is different now
I almost didn't recognize this place
But I feel it now:

I am not lost;
I am home!
Right where I am supposed to be
Right where I belong
And I am not alone...

~ by Angela (Giizhigaatekwe) Snowshoe

First Nations, Inuit, and Métis¹ youth continue to experience and endure systemic colonial violence (Wickham, 2010). Most notable is the historical trauma experienced in residential schools as multilayered violence marked by malnourishment and physical, mental, emotional, and sexual abuse (Battiste, 2005; Canada, 1996; Smith, 2009; Truth and Reconciliation Commission of Canada, 2011). Indigenous youth continue to encounter systemic violence, institutionalized colonization, and racialization processes and attitudes held by the dominant population (Battiste, Bell, Findlay, Findlay & Henderson, 2005; St. Denis, 2011). Consequently, to prevent violence experienced by Indigenous youth, violence prevention researchers must move beyond analyses of victims and perpetrators to address broader systemic socio-economic and political issues of colonial violence (Tuck, 2011). As articulated in Angela's poem in the epigraph, followed from a life dream, we have found that true to the demands of the "looking twice" framework (Absolon & Willet, 2005), returning to and remembering our own stories and origins can provide increase/heightened awareness needed to engage in more ethical research.

We draw from the framework of self-location as articulated by Indigenous scholars Absolon and Willet (2005) to understand the positioning of ourselves and to decolonize premises of violence prevention research based in discourse that positions researchers as experts who come to know and find solutions for Indigenous peoples. Our position is that violence prevention researchers must engage in research through a paradigm that accepts violence in Indigenous lives as historically constructed by and through colonial processes that individualize violence and regulate whose bodies, rights, and knowledge systems matter. This position, however,

¹ The terms First Nations, Métis, and Inuit are used to represent the first peoples of Canada as recognized by the Canadian Constitution. The term Indigenous is used interchangeably to represent first peoples in Canadian and in international contexts.

requires researchers to be reflexive. Due to the relational ontology of Indigenous epistemologies (Wilson, 2007) and the history of unethical and exploitative research with Indigenous peoples (Baker, 2009; Menzies, 2001; Smith, 1999), an aspect of the use of Indigenous methodologies requires that researchers expose the motivation and purpose of research (Kovach, 2009). Kovach (2009) explained that this relational ontology can be satisfied through honestly articulated understandings and expressions of self—our histories, relations, motivations, and limitations. Self-location as a research method brings perspective to what is sought, how data are analyzed, and what results are deemed important for advancing community interests and goals (Wilson, 2008). Foregrounding Absolon and Willett's (2005) self-locating framework of 'looking twice,' we share some of the processes and challenges of self-location that we have found necessary in ethical research with and for Indigenous youth. As Wilson (2007) explained, "We cannot be separated from our work and nor should our writing be separated from ourselves" (p.194).

THE CANADIAN PREVENTION SCIENCE CLUSTER

We are student researchers with the Canadian Prevention Science Cluster² [CPSC]. Funded by the Social Science and Humanities Research Council, the CPSC aims to prevent societal violence through prevention science research and to expand understandings of such work through various frameworks and collaboration with Indigenous peoples. To nationalize the center's activities, four hubs were created: Dalhousie University and the Universities of Toronto (housed at the University of Western Ontario), Saskatchewan, and British Columbia. Each hub has its own specialization such as socio-emotional learning at the University of British Columbia and cyber-bullying at Dalhousie University. The Ontario and Saskatchewan hubs have focused on violence prevention programming with First Nations, Inuit, and Métis youth.

Four of the approximately twenty CPSC student researchers have come together to write this paper. Carmen Gillies is of Métis, Chinese, and Norwegian ancestry and a Ph.D. Candidate in educational foundations at the University of Saskatchewan. Dawn Burleigh identifies as non-Indigenous and is a Ph.D. Candidate in policy studies at the University of Western

2 See: <http://www.preventionsciencecluster.org/>

University. Angela Snowshoe is Ojibway and Métis and a Ph.D. Candidate in clinical psychology at the University of Western Ontario and David Werner³ is of Métis ancestry and a teacher candidate at the University of Saskatchewan. We have found one another across provincial and academic borders and have become a collective through our common struggle to decolonize and position ourselves within our research.

FIRST NATIONS, INUIT, AND MÉTIS YOUTH VIOLENCE PREVENTION RESEARCH

Many First Nations, Inuit, and Métis youth, their families, and communities, encounter disproportionately high levels of systemic violence (Brownridge, 2008; Brennan, 2009; Chartrand & McKay, 2006). While this is the experience, Indigenous peoples rarely report victimization due to fears of experiencing institutionalized discrimination within the justice and child welfare systems (Fry, 2011). Statistics of Indigenous youth violence are thus likely understated. Studies within Canadian contexts, however, have provided insight regarding issues such as Indigenous youth and gangs (Grekul & Sanderson, 2011; Totten, 2009), child welfare (Blackstock, 2010; Blackstock, Trocme & Bennett, 2004), suicide (MacNeil, 2008), HIV risk and sexual health (Larkin, Flicker, Koleszar-Green, Mintz, Dagninio & Mitchell, 2007), incarceration (Shantz, 2010), and youth resistance to racialized violence (Hare & Pidgeon, 2011). Prevention scientists have also measured school-based programs developed to strengthen Indigenous youth's relationship skills (Crooks, Chiodo, Thomas & Hughs, 2010).

Prevention science is an interdisciplinary field of research, relying on psychology, epidemiology, economics, education, and social work to implement effective prevention programming (Society for Prevention Research, 2011). One area of concern within prevention science is the lack of school-based prevention program success with racially marginalized youth (Greenburg, 2004; Powell & Black, 2003). Although some prevention scientists argue that program adaptations dilute program scientific integrity (Botvin, 2004; Elliot & Mihalic, 2003), others, including the CPSC, have turned to culturally appropriate programming with local adaptations (Crooks, 2008; Hurst & Laird, 2006; Penn, Doll & Grandgenett, 2008). Though prevention science is rooted in positivistic scientific inquiry (Catalano, Fagan, Gavin,

³ While writing this paper, David was hired as a teacher by the Saskatoon Public School Board.

Greenberg, Irwin, Ross & Shek, 2012), the CPSC has created space for alternate methodologies. As CPSC researchers, we have been encouraged to build upon existing scholarship and have noticed a need to examine researcher subjectivity and social positioning in Indigenous youth violence prevention research. Such inquiries are important as programming is influenced profoundly by researchers' ontologies and epistemologies. In the context of colonization, we argue that researchers must engage in decolonization processes in order to contribute to ethical and effective programming with Indigenous and all youth. We have thus turned to the Indigenous method of self-location for guidance, which differs significantly from reflexivity as used within western methodological approaches.

REFLEXIVITY AND SELF-LOCATION

Recognition of or accounting for reflexivity has become integral within qualitative research since the 1970s because of criticism of claims to objective neutrality within positivist research (Pillow, 2012). According to Kovach (2009), "Reflexivity is the researcher's own self-reflection in the meaning making process" (p. 32). The call for reflexivity has been taken up in numerous ways across research fields to situate subjective positions and cultivate trustworthiness with and provide ethical accountability to research subjects (Alex & Hammarstrom, 2008; Daley, 2010; Dominelli, 2002; Dowling, 2006; Finlay, 2002; Gordon, 2006; Henwood, 2008; Maxey, 1999; Wren, 2004). Qualitative researchers who have studied violence within various populations have emphasized reflexivity as a method. For example, Downe (2007) centered reflexivity in her study with young women and cross border sex trafficking in the Eastern Carribean, while Gilgun (2008) emphasized reflexivity in phenomenological research with perpetrators of violence. Reed, Miller, Nnawulezi and Valenti (2012) also stressed the significance of reflexivity as utilized in HIV prevention intervention research for young Black lesbian women. Aligning with Reed et al. (2012), we have considered seriously Pillow's (2012) warning that reflexivity can be used by researchers to absolve researcher accountability to individuals or groups served and represented. Simply put, naming one's positioning does not ensure researcher accountability to communities or the researched. Because subjectivity is dynamic and contextual, new forms of reflexivity that "account for multiplicity" and "acknowledges the unknowable" (Pillow, 2012, p. 181),

or what Pillow has termed “uncomfortable reflexivity” (p. 188), are required. We find Pillow’s call for alternate forms of reflexive methods pertinent to our research. While reflexivity might lead to more accountable research, it is grounded in western understandings of being and power. In the case of youth violence prevention in colonial contexts, reflexivity has yet to address how researchers are implicated in a history of ongoing colonial violence.

SELF-LOCATING IN VIOLENCE PREVENTION RESEARCH

Through a series of independent writing sessions and conversations we have explored our relationships with violence prevention research through self-location as we seek to become more accountable to the youth and communities we serve, requiring us to walk a path of colonial resistance. For us, this path is not smoothly paved or easy to see but is at times arduous and muddled. As we decolonize our practice, we make mistakes. The following section is not presented as a guide to self-location in prevention research. Rather, what we share is how we have self-located through samples of our writing and how we connect our self-location as individuals to our collective shifting understandings of violence prevention research with and for Indigenous youth.

Indigenous scholars have described why self-locating is a necessary element of accountable and ethical research that moves beyond reflexivity and towards decolonization (Archibald, 2008; Kovach, 2009; Restoule, Archibald, Lester-Smith, Parent & Smilie, 2010; Steinhauer, 2002; Wilson, 2008). The protocol of locating oneself within Indigenous communities and research is meant to, as Thompson (2008) described, “articulate why I feel the need to do such work and how I have come to be on this journey, and to show how my research will be relevant and useful to my people” (p. 24). Through honest self-location and admitting what one does not know, researchers build trust with research participants (Weber-Pillwax, 2004). Self-location can be uncomfortable and is dependent upon researchers’ willingness to embark on or continue decolonization processes that include honesty about who we are and from where we come (Absolon & Willet, 2004). Thus, “When we locate ourselves, we identify ourselves in relation to a lineage, a people and a place, signifying that the past is alive and activated in the present” (Restoule, Archibald, Lester-Smith, Parent & Smillie, 2010, p. 3). Through the process of self-location and integrating oneself into the research, certain

methodologies such as participatory action research and more community based or collaborative processes afford reflexivity within the research partnerships. Self-location affords the researcher and the researched to build a collective understanding and starting point. Ethically this approach supports new initiatives to engage and partner with communities working toward a common agenda.

Reflecting on our own personal lives and our Indigenous youth violence prevention research in Saskatchewan and Ontario, we have engaged in self-location as a research method foregrounding Absolon and Willett's (2005) framework of 'looking twice.' Each of us has benefitted from looking twice as individuals in distinct ways as a result of our own unique racialized identities, passions, and experiences. Yet, we have also gained collectively as violence prevention researchers from listening to and learning from each other's processes of self-location. In *Putting Ourselves Forward: Location in Aboriginal Research*, Absolon and Willett connect the construction or narritization of personal stories to self-location, stressing eight 'Re's': Respectful Representations and *Re-membering*; Re-Vising and Re-connecting; Re-Claiming (Avoiding the Extraction of Knowledge) and Re-Covering; and Re-Naming Research in Our Own Language and Re-Search Methods (Affirming Indigenous Paths). The authors conceptualize the Re's as a means to redo or "look twice." Though we did not write our stories with Absolon and Willett's (2005) framework in mind, after many conversations we as a group shared our written reflections and identified how our personal stories predominantly align with specific Re's. To create a congruency of the Re's with our stories we organized them into four groups of two, as we perceive illustrate the concepts within each of our stories. Highlighting how we have self-located through looking twice at ourselves as researchers, the preceding section provides a brief outline of each of the four groups of two Re's followed by one of our individual stories. We recognize our interpretations of the Re's are influenced by our understandings and note that the stories we share are partial and will change as we continue to self-locate.

RESPECTFUL REPRESENTATIONS AND RE-MEMBERING

Respectful representations and re-membering when self-locating require that researchers resist essentializing discourses as well as desires to focus only on role models and Indigenous peoples' accomplishments

(Absolon & Willett, 2005). Such practices diminish the role of oppression, racism, and colonialism, dehumanize Indigenous peoples, and insinuate that the success of one should be attainable by all. Rather, Absolon and Willett (2005) stress the importance of not speaking on behalf of others but to locate ourselves in our own truths, including our “cultural and colonial histories and contexts” (p. 110). In line with respectful representations, self-location also requires *re-mem-bering* stories that inform who we are and our worldview. These stories can *re-member* our family, community, and ancestors from whom we have been dis-membered through racism and colonialism. Remembering is “healing to our recovery” (Absolon & Willett, 2005, p. 116) from colonialism, enabling honesty about who we are as researchers and more in-depth understandings of colonial violence. Carmen brings respectful representations and remembering alive in her self-location.

Carmen.

Growing up, my Dad didn’t tell us much about his childhood but I knew he was different because the other dads at my school were white. I secretly wanted my Dad to be white so that we could have a cabin at the lake and name brand clothing. But he wasn’t white, his mom was Métis and his Dad was Chinese. I guess my brother and I were never really white either, even though our mom is and we can pass. It took me a long time to understand that colonization and racism complicated my identity and perception of my parents’ values.

My Dad’s mom was a single parent. Different families raised her eight children in the foster care system. The few stories my Dad shared about his childhood were difficult to tell, though some good memories were scattered in with the bad. An image of him standing by the window for several days, hoping to see someone come home with food, has haunted me. He was eight years old and responsible to care for his younger siblings. In the past, this story caused me to resent my grandmother. It’s a powerful story because it can be used to construct Aboriginal parents as neglectful and abusive. Since learning about colonization and patriarchal racism, I have stopped resenting my grandmother and have come to love her. I now see the magnitude of my grandmother and Dad’s experiences.

I know my Dad loved his family but he separated himself and was separated from them at a young age. I am only now coming to know some

of my Métis family. My Dad became an art teacher and has been described as a 'Native boy who beat the odds.' To me, all Indigenous peoples have beaten the odds. I exist because my family survived colonization by whatever means possible. Though I am Métis, my experiences have been very different from many of my family members because of my whiteness and my parents' university education. Self-locating has placed in front of me a responsibility to learn from and give back to my family and community through countering systemic colonial violence. I am proud to be my parents' daughter and no longer wish secretly my Dad had been white. His spirit, compassion, and laughter guide me on my journey.

RE-VISING AND RE-CONNECTING

Re-vising refers to the ongoing need to decolonize our identities as researchers through identifying colonial and racist ideologies within the literature and resources we consult, and the experiences that inform our research. Consequently, "As our recovery from colonialism progresses, we speak about our past and present experiences with more awareness" (Absolon & Willet, 2005, p. 112). Re-connecting occurs when researchers connect with personal contexts to expose "details about...where they are from, their race and gender, who they are connected to [through which] their research intentions become revealed" (Absolon & Willet, 2005, p. 118). When researchers do not engage in revising and re-connection, research with and about Indigenous peoples can cause suspicion within Indigenous communities and thus become subject to question. David's story brings such revising and re-connecting to the forefront.

David.

Speaking directly to me in her soft but firm voice, my grandmother would say, "You know David, they needed someone to listen to their story." It took me a while to figure that out. My grandmother spends most of her time talking to people, hearing their stories and sharing her own. Many years later, I've realized, for me truly hearing others begins with acknowledging my own history and privilege. I've traced my Métis family back to the Red River Settlement. I found my great-grandfather's name in the 1906 Canadian Census at the Lebret Indian Residential School. My Metis family survived intense assimilation pressure and continued trapping until the 1950s. They

are resilient, passionate and drink a lot of tea. My father's side of the family fled war in Europe and moved west in pursuit of employment, they enjoy sit down family meals and any competition.

I am in between two worlds that have been at odds with each other. I identify strongly with my Métis family. I see the trauma inflicted by residential schools and the pressure to assimilate to Canadian society. I'm visibly white, I experience the benefits of heterosexual middle class affluence and the legacy of unequal opportunity afforded to the Bosnian-German side of my family. I am trying to understand and unpack my own identity, to understand how my white privilege affects my perspective while reconnecting with Indigenous ways of knowing. Over the past year I've been asking myself, which Métis ways of thinking and ways of being survived residential schools and the intense pressures of assimilation? On other days I've grappled with my own silent complicity in ongoing racism and discrimination.

Self-location has helped me to reflect on my own position in society, my internalized racism, and my community's history. I'm starting to tell my own stories and acknowledge my ancestors. By self-locating and sharing these stories I can become part of a community that creates space for caring, learning, and generosity. Through self-locating, I can hear people's stories and narratives as their own, as a truth rather than part of a larger imposed colonial-derived narrative and this process has changed me. As I listen to others and tell my own stories, I am following my grandmother's advice and, in a limited sense, countering society's hegemonic discourse.

RE-CLAIMING (AVOIDING THE EXTRACTION OF KNOWLEDGE) AND RE-COVERING

Absolon and Willett (2005) use the term re-claiming to describe the process of positioning ourselves in relation to our research topic. Re-claiming our history, stories, and experiences is anti-colonial and works to decolonize historical and contemporary misrepresentations of Indigenous peoples. As we re-claim our positions, however, it is important to remember that not all Indigenous knowledges (e.g., sacred knowledge) or experiences of individuals can be made transparent in our research in ethical ways. In re-covering, researchers uncover personal historical truths and recognize the ways that historical oppressions shape us. From these truths, we see our

strengths and recover our identities and relations with ancestors, opening a pathway to re-cover Indigenous epistemologies. For, "Only when we have decolonized ourselves can we recover, contemplate, and envision ways in which research can be used to eradicate racism and lift the oppression" (Absolon & Willett, 2005, p. 120). Dawn's story brings out some ways in which re-claiming and re-covering can and could occur.

Dawn.

It was a busy conference and as the tables fill up for the next workshop, I search for a seat. The idle chatter fills the room. Business cards and handshakes are exchanged faster than I can get my bearings. As I take a seat, a voice beckons me. It says Nishnawbe Quay? After realizing this voice, this man, is talking to me; I reply simply with no. I spend the next hour analyzing what just happened. Thoughts fly through my mind like the CNN ticker tape. Why did I say No so quickly? What was he even asking me? Why did everyone stop talking when I answered? Did I say something wrong? But most importantly the words sing in my head like a broken record. Nishnawbe Quay, Nishnawbe Quay. What does it mean?

As soon as the train pulls out of the station, the furry of the conference is behind me and again in my mind I hear Nishnawbe Quay? I hear it in the voices of all of my former students. In the voices of all the people that have asked me where I am from, what my clan is or if I had a status card. I need to know what I was being asked. I text a friend and ask her what Nishnawbe Quay means? She replies with laughter and what follows is a single line ...

Aboriginal woman...

I don't know why I said 'No' that day at the conference but my answer holds true. I am not Nishnawbe Quay. I do not have a status card. I do not have a clan connection. My paternal lineage is Scottish, but my maternal side is unknown. My mother was adopted and that is her story to keep. When asked about my ancestry, I stumble, typically make a joke and change the subject. But that response is no longer acceptable to me. Silencing a response about the complexity of identity perpetuates systemic and structural racism, which I otherwise work to expose, specifically in the education sector. Violence prevention research within Indigenous contexts allow me as a researcher to explore the complexities of identity and resist the complacency in myself to avoid, deter, and ignore my privilege and power in this work.

RE-NAMING RESEARCH IN OUR OWN LANGUAGE AND RE-SEARCH METHODS (AFFIRMING INDIGENOUS PATHS)

Absolon and Willett (2005) explained that re-naming research includes using or creating language that distinguishes Indigenous research from western approaches. For Indigenous peoples, the term research represents a legacy of racist and colonial exploitation, not an Indigenous “process for gathering and sharing knowledge” (Absolon & Willett, 2005, p. 114). As well, because Indigenous languages cannot always be translated into English, creative methods such as poetry can express meaning through Indigenous paradigms. ‘Re-search methods’ speaks to the need to affirm Indigenous pathways that resist oppressive research methodologies through envisioning and expressing the distinct experiences and realities of Indigenous peoples with creative and innovative methods. Researchers are encouraged to validate Indigenous epistemologies and worldviews by breaking away from oppressive research methodologies and methods to contribute to the “emerging, yet powerful, body of literature” of re-humanizing Indigenous research (Absolon & Willett, 2005, p. 122). Angela re-names and re-searches using language and method as a means to do both.

Angela.

Boozhoo. I am a proud non-status First Nations woman of Ojibway and Caucasian heritages. Although I strongly identify with my Ojibway roots, I honour both influences. I was raised off-reserve by my mother (Ojibway) and father (Caucasian) in a small log home along the bush line north of an isolated rural town in Northwestern Ontario. My younger brother and I spent much of our childhoods at the lake with my grandfather (member of White Earth Reservation) and grandmother (Métis). They taught us life lessons through stories of the spirits. As a youth, I often turned to my family with questions about what it meant to be ‘Native.’ They did not have the answers and I did not understand why. I eventually turned to the formal education system for answers.

It was a difficult decision to enroll in an undergraduate program at the University of Western Ontario, 1500 kilometres from my hometown and family. I vividly recall my mother telling me, “Never forget where you came from” as I left home for the first time in my life. That first year at university, I found that my mother’s words increasingly permeated my thoughts during

my classes. I took her advice and began to explore my cultural background. It has been a combination of my personal and educational experiences that has helped me to realize that my life journey must consist of walking two parallel but very different paths: one according to *the ways of knowing* of Western society and the other from a First Nations perspective.

My graduate career has since consisted of navigating these worlds in search of a common ground, where I do not have to relinquish either position but can come to understand elements of both. It has required critical reflexivity and equal commitment to scientific inquiry as to traditional teachings, ceremony, and language local to various First Nations communities across Canada. My resultant worldview can be thought of as “two-eyed seeing” (Tafoya; Archibald, 2008) using bi-nocular vision, that is, the ability to see the strengths of Western *ways of knowing* with one eye while seeing the strengths of First Nations *ways of knowing* from the other.

Student Re-search

As CPSC student researchers, we have each participated in various research projects that concern Indigenous youth. Though CPSC hub methodological approaches range from quantitative longitudinal evidence based studies in Ontario to qualitative and Indigenous community based inquiries and dialogues in Saskatchewan, each hub is committed to developing community partnerships and participating in decolonizing dialogue with the goal to prevent violence experienced by Indigenous and all youth. As individual researchers, we found that self-location through looking twice has served as an anchor to the commitments we assert in our work and have made to community partners, funding agencies, and within proposals and mission statements. The following discussion outlines with more detail the individual and collective lessons gained from self-locating in our Saskatchewan and Ontario work, providing recommendations for Indigenous youth violence prevention research in broader localized contexts.

DISCUSSION

As we venture into our communities and engage in violence prevention work and research, we’ve been drawn back to our own stories and histories. At some level, we are or have been the youth that violence prevention work is aimed at and the youth are us. Self-locating has influenced our individual and collective research with the CPSC and has changed our

perspective of community involvement so that we can better acknowledge our shared limitations and commonalities with others. As a collective, we know our colleagues more than before and in a more relational way—we know our motivations and driving passions that have brought us to this work. As stated by Wilson:

This self-recognition enables us to understand where and how we belong to this world, and it has the profound effect of ensuring that whenever we may happen to be at any given time, alone or in the company of other people, that we do not feel alone. This knowledge nourishes us. (2001, p. 92)

Because the process of self-location requires us to ask ‘who am I in relation to others,’ the process requires a great deal of work; personal work often not recognized or valued in academia. Consequently, the space and time needed to foster relationships required for this type of writing are not valued, and such efforts are marginalized and recognition non-existent. In our research process, committing time to self-locate was at times difficult but an absolute necessary and ongoing component of working with and representing Indigenous youth, their families, and communities. We also found that patience was needed as we asked ourselves difficult questions regarding what family and personal information could be disclosed safely and respectfully with each other and in our writing. An emotional investment is required as well when self-locating as we reconnected with family, gathered stories, and retold our stories to allow deeper and clearer understandings of who we are and what we do, do not, or cannot know.

For each of us, the process of self-location has changed with time and is ongoing. Because self-locating is fluid, it doesn’t always fit well with linear approaches to writing. Yet, the fluctuating nature of self-locating serves an important role in calling into question the epistemological and ontological underpinnings of positivistic research paradigms that tend to dominate literature in the field of violence prevention (Catalano, Fagan, Gavin, Greenberg, Irwin, Ross & Shek, 2012). Through self-locating we have challenged assumptions about what it means to conduct good research, as we cannot ignore the inter-connectedness of the personal and professional. Self-locating has helped us to accept we are not neutral as violence prevention researchers—nor do we want to be. By locating ourselves through our stories, and understanding ourselves through looking twice, we can now

answer questions such as 'why do you want to prevent Indigenous youth violence, what is your work's purpose, and how might your work counter colonization' with more confidence and humility.

Most importantly, self-locating has altered and expanded our conceptions of violence prevention research concerning Indigenous youth. The process of self-location, through the framework of looking twice, has made us more self-aware researchers in the sense that it has provided conceptual clarity of our purpose and direction, and courage to create space where nearly none existed previously for uncomfortable dialogue about colonial violence, race, privilege, and decolonization. This space has led to a heightened consciousness of our own motivations and assumptions, influencing our research questions, participation in projects, and relationships with community and colleagues. For some of us, the repeated process of locating has spurred the privileging of Indigenous knowledges and anti-colonial and decolonizing methods. For others, self-location has led to listening more carefully to stories shared by youth, their families, communities, and service providers. As we now see more clearly that Indigenous youth violence is normalized and reinforced by colonial processes, some of us have shifted our focus to colonial power and institutionalized discourse. Though we have each taken a varying path as a result of self-locating through the Re's, validating our individual stories as Indigenous peoples and allies has changed us, we have learned from each other, and we each see our role as researchers differently. It is our position that this step towards honesty is a step towards more accountable and transparent Indigenous youth violence prevention research. It becomes increasingly difficult to step away from responsibilities to communities and the researched when self-location is practiced as a research method.

CONCLUSION

Self-location begins with understanding who we are and from where we come, admitting what we do and do not know, and committing to an ongoing relational learning process. Conceptualizing and actualizing self-location, for us, has been a complex, personal, and cyclical method that requires time and space not always made available in academia but is absolutely necessary. We as researchers and Canadian citizens are implicated in the cycle of colonial violence navigated by Indigenous youth. We can

more effectively counter this violence when we accept our positioning and roles in it.

We acknowledge that our understandings of self-location are partial and we are grateful to the Indigenous scholars from whom we have learned. We are also grateful to our families for sharing their stories with us and we dedicate this paper to the memory of Carmen's father, Lee Baker, who passed away suddenly in September 2013. Much like Angela's poem shared in the epigraph, self-locating brings us back to where we started, reminding us why we are here, shedding light on our surroundings, and moving us forward to conduct research in more honest and accountable ways to benefit the children, youth, and communities we serve.

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Contextualized Science Outreach Programs: A Case for Indigenizing Science Education Curriculum in Aboriginal Schools

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The objective of the study was to identify educational needs and strategies required for effective outreach program development and implementation in Aboriginal communities. How science is perceived by Aboriginal communities, similarities and differences between Aboriginal worldviews and Western Science, and culturally inclusive teaching provided the context for the research. Through a sociocultural lens, a mixed-methods case study design was employed in an Aboriginal school in Eastern Ontario. Data included survey responses, observations, curriculum materials, interviews, and reflections. The findings show the following should be included in science outreach: culturally relevant hands-on/ experiential learning activities, so as to honour traditional Aboriginal perspectives and knowledge; programs reflecting more learner control and choice to promote student agency, whereby students see themselves doing science and becoming potential scientists; and activities that highlight cognitive and cultural conflict (e.g., excessive writing) and enhance frustration (e.g., reliance on numeracy) should be re-assessed to acknowledge the difference between Aboriginal student's cultural identity and the culture of school science.

INTRODUCTION

SCIENCE OUTREACH PROGRAMS AND SCIENCE EDUCATION

Outreach programs such as science camps and clubs provide valuable experiences that ignite interest and demonstrate how technology and science connect to everyday life and careers, and allow students to expand their skills (Rahm, Martel-Reny, & Moore, 2005; Thomasian, 2011). Not only is it important for students to participate in activities outside the classroom, governments and educators need to address how to make classroom learning in science more engaging, specially through professional development opportunities that assist teachers in developing confidence

and becoming comfortable with the subject, and subsequently engaging their students through classroom activities (DeCoito, 2014; Franz-Odenaal, Blotnicky, & French, 2014). The research being reported directly addresses the aforementioned goals of science education and teacher professional development in classrooms through a study of an outreach program, Science Outreach Program (SOP). SOP is a leading science outreach charity dedicated to sparking children's interest and love of science, technology and the environment through hands-on inquiry. Hands-on inquiry is advocated for by among others DeBoer (1991), and, Minner, Levy and Century (2010). Following, SOP's mission is to ignite scientific wonder in children through investigative half-day workshops, guided by the knowledge of scientists.

Given this mandate, SOP has the potential to effectively promote contextualized science education in Aboriginal contexts, as has been promoted by National organizations for science and science education, such as the Natural Sciences and Engineering Research Council of Canada (2010) and the National Science Foundation (2008). These organizations have been advocating outreach and encouraging the involvement of scientists and engineers as provided by outreach programs such as SOP, in K-12 classrooms to support teachers and engender scientific literacy for students. Arguably, outreach programs have the potential to provide valuable experiences that ignite interest and demonstrate how math, technology, and science connect to everyday life and careers, and allow students and teachers to expand their skills through inquiry processes.

Additionally, according to the First Nation, Métis and Inuit Education Policy Framework, there is an established need to implement strategies to enhance Aboriginal students' participation in the sciences, because of the trend of low participation rates in postsecondary education and a significant under representation of Aboriginal peoples in science and technology occupations (Ontario Ministry of Education, 2007). Research suggests that there is need for strategies to motivate Aboriginal students and increase their participation in the sciences and in science occupations (Jaipal, Engemann, & Montour, 2009). The research and discussion about Aboriginal students and science learning is a national phenomenon that is relatively new and still undergoing change (Allen & Crawley, 1998; Baker, 1996; Cajete, 1999; Ganambarr, 1982; Harris, 1978). The reported trends are prevalent because secondary schools do not adequately prepare Aboriginal students in general

for the reality of the workforce or advanced studies (Battiste, Bell, & Findlay, 2002; McCue, 2006; Orr, Roberts, & Ross, 2008; Taylor & Steinhauer, 2008). Notably, a concerted effort to prepare Aboriginal youth will ensure that they do not lack essential numeracy and literacy skills required for the workforce (Alford & James, 2007; Finnie & Meng, 2006), and that they are not discouraged from taking rigorous coursework in middle and high school that will prepare them for success in postsecondary endeavours (Faircloth & Tippeconnic, 2010). One potentially very effective avenue for addressing the needs of Aboriginal learners in science and numeracy is through outreach programs in science classrooms, especially through the inquiry process. This will be in keeping with the Policy Framework.

The stipulations of the Policy Framework, such as teacher professional development, inquiry and hands-on learning, science for relevance, effective learning strategies, and so on, parallel the goals of SOP, which include presenting science and technology concepts using a hands-on/inquiry approach to enhance students' attitudes toward science and to foster an appreciation and awareness of science and technology amongst *all* children, regardless of gender and ability. SOP's vision includes inspiring elementary students and teachers to enjoy science and technology through fun and exciting activities. Specifically, SOP seeks to "inspire greater understanding and interest in all young minds" and to "expose students to the excitement and enjoyment of scientific discovery" (Science Outreach Program, 2010). Ultimately, SOP's workshop leaders hope that by doing this they will encourage students to pursue science in high school, and ultimately choose to remain engaged in scientific and technological fields.

TEACHING INQUIRY IN ONTARIO ELEMENTARY SCHOOLS

Inquiry learning often involves classroom activities where students interact with materials and other students as they investigate the world around them. Inquiry-based science education has been characterized in a variety of ways over the years. Some have emphasized the active nature of student involvement (i.e., "hands-on" learning activities) while others have focused on the development of an understanding of inquiry processes such as the steps of a scientific method and the process skills required to perform scientific investigations (DeBoer, 1991). This mode of learning has been strongly advocated for all students, irrespective of culture, gender,

and class. A focus on scientific inquiry places new intellectual and practical demands on science teachers and students alike. For example, teachers are charged with the responsibility of providing as many hands-on activities as possible in Ontario's grades 1 to 8 Science and Technology curriculum, as inquiry and design skills are emphasized in order to allow students to discover and learn fundamental concepts through investigation, exploration, observation, and experimentation (Ontario Ministry of Education, 2007). While curricular explanations and learning expectations are a good place to start, teachers must learn new teaching perspectives, and plan lessons that build on students' understandings of scientific phenomena and the nature of scientific inquiry (Davis, Petish, & Smithey, 2006). Furthermore, if teachers are to facilitate learning in ways consistent with scientific inquiry, they must know the processes of science and be proficient in the practices of science; an assumption challenged by research showing that many do not have adequate insight into how scientific knowledge is developed (Bencze, Bowen, & Alsop, 2006). The reality in schools is that elementary teachers lack a practical pedagogical framework to inform their inquiry-based instructional plans (Bell, Smetana, & Binns, 2005). Moreover, elementary teachers do not possess science content knowledge and struggle to see the conceptual links between the various domains of knowledge (Lederman & Lederman, 2013).

According to Hogue (2012), much of Western science is curriculum-driven and textbook taught; a way of teaching and learning that is different from Aboriginal ways of coming to know. Hogue maintains that "experientially-based learning situations provide applicability, which in turn provides relevancy for Aboriginal learning and is critical to bridging theory and practice" (p.99). Furthermore, Barell (2003) has stated, "We need inquisitive people to grow into this new millennium" (p. 18) and claims "wonder, inquiry, skepticism, and doubt [are] the pillars of our civilization, the promise of our future on the planet" (p. 22). This instructional model requires the teacher to let go of some of the leadership in the classroom, while still being accountable to learning goals set by the province (Stacey, 2009).

RESEARCH QUESTIONS

The current paper is part of a larger study which reported on the potential of a science outreach program to address educational needs of Aboriginal communities, and possibly increase interest and participation

rates in school science, and ultimately, science careers. This paper reports on the following research questions: How is the outreach program meeting the gaps/barriers in Aboriginal communities in Ontario?

How might the outreach program meet the gaps/barriers in the future?

THEORETICAL FRAMEWORK

The research was informed by the sociocultural learning theory in the context of a post-colonial framework. Post-colonial framework is the discourse that deconstructs and resists schools' attempts to impose grand narratives on educational practices; the narratives that predominated education in the colonial empire during British colonial rule and that are perpetuated in various forms today. The discourse also finds respectable approaches by which to bring together different ways of knowing, for instance Aboriginal epistemologies and Western epistemologies (Dei, 1999; Hogue, 2012; Munroe, Borden, Murray Orr, Toney & Meader, 2013). One way to resist colonial tenets is to adopt learning theories that are cognizant of sociocultural contexts. A fitting theory for this purpose is the sociocultural learning theory which begins from the premise that science is a socio-cultural system: "As a socio-cultural system, science is an integrated whole intimately interrelated with human activities and a process that can be presented from the non-Western high contextual/ cultural perspectives in valid and internally consistent ways" (Cajete, 1999, p. 154). The underlying assumptions for this theory is that learning occurs in social and cultural environments whereby those who already know the content of what is to be learned (experts), induct those who are new to the domain of knowledge (novices). The induction or helping another to learn, involves cultural tools as the spoken language and its associated symbols of representation. For example, a girl or boy (novice) who needs to learn how to recognize the stars is taught how to do so by an older woman or man, not necessarily an expert astronomer, but one who knows how to recognize heavenly bodies by tying the knowledge of the stars to cultural knowledge in everyday life. In this case the expert astronomer helps the novice guided by the features of how people learn as espoused by Bransford, Brown, Cocking, Donovan, and Pellegrino (2000). That is, by prompting the learner to notice where there is knowledge and/or skills gaps and guiding the learner up through the various notches of understanding,

employing elements such as scaffolding, attending to Vygotsky's (1986) zone of proximal development, and using metacognition strategies to master the art of star recognition. Rogoff (1998) noted all these elements in operation in sociocultural learning contexts.

Similarly, Chinn (2007) maintains that learning "cannot be dissociated from interpersonal interactions located in cultural frameworks ... [and that] values, emotions, experiences, and cultural contexts are integrally related to learning" (p. 1250). Furthermore, sociocultural learning theory seeks to address human learning at the individual and collaborative levels, by investigating and integrating learning concepts, empirical and theoretical concepts from many disciplines such as anthropology, sociolinguistics, sociology, history, and psychology (Rogoff, 1998). Additionally, sociocultural learning theory helps educators think about human learning in cultural contexts and is applicable to the study being reported on a science outreach program in an Aboriginal context. As already stated, this perspective to learning "emphasizes characteristics of social participation, relationships (such as that between novice and expert, newcomer and old timer), the setting of activity, and historical change" (Packer & Goicoechea 2000, p. 227).

The relevance of the sociocultural learning theory for researching Aboriginal contexts is undeniable. For instance, Aboriginal students in science classes are likely to possess a traditional knowledge system that is different from the conventional science typically taught in schools. In this respect, Munroe et al. (2013) and others (Aikenhead & Michell, 2011; Alcoze, 1992; Allen & Crawley, 1998; Fleer, 1999; Gitari, 2006; Hodson, 1993; Kawagley, 1995; Martin, 2012) advocate for teaching numeracy and literacy in context so as to incorporate an Indigenous worldview which is holistic and interconnected. Furthermore teaching these disciplines out of context goes against developing critical thinking and problem solving skills. This implies that culturally-specific pedagogies need to be adopted in classrooms to support Aboriginal students in their learning. Pedagogically, moving from one cultural setting to another (e.g., from home to school, or from a peer group to a science classroom) is conceived as cultural border crossing (Aikenhead, 1996). For this reason, school science requires most students and their teachers to cross boundaries (border crossings) between the cultural context of their home, family, and community (i.e., traditional knowledge, language, beliefs, values, and ways of knowing) and the context of Western

science. The exclusion of diverse epistemologies, the subject of Martin's (2012) article summarizing Mi'kmaw Elders Albert and Murdena Marshall's 'two-eyed seeing', is particularly relevant in the context of failed border crossings among Aboriginal students in the sciences. Two-eyed seeing is a guiding principle and a way of respectfully joining Western science and Indigenous knowledge, in which diverse worldviews are made to coexist equally. Referencing Iaccarino's (2003) work, Martin (2012) describes Western science as "positivist science" or "positivism" – that is, it purports that there is a single truth that can be revealed by scientific procedures; however, many important scientific discoveries have been made outside of this rigid framework. Furthermore, science as a discipline was re-appropriated and made largely inaccessible except to the privileged, thereby separating many scientific truths from their original (often Indigenous) sources (Alcoze, 1992; Gitari, 2003). Two-eyed seeing is a way to continually evaluate and eliminate biases toward one perspective over others by acknowledging varying epistemologies, since no one perspective is complete. It also allows for a fluidity that is truer to our changing physical and social environments.

RESEARCH METHODS AND PARTICIPANTS IN THE STUDY

A post-colonial theoretical framework was preferred for conducting this study as it sensitized the researchers to the dynamics of an Aboriginal sociocultural context when addressing the goals of the study and also the need for the two-eyed seeing pedagogical framework. The researchers/authors are of non-Aboriginal backgrounds. We are both of ethnic minority background and we both work and live in the province where the study was conducted, in Ontario, Canada. Our desire to learn about education in Aboriginal contexts stems from our interest in the broad field of access and equity in science education and ongoing experience educating Aboriginal Canadians in higher education. Because we are not of Aboriginal origin, we are sharply aware of the fact that in conducting research in a context different from one's own, we were obliged to enter the field as cultural foreigners seeking to learn the views of the residents/participants. In the qualitative research paradigm, the views of the participants are referred to as *emic* and those of the researcher, as *etic* (Creswell, 2007) because it is recognized that the views will be different. For that reason, we needed to adopt Aikenhead's (2006) notion of *cultural anthropologist* for science educators, for the entire

research exercise. Aikenhead uses the term cultural anthropologist to help science teachers envision science as another culture, as different from the majority of students' ways of understanding and interpreting the world. We found the notion helpful because it is described in relation to science education. Being a cultural anthropologist means that one approaches the foreign culture focused on the desire-to-learn, suspending judgement that is based on prior knowledge about the foreign culture, in our case, education in Aboriginal contexts, and adopting the attitude of a learner (Spindler, 1963).

We contend that an approach which warranted a case study, with researcher(s) in the field, effectively addressed the research questions and provided deliverables and further insight into areas that require additional investigation. Hence, a mixed-methods case study (Creswell, 2007; Mills, Durepos, & Wiebe, 2010; Tashakkori & Teddlie, 2003), was utilized for the study, which was conducted over twelve months (June 2012 –June 2013), to help meet the overall aim for the project and answer specific research questions.

Skénnen Elementary School (pseudonym) is located in eastern Ontario and was built 37 years ago on a site that was initially the home of one-room schoolhouses, some of the first Aboriginal day schools on Native territories. The school's character education curriculum is focused on the story of the Peacemaker (Barnes, 1984). The Peacemaker story is illustrated in a wall mural upon entering the school, to symbolically depict the ethos of the entire school, conceptualized as character education. In all, the Peacemaker story and associated symbols represent the educational philosophy of learning at Skénnen School. The student population is approximately 300, whereby 93% of the student population are residents of the territory and are of Mohawk descent, while the remaining 7% includes stepchildren and/or child/children of a partner. The teaching population is composed of 21 federal staff, 3 Band staff, and 11 education assistants. All teachers are members of the Ontario College of Teachers, and federal staff is considered federal employees, while Band staff is hired by the Band directly. Ninety percent of the teacher population is of Mohawk heritage, while 10% belong to other heritage groups. The principal, Sandy⁴, of the school has occupied the administrative role for 8 years, and she is a member of the Band.

The participants included elementary students and science

⁴ This and all other participant names are pseudonyms.

educators at Skénen School. Two grade 4/5 classes and one grade 5 class were involved in the study. Three science educators (two males and one female), 18 students (13 females and 5 males), and an administrator (female) consented to participate in the study. Two of the teachers (one female; one male) are Mohawk, and the other male is English Canadian. All students are of Mohawk heritage.

The three educators have had different experiences teaching science, as well as different educational backgrounds. Doug had completed his teacher education qualifications and taught at the primary/junior/intermediate levels for 11 years. During the study, he taught grades 4/5. Fiona had been teaching for 13 years at the primary/junior level and was teaching grades 4/5 during the study. Don had taught for 15 years and was qualified to teach native studies, with one year of additional science qualifications in environmental science, biology and physical geography. He had also taught with Corrections Canada and was teaching grade 5 during the study. Sandy is also a science educator.

Data collection occurred over a twelve-month period and consisted of ten visits (6 hours each) to Skénen School to gain a better understanding of the science outreach program, and educational opportunities present in the school and school community. Each of the three classes participated in 2 different workshops (e.g., grade 4/5 - gears and pulleys, and rocks and minerals; grade 5 - the body, and chemical changes,) in November and December 2012. These workshops align with the expectations of the various strands in the Ontario Curriculum, Grade 1-8 Science and Technology, and provide hands-on activities to support learning of science concepts. The data collecting methods for this study consisted of non-participant observation, in-depth interviews (Rapley, 2007), surveys, and document analysis using Ninnes (2000) analytical frameworks. Data collection for the study was conducted during normal classroom instruction time and the primary sources of data for this study were i) teacher and student survey responses, ii) classroom observations of instructional episodes (4 observation visits), including SOP workshops, iii) curriculum materials that teachers created for students, iv) teacher, administrator, and student interviews (individual and focus group), and v) student reflections post-workshops. Teacher surveys explored teachers' views, interest, and knowledge in science; teaching strategies in science; and knowledge and understanding of Aboriginal perspectives. Student surveys

explored students' attitude and interest in science; learning styles in science; and knowledge of cross-cultural perspectives in science. Individual teacher and student interviews were conducted once during the study by one of the researchers and were approximately 20 minutes in duration. The teacher interviews further explored survey items on i) philosophy of teaching and learning science; ii) goals for science teaching; iii) views on cross-cultural perspectives; and iv) factors influencing their teaching practice. The student interviews further explored i) students' responses to survey items related to attitude, interest, and views of science; ii) outreach programs and school trips related to science; and iii) cross cultural perspectives in science education. Teacher and student focus group interviews explored the participants' experiences with the SOP workshops that were conducted during the study. Workshop observations included episodes of student engagement, inquiry, problem solving and decision making, experiential and hands-on learning, storytelling, and the inclusion of cultural contributions. This paper reports on teacher and principal interviews, teacher surveys, and classroom observations.

Quantitative data were inputted into Microsoft Excel and analyzed using statistical analysis and descriptive statistics. Qualitative data from workshop observations and interviews were analyzed through an interpretational analysis framework (Stake, 2000) to establish the potential of outreach programs to foster attitudinal and behavioral changes in students and enhance students' 21st century skills and learning in science education, as well as support teachers' own efforts.

FINDINGS: TEACHING SCIENCE IN AN ABORIGINAL CONTEXT

Survey results indicate that the science educators at Skénnen School science background mirrors their confidence in teaching science, including teaching science from the perspective of Aboriginal values, beliefs, and knowledge. In order to attain their teaching goals, accommodate diverse learning styles, and address some of the challenges in teaching science (i.e., lack of resources, time, to name a few), the teachers employed 'multi-dimensional' teaching strategies and relied on *different modes* to promote and foster effective learning in science. The different modes of teaching strategies include a) inquiry and hands-on activities to engage and ignite student interest in science lessons, b) videos/movies for visual learners,

and c) incorporating technology, including SMART Board lessons. Hands-on activities were encouraged as this approach is considered a preferred learning style in Aboriginal culture, according to the participants in the study and a number of researchers (for instance Aikenhead, 2006; Cajete, 1999; Hampton, 1995; Snivley & Corsiglia, 2001; Sutherland, 2002). This is consistent with Gardner's multiple intelligences theory that is advocated by Indigenous educators, such as Cajete (1999). Despite not having access to resources to support teaching from cultural perspectives, Fiona expressed the fact that hands-on learning and oral communication are key to addressing the cultural perspectives of Aboriginal learners. This observation, which was also reiterated by Sandy, will be further elaborated upon in the discussion section. Sandy summed up the importance of adopting teaching strategies that address kinesthetic learners, a predominant learning style for the majority of learners at Skénnen Schoo:

Our children are absolutely fantastic kinesthetic learners ... that is the mode that connects with them most through any subject area, so every opportunity that I can have to make sure that that's happening, I take it, be it science, be it the arts, be it whatever the subject is, it's that mode of learning. (*December 14, 2012; Quote #1*)

As evidenced in the findings, the teachers also incorporated science into other units (e.g., language), utilized storytelling, and chunked information into smaller groups –sometimes using field trips, or keeping chunks to introduction, main idea, follow-up format, and condensing topics into one or two weeks.

In addition to interviews, the teachers were asked to rate the following survey items in terms of impact on their teaching practice: *I involve and invite feedback from parents and the community to improve my teaching; Outreach programs/field trips have increased my confidence in teaching science and technology; I am supported in my effort to teach science from the perspective of First Nations, Metis, and Inuit culture and values; and I participate in professional development opportunities specific to learning about First Nations, Metis, and Inuit science perspectives.* It is evident from Figure 1 that outreach programs and field trips have greater impact on the teachers' teaching practice at Skénnen School, when compared to board mandated professional development (PD) initiatives, community support, and community feedback. When asked about factors or influences that have impacted their teaching practice, a variety of

resources were cited by the teachers. According to Doug:

We have different festivals during the year, three different festivals. We have speakers come in, Elders come in, and then we would, around that week, take trips on the territory here, which would involve local area and local people. That was pretty interesting to do. We went to the Science Centre ... we took a field trip there when the human body was on display. We went earlier to the petroglyphs up in Peterborough. (December 14, 2012; Quote #2)

Figure 1 illustrates the results from the 4 survey items (from left to right):

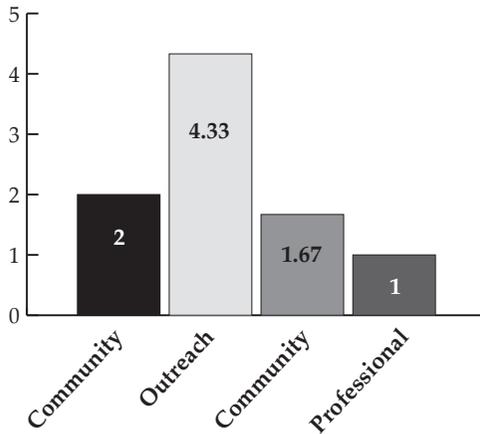


Figure 1. Impact of Community Influence, Outreach Programs, and PD on Teaching Practice

OUTREACH PROGRAMS: ADDRESSING GAPS IN TEACHING SCIENCE

Outreach programs have a significant impact on teachers’ practices in the teaching and learning of science. According to Sandy, the outreach science workshops in this study are important for teachers, as well as their students:

For teachers, I think that every time that they have a scientific workshop in their classroom, I think that they are learning. It gives them a sense of things and even if they have a take-away ... they may not have the raft of resources that arrive with the workshop, of course, but they may take segments of the ideas to be able to make their science much more hands-on. The other thing is they

get to see their students in a really hands-on learning situation and observe what the kids are doing, and I think that can really enhance their appreciation for students in their classroom and their varying learning strengths, particularly if a teacher tends to be much more lecture approach, and a child is not a strong auditory learner at all. However, students are completely engaged in the workshops...I think it functions on a number of levels to enhance the teacher's ability to teach, but also to help them observe their students' strengths. (*December 14, 2012; Quote #3*)

The outreach science workshops in this study pose a variety of advantages for the learning environment of students. First, they provide teachers with a focus (pre-workshop packages, post-workshop activities). Second, having a class participate in a workshop provides onsite PD for teachers as they learn pedagogical content knowledge and techniques for addressing different subjects that they could implement themselves at another time in their practice. Third, topics covered in the workshop provide a platform for teachers to extend into other topics, as illustrated in Fiona's response:

Well, I like when the different science groups come to visit and they give either added information or added knowledge to the students and just an opportunity to use some of the materials that I might not have access to ... it helps me to guide my teaching through the pre-teaching and learning, helps them get the most out of when we do have visitors here, so that they are knowledgeable and that they are not just starting at square one when we do have visitors in. So that they are able to participate and fully make the most out of the different workshops we have. (*November 29, 2012; Quote #4*)

Fourth, workshops provide resources for teachers that they may otherwise not have access to, have the time to incorporate into their lessons, nor know how to use them. Doug commented that the outreach workshops have positively affected his motivation and confidence the most in teaching science over the years:

The workshops ... the more aware I've become of the material I'm teaching. That helps me as a teacher, without having that background. Obviously when the scientists come in and they're participating with the kids and the sciences, I'm just reassuring what

I already know and learning these things that I could help them, and new ideas so that I could teach my kids, as well. So it helps me, because sometimes when I take a look at what they're doing, and I try to think of some ideas of how I can extend that, and do it next year as well. (*December 14, 2012; Quote #5*)

Fifth, the chunk of time focused on a single topic helps students grasp materials. According to Don:

... the shorter the chunking of it, the more time is spent on science and students lose interest. It would be beneficial ... like half a day. With the half-day science workshops, kids grasp more versus doing it in an hour or half an hour a day. (*November 15, 2012; Quote #6*)

ADDRESSING GAPS: 21ST CENTURY LEARNING, RELEVANCE, AND CULTURALLY INCLUSIVE PEDAGOGY

There are numerous areas that, according to the science educators, the science outreach program needs to further develop in order to achieve target goals and address the needs of diverse learners. In addition to supporting teachers and demonstrating pedagogical strategies to enhance their classroom teaching, the science workshops have exposed teachers to technology that they can use in their classroom. For example, Don recollected his amazement during a workshop as he witnessed the presenter using a microscope that was hooked up to the SMART Board. The teachers suggested, however, that workshops could incorporate learning centres that provide further opportunities for students to work with technology, such as SMART Board and Promethean, which are readily available at Skénnan School. The fact that students like to multitask, there is room for workshop development around technology and digital resources, differentiating instruction, thus personalizing learning, that can potentially provide unique learning experiences for 21st century learners, as exemplified by one of the science educators:

The kids like to multitask. So, for example, we could have a workshop leader in and they're demonstrating something and I have a Khan Academy video going on the SMART Board that's giving me another interpretation, and I have a group of kids looking something up on the Internet and ... these things can all be happening, so that the content, the workshop content, and the hands-on tools that the

person brings along with them, can become a station in a whole learning experience, so that the learner is self-selecting all over the place and the instruction is differentiated. ...presenters will have to change their approach ... they will, because they come in as the "all knowing," they're the outsider; they're the scientist, that's a tremendous value, but that's a value that I think is "running its gamut". So that has to really change ... the whole group facilitation portion is probably obsolete. It's not based on the learner; it's based on the presenter. So that focus is not going to work. (*December 14, 2012; Quote #7*)

According to Sandy:

This approach would be "gems" for our kids as the presenter would connect to the learner. If each workshop could make the connection with some traditional knowledge somewhere along the way, "this is the traditional knowledge and the way this was done, and this is the modern science." It's really good and very important to show the cultural connections and it doesn't take a lot ... it just means honoring it. Just honoring the traditional law and establishing a connection point, and then you've got it, that's relevance. (*December 14, 2012; Quote #8*)

The above concerns are directly linked to personalizing learning and honoring traditional knowledge. Sandy continues:

... one of my interests is looking at how we are honoring traditional knowledge and preferred learning styles, and where it connects with research around 21st century learning. So, you are talking about honoring the traditional knowledge base, you're honoring the learner, you're giving the learner the opportunity to select. You're giving the learner the opportunity around all of the layers of choice that a 21st century learner wants. I think that has to change for Aboriginal learners very much, because I think that in terms of learning they've always been in line with what is reflective, socially mediated. That's always been, but you put that in the 21st century context, where that form of learning, is actually much more valued ... people are gaining an awareness of that. (*December 14, 2012; Quote #9*)

Sandy reiterated the fact that Aboriginal students in science classes are likely to possess a traditional knowledge system that is different from the

conventional science typically taught in schools. This implies that culturally-specific pedagogies need to be adopted in classrooms to support Aboriginal students and their learning strengths.

DISCUSSION

The findings show that there were successes and challenges emanating from the lack of cultural knowledge, including culturally sound pedagogy, cultural/historical approaches, and cultural ways of knowing. These successes and challenges can be categorized as follows: i) increased interest and engagement in scientific activities, ii) gaps/barriers in SOPs' delivery of curriculum, iii) rethinking the structure of SOP's programmatic approach, and iv) responding to the needs of the 21st century Aboriginal learner.

INCREASED INTEREST AND ENGAGEMENT IN SCIENTIFIC ACTIVITIES

The results of this study indicate that generally, the program is successful and effective in terms of presenting science and technology concepts in a hands-on manner that enhances student attitudes towards, and, interest in science. In addition, the students reported that the workshops inspire greater understanding of concepts and expose them to the excitement and enjoyment of scientific discovery (discussed in another paper). Data from the study reveal that participants consistently commented positively on the experiences, including the fact that the workshops (i) engage and inspire students; (ii) provide opportunities for all students to engage with materials and resources that are not readily available in their science classrooms; (iii) make science learning fun and interesting; and (iv) encourage student interest in pursuing careers in science and technology. The notion of relevance and connecting to traditional ways of knowing (Hodson, 1993; Sutherland, 2002) are areas that warrant closer attention in terms of the science workshops. When introducing a topic, workshop presenters may consider storytelling. For example, in the workshop focusing on the body, some probing questions could include: how does the topic at hand link to the use of traditional medicine? or how does cedar tea affect certain parts of the body? Teaching science in Aboriginal contexts require approaching the teaching of science through the students' worlds. This in turn provides students with the opportunity to identify with aspects of science that resonate with their

experiences in everyday life. Hence, teachers need to develop subject matter knowledge that is not separated from relevant pedagogical content knowledge in order to change their teaching practices for diverse students (Tal, Krajcik, & Blumenfeld, 2006). For teachers, the workshops (i) exposes them to cutting edge technology, as Don recollected his amazement during a workshop as he witnessed the presenter using a microscope that was hooked up to the SMART Board; (ii) encourages them to try new strategies as they become more confident in their science teaching, exemplified by Doug (Quote #5) as he discusses the value of being able to observe different pedagogical approaches implemented by the workshop leaders and to think of ideas and ways he could implement them in his practice; (iii) provides them with opportunities to observe their students' strengths/learning styles as they engage in science and technology learning; and (iv) enhances their learning of content knowledge. These successes are further captured by Fiona in Quote #4 whereby she emphasizes the importance of teacher involvement in the planning of outreach program activities.

It is extremely important that teachers are involved in the planning of the workshops and knowledgeable about technologies involved in the workshop. As well, it is imperative that these technologies do not conflict with Aboriginal ways of learning and knowing. That is, it is important in this process to establish congruence between Indigenous ways of knowing and new technologies. This is in keeping with the post-colonial theoretical framework that requires educators to refrain from colonial frameworks that reinforce the status quo (Hickling-Hudson & Ahlquist, 2003).

The findings presented are consistent with the research on outreach programs discussed earlier that have broad goals such as providing mentoring and hands-on experiences for students and supporting teachers to enhance their classroom teaching (Knox, Moynihan, & Markowitz, 2003).

GAPS/BARRIER IN SOPS DELIVERY OF CURRICULUM

Despite the above mentioned benefits, participants also mentioned some areas for improvement that would enhance opportunities for successful implementation of the workshops in Aboriginal communities. Some areas where the science outreach program is being encouraged to develop are hands-on/ experiential learning activities, with cultural relevance and context incorporated throughout, so as to honor traditional Aboriginal

perspectives and knowledge as exemplified by Aikenhead and Michell (2011) and one of the science educators at Skénen School, in Quote #8, as she discusses opportunities for the outreach program to incorporate traditional and cultural connections into the workshops.

Additionally, workshops should be designed with more learner control and choice built into the workshops and story-telling and artistic representation to promote student agency as demonstrated by Calabrese-Barton (2005) and Calabrese-Barton and Tan (2010), whereby students see themselves doing science and becoming potential scientists (Hodson, 1998). Aikenhead and Michell (2011), and Cajete (1999) propose numerous ideas for science teachers interested in fostering science classrooms where students can embrace and learn both Indigenous and scientific ways of knowing. Some resources include i) Elder involvement in the classroom, ii) community contexts whereby participation in cultural camps, community gatherings and ceremonies inform the development of science lessons, iii) parents and community members' involvement in planning and evaluating science instruction, and iv) role models and mentors in the classroom.

RETHINKING THE STRUCTURE OF SOP'S PROGRAMMATIC APPROACH

A key finding is the teachers' request for the inclusion and involvement of family members in workshops in their classrooms. This was also echoed by students; however this data is being reported elsewhere. The science outreach program is advised to consider a workshop day for families as this is one approach to building respectful and inclusive relationships with Aboriginal communities (Hunter & Schwab, 2003). In addition, family involvement in workshop development and administration has the potential to encourage student achievement and positive learning outcomes (Hill & Taylor, 2004). One important area in which the science outreach program was advised to further develop is cultural sensitivity or an understanding of the context in which the workshops are situated, including culturally inclusive teaching and instructional strategies. This is reflective of the tenets of the sociocultural theory of learning which assumes a novice/expert interaction where learning occurs mediated by cultural artifacts and tools (Lave & Wenger, 1991; Rogoff, 1998; Roth & Lee, 2004; Vasquez, 2006), and further reiterated by Sandy, the principal, as she discusses the efficacy

of the SOP's workshops in terms of "honoring traditional knowledge and preferred learning styles". This was further elaborated upon as she critiqued SOP's pedagogical approach in Quote #7 during her discussion of the lack of differentiation of the workshop material, including focusing on multiple learning styles that is inclusive of a variety of learners, and incorporating technology for meeting the needs of 21st century learners. Finally, workshop leaders should be knowledgeable about the context in which the workshops are conducted. Moreover, as previously mentioned in the section on gaps, cultural sensitivity training should be a mandate for all workshop personnel in order to establish relationships and achieve success with the program in Aboriginal communities. The latter observation cannot be overstated.

RESPONDING TO THE NEEDS OF THE 21ST CENTURY ABORIGINAL LEARNER

Findings point to the fact that further program development is necessary in terms of promoting 21st century skills (DeCoito, 2012). In addition to addressing the needs of 21st century learners, some probing questions that were raised in the interviews included: How much element of choice and how much element of user control can be built into outreach science workshops? How much can they be tweaked, based on 21st century learner needs? The participants expressed the fact that there is a risk that the presenters can become very robotic; hence there is a need to remove the mechanical component and build in learner ownership and learner choice, otherwise, the science workshops can potentially become obsolete. Moreover, there is a danger of the enculturation of Aboriginal learners into the value system of Western science (Aikenhead, 2001), which is explicitly not a goal of the science outreach program in this study. The above concerns are directly linked to personalizing learning and honoring traditional knowledge, including the arts as represented in the Peacemaker mural mentioned in the context section and in Quote #9.

According to Munroe et al. (2013), there exists congruency between Aboriginal knowledges and tenets of 21st century education. Cloud (2010), an advocate of 21st century education, has written about the need to educate for the sustainable future of the planet, with an emphasis on "cultural preservation and transformation, responsible local/global citizenship, sustainable economics, living within ecological/natural laws and principles,

multiple perspectives, and a sense of place.” This notion that “art and science are modes of perception which are not opposed to each other but complementary and dependent upon one another”, is also stressed by Cajete (1999), and in keeping with the guiding principles of two-eyed seeing (Martin, 2012). Activities incorporated in the outreach program that highlight cognitive and cultural conflict (e.g., excessive writing which conflict with oral traditions) and enhance frustration (e.g., reliance on numeracy) should be re-assessed to acknowledge the difference between Aboriginal student’s cultural identity and the culture of school science (Aikenhead, 2002). Additionally, the science educators stressed the fact that there is a need for the outreach program to incorporate activities that integrate with existing technology at Skénnen School (e.g., Promethean and SMART Boards) in order to engage diverse learners.

CONCLUSION

In conclusion, how well a program reaches its dissemination goals depends on the interaction of educators and their context with factors related to program designers and their context, to dissemination strategy, and to their audience. Through a post-colonial framework, the study employed sociocultural learning theory which situates learning in social and cultural contexts. This study has shed some light on areas of an outreach program that were successful, and on areas that can be improved in terms of science outreach programs such as SOP. We hope the results of this study will inform future investigations into science teaching and learning in Aboriginal contexts. What holds promise for us is the potential for viewing Western and Indigenous science as having complementary strengths; the guiding principle of *two-eyed seeing*. Recognizing the strengths of each type of science could maximize science learning. This study has attempted to initiate and engage in that dialogue. Much more research in Aboriginal science education is warranted, including Aboriginal youth participation in science, technology, engineering, and mathematics (STEM) education and occupations in STEM fields. Furthermore, resources reflecting Indigenous knowledges in science, technology, engineering, and mathematics should be developed at the Ministry level, as the mandated science and technology curricula in Ontario are largely expressions of the dominant culture, and the intentions of these curricula are not adequately grounded in the priorities of Indigenous communities.

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Engaging Teacher Candidates about Aboriginal Education Perspectives in Ontario

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Knowledge of the Aboriginal socio-political history in Canada has historically been excluded from public education in Ontario. The Ontario Ministry of Education has created the Aboriginal Education Strategy, which includes policies and resources for teachers. However, teachers frequently only teach the minimum required curriculum about Aboriginal peoples as they do not have adequate knowledge or feel that they lack the ability to teach about this subject. The Ontario Institute of Studies in Education (OISE) at the University of Toronto has implemented the Deepening Knowledge Project to provide teacher candidates with an increased awareness and knowledge about Aboriginal histories, cultures and worldviews for their future teaching careers. This article will provide insight into the project and the curriculum developed for working with teacher candidates.

ENGAGING TEACHER CANDIDATES ABOUT ABORIGINAL EDUCATION PERSPECTIVES IN ONTARIO

ONTARIO CONTEXT

There are 301,425 people who identify as having Aboriginal ancestry in Ontario, which is 21.5% of the total Aboriginal population in Canada (Statistics Canada, 2013) and 2.4% of the total population of the province (Ontario Ministry of Finance, 2013). The Aboriginal population in Ontario is increasing “five times faster than the 4.8% rate of growth for the non-Aboriginal population (Ontario Ministry of Finance, 2013; p. 1). Approximately 22.6% of the total Ontario Aboriginal population is between 0 and 12 years of age according to the 2006 Census (Ontario Trillium Foundation, 2011). It is estimated that one-third (approximately 33%) of the Aboriginal population in Ontario is under the age of 19 years compared to 23.8% of the non-Aboriginal population (Ontario Ministry of Finance, 2013).

An increasing amount of this population is now residing off-reserve. According to the Ministry of Finance (2013) only “15.9% of all Aboriginal peoples in Ontario lived on reserves in 2011” (p.1), and thus the majority of Aboriginal people reside in areas with non-Aboriginal people. More than half of Aboriginal people in Ontario live in Brantford, the Greater Sudbury area and Thunder Bay. These changing demographics suggest there is a need to bring awareness and education to non-Aboriginal people about the history, cultures, languages, and worldviews of Aboriginal people.

THE EDUCATION LANDSCAPE IN ONTARIO

It is estimated that there are 78,000 Aboriginal children between age 5 and 19 years in Ontario with approximately 64,000 attending provincial schools (Ontario Ministry of Education, 2013). This presence is only one argument in favour of all teachers incorporating Aboriginal content into their curriculum. In 2007, the Ontario Ministry of Education developed the Aboriginal Education Strategy, which includes the Ontario First Nations, Métis, and Inuit Education Policy Framework. This framework includes specific indicators to reduce the gap in academic achievement and calls for each school board in the province to create a policy to promote the voluntary self-identification of Aboriginal students (Ontario Ministry of Education, 2007). In 2013, the Ministry of Education indicated that they had collected baseline data about Aboriginal student success (Ontario Ministry of Education, 2013). However, they defined this success based on results from standardized tests given to all Ontario students in grades three, six, nine and ten. The baseline data for these tests show a clear deficit for self-identified Aboriginal students compared to their non-Aboriginal counterparts (Ontario Ministry of Education, 2013). However, these tests are likely not reflective of how Aboriginal students learn, and not inclusive of their lived reality.

The Ontario Ministry of Education created *Aboriginal Perspectives: The Teachers Toolkit* (available for all grade levels) (Ministry of Education, 2013). This toolkit was created to provide teachers and educators with concrete examples of how to integrate Aboriginal content into their classrooms. In addition, there are currently nine ‘Native Studies’ courses at the secondary school level available for provincial schools and school boards to provide to their student population (Ministry of Education, 2013). Upon review of available resources, there are no statistics about which schools and/or school

boards are offering these courses nor is their data on the number of students enrolled in any of these courses. Faries (2004) found that many First Nations schools on reserves were offering at least one of these courses (Table 1). These courses were developed to begin to infuse Aboriginal content into the Ontario curriculum and allow Aboriginal students an opportunity to (re)connect to their culture, knowledge, and traditions. From a review of the publicly available information about the Aboriginal Education Strategy, there have been no significant efforts to engage educators to include the provincially developed curriculum into their classrooms.

<i>Grade Level & Course Code</i>	<i>Title of Course</i>
Grade 9 – NAC10	Expressing Aboriginal Cultures
Grade 10 – NAC20	Aboriginal Peoples in Canada
Grade 11 – NBE3U & NBE3C	English: Contemporary Aboriginal Voices
Grade 11 – NDA3M	Current Aboriginal Issues in Canada
Grade 11 – NBV3C & NBE3E	Aboriginal Beliefs, Values and Aspirations in Contemporary Society
Grade 12 – NDG4M	Aboriginal Governance: Emerging Directions
Grade 12 – NDW4M	Issues of Indigenous Peoples in Global Context

Table 1: Secondary-level Aboriginal courses in the Ontario Curriculum

It is important to ensure that teacher candidates are familiar with Aboriginal history, knowledge, culture and education prior to their first work experience in a classroom. Many of the teacher education programs in the province have taken up the mission to educate teacher candidates about Aboriginal issues and history, and are signatories to the Accord on Indigenous Education developed by the Association of Canadian Deans of Education (ACDE, 2011). It is also not yet evident what, if any, concrete and province-wide initiatives will be taken to (re)educate teachers about these issues. However, there are more resources available to teachers now than there has ever been before, including the Deepening Knowledge project detailed later in this paper.

TWO SOLITUDES OF EDUCATION

Aboriginal ways of seeing and interacting with the physical and spiritual world differ significantly from Western methods, which are

reflected in the vastly different approaches each has to education. While traditional Aboriginal education has been described as “intra-personal, subjective, holistic, spiritual and transformative” (Kanu, 2011, p. 105), Western ways of knowing and education are most often characterized as “secular, fragmented, neutral or objective” (Kanu, 2011, p. 105), or unfolding in a linear fashion (Borrows, 2001; Alfred, 2009). The entire community has always been responsible for educating Aboriginal children and youth, including the children and youth themselves (Stonechild, 2006). This holistic way of imparting knowledge ensured that entire knowledge systems would be provided to various members of the community for continuity through generations. To create a holistic approach similar to an Aboriginal approach within the mainstream school system in Ontario, it is necessary for educators and teachers to learn, understand, and incorporate knowledge about Aboriginal worldviews into their own vision of education at not just the level of the classroom, but at the level of curriculum creation and school structure. Indigenous scholars have authored a growing number of articles about Aboriginal worldviews and the importance of community learning (Stonechild, 2006; Battiste, 2004; Alfred, 2009; Tully, 2006; Cardinal, 1969).

For three hundred years, Aboriginal peoples living on the land now referred to as Canada have suffered oppression as a result of contact with settler peoples. This included traumatization at the hands of the education system, which for Aboriginal peoples took the form of residential schooling from the late 1800s until relatively recently (the last of these schools closed in 1996). If individuals or their family members have been traumatized by the Western education system they may choose to stay away or keep their children away from it, in order to shelter them from the Western paradigms espoused within these institutions (Jones, 2006; Gone, 2007). The mainstream education system that is provided to Aboriginal children and youth also acts to assimilate them into the mainstream economy (Barman, 1995; Faries, 1996; Stonechild, 2006). This has also led to a negative view of education with few Aboriginal advocates for using such a system (Stonechild, 2006).

An increasing number of Aboriginal people encourage Aboriginal children and youth to finish high school and move on to post-secondary education (Mendelson, 2006; R.A. Malatest, 2004). It is felt by many, including the former (and most recent) Chief of the Assembly of First Nations, Shawn Atleo, that participating in education will build ‘strong First Nations’

helping Canada to 'fulfill its economic potential' (Atleo, 2010). Many scholars and Aboriginal communities agree that it is necessary to participate in mainstream education, but that at the same time, it is also necessary to use traditional methods of teaching to pass on cultural knowledge to future generations (Atleo, 2010; Mendelson, 2006; RCAP, 1996; Stonechild, 2006).

Some Indigenous scholars, Elders and community members believe that participating in Western education can provide Aboriginal people with knowledge of how to defend themselves against colonialism, oppression, and discrimination (Turner, 2006; Alfred, 2009). Writing from the prairie context, Stonechild (2006) argues that for his people, education (including formal Western education) will be the new buffalo, in that it will nourish, clothe, shelter and heal them, in part by allowing Aboriginal peoples to find ways to maintain their cultural identities while also enabling them to choose to participate in the Western economy. It is necessary to engage educators, teachers and learning institutions in order to develop awareness, appreciation and understanding of Aboriginal peoples and the socio-political history that they have endured to ensure that if and when Aboriginal children, youth and adults enter the Western educational system, they feel included, recognized, and validated by what is taught in the classroom.

It is critical that teachers and teacher candidates acknowledge their responsibility to both their Aboriginal and non-Aboriginal students (Restoule, 2011). The socio-political history that Aboriginal communities have endured has created a tension that forces Aboriginal students to choose between leaving school and assimilating. As mentioned, many universities are trying to assist their teacher candidates by infusing the existing curriculum to include Aboriginal content, including OISE/UT.

THE DEEPENING KNOWLEDGE PROJECT

'Deepening Knowledge, Enhancing Instruction' (commonly referred to as the Deepening Knowledge Project) is a special project at the Ontario Institute for Studies in Education (OISE/UT) which has brought together faculty, instructors, and students with the goal of increasing knowledge of Aboriginal histories, perspectives and contemporary communities among OISE instructors and teacher candidates. Under the leadership of the Executive Director, course instructors in the Initial Teacher Education program were asked to host at least one workshop in their classrooms to

relay information to teacher candidates about Aboriginal topics for use in their classroom instruction beginning in the spring of 2011.

The authors of this report were recruited to design and conduct workshops for teacher candidates in both elementary and secondary streams as part of the Deepening Knowledge Project. Angela Mashford-Pringle and Angela Nardozi are from both cultural and educational backgrounds. Angela Mashford-Pringle is an urban Algonquin scholar with her M.A. in Aboriginal and Adult Education from OISE/UT and her Ph.D. in Aboriginal Health from the Dalla Lana School of Public Health, University of Toronto. Angela Nardozi is a qualified teacher, who has taught in and conducted research with a northern First Nations community to complete her M.A., and who herself graduated from the Initial Teacher Education program at OISE/UT. Together, the authors developed workshops that varied in length from 45 minutes to three hours. The workshops addressed: (a) who are Aboriginal peoples; (b) the historical and intergenerational trauma experienced by Aboriginal peoples through residential schools, the Sixties Scoop, and legislation (*Indian Act*, Constitution of Canada, etc.); (c) statistics of Aboriginal people in Canada and specifically Ontario; (d) videos about Aboriginal peoples and the social injustices they have and continue to face; and (e) potential ways to include Aboriginal subjects into the curriculum, including resources that could be used by teachers and/or their students. At the end of the workshops, most classes were provided with an evaluation form to complete, the results of which provide the basis for this report.

THE SETTING

Early adopters of the presentation in the Spring of 2011 included all elementary and some secondary cohort instructors. After an increase in outreach efforts, the majority of secondary instructors also booked a presentation for their class by the 2011-2012 academic year.

As the schedule of presentations unfolded, teacher candidates reacted with shock at the material being shared, repeatedly wondering out loud why they had never been exposed to Aboriginal issues in this way in their previous educational or lived experiences. These responses are reflected in the post-presentation evaluations, which are discussed below.

METHODOLOGY

OISE/UT's Initial Teacher Education program graduates approximately 1,000 teacher candidates a year. The teacher candidate population consists of mainly of settler and settler-diasporic candidates (Cannon, 2011); the majority of the population enrolled in the program continues to consist of female, middle-class candidates (Solomona, Portelli, Daniel & Campbell, 2005). Teacher candidates who attended the workshops were provided with an evaluation form co-created by the authors of this paper.

Observations, questions, and comments from each presentation were recorded afterwards by the authors to be used in addition to the comments on the evaluation forms. Qualitative responses were often about the content. This data was coded and analyzed using NVIVO 9 software looking for themes that came from the forms. The data was checked individually by both authors to ensure that all data were entered accurately. The authors conducted member checks with some teacher candidates from each workshop and with the instructors for each of the cohorts. While the authors intended to receive responses from each teacher candidate who attended the workshops, some groups were not provided with the evaluation form due to time constraints.

After most presentations, we distributed evaluation forms to teacher candidates in attendance and relayed that their feedback would remain anonymous. If they chose not to participate, candidates were asked to hand their form back blank. We combined the results from both years of presentations after we analysed the data separately and determined that the results were similar. Over the two academic years, 844 evaluations were collected after 25 presentations. In total, 36 presentations were given, but due to a variety of factors (most often lack of time at the end of presentations), 11 groups were not asked to fill out evaluations.

Presentations ranged in time from 45 minutes to 3 hours (with a 15 minute break) with the final length determined by the amount of time allotted to us by the regular course instructor. The first round of presentations launched during two weeks in April 2011. After viewing the impact they had on their teacher candidates, many course instructors suggested they be held earlier in the academic year, and in 2011-2012, the majority of instructors hosted the presentation prior to second practicum in February 2012.

RESULTS

The evaluations indicated that, depending on their particular courses and instructors, a portion of teacher candidates were graduating from OISE during the time of our study, without receiving instruction on Aboriginal content. On our first set of evaluations, conducted at the end of the 2010-2011 program, 30% of teacher candidates responded that they had not received instruction on Aboriginal issues. In some classes, the number who had received instruction during their teacher training program that year was much lower, with only 26% in one group responding positively and 48% in another. In the second year of data collection where presentations were held throughout the year, 33% of respondents replied that they had received instruction on these topics prior to our presentations. These results indicate that for some teacher candidates, the Deepening Knowledge Project workshop may be the only education on Aboriginal topics they ever receive in their teacher training at OISE/UT.

Indeed, evaluations revealed that the workshop might be the only education on Aboriginal topics that teacher candidates receive ever in their educational journey, as some teacher candidates indicated that they did not recall being exposed to this material in elementary, secondary or postsecondary education. Some candidates educated outside of Canada shared that they were not required to learn in-depth material about Aboriginal peoples in order to become a citizen, and that the presentation for them presented entirely new information. It is even more important for Initial Teacher Education programs like OISE/UT to provide Aboriginal content as the program represents the last required opportunity to learn about this material in a formal setting before embarking on a teaching career.

On evaluations, teacher candidates were asked a short series of questions about their relationship with Aboriginal topics prior to attending the presentation. The first probed how comfortable they felt teaching or speaking about Aboriginal issues. When combined over both years, 15.5% of respondents stated they were 'very comfortable' doing so, 24% stated 'comfortable', 35% stated 'somewhat comfortable', and 15.5% stated they felt 'not at all comfortable.' A second question probed how important respondents felt Aboriginal content was in their classrooms prior to the presentation. Only 4% of all teacher candidates responded that they felt Aboriginal content was not important. The remaining were divided among

'somewhat important' (23.5%), 'important' (35.5%), 'extremely important' (28%), and 6.5% answered that they were unsure.

The second series of questions indicated that they were to be answered taking into account the experience of the presentation the teacher candidates had just participated in. After the presentation, 90% of teacher candidates felt they had a better understanding of Aboriginal peoples, and only 6% shared that they did not. Teacher candidates were also asked if they were inspired to learn more about Aboriginal peoples after the presentation, and an overwhelming majority of 93.5% responded favorably. From these questions we took that not only were the presentations successful in their objective to educate teacher candidates, their limited timeframe was somewhat mitigated by their ability to inspire teacher candidates to further action and self-education. As we delivered more presentations and their content evolved, we began to include resource recommendations both for teachers to expand their learning and for use in their classrooms, both in response to comments requesting these, and to assist in the self-education that so many teacher candidates indicated that they wanted to take up.

In this section, teacher candidates were also asked how confident they now felt teaching these issues. To this, 12% of teacher candidates responded that they did not feel confident, 47.3% felt 'somewhat confident', 29.2% responded that they felt 'confident', and only 6.9% of respondents felt 'very confident' that they could teach this material after the workshop. These results indicate that a short presentation of this nature is not enough to ensure that all attendees will feel confident to teach this material in their future classrooms. Follow-up workshops and other in-class instruction about lesson planning may assist in raising confidence.

Respondents were also asked what components of the presentation they found 'most interesting' and which components they found 'least interesting' in two separate open-ended questions. A variety of responses were given to the first question, but the video clips we selected to show and information on Residential Schools emerged as the clear favorites. Many respondents indicated that they found all of the information included in the presentations to be of interest. The majority of teacher candidates indicated that they found nothing in the presentation to not be of interest. The other responses to this question mentioned various aspects of the presentation, including the two most popular aspects mentioned above. No themes emerged from the responses to the latter question.

Teacher candidate responses to other qualitative questions registered support for the presentation and its objectives. "This is a subject one cannot know enough about." "I feel like this should be a larger priority at OISE. One hour-long presentation is not enough." Frustration also emerged in some comments such as "why is this only a workshop? Why is there no mandatory class? We talk about social justice and multiculturalism...but why is that we don't hear about First Nations?" During the first round of presentations, when they were scheduled only at the very end of the school year, teacher candidates expressed alarm at their timing, "The workshops should not be presented at the end of the year. It should be integrated into the year in all our curriculum. ALL of our curriculum." "[This] should be at the beginning of the program." "Have this workshop earlier in the year, I could have used this in my practicum – it would make more confident teaching this."

Also on the evaluations, resistance emerged to the focus on Aboriginal issues. As the original inhabitants of Toronto, Aboriginal peoples hold a unique place in its history and in contemporary urban culture. Some teacher candidates expressed concerns about the importance of learning Aboriginal topics in a multicultural city where they felt Aboriginal people were not a significant portion of the population. As the presentations continued, effort was made to highlight that Toronto has one of the largest populations of Aboriginal peoples in Canada and to discuss why many perceive this population to be invisible.

There are in-program opportunities available to teacher candidates who do wish to deepen their knowledge about Aboriginal topics while enrolled in their teacher training at OISE/UT. Teachers in both the elementary and secondary consecutive programs are required to take one elective course chosen from a menu, which includes one course on Aboriginal worldviews and education. If enrollment caps are reached or a particular teacher candidate has a specific interest, an individual may seek special permission to take a graduate level course in an area such as Aboriginal histories, health or culture.⁵

The Deepening Knowledge Project presentations outlined in this paper are only a first step towards greater inclusion of Aboriginal histories, cultures and contemporary experiences in OISE/UT's Initial Teacher

⁵ The Initial Teacher Education Program is currently undergoing a series of changes, and the elective course offerings are one element of the program being affected. The description included here was accurate as of 2012-2013 academic year.

Education Program. Evaluation results indicate that they did inspire many teacher candidates to take their learning in this area into their own hands. The response to the material demonstrates that teacher candidates do want to learn more about Aboriginal topics. It is our hope that in some way, the impact of these presentations is continuing to ripple through the lives and teaching practice of those candidates we encountered.

ENGAGING TEACHER CANDIDATES: ON THE ROAD TO THE 'NEW BUFFALO'

The message we received from the presentation evaluations is that the majority of teacher candidates entering into the Initial Teacher Education Program at OISE/UT do not have a solid sense of Aboriginal peoples, histories and cultures, and do not have confidence in their ability to teach these topics. Data from a question about what other information teacher candidates wanted about Aboriginal topics yielded a variety of answers, including contemporary issues and historical perspectives. More information about Residential Schools were frequently requested by teacher candidates which is not surprising given both the interest that teacher candidates have in education (as evidenced through their enrollment in a teacher training program) and the investment in the Canadian education system that they are on the cusp of making. Our ultimate goal is to have teacher candidates realize, as Hampton (1995) stated, "that education, as currently practiced, is cultural genocide" (p. 35). Therefore, we must strive to further engage teacher candidates in these ideas in hopes to eventually enroll them in the project to change the cycle of harm the Western education system inflicts on Aboriginal peoples. Faries (2004) suggested that education must incorporate Aboriginal knowledge, languages and cultures in order to reduce racism, stereotyping, and discrimination. Teacher candidates will leave their programs and in many cases become employed in a classroom. If they do not have adequate knowledge or resources to teach their students about Aboriginal peoples, then the cycle of ignorance continues and Aboriginal peoples continue to be 'Othered'. Although the Ontario Ministry of Education has an Aboriginal Education Strategy, there is seems to be a disconnection between the curriculum taught to new teachers and that which is to be provided to Ontario students.

The Ministry's Aboriginal Education Strategy is also at risk of being ignored due to resistance to Aboriginal perspectives and racist views towards

Aboriginal peoples in general. During our presentations, a minority of teacher candidates expressed their disagreement with our analysis on political and historical events, sometimes on evaluations and sometimes out loud in class. On the evaluations, for instance, comments suggesting our presentation was 'political' or 'bias' appeared, with some teacher candidates asking us to take a 'neutral' stance towards the topics. Others wrote comments that revealed their preference to explore cultural learning rather than historical or political issues, asking that we share 'artefacts' and 'spiritual routines'. If the Aboriginal Education Strategy is to be taken up by teachers in a way which breaks from the cycle of misrepresentation of Aboriginal topics currently dominating the school system, teachers and teacher candidates need to be brought on board. Our data suggests that for this to happen more time needs to be spent on identity, privilege, bias and perspective, and critical multiculturalism theory prior to and after the presentations

As they enter teacher training, our evaluations revealed that most teacher candidates do not come with prior knowledge about Aboriginal topics, nor do they come with confidence in teaching related material. The presentations, while a start, cannot be the only intervention taken by initial teacher education programs for the reason that this knowledge and confidence is crucial to creating and delivering a curriculum that is appropriate for First Nations, Métis, and Inuit children, and for Canadian children in general, as we strive to create a more just society. Much more time must be dedicated within OISE/UT's program to Aboriginal content, and we suggest that ideally, this would take the form of a mandatory full year course, a measure that has already been taken by teacher education programs in British Columbia and Saskatchewan. This should be accompanied by hiring additional instructors in the Initial Teacher Education program who identify as Aboriginal. It could also be required that successful applicants to OISE's teacher education program have undergraduate credits in a course in Aboriginal topics.

CONCLUSION

The Deepening Knowledge Project presentations on Aboriginal histories, cultures and contemporary communities continue to this day at OISE/UT, but only represent a first step towards greater inclusion of this content in the Initial Teacher Education Program. In order to ensure that all

Ontario students learn about Aboriginal peoples, worldviews, knowledges, histories, and cultures, teacher education programs like OISE/UT should re-commit to the Dean's Accord on Indigenous Education, and review the Aboriginal Education Strategy provided by the Ontario Ministry of Education. This would assist these programs with how and what to incorporate into their teacher education programs and assist future educators with becoming 'comfortable' in providing Aboriginal content in their future classrooms.

A growing and increasingly urban Aboriginal population places new demands on teachers to respond to their unique histories, worldviews, and educational needs. Developing a thorough awareness of Aboriginal topics from Aboriginal perspectives is a necessary precursor to develop confidence in educators, but it is only one of many steps needed. Further training in delivering curriculum is also needed, so that teachers feel confident in teaching this material, and so that they may also gain the confidence and awareness to deliver a curriculum that Aboriginal students can see themselves reflected in, and is in general responsive to the needs of the community. This information is also important for Canadian students of all backgrounds and ethnicities, who must learn about Aboriginal peoples in order to break the cycle of assimilation and oppression that Aboriginal people have faced for more than 300 years on this land.

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Depictions of Success: Voices from Grade 12 Aboriginal Students

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The purpose of this paper is to describe how 12 high school Aboriginal students defined educational success and success in general. We focus on how success is traditionally described in education and spotlight alternate meaning of the term. The data for this qualitative study were 12 semi-structured individual interviews, where students depicted success as obtaining educational credentials and pursuing lifelong learning via spiritual maturity. The Canadian Council on Learning's *First Nations Holistic Lifelong Learning Model* is used as an analytical framework to further analyze these findings. One implication arising from the study is that, in not already in place, educational leaders need to create school policies and programs to promote tutelage opportunities, arts-based courses, and after-school clubs and activities.

INTRODUCTION

Currently, there is an urgent call from policymakers and educational leaders to infuse Aboriginal⁶ perspectives into Canadian classrooms and curricular content (Association of Canadian Deans of Education, 2010; Council of Ministers of Education, Canada, 2010; Government of Manitoba, 2008–2011; Ministry of Education, Province of British Columbia, 2010; Office of the Treaty Commissioner, 2012). Although there is a noticeable movement to incorporate Aboriginal ways of knowing into some school environments, this impetus is rife with challenges (St. Denis, 2011). For example, many teachers lack proper training with regard to knowledge and intricacies of Aboriginal ways of knowing. Consequently, many educators are hesitant

⁶ Aboriginal is a collective term for the original peoples of North America and their descendants. "The Canadian Constitution recognizes three groups of Aboriginal peoples: Indians (now known as First Nations people), Métis, and Inuit. These are three distinct peoples with unique heritages, languages, cultural practices, and spiritual beliefs" (Aboriginal Affairs and Northern Development Canada, 2010, para. 2)

to incorporate Aboriginal perspectives into their pedagogy and curriculum for fear of being culturally offensive (Aikenhead & Michell, 2011; Cherubini, Hodson, Manley-Casimir, & Muir, 2010). Furthermore, attempts to infuse Aboriginal ways of knowing into curricula have been compromised by policy demanding increased accountability and quantifiable measurement of individual student achievement (Bouvier & Karlenzig, 2006). Regardless of these challenges, Kanu (2011) viewed the call for the inclusion of Aboriginal perspectives into schools as “one of the most advocated but still under-researched responses to the challenge of providing social recognition and justice for Aboriginal students in the Canadian public school system” (p. ix). Herein, we attempt to address Kanu’s articulated concerns by listening to the voice of Aboriginal students, in an effort to hear, first-hand, their views on what is working and not working for them in school.

The purpose of this paper is to describe educational success and success in general, according to Grade 12 Aboriginal students. This paper is part of a larger research project, where motivational issues surrounding school for Aboriginal students were also explored (Preston & Claypool, in press). Through semi-structured individual interviews, the 12 high school students involved in this study thematically indicated that success was a personalized phenomenon determined by past experiences and personal ambitions. We analyzed student views of success using the Canadian Council on Learning’s (2007a, 2007b) *First Nations Holistic Lifelong Learning Model*, which depicts success as quadrilateral concept infused with a balance of academic, physical, emotional, and spiritual wellness.

Before explicating the study and its findings, it is important to acknowledge the literature associated with Aboriginal learners and the concept of success. In two pan-Canadian studies, Bell (2004) and Fulford (2007) studied 20 public and reserves schools and identified common characteristics within these schools that supported the educational success of Aboriginal students. Within 10 schools located in British Columbia, Alberta, Saskatchewan, Manitoba, and the Yukon, Bell indicated that educational success for Aboriginal students was supported by strong, tenured leadership, high expectation for students, welcoming school environment for students and families, quality professional development for staff, a range of in- and after-school student programs. Studying 10 schools located in Central and Eastern Canada, Fulford’s results reinforced Bell’s findings, plus four

additional findings. Fulford stipulated that exceptional language and cultural programs, a respect for Aboriginal culture and traditions, assessment linked to instruction and planning, and vigorous community partnerships also had a positive influence on Aboriginal student's educational success. Other research supports the idea that infusing Aboriginal language and culture into the education of Aboriginal learners is an important for promoting Aboriginal educational success (e.g., Arruda et al., 2010; McDonald, 2011; Joyce, n.d.; Nunavut Department of Education, 2008). As stipulated by the Council of Ministers in Education, Canada (2010), "Language is the foundation of First Nations, Metis, and Inuit cultures. For learners to achieve success in education, affirmation of their language and cultural identity is essential" (p. 10).

Rather than solely focusing on education to defining success, one can perceive a more holistic depiction of the term. In such a manner, success can be defined as experiencing a purposeful and fulfilled life. When success is defined in this broader fashion, research highlights that, for many Aboriginal learners, a successful, purposeful life is connected to knowledge of and or experience with one's heritage, language, cultural practices, and spiritual beliefs (Bazylak, 2002; Colquhoun & Dockery, 2012). In a study done with urban Aboriginal participants across Canada, over 2,600 people were individually interviewed, over 2,500 were interviewed over the phone, and about 180 completed an online survey (Environics Institute, 2010). This study highlighted that status First Nations and Inuit peoples were more likely than non-status First Nations peoples and Metis to associate a strong connection to their Aboriginal heritage with success in life. As well, in the Environic Institute study, most participants believed that leading a successful life involved having close connections with family. In general, these studies show that for many Aboriginal peoples experiencing a fulfilling, purposeful lifestyle is associated with connections to family and an Aboriginal heritage and cultural.

METHODOLOGY AND DATA COLLECTION

The research methodology used for this study promotes that the creation of socially-constructed knowledge is generated from the participants' and researchers' experiential, practical, and subjective understanding of life. Through this social constructivist approach to data collection, we embody

the belief that reality is the creation of the interactions among individuals and groups of people, and knowledge is filtered through the interpretations of individual people and, hence, differentially defined (Schwandt, 2007).

A central and blatant feature of this research was that it focused on Aboriginal issues. Many Indigenous scholars (e.g., Battiste, 2008; Chilisa, 2012; Smith, 2012) assert that Aboriginal peoples need control of their own knowledge and research. More specifically, these scholars explain that Aboriginal peoples have the right to do their own research, and, if non-Aboriginal researchers choose to assist Aboriginal peoples in conducting Aboriginal studies, the end results should empower and benefit Aboriginal peoples and communities, not solely researchers, university communities, and the Canadian society. Mindful of these aspects of Aboriginal research, we began this study by contacting an Aboriginal superintendent within a public school system within Saskatchewan (Canada), explaining the tentative research purpose. We asked if the research and its findings could potentially prove to be of benefit for Aboriginal students within their school. With the Aboriginal superintendent, we fine-tuned the purpose of the research. After the research was completed, the findings were presented to the superintendent, principal, and teachers in both Sun School and Moon School. During the data collection, we worked with an Aboriginal graduate student who assisted in the collection of data.

Using semi-structured individual interviews (Barbour & Schostak, 2011; Mason, 2002), we collected interview data under the conviction that a range of realities about a phenomenon, experience, or issue are equally valid. Twelve students between the ages of 17 to 19 volunteered to participate in this study. Marshall and Rossman (2011) described this form of sampling as criterion-based sampling, because all student volunteers who met the criterion of having an Aboriginal heritage and being enrolled in Grade 12 were invited to participate in the study. Each student was individually interviewed and audio-taped; thereafter, each interview was transcribed. The length of each interview lasted from about 20 to 60 minutes, with the average interview lasting about 35 minutes. After interviews were transcribed, students were provided with a written copy of their interview transcripts and asked to perform a member check to ensure the meaning the participants intended to convey during the interview was accurately represented in the written documents (Lincoln & Guba, 1985). As a part of the member check,

we asked participants to change, alter, delete, and/or add anything to the transcripts as they deemed fit. After having a chance to make changes, the participants provided written assurance that the transcripts reflected a realistic representation of their intended meaning articulated during the interview. From these member-checked transcripts, we created a preliminary list of key ideas, commonalities, and differences, which converged into larger thematic patterns in response to the study's purpose (Creswell, 2014; Stake, 2005).

At the time of the study, all participants were enrolled in Grade 12 in one of two urban schools, which, for the purpose of this paper, we named *Sun School* and *Moon School*. (Both the names of these school and all student names⁷ used in this paper are pseudonyms). The schools had Grade 9 to 12 enrolments of about 200 students (Sun School) and 500 students (Moon School). Four female and three male students were enrolled in Sun School, and two female and three male students were enrolled in Moon School. See Table 1 below for an overview of student participants, gender, and school location.

Table 1 - *Participant Description*

Participant Name	School	Gender
Megan	Sun School	F
Davis	Sun School	M
Bob	Sun School	F
Junior	Sun School	M
Seanna	Sun School	F
Jacob	Sun School	M
Sunrise Woman	Sun School	F
Amy	Moon School	F
Frank	Moon School	M
Tristan	Moon School	M
Sara	Moon School	F
Zack	Moon School	M

⁷ For this research, the majority of participants chose personal pseudonyms. To promote clarity of some of the chosen names, "Sunrise Woman" was a student participant, and Bob was a female participant.

DATA FINDINGS

When asking students about success, they predominantly talked about two types of success: educational success and the attainment of a fulfilling and/or purposeful life. They depicted educational success in terms of graduating from high school and acquiring sound careers; however, they also believed a successful life meant spiritual development and maturation via personal growth from experiencing life, its lessons and challenges. During their discussion of success, they also provided a number of suggestions for educational leaders about how to foster student success in school and beyond.

DEPICTIONS OF EDUCATIONAL SUCCESS

When talking about educational success, most participants spoke to the importance of graduating from Grade 12, getting high marks, and/or obtaining a future degree. Sunrise Woman said, "Success to me in school means getting your Grade 12, getting at least a degree in university, or you know, furthering your education in some way." In turn, Joe said, "Success for me means passing and getting a good career." Some students viewed good marks as an indication of educational success. Megan said, "It is important for me to attend school and get high marks, because it is my last year. I want to go to university." Tristan remarked, "I felt proud when I got my report card last semester for my [name of course] 20 and 30, and I saw that I got a 91% overall grade average." Davis explained that graduating from Grade 12 was an important milestone toward his successful career. To this point, he said, "It [graduating] means I can become an RCMP officer." While discussing the topic of educational success, Sara said, "I want to go to university, of course." Jacob wanted to go to culinary arts school and be the owner of a restaurant. He explained that in order to accomplish this goal, "School is critical to me." Megan, who wanted a future office career, considered the following:

So I thought to myself, 'Do you want to work at [name of fast food restaurant] for the rest of your life? Or do you want to have your career, like sitting in your office and answering phones, or doing something that you like?' So now my grades are getting higher.

Students perceived that graduating or getting some form of accreditation was a mandatory stepping-stone toward future career goals. Jacob and Seanna summarized the above comments when they

correspondingly said, "School is a must for me. I must have it" and "I'm in Grade 12 and I'm making my future right now."

In addition to the Grade 12 accreditation, students provided a number of smaller, but just as important, examples of educational success. Bob believed just arriving at school every day was a daily marker of success. Amy talked about her passion for a particular after-school sports club, and believed her school success was portrayed through her name on one of the school banners for a provincial award in that sport. Like Amy, Sunrise Woman talked explained how her experiences in after-school sports were indicators of success. She said, "Something I would stick with is the volleyball team. It was a real success." Seanna spoke proudly of her role on the school's student council, and, in particular, her part with the Gay and Straight Alliance school club. Joe was actively involved in the drum group at the school and excitedly spoke of its success. Megan, Davis, Sage, and Josie were enthusiastic as they described their participation with an after-school drama team. Not only did they depict the experience as successful because they put on plays for a receptive audience, but it was "fun learning with people," explained Sage. Jacob talked about his successful participation in school projects and, in turn, the awards he received. He explained, "From coming to school, good things have happened to me, opportunities like awards. The Geneva Conference, it's in Switzerland, and the National School Board Conference was in Toronto." The students' views on educational success in this broader fashion appeared to embody an intrinsic motivation to succeed.

One participant, in particular, explained how music was a focal point of his overall educational success. Davis talked about his difficult youth while growing up in an Aboriginal community and how his education success was partially influenced by the musical experiences his school promoted. Davis said, "I came from pretty much broken everything, nothing was good. I was heading down a road to nowhere. I had a lot of trouble. Then I came here, and I saw myself change." He went on to say, "I started thinking, 'What kind of person should I be? What kind of person should I turn into?' So I just turned to music. That is when I started playing guitar, and I excelled at it." He went on to explain that the school had a music program, where he was able to hone his musical skills. He also explained how appreciative he was that the school allowed him to take the guitar home with him to practice. In sum, he recognized his potential, followed his passion, and was appreciative

of the fact that his school had a strong music program, which supported this passion to succeed.

INTERLINKING EDUCATIONAL SUCCESS WITH OVERALL LIFE SUCCESS

Participants explained how formal educational success and living a successful, fulfilling life were linked or reciprocal in nature. Davis explained that his life success was fostered through the school, its cultural activities, student-focused teaching, and teacher-students relationships. Davis claimed that this type of welcoming environment provided him with hope. He said, "There is hope here [at school]. They give you hope here. They help give you hope in yourself, and they hope you make it. I never had that before." Davis continued by explaining that this hope was the catalyst toward self-growth in other areas of his life. He explained that, once he will equipped with hope from the influence of school and its teachers, he was able to find spiritual support and fulfillment within his culture:

That is how I find support; it's through smudge. Something deep inside me tells me not to quit. Something is telling me that I have something. That I have so many things that people want, so many things in my life that can take me places.

Jacob explained that, for him, success was a mixture of reading, school work, and listening to teachers and Elders. On this point, he said:

You know, the more I read, the more I listened, the more I understood. That's what made me learn. It's just like listening to Elders. They teach you things and, you know, by listening you learn. But with school it's reading, and you learn. Or listening to the teacher speak, and you learn. So as my marks have improved as I think, "I can do this".

Joe wanted educational success formally acknowledge through a diploma or credential, because through such success, he would be empowered to help others. His depiction of a successful life was to use his education to assist him in helping his family and friends on his reserve. For Amy, success meant helping others. She said, "I want to be a paediatric nurse. I like helping kids." Amy perceived that in order to help others via being a nurse, she needed to experience educational success. In these person vignettes, educational success appeared to be a springboard toward leading a fulfilled life.

For other participants, leading a fulfilled life had little, if anything, to do with obtaining formal education. Tristan explained, "Being here doesn't mean you're going to be successful [in life], but basically [it means] graduating and having your marks up." Jacob explained that, to embody a successful life, "You have to humble yourselves. You have to follow an 'Indian Code of Ethics' in order to do good in life. That's what helps me in school and, you know, other things in life." As compared to the views of above participants, for Jacob, leading a purposeful life appeared to be a springboard toward achieving formal educational success.

FOSTERING SUCCESS WITHIN SCHOOL

In order to promote both educational and life success, participants described what the school systems could do to assist them. Some students spoke about their desire for one-on-one tutors. To this point, Megan, Junior, and Seanna correspondingly said, "If I wanted to try really really hard and bring up my average higher, I would probably ask for someone to tutor me." "It would be a lot easier if we had more one-on-one time with teachers, but that is kind of hard to do," and "Maybe they could have study tutorials like for kids who need help and stuff, maybe like a study group. . . like one night, two nights a week for kids that want to study together or something." Other students talked about a need for teachers to change their pedagogical practices and approaches. Amy wanted step-by-step visuals to help her learn: "Like a diagram or something or point out things and show you another way. You'll have to do writing still but show you in another way so you can understand it so that you can do the writing better." Frank liked his biology teacher, because this teacher "explained things to you really well." Bob believed there should be solid due dates. She said, "They say things have to be done at a certain time, but I know they will give me more time so I won't really do it. I know that is probably not how it is in university." In this instance, Bob earned for more structure with regard to assignments. A number of students talked about the need to make topics more relevant to the students' personal interests. Sara believed that school would be more interesting if classes would involve interesting units and topics. Sara also raved about a school-exchange opportunity and said, "Right now, they have this thing where you can go and transfer to a different country for half a year. I'm like, 'Oh, my god! I want to do that.'" Tristan suggested that, in Math,

instead of doing “boring tests for every unit” that the teacher let the students create their own major assignment, based on a math concept.

Another aspect of school improvement that student believed would enhance their overall success was to have an increased focus on lunchtime and after-school activities, such as sports, music, and computers. Bob explained, “This school doesn’t have that many clubs, though. I think that would be really good if it had more clubs, because it would give you a chance to be around people who have similar interests.” She also believed, “We need more sports, way more sports. They need competitive sports, too. I want there to be co-ed sports and same-gender sports.” On the topic of sports, Junior commented, “For a while, I was on a hockey team, when they had a hockey team here. I was on the soccer team, too . . . I wouldn’t mind getting back into some sports.” Davis talked about the need for a music and computer room:

Maybe a music room. I know everyone here is really into music. Maybe for lunch because people are just wandering around or going somewhere else, maybe they could open the computer lab so that people can go on computers. Ya, that’s probably it – computer lab and music room.

As a final point, about half of the students explained that, for a variety of reasons, completing homework was extremely challenging for them. On the topic of homework, Frank stated, “I don’t do homework at all. So that kind of messes up how I do in school sometimes . . . that’s what’s dragging me down in C30 now, is not doing my homework.” Similarly, Tristan said, “I don’t do homework.” Seanna said, “If I go home I’m not going to get my work done, obviously, so they gave me this room [here at school] to do this work.” These comments suggest that educational protocol within school needed to rely less on student completion of work at home.

DISCUSSION OF FINDINGS: *FIRST NATIONS HOLISTIC LIFELONG LEARNING MODEL*

The Canadian Council on Learning’s (2007a; 2007b) *First Nations Holistic Lifelong Learning Model* depicted lifelong learning as a quadrilateral concept involving mental, physical, emotional, and spiritual wellbeing/success. A fulfilling and/or purposeful lifestyle is contingent upon seeking balance and maturity in these four areas, while being guided by nurturers such as mentors, counsellors, parents, teachers, and Elders. Integral to this

model, individual success and community welfare are a symbiotic concept, where one feeds the other. Furthermore, the *First Nations Holistic Lifelong Model* used the graphic of a circular living tree to show that learning is a “cyclical process that occurs throughout the individual’s lifespan” (Canadian Council on Learning, 2007b, p. 18). The Canadian Council on Learning (2007b) highlighted that, First Nations peoples, lifelong learning and success is grounded in experiences that embrace both Indigenous and Western knowledge traditions, (p. 18) and is metaphorically influenced and illustrate via the tree’s root system. That is, roots are the intertwining presence of Indigenous and Western knowledge, and any uneven root growth in one particular domain can de-stabilize the learning and life successes. In this model, there are four dominant branches (i.e., political, economic, social, and spiritual/ cultural prosperity) to depict dominant aspects of life and learning.

When students described success, many of their comments aligned with particular aspects of the mental and physical branches of the *First Nations Holistic Lifelong Learning Model* of success. For example, students recognized that a part of success was graduating from Grade 12 (a milestone in public Westernized education). In turn, a high school graduation can be transposed upon the mental (branch of the tree) and political (leaf cluster) aspect of the *First Nations Holistic Lifelong Learning Model*. In obtaining high school credentials, students believed that they were empowered to continue toward success in high education and a successful career. Comparing this point to the *First Nations Holistic Lifelong Learning Model*, these aspects of success could be associated with the student’s physical and/or economic security, and, for many students, they wanted to use their individual educational and career success to better the lives of others and enhance community wellbeing, a feature of symbiosis, as mentioned above.

In addition to career aspirations and, in turn, financial security, physical goals could also be referred in terms of after-school sports. Many authors have highlighted how physical activity is often linked to increased self-confidence and, in turn, educational success. Petitpas (2009) claimed that sports and recreational activities assist in creating a positive attitude with regard to attaining educational goals and success. Martinek and Hellison (2009) stated that when young people are successful in sports, social competence, self-awareness, and self-confidence are additional outcomes. Regular participation in sporting activities is associated with social and

personal development, health and wellbeing, cultural awareness, economic development, personal prosperity, and educational success (Aboriginal Sport Strategy, 2005).

Although the majority of students did not use the specific terms of *emotional* or *spiritual* when referring to success, some students (e.g., Davis and Jacob) referred to these concepts. For example, Davis explained that the first part of success was hope, an emotional aspect of success. For Jacob, an integral first step to success was being able to listen and observe from others, an emotional and spiritual feature of maturity. Other students talked about the importance of school clubs, because these associations fed social, emotional, and spiritual components of self.

As an overview of the findings, student depictions of educational success focused on graduation rates, postsecondary credentials, and career aspirations, which align to the *First Nations Holistic Lifelong Learning Model* of mental and some aspects of physical wellbeing. Students recognized that their public education system was the predominant influence for these successes. In contrast, students spoke less to the notion of emotional and spiritual wellbeing and success. Some students either explained or alluded to the fact that the school was providing some of these avenues toward obtaining emotional and spiritual wellbeing; however, from the most part, the importance of obtaining a balance of mental, physical, emotional, and spiritual successes was not fully articulated by these students. This point implies that a Westernized educational system appears to place excessive importance on mental and physical successes and a limited focus on emotional and spiritual success.

CONCLUDING REMARKS

This study reinforces the idea that the public educational system largely promotes the academic success of Aboriginal students. Although academic success is vital part of education, in reviewing the *First Nations Holistic Lifelong Learning Model*, the intellectual aspect of success is only one of the four branches of education and lifelong learning. Claypool and Preston (2011) stated:

Educational systems need to depart, at least partially, from this zone of cognitive competence and move toward promoting an educational zone of trustful intuition. Within this *zone of trustful*

intuition, educators would promote a style of learning which targets student development of emotional and spiritual domains, encouraging students to acknowledge their emotional reactions and their immediate instincts when approaching learning situations and important decisions. (p. 92)

In particular at a policy level, in order to promote the emotional and spiritual aspects success for Aboriginal and non-Aboriginal students alike, teachers need to be supplied with quality professional development opportunities that assist in strengthening their skills in this area. This research also highlighted that student participation within the arts and after-school activities were motivators for their overall educational success. In turn, at the school level if not already in place, educational leaders may need to create school policies and programs to promote tutelage opportunities, arts-based courses, and after-school clubs and activities, which this research indicated supports educational success.

Future studies need to explore how a decolonized education system can nourish the learning spirit of students (Battiste, 2013) not only in high school, but in middle and elementary divisions, as well. Also of potential importance is the continued collection of data and/or stories that reflect how integration of Aboriginal heritage and culture into the larger school system and individual classroom environments affect the success and wellbeing of Aboriginal students. Furthermore, research pertaining to what roles school administrators and teachers play in promoting Aboriginal students' successful would be helpful.

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Towards a Further Understanding of What Indigenous People Have Always Known: Storytelling as the Basis of Good Pedagogy

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We are living in a time when there is a growing interest in traditional wisdom across many areas of life. What Indigenous people have always known, and what the elders have taught for centuries is now being given a second and third look by various Western academics and scientists. The increased emphasis on natural medicines, holistic healing, the necessity of leading a balanced life, caring for the Earth, and acknowledging our global connections to each other and the universe as a whole, are only some examples of 'new' waves of thought that are rooted in ancient teachings. These topics fall under the modern disciplines of Medicine, Psychology, Anthropology, and Political Science, but Education is also experiencing a renewed interest in an ancient practice: that of storytelling. Over the last few years, more and more non-Aboriginal educators are joining their Aboriginal peers, hearing the whispers of narrative and being drawn into the circle of listening.

The elder sits on a blanket sipping tea, the central figure in a circle of teenagers and their teachers who have gathered at Rocky Mountain House north of Calgary, Alberta to learn about each other's cultures. One group is from a Southern Ontario farming community; the other is from the Stoney Nakota Community of Morley, and this is the first night they have been together. Slowly conversation stops, the awkward silence of strangers who have exhausted preliminary pleasantries sets in ... and still the elder sips. After what seems like a very long time he looks up smiling, welcomes all those present to the circle, and speaks about the learning experience to follow in the coming days. Using few words, he explains that this learning will not follow the prescribed classroom style, that there will be no lectures, or handouts, or overhead notes. What each member of the circle will be invited (never forced or coerced) to tell his or her story; the story of a life, in as much detail as is comfortable, with humour if appropriate, and embellishment if desired. The rest of the circle will accept the story as a gift and will listen and learn, but will not interrupt, ridicule, or question. The process will take time,

and will be interspersed with other activities such as mountain climbing, but the main focus of time spent together will be to share and to understand each other through story. With those simple instructions, and the observation that giving such a gift requires the elements of courage and brave trust, he begins to tell about his own life. Thirty young people in the 21st Century are beckoned into an ancient pedagogy through the recounting of a story, and they respond with a level of undivided attention that amazes their watchful teachers. I can attest to this because I was there. Having long been convinced of the importance of stories to learning, and saddened by the rude disdain with which both stories and storytellers had been regularly met throughout my own experience in the Western education system, watching their faces as they listened and thought brought deep satisfaction. At last my students were going to have the rich learning experience I craved for them, and their lives would never be the same.

Stories are an integral part of our lives: an integral part that for many years was left out of Western classroom teaching practice. Today, this truth that the elders have always known is experiencing resurgence in modern pedagogy, but there are still those educators who insist on understanding storytelling as being peripheral to learning: an enjoyable, but unimportant activity. For these sceptics, and for those others who are working to change reluctant education systems that demand justification and proof, there is a rapidly growing body of research from both Aboriginal and non-Aboriginal scholars that is highlighting the need for a return to that traditional practice. Some of the findings of the research will be explored in this article in an attempt to provide some answers to the sceptics and to open the door for systemic educational reform a little wider.

INTEGRATING OUR SELVES AND RELATING TO OTHERS THROUGH STORY

Long before children arrive in a classroom, they have learned the interaction of sound, words, and gestures. From the moment children are born, we use our faces and hands to convey emotions to them; our bodies enter the scene as we rock and cuddle and jiggle and pat, often in rhythm to spoken word or song. Children learn to read their parents' facial expressions and other physical postures such as a particular walk or an arm gesture and to associate particular feelings with actions, and they quickly learn to imitate

these gestures and expressions as a means for conveying their own emotions. As they mature, most children continue to experience the relationship between emotions and thoughts and the correlated physical reaction. For example, they understand the connection between fear and nausea, grief and tears, joy and laughter.

Understanding the mysterious connections between mind, body, and emotions has been the motivation behind much research. Neurobiologist Gerald Edelman (1992), in explaining the complex interactions of various parts of our brain, uses the illustration of an orchestra playing in harmony. To help clarify his complex theory and show how feelings, mind, and body have developed relationships, he uses the word *qualia* as meaning, “the collection of personal or subjective experiences, feelings, and sensations that accompany awareness” (p. 114). This is a lovely example of onomatopoeia as the word comes out of the mouth with such delicious feeling. Try it. The word sounds and feels lovely ... even as you say it you experience a collection of sensations. While this is an English word, there are examples in every language of words that unite the feelings with the sound. Consider the Plains Cree word for “run”, which is *pimipahtā*. As one who does not speak Cree, but loves to hear it spoken, the repetition of the “p” sounds, and the open vowel at the end, allows me to imagine the action. This is how we first learned to communicate.

To illustrate further how involved our bodies become in spoken language, Dissanayake (1992) describes the origin of word sounds in terms of the object they are symbolizing. For example the popping sound made by such consonants as “p” and “b” are natural examples of mimicry in English when beginning “bubbles” or “bees” or “pond.” She notes that the “m” sound requires lips to come together and often begins words that have to do with that same idea of coming together. We practice the same use of facial muscles when we screw up our noses at a bad smell and say “ew-w-w-w.” While Dissanayake is writing primarily about the development of English words, she makes the point that all languages have common sounds that mimic the object or thought being conveyed. I have often thought that a lovely exercise to conduct in a multi-cultural classroom would be to have students share the basic sounds of their language and compare the representations of words to actions and objects.

This notion that words developed as a response to natural

surroundings and as physical illustrations of the objects they symbolized does not contradict the notions of language development put forward by Bruner (1990) and Donald (2001) in that these first “words” in every culture were necessary in order to *tell* something. According to this thinking, the need for human beings to communicate was the driving force behind using the body to formulate symbolic sounds that could be easily understood. Every part of the human self was involved in this communication. Dissanayake (1992) further explains how these responses developed out of an early need to relate and were responsible for physiological changes in the human brain. We cannot help but react psycho-biologically to sound and sight, because we are wired to do so at our very core. And this physical connection pertains to narrative as well.

Untangling the evidence and trying to trace the inception of the idea that we have an integrated mind, body and soul, which comprises a whole being that can be fully expressed through narrative, is a complicated process. Rather than trying to establish a clear and precise genealogy of this notion, it is helpful to review some of the paths down which this idea has taken educational researchers. Grumet (1988) and Abram (1996), especially, note that pedagogy can effectively include many forms of narrative, including the familiar oral and written styles, but extending to stories told through dance, music and visual art. While the embodiment of emotion in dance and drama is obvious for the primary performers, it is important to note that these forms of embodiment can also be observed when an audience begins to sway, rock, grimace, etc. as the feelings expressed are passed on. Observing the enthusiasm of uninhibited young people at a dance can be an interesting exercise for teachers. What becomes obvious is that they are engaged and involved with what is happening or being said, and this engagement is reflected through every aspect of reaction. Is there an aspect of narrative that would allow this engagement and full involvement of self to continue in the classroom or other learning situations? My experience in the circle as young people began to tell and listen to their stories says there is.

THE “SO WHAT” OF THIS RESEARCH IN MODERN CLASSROOMS

Writing of the integral connection between living, loving, and learning, Grumet (1988) defines epistemological knowledge as that which is derived through relationships: relationships that are forged through some

form of narrative experience during which we either express or understand ourselves, and others, through stories told. With specific reference to schools and classrooms she writes of the importance of reading stories, not merely as an exercise in studying literature, but as a means to form relationships and to particularly bridge the gap between private and public lives. She understands the reading of a story to be direct communication between the writer and the reader. By coining the term "body-reader" (p. 130), Grumet emphasizes the need for children to have an experience of reading that encompasses their whole selves, including their bodies. She gives examples of times when stories are read to children who are comfortably seated in a comfortable chair or lounging on the ground, as compared to the formal settings of classrooms where the body can be anything but comfortable. Her theory is that when the body is taken into account, reading a story becomes a sensuous experience, and the words on the page connect to children's lives. She makes the interesting point that perhaps schools fail to encourage this type of complete interaction with the text because teachers are not equipped to deal with the fearful emotions that might arise if students truly entered into the private world of the author. She goes so far as to suggest that school texts are chosen with care in order to avoid the most disturbing of social issues, thereby ensuring that a rather bland diet of literature is served to students. She says, "It would be a gesture of shallow arrogance to suggest that we (by reading) can resolve these issues. What I hope to suggest are ways of working with teachers and students that honour them, ways that permit the sorrow and celebration" (p. 131). A notion echoed by Armstrong (2013) when she wryly asks, "... the stories seem less threatening. A children's book cannot change the status quo. Right?" (p. 52). Both educators would agree with author Richard Wagamese (personal communication, October 2012) that "the world can be changed one story at a time".

The embodiment of stories read is one aspect of the integration of mind, body, and emotion, but even greater is the embodiment of stories told. David Abram, in his essay, "Storytelling and Wonder: On the Rejuvenation of Oral Culture" (2005), points out the physicality of oral storytelling. The psycho-biological connection is readily apparent. Not only is the body actually used to transmit words, i.e. through the mouth and ears but, oral storytelling generally involves a face-to-face encounter, meaning that both teller and hearer can see each other's expressions as emotions and body

language change. The storyteller transmits the story using mouth, facial expressions and body language and the hearer listens and interprets the teller's verbal and non-verbal cues. Dissanayake (2011) concurs when she points out that while writing may have enhanced the forms of poetry, oral storytelling remains both an affective and an effective vehicle for the transmission of emotion. In response to both the written word AND modern technology, Abram goes so far as to say,

It is possible that we are making a grave mistake in our rush to wire every classroom, and to bring our children online as soon as possible. ... the astonishing linguistic and intellectual capacity of the human brain did not evolve in relation to the computer! Nor, of course, did it evolve in relation to the written word. Rather it evolved in relation to orally told stories. (2007, para. 3)

He also believes that our children should not just be told stories; they should be told stories about the land on which they live. Accordingly, those stories should be told as close to the earth as possible, in order that the physical elements of wind and sun and rain can be felt. He purports that when our entire selves experience connection to all that surrounds us we will begin to fully know ourselves as created beings. What a contrast between what Abram describes and what students experience in most school classrooms. How parallel is this teaching to the ancient understanding that the Land is our first teacher and that Her stories are embedded within us.

If the teacher must understand a concept before being able to pass it on to students, then Robert Nash (2004) seeks to enact change in classrooms. He challenges the whole idea of scholarship for his teacher candidates as well as graduate students by saying, "You are a scholar to the extent that you can tell a good instructive story. You are a scholar if you can capture the narrative quality of your human experience in language that inspires others" (p. 46). He maintains that the purpose of education is to become an authentic person, producing a state where "becoming and being are on a par with knowing and mastering" (p. 45). A powerful means to this end is the writing of what he calls scholarly personal narratives, the stories of students' lives. And for what purpose these stories? The purpose is at least two-fold: to understand their own lives better, even to the extent of healing their own emotional wounds and the understanding of each other through the experience of empathy. Nash includes in his text examples of personal

narratives that not only show how the inner truth and the outer truth become balanced, but also demonstrate how that balance brings about healing for the writer.

While Nash's students write and speak their narratives primarily for the growth of personal relationships, as did the students in the circle at Rocky Mountain House, other educators stress the importance of narrative in order to build relationship with unknown others. For Paulo Freire (1970) the ability to speak, to share one's own story with others, and to be transformed through the dialogue is the paramount objective of education. It is not enough that a story simply be recounted; it must be part of a sharing between people that allows them an understanding of each other, an understanding so deep that they can never view each other as objects again. Using the word dialogue to denote the act of sharing stories, of sharing selves, Freire outlines the various components of this intentional activity. Dialogue is not only an intellectual exercise for him. It involves complete emotional commitment between parties, and the recognition of the fear such risk involves. He states, "Dialogue further requires an intense faith in humankind, faith in their power to make and remake, to create and recreate, faith in their vocation to be more fully human" (p. 71). He challenges educators to teach students, by modelling, that the acknowledgement of our shared humanity through story is what will change the world. A concept powerfully envisioned and enacted during the days my students were together.

John Paul Eakin (1999) takes this notion even further when he says, "Narration is by definition a relational act, and the acquisition of narrative competence is transacted intersubjectively" (p. 116). He goes on to contend that, as adults, we continue to develop the linguistic skills that allow us to narrate our own lives. In evolutionary terms, we develop the skills most needed to enhance relationships and strengthen our connectedness to each other. Perhaps this is why the concept of narrative, as observed earlier, is becoming more popular at a time when relationships are weakened through the widespread use of personal communication devices such as tablets and smartphones that effectively isolate us from each other and distort our connections. Abram (2007) theorizes that narrative, especially oral storytelling, is a necessary reaction to this isolation. At a time when technological advancement threatens to disconnect us from our stories, Abram's theory is particularly pertinent. No one in that circle used social

media to communicate with the others. Every story was told face to face, shoulder to shoulder.

If young people are to learn to care for themselves, each other, their communities, the environment, and all other created elements, according to Noddings (2003) they must be in relationship with those elements. In other words, they must experience firsthand the connected reality of their own lives and those of all other life forms. They must internalize a caring attitude by developing empathy and understanding. How can this happen? Storytelling can become the “Eastern door” through which we can come to know and understand ourselves and others, as well as all created elements of the universe. Armstrong says of Richard Wagamese,

(He) is a great author because he finds ways to connect his stories to our humanity. As we continually search for our own meaning and purpose, these stories allow us to communicate with others who are also searching. In that communication we develop understandings of our shared humanity, and realize that our differences enrich that shared journey. (2013, p.37)

The reality of residential school survivors offers a chilling example of what happens when not only individuals, but also whole groups of people are disconnected from their story. Because the children in residential schools were not allowed to speak their language, they lost the ability to understand the past through the narratives of their people. They suffered exactly the abuses of education of which Chomsky (2000) warns, and they are still struggling to reintegrate the past and present. Bruner (1990), while outlining several circumstances that contribute to a breakdown in culture in general or even within a family culture, identifies “the impoverishment of narrative” (p. 96) as being a primary cause of such disarray. He points to situations where groups of people have been oppressed for so long that they cannot remember any variation to the desperate story they are now living. This, too, can apply to students whose home lives are such that they have lost the ability to hear anything other than the worst scenario ending. In our classrooms we can try to begin a different story for these young people and hope that it will enable them to envision some element of the extraordinary.

It would not be fair to imply that all educators who propose that stories be regularly included in curriculum do so solely for the purpose of strengthening these connections, or that this is the only purpose that

stories can serve in a classroom. Kieran Egan (1986) makes the point that the rhythm of stories enables students to remember facts more easily. He identifies teachers as “the storytellers of our tribe” when they tell the “great stories of the world” (p. 109). He suggests that students’ ability to remember the details of those stories is directly affected by the teacher’s ability to convey the drama of those events. The stated goal of including storytelling in the curriculum is to improve students’ retention of detail. This is a very pragmatic and certainly not a bad use of storytelling, since he is probably right about the effects of both practices. This notion connects to Abram’s (2007) idea that storytelling passes down instructions for particular activities in a manner that is easy to remember. What is interesting is that both rhythm and drama involve the use of the body. The implication of Egan’s statements is that students learn more through narrative because it becomes physical.

Also of particular interest to educators is Jerome Bruner’s third feature of narrative, which is its ability to link the common and the extraordinary (1990). This relationship is a dual carriageway: the common can explain or normalize the extraordinary by converting abnormal, even frightening, events into part of a story, just as the extraordinary can raise the common to the sacred. In practical terms, we are all familiar with idea that speaking a circumstance out loud enables the speaker to gain some needed objective distance. Physicians use this when they ask patients to verbalize a diagnosis, as in, “I have cancer and I am going to get treatment.” Mental health counsellors use narrative in all its forms to allow clients to see and hear what has happened to them. “The function of the story is to find an intentional state that mitigates or at least makes comprehensible a deviation from a canonical cultural pattern” (Bruner, 1990, p. 50). In our circle we witnessed some painful moments as hard stories were told, but we also witnessed moments of great humour and joy as some life experiences were discovered to be shared across cultures ... an uncommon bond becoming extraordinary.

Children are supposed to outlive parents; life is supposed to be fulfilling; love is supposed to last a lifetime. When these expectations are not met, we use this feature of narrative to make sense of whatever happens that is unusual, be it scary or amazing. But we sometimes do not pay as much attention to the converse, to the allowing of the common to become extraordinary, even sacred. For this we need poets and writers such as Abram

(1996) who reminds us that, "Ultimately, then it is not the human body alone but rather the whole of the sensuous world that provides the deep structure of language" (p. 85).

A VOICE FROM THE SCEPTICS

But, is there a problem with the *truth* of narrative and of other such subjective experiences, particularly in classrooms? Was every detail related during our story telling factual, or were there exaggerations and embellishments? While Chomsky and Bruner have identified political situations where narrative can be intentionally manipulated, is it important to consider our varying perceptions and the unconscious "colouring" of a story when assessing the appropriateness of narrative in pedagogy? After posing the question of how much of what auto biographers say they experience is equivalent to what they really experience and how much of it is merely what they know how to say, Eakin (1999) answers that the impact of our own narrative is such that we are what we say anyway. He goes on to note that our perception of reality and our ability to name that reality are so tied together that separating them is not helpful to the discussion (p. 4).

This argument answers critics such as Phillips (2000), who claims that truth should be the deciding factor as to whether a narrative is useful or not. He states that the question needing to be asked is "Was the story's narrator presenting me with the *correct* narrative?" (Phillips, 2000, p. 77). In line with positivist thinking, Phillips (2000) cites examples where researchers interested in asserting the importance of narrative cast truth aside, and ends his argument by stating, "Narrative researchers seem cavalierly to reject the latter situations, where truth of narrative is relevant, and reduce all situations to the category where truth is irrelevant" (p. 77). Leggo (2005), however, maintains that "language does not empower me to nail down truth or truths. Instead, language is dynamic and energetic and opens up possibilities for understanding our lives and experiences and relations" (p. 177). Nash (2004), when addressing the issue of truth, stated:

What makes a story true for all people in all times and places is not simply whether it can stand the test of scientific experiment ... truth is what works best for the narrator and the reader in the never-ending quest to find and construct narratives of meaning, both for self and others. (p. 33)

An ongoing discussion about the qualities and variations of the *true* meaning of *truth* should not be shied away from in classrooms, but should be approached as a collaborative journey of discovery. Foy's (2009) *Talk Story* approach, based on the belief that each person in the circle brings a part of the whole picture, lends itself perfectly to just such a discussion, and frees the teacher to trust that the process itself will write the emerging story.

THE JOURNEY CONTINUES

The common thread of the importance of stories in all our lives is woven through this literature. It would be no surprise to Donald that Nash's students found themselves healthier and happier through the writing of their narratives, as he would purport that their cerebral make-up had been changed through the activity. Interestingly, Mehl-Madrona (2005) includes the concept of physical healing through narrative when he explains his understanding of the links between our brain activity, healing and stories. He wrote:

Change the stories and perception changes. Changed perception means changed experience, and change in experience alters brain biology. Since the brain regulates everything in the body, including the immune system, the body changes when the brain changes. Here is the beginning of our understanding about how stories have healing power. (p. 7)

It is time we began to take seriously the ancient teachings and understand the power of stories in our lives. Jennifer David, writing to introduce her collected conversations with Aboriginal writers, wrote:

[Story tellers] believe that lives are shaped by the stories told by parents, grandparents, elders. A reverence for story telling as a bridge between hearts, eras, peoples. And, most of all, a faith that stories are an indestructible vessel for bringing old wisdom to life in a new time. (p.1)

People have known for a long time that stories bring powerful healing to both teller and listener. Unfortunately, in some quarters it has taken scientific evidence to convince educators that this is so and that the journey of education should bring healing rather than ignoring hurt and/or confusion by avoiding important issues.

As an educator I desire nothing more than to give students the ability

to reflect on their own stories and those of the world around them in the two ways that Bruner has described. I want them to be able to see their lives as part of an unfolding narrative which began before them and will continue after them, but which needs their contribution in the *now*. This knowledge will give them the roots they need to know their selves as fully human and to frame their life events, even the tragic ones, within an integrated and connected framework: they are not living their lives in isolation. I also want them to have the ability to recognize the divine, the sacred, in the ordinary and know that others share the intense and intimate emotions that recognition evokes. The strengthening of these connections will give students dreams and visions for their own lives as well as a deep concern for the lives of all other creatures, even the very planet itself. In Armstrong's words:

Our stories, all our stories, can create a pathway for a stronger, validating education, but we do have to listen. For the stories will teach each of us – if we are willing and can learn to listen to them – how we might serve as an agent for change. That is the power of the story. (2013, p. 61)

In light of this truth our teacher education programs need to move towards a training of pre-service teachers such as Armstrong (2013) describes: one that encourages these students to embrace the full impact that stories can have in their future classrooms and enables them to courageously change the way curriculum is often presently delivered. To meet this challenge these teachers in training will need to fully understand that stories are not just a nice way to pass an afternoon (although they certainly are that!), but they are really the only form of pedagogy that will touch, form, inform, and re-form students in every aspect of their being ... from their innermost cells out.

Our relationship with stories is intimate and all encompassing. In *The Truth About Stories* Thomas King (2003) writes his often quoted statement, "The truth about stories is that that's all we are" (p. 2). When those young people told their stories to each other, they gave the gift of their very selves and influenced each other's' lives to a degree that no textbook ever could. In fact, I believe the elders would take Donald's assertions that our very cellular makeup is changed through stories one step further. They would say that our very cellular makeup *is* a story, and one that can change the world if we, as educators, are willing to listen to that ancient wisdom.

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Indigenizing the Curriculum: An Appendix of Films and Movies, and their Supportive Books

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Online Resource

To view this article on-line, please visit:
<http://aboriginalcurriculum.ca/pdfs/movies-complete.pdf>

This work, following its initial introduction, is an evolving annotated bibliography that encompasses a wide range of Aboriginal films and movies and, where available, books (both text and audio) that the films or movies are based on, or that supplement the films or movies. While the print version contained within the *First Nations Perspectives* journal includes only the introduction, the on-line version, available at www.aboriginalcurriculum.ca (under the heading Resources), includes the entirety of the document; that is, the introduction as well as the reviews for all the films, movies, and accompanying books. The resource is primarily intended for the use of schools, universities, and Aboriginal and non-Aboriginal communities. In schools and universities, films and movies can be purposefully integrated into curricular outcomes, with work to activate the learning and the inclusion of applying activities following the film or movie. In Aboriginal communities, in support groups, and in non-Aboriginal settings, films and movies can be an important resource for knowledge acquisition, and thus can serve as a springboard for dialogue in the healing journey, for everyone. The annotated bibliography entries within the on-line document are intended to serve as a beginning point. Teachers and community workers are encouraged to screen all films and movies twice, while also undertaking additional research so that they can construct valuable learning activities and opportunities for dialogue that are particular to their situation.

INTRODUCTION

The motivation for this work evolved from a major SSHRC/CURA grant. In 2005 we began our work on a project entitled *Community-Based Aboriginal Curriculum Initiatives: Implementation and Evaluation*, with one million dollars in funding from the Social Sciences and Humanities Research Council of Canada, the Community-University Research Alliance

(SSHRC/CURA) initiative. Our program involved efforts to integrate more Aboriginal culture into school curricula, with regular collaboration among the participating schools and community knowledge keepers as they worked as in-school artist-educators. As our work progressed, we also found that we needed to focus on integrating much more Aboriginal literature. We developed an Aboriginal Curriculum Initiatives Centre on campus, and provided support for our grant's participating First Nations schools, as well as for teacher candidates and visiting teachers from other schools. Over time, we extended our literature to include other culturally-relevant resources, like posters, puppets, puzzles, figurines, and games, as well as curriculum documents and other supportive resources from many organizations and jurisdictions. As well, I began to research and become familiar with Aboriginal films and movies, and we expanded that collection, as well.

The use of films and movies taps into different ways of knowing. There has been much written about multiple intelligences, or various ways of knowing and learning. Howard Gardner's (1983/2011) ground breaking work suggested that there were more than verbal-linguistic and logical-mathematical intelligences, that in fact there were musical, visual-spatial, bodily-kinesthetic, interpersonal, and intrapersonal intelligences, as well as naturalistic and experiential intelligences. Daniel Goldman's (1995/2005) work on emotional intelligence is also significant. In other words, we have different ways of living and moving in the world and integrating its teachings. The use of films and movies allows teachers to diversify instruction for students. As well, because learning reaches automaticity, or a level of deeper metacognitive understanding, with some repetition, the use of films and movies allows for that focus, but with a different learning strategy; thus, the repetition does not actually seem repetitive or boring, and so students remain engaged with their learning. The learning from a film or movie may be more likely to reach the stage of emotional learning, and thus students may tap into a level of understanding beyond the concept of intellectual knowing. As well, because the films and movies tell a story, if the aspects that students are to learn involve a challenge to their current ways of thinking, a film or movie can allow students to more gently tease out, become aware of, question, and then address their own biases. Accompanying literature and audio books also help in that process, as they allow for an appreciation of different ways of viewing the world, and of living one's life.

On a final note, the use of films and movies is, for the most part, currently incompatible with the way schools and universities structure their class time in short blocks. That is a major drawback, as there may not be time to view the film or movie in its entirety at one sitting, and there may also be little time for crucial immediate and follow-up dialogue. Opportunities for incubatory dialogue are needed as well, where students can continue to explore their learning from the film or movie. The use of films and movies may be discouraged if the school and the teacher are more focused on quickly accomplished 'sound-bite' objectives rather than the deeper learning that can be mentored with the use of films and movies. Support for change is necessary from schools, universities, and communities if Aboriginal films and movies are to serve us well during the healing journey.

REFERENCES

- Gardner, Howard. (1983/2011) *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Goldman, Daniel. (1995/2005). *Emotional intelligence*. New York: Bantam Books.

