Crossing Many Boundaries in Creating Allies:
Personal Encounters to Unfolding Science to Privilege Indigenous Knowledge

sihtoskâtowin: ka-nakiskamihk ôma kâ-taswekinamihk Science ekwa mîna kihci-iyiniw-kiskihtamowin

Tim Molnar Ph. D.   **Karla Jessen Williamson Ph. D.**
University of Saskatchewan   *University of Saskatchewan*

Abstract

This paper discusses the challenges and experience of two faculty members (one Inuit, one White) as they seek to aid each other in fulfilling the institutional tenure track and program demands made upon them and as they seek to address how to engage teacher candidates in Indigenous knowledge and anti-racist education. There is discussion of practical action and resources for teaching anti-racism through privileging Indigenous knowledge and "unfolding" Eurocentric science, and of the ethical and philosophical challenges and what transpires in negotiating the individual and ethno-cultural difference of each faculty member through an Indigenous gaze (Ermine, 2007).

ôta kâ-masinahikâtek

ôta masinahikanis masinahâmok tânisi e-kî-isi-âyimihocik ôki nîso ataskeskesak (peyak ayaskîmow, peyak wâpiski-wîyâs) ekwa mîna tânisi e-isi-wîcihitocik ôma kâ-masinahikehecik ekwa mina ôhi kiskinwahamâkana tânisi ka-isi-kiskinwahamawâcik iyiniw-kiskihtamowin ekwa namoya ka-pakwâtitohk. mâmiskôcikahtew tânisi ka-isi-atoskahtâkik ôma namoya ta-pakwâtitohk âpacihtâtwawi kihci-iyiniw-kiskihtamowin ekwa mina ka-taswekinamihk moniyawîpinikewin ekwa ta-kwe-miyo-wîpinike mâka ka-ahkâm-mâmawi-atoskâtamihk poko sôskwâc pakwâweyak ta-iyiniw-wâpahtekowisit.

Introduction

This paper highlights two, newly appointed, faculty members' negotiation to abridge antiracist/anti-oppressive and science education to explore how Indigenous knowledge may be introduced to primarily non-Indigenous teacher candidates at the University of Saskatchewan's College of Education. One is female of Inuit ancestry (Karla Jessen Williamson – a *kalaaleq*, an Inuk from Greenland) while the other is White, male Euro-Canadian (Tim Molnar). Coming from such divergent backgrounds both faculty members experience unique challenges and tensions in an environment that aims at assisting teacher candidates to gain deeper understanding and become more responsive to Indigenous knowledge. This paper is about our experiences in negotiating the introduction of Indigenous knowledge to teacher candidates. In essence, this collaboration involved moving beyond boundaries to connectiveness with

each other in relation to disciplines, theories related to pedagogy, philosophical stance, and personal space.

Context and Motivation for the Collaboration

Institutional Leadership

Both of us were hired by the University of Saskatchewan's College of Education at a time when administrative leadership was committed to taking a lead role in advancing theory and practice relating to Aboriginal education in the community (University of Saskatchewan, 2008). The College desired to encourage a variety of opportunities for professional development and exchange that introduce new and deeper levels of communication to support the college's faculty in becoming more responsive and knowledgeable about the complexity of Aboriginal education (University of Saskatchewan, 2010).

Negotiating Collegial Disparities

Karla is a *kalaaleq* an Indigenous person, was born, and grew up in Greenland. She came to the university speaking three languages with extensive experience and expertise in researching gender relations, resilience, and issues related to Aboriginal peoples. She had also served on a range of international and national committees related to social justice.

Tim is a White Western Canadian male who grew up in the prairie cities of Saskatoon and Regina, Saskatchewan. He speaks English and did not have an opportunity to learn to speak any of the languages his parents and extended family spoke (Hungarian, French, and German). Previous to Tim's appointment at the University, his teaching career included over twenty years where he worked with First Nation and Métis peoples. Tim also grew up with a foster brother of Cree ancestry. It was from this context that he developed some sensitivity regarding Indigenous ways of knowing and the plight of First Nations and Métis communities. The knowledge gained from such experiences also left him keenly aware of issues and realities emerging from people living in poverty and how these realities were often inflicted by mainstream Canadians. These realizations encouraged Tim to explore the role of Aboriginal knowledge in Science education.

Concurrent with Tim's investigation into the relation of Aboriginal knowledge and Science education, Karla was teaching a mandatory class that calls for anti-racist, anti-oppressive approach to education. This course explicitly involves teacher candidates addressing issues surrounding existing racism, sexism, ablelism, and classism. However, Karla and other Aboriginal faculty members teaching this course, often encountered hesitation, dismissiveness, and some reluctance when teacher candidates are required to interrogate issues surrounding teacher candidates' own privilege, sexism, and colonized mindset. Encountering such resistance, Karla wondered if collaborating with someone with a male

'privileged' background, would help teacher candidates to become more open to unravel the potentials of anti-racist and anti-oppressive education.

Karla was initially hesitant to work with Tim because she questioned how a Euro-Canadian male would deliver Indigenous knowledge. Would a non-Indigenous person be able to deliver such knowledge in a science class in a way that meets the expectations of an Indigenous community? Karla knew that Aboriginal worldview counters the objectivity claims of westerners (Sium & Ritkes, 2013). She was mindful of the effort and time it would take to just begin discussing Indigenous knowledge from basic anthropological concepts such as *cultural relativity*. Indeed the unequal status of *science* and that of Indigenous knowledge alone speak to volumes of time and effort that are needed to be on even ground.

Space, Time and Learning

As newly appointed professors, we come from disparate backgrounds in terms of location, culture, and social background. Owing to the gaps and differences in background that separated us as scholars, it took hours, days, and weeks, in fact months, to determine our common grounds. What we have learnt, however, is that fundamentally our commonality lies in the fact that we are both committed to imparting values that enhance social and ecological justice.

We come from polarized cultural backgrounds. Tim is from a Euro-Canadian home that assimilated dominant cultural practices, while Karla is from an Inuit family whose intent is to dissolve assimilation and has vested interest in keeping cultural identity. Each one of us has experienced childhood very differently, and in many ways, from the opposite spectrum. Tim comes from a privileged population, while Karla was raised as an Inuk and a post-colonial subject of Denmark. Indeed our worldviews are very different and unique, which could easily provide distance if not dissonance. This difference could translate into all aspects of our respective lives, including choices of subjects of conversation, thoughts, and, indeed, our very sustenance or dietary choices.

However, in striking our collaboration, we hoped that despite two very dissimilar backgrounds, we could demonstrate how it is possible to work together to develop a meaningful and effective relationship aimed at deepening collective understandings of Indigenous knowledge. We wanted the University students to see for themselves how collaborations could be made despite differences in knowledge, perspectives, worldviews, and identities. We hoped that our collaboration would benefit teacher candidates when considering their own pedagogies and identities. We desired students to become allies for social change and to witness for themselves that individuals like Karla and Tim can negotiate space, time, and effort. This was the task before us. Could we fulfil collegiate and university goals while bridging our dissimilar knowledge, background, philosophies?

Negotiating Commonalities of Dissimilar Content

In negotiating a path, we hired a graduate student to find common ground in the literature that both Tim and Karla were using in their courses. The criteria for hiring the graduate student were that the person has taken an anti-racist/anti-oppressive education class and a class on science education. Fortunately, the graduate student (who essentially became a third party with no preferential treatment of one course or the other) was able to identify where Karla's anti-racist/anti-oppressive education material coincided with Tim class on science. We also set up series of weekly meetings throughout the fall of 2010. In the hour long meetings, we discussed our approaches to class work, the resources we might call upon, the discourse we used in discussing ways of knowing and being, how we understood our efforts in the context of the larger goals of the college and university, and what was practical in regards to entering our respective teaching domains. These meetings were important for gaining a sense of trust and cohesiveness, and we began to be comfortable, or perhaps more *fluent*, with each other's thinking, discourse, and writing. As our comfort levels and trust developed, our purpose became more and more focused, and we often sought to have informal unplanned meetings. These meetings were crucial to maintaining the momentum we both felt was needed to propel our planning and preparation.

The Beginnings of Shared Knowledge.

There were several questions that we thought really crossed the two classes. Questions such as: What should First Nation, Metis and Inuit integration look like in an inclusive classroom? What message does traditional (westernized) science education send to students? How can you bridge this gap as an educator? Other possible questions revolved around validating and encouraging learners' cultures and worldviews in science education in a way that is consistent and enriching for all students. Initially we planned to teach several sessions in each other's classes; however, given time constraints and other demands, we agreed to teach just once.

We decided that Tim would engage students in considering Western White privilege as it relates to the origins of Western Science. Karla focused on teacher candidates to gain a sense of personal and professional responsibility when introducing Indigenous knowledge. In her attempt to engage teacher candidates she expressed the necessity that each of us has a responsibility to deal with diversity whether it is in ways of knowing, ways of being, or ways of science. She further emphasised the need to deliver this in a way that addresses the diversity that exists in society.

Our graduate student assistant identified three articles from each of our class readings that might act as suitable prompts for thought and discussion with teacher candidates. Tim found that for his class the following course readings fitted well into Karla's class: Hodson and Dennick's (1994) *Antiracist Education: A Special Role for the History of Science and Technology*, Aikenhead's (2002) *Cross-Cultural Science Teaching: Rekindling Traditions for Aboriginal Students*, and Ali Sammel's (2009) *Turning the*

Focus From 'Other' to Science Education: Exploring the Invisibility of Whiteness. Hodson and Dennick's (1994) work discussed the possible role of the history of science and technology within curricula and teaching to enable the celebration of diversity and combat racism. Aikenhead (2002) intimated the idea that Eurocentric science without Indigenous knowledge integration is inaccessible and meaningless for Aboriginal students. He outlined issues and practices for teachers who are helping students of Aboriginal heritage cross the *cultural border* to find cultural meaning within Western science education. Finally, Samuel's (2009) article raised questions about "infrastructural racism in science education by exploring its association with Whiteness and White privilege...specific attention is given to the positions of power that accompany Western ways of knowing the world (i.e., science education) in comparison to Other ways of knowing the world (i.e., First Nations Ways of Knowing)" (p. 649).

Karla also provided reading materials that she thought were relevant to Tim's class. These readings included Connell's (1993) *Knowledge, Objectivity, and Hegemony*, Macintosh's (1998) *White Privilege*; and Berry (2007) *Exploring the Authority of Whiteness in Education: An Auto-Ethnographic Journey*. Connell (1993) discussed scientific knowledge as a highly organized social process and as a compilation of knowledge by Western men that was reflective of their dominant place in social and natural contexts. Macintosh (1998) addressed the over-privileging of white males in Western society and in education, while Berry (2007) outlined a discussion concerning the authority of whiteness, European imperialism, and capitalistic economics in relation to the production of whiteness. With these resources in place, both of us were left to consider how we would engage students in discussing the topics and readings.

Tim, in his presentation to Karla's class, shared experiences from his previous teaching experience. He used teaching materials from his coursework, answered student questions, and linked the class discussion to the information in the articles. The focal point for Tim's discussion involved the use of a puzzle diagram and a short in-class survey that was used to frame and prompt teacher candidates into thinking and discussing their ideas (see Figures 1 and 2 in the Appendix).

Karla engaged students by sharing personal background, history, and experience by sharing visuals of her family and community using power point slides. In this presentation, she provided an overview of the effects of assimilation and the decimation of *peoplehood* in Inuit communities and culture. Telling her story enables her to disrupt the dominant thoughts of Aboriginal peoples and legitimize her own worth, personhood and community (Sium and Ritskes, 2013, p. iv). During this teaching, she also employed a model she had developed relating to teacher responsibility and accountability in addressing diversity across a range of domains (see Figure 3).

Second Look: Negotiating Gaze

The College encourages the process of problematizing and reconstruction of social processes enabling teacher candidates to consider their own and other's worldviews and actions. Each teacher candidate is to identify their own potential to make social change within their profession as teachers. The aforementioned forms the basis of the merger of two seemingly polarized courses. Karla, as an instructor, requires teacher candidates to explore personal identities, beliefs and values as ethno-cultural beings in relation to racism and oppression (Egbo, 2008). Tim requires teacher candidates to explore the nature and hegemony of Eurocentric science, while analyzing contemporary school science teaching, and requires teacher candidates to make an effort to bridge Indigenous knowledge to Eurocentric science (Glen Aikenhead & Michell, 2011). Students are required to examine relationships between knowledge, identity, beliefs, and values in both classes (Connell, 1993).

The collaboration between Tim and Karla was the genesis of the deconstructive process, and the continued collaboration brings hope to the reconstruction of a new way of knowing and the valuing of all knowledge. Both of us were anxious that each teacher candidate learned to resist racism and oppression. We believe that such teaching "makes a society stronger, more resilient and democratic, and more effective at fostering the well-being of it's people (Bell, 2010, p. 62).

We wanted to ensure that teacher candidates understand that they are active agents who can contribute, transform, and influence their situation and environment (Eyber & Ager, 2004). We felt that the majority of teacher candidates come to believe that science is a value free and objective undertaking whose rigorous empirical processes yield unequivocal knowledge. This perspective of science runs the risk of being thought of the ultimate truth. This *scienticism*, according to Nadieu & Deshautel (1996), has in the past and in contemporary societies, allowed complacency among people. This is particularly relevant to science education where other ways of knowing are often dismissed and devalued as not science. With this scienticism in effect, people run the risk of being oblivious to various forms and types of cultural knowledge that are valid, reliable, and based on evidence, which can powerfully marginalize a peoples knowledge (Aikenhead, 2006).

Looking Back.

We began our work together through a series of meetings beginning in the spring of 2010 and remain engaged in our collegial conversations. During this time, we engaged in a process of problem-posing and problem solving involving a cycle of planning, acting, observing, and reflecting (Cohen, Manion, & Morrison, 2000). These are fundamental to "collective self-reflective inquiry undertaken by participants" (Kemmis & McTaggart, 1988, p. 5). Wilson (2001) might suggest that we enacted an *indigenous research methodology* where we shared our stories in a manner that built our relationship in an

organic enlivening manner.

Tim made audio recording of the research sessions to document the process of examining each other's course outlines and activities. This process helped us to identified potential common grounds and identified where we could support for each other in our discrete teaching. We also each made notes regarding our planned collaboration. We also discussed the implications of our collaborations, and what recommendations we may make for colleague collaboration. This research narrative drew on the collection of material to provide details of our collaboration. The focus of our work is entirely based on our efforts as teaching and scholarly colleagues supporting and helping each other.

What We Achieved and What We Learned

Outlining what we achieved and what we learned through this process is difficult to describe in compact and narrow forms such as creating a list of discrete *do's* and *don'ts*. There were many processes both formal and informal. We realized several realities concerning ourselves and how our work should proceed. Some of what we experienced and describe will likely resonate with what others that have experienced working across cultural, professional, and inter-personal differences.

Despite our willingness and openness with each other to pursue this undertaking, we needed to develop trust. In the development of this trust, first and foremost, we needed to be realistic about our differences and be sure that we understood each other. So, we each checked on the other through a continuous negotiation facilitated through our weekly meetings. Perhaps unsurprisingly, but still important, the face-to-face meetings evoked discussions that became crucial to making progress in developing a sensitivity and sensibility about our varied discourses and understandings. The common ground of mutual understanding would never have been materialized without these weekly meetings. In many instances, we forfeited other pressing work to make time and space for each other to be in the same physical place. This proximity allowed us to attend to the multiple non-verbal cues in human communication that was crucial to the process of negotiating. While weekly meetings in themselves may not always facilitate trust building, for us, these meetings became crucial to our building a mutual understanding and trust.

We had some intial contact with each other in a College work group called *Beadwork*. This group consists of faculty members discussing issues around Aboriginal education and how to make a contribution to further the cause. The meetings of this group provided Karla and Tim opportunities to gain initial insight into each others motivations, dispositions, and ways of thinking. Gaining a sense of who we each are through our involvement with this group was important. Karla noted, the long time it took to negotiate our beings and that such negotiation was already in a manner happening by our proximity through Beadwork. Our involvement in this group was complimentary and supportive;

witnessing the each other's commitment generated goodwill. We believe this was an important aspect in setting the stage for further work.

There is no doubt we expanded our awareness and purview when we interchanged and exchanged reading materials. The material informed and aided our thinking in relation to each other's needs and motivation. While we both possessed good understandings of anti-racist and anti-oppressive pedagogy, we were surprised that despite the seemingly polarized courses we taught, we were able to make real links. Our new and broader understanding helped frame and further deepen our understanding, and this led us to proceed with confidence on how to support each other in our common grounds for anti-racist and anti-oppressive education. The resources Karla provided, many of which were co-developed with others in the Department of Educational Foundations, afforded Tim insight into what the course work included and helped him understand how cohesive the department was in terms of teaching.

We further realized that anti-racist education requires not only group action, but also, individuals to interrogate their own bias towards other ways of knowing. Karla's development and use of the Re-Awakening model (see Figure 3 in the Appendix), derived from work by Thompson and Cuseo (2009) and Egbo (2008), aided in promoting this individual investigation. Tim's past work and interest in the *ethicality* of teachers working amid ethno-cultural difference (Molnar, 2009) aligned and complimented Karla's work. Both involved considerations of accountability and responsibility. At the core of these interests seemed a shared belief and concern for the unique difference each human being possesses—differences that ultimately demand the respect of others and command us to action. The interest in student self-interrogation was our desired primary outcome for the collaboration. Our shared sense of purpose and urgency in prompting individuals to offer contributions toward societal equality motivated us and brought out two minds together.

Other Realizations and the Challenges that Remain

We recognize the fact that much work needs to happen to make closure of our great differences, including the differing pedagogies, cultures, languages, and food preferences among many others. However, we have so far proved that working together respectfully can lead to productive actions. We made concerted effort to serve each other, despite the great differences in cultural settings, gender, privilege, and worldview. Even in an academic environment that strives for excellence, we were able to appreciate our divergent voices and our separate vulnerabilities. We each took a risk negotiating what Poole (1972) and Ermine (2007) described as *ethical space*, a theoretical space, but also, a lived space between people, cultures, or value systems. This space of engagement involves the explicit interactions of people, but also, the unseen levels of thought and feeling where the nature of one's approach and entry into this space

influences and animates the kind of relationship that develops, and the nature of its outcomes (Ermine, 2007).

Tim experienced this as someone from the dominant culture, where there is the need to be vulnerable and to risk the modification or rejection of cherished notions about what counts, who gets to say what counts, and how it is said and in what context (Warner, 2006). The necessity of such vulnerability involved, we believe, the transition from any denial and defence of difference to a necessary adaptation and integration of difference that is encountered (Bennett, 1993) . Working through the on-going challenge of such transition was important for both of us but in different ways.

For Tim, steeped in maleness, whiteness, and tacit privilege, despite his past experience and good intentions, there was the need for him to remain cognizant of these realities in the moments of negotiation. While Tim was not always successful in checking these biases, for the hegemonic reality is very strong, progress was made. As Hooks (2003) suggests, this involved working hard to remove oneself from spaces of privilege that emerge from the reality of being a member of the dominant cultural reality, even when a person already possesses a sensitivity and sophisticated understanding of such influences. Tim gained an *Indigenous gaze* that "projects from the memory of a people and is, in essence, the continuum of a story and history….a place in the universe that is valid and imbued with purpose…." (Ermine, 2007, p. 199).

Karla's challenge in this regard was to remain patient but challenging and instructive and to be firm but kind while maintaining her vision of what we needed to accomplish. This involved not allowing Tim to passively accept decisions, but encourage him to be respectfully engaged, as scholar-to-scholar, person to person, while working through intercultural and personal differences. However, the overall work environment is fundamentally geared more towards Tim's culture and needs than for Karla's in daily practice. Karla was challenged to maintain her resilience and inner strength while negotiating the collaboration, which was framed by the continuing colonial hegemony and legacy of contemporary culture; a culture that relies on "a singular world consciousness, a monoculture with a claim to one model of humanity and one model of society" (Ermine, 2007, p. 198).

The willingness to be persistent in the negotiation of the ambiguity that arises when bridging ethno-cultural, personal, and scholarly realms was another essential feature of making progress. This involved listening carefully and attending to what each related and requested, while accepting that there is a degree of *unknowability* concerning how our efforts would be realized. Pointing out what is needed is easy, but for both of us this required a degree of emotional resiliency as we worked through assumptions and clarifications that, at times, left us both wondering what we had gotten ourselves into.

We have realized that negotiating the ethical space involves, among other things:

- Seeking clarity

- Being patient
- Acknowledging the role of hegemony in knowledge making
- Creating deep understanding
- Acknowledging each other's personhood
- Acknowledging hegemony's role in defining difference
- Avoiding categorical thinking
- Celebrating and respecting difference

We have plans in place for a series of interventions into each other's classwork. We have also begun discussing and planning the possibility of creating a course that would specifically address anti-racist education and science with a focus on Indigenous ways of knowing and being, or perhaps, as Aikenhead and Michelle phrase it, "lndigenous ways of living in nature" (2011, p. 65). The course will be taught from an Indigenous gaze, either from Ermine's seminal work or Karla's own (Jessen Williamson, 2011).

This project has also informed our practice more generally. We recognize the importance of negotiating ethical spaces in other anti-racist initiatives with other faculty, such as our work with the Beadwork group. We are optimistic that we can make a difference for each other, but most of all for our teacher candidates and colleagues, who need examples of how allies can work together in bridging difference.

Emotions and Work

Reflecting on the work we have undertaken, we are reminded that our differences provided many reasons to not collaborate; yet, we persevered with our efforts believing we could help each other, and more importantly, we could help our students. In sharing this narrative, we are reminded that collegial academic work is also emotional work. As Damasio (1995) notes, emotion is always entangled with rational thinking and any of our efforts.

Early on in our collaboration, Tim was standing in Karla's office as she read a passage from a poem she had composed about her home, Greenland. As the words flowed from her, revealing intense and deeply felt experiences of her relationship to the landscape, Tim stood next her feeling anxious and embarrassed as his cultural understanding positioned him to interpret Karla's poem as highly sensual. In shock, he wondered if such sharing was part of an academic collaboration. There seemed a reticence, an emotional distance Tim was trying to maintain. Both of us realized that we have entered another sphere that we had not anticipated, namely the aesthetic aspects of our lives, which questioned how such notions operated in our seeming *academic* collaboration. The experience illuminated how "asymmetrical power relations " (Egbo, 2009, p.125) become acerbated and make our collaboration challenging where both had

to admit the pain learning to accommodate the difference of the other. Both of us agree that our project, and indeed teaching teacher candidates for social change, is nothing short of a "fundamentally political project" (Egbo, 2008, p. 125), which carries risks with it.   However, the risk was much more pronounced for Karla given she is as an Inuk existing in the hegemony of Western academic culture.

Tim's previous experience, informed him that attending to interpersonal relationship plays a key part in negotiating ethno-cultural difference; there seems no escaping this. Yet, he was hesitant to fully lower the protective and insulating layers of what he perceived to be his academic role and to be open with who and how he was in the world on deeper levels. This would mean getting beyond roles, personas or masks, however useful and needed, and encountering the deep difference or *face* of another person (Levinas, 1981). As people, we learn the meaning of many of the "masks" we encounter and memorize our responses to each, yet as Bauman says, "[m]asks are not as reliable as faces, as they may be put on and off, they hide as much (if not more than) they reveal" (p. 115).   Karla sharing her poem – an invitation to admire her cultural landscape as body scape – provoked, even demanded that Tim lower his mask(s) and reveal his "face". This process left him vulnerable to acceptance or rejection under her Indigenous gaze (Ermine, 2007). The need to come eye-to-eye, to work through questions of power and privilege required that we could trust each other. This uncovering was not merely an academic exercise: calculated and reasoned, somehow above the fray of emotion and interpersonal relation.   The vulnerability that emerges involves a moral interplay of two people that requires emotional effort and sensitivities in dealing with, for example, anxiety about being misunderstood or misunderstanding. This tension can be reduced by being patient in hearing the other's stories and in telling one's story, and in trusting in the goodwill of the other person when his/her ideas and action prove provocative. It is a constant challenge to remain attentive to each other, *face to face*, when often it might be easier to turn away. Helping each other to help our students was no less an important part of teaching, perhaps even a necessity, than any other preparatory activity one might undertake to provide meaningful learning opportunity.

Poole (1997) discusses the notion of ethical space, which involves individuals and groups existing in a constant state of negotiation. Ermine (2007) discusses this notion and the need for those of differing ethno-cultural backgrounds, such as Indigenous and non-Indigenous, to enter this space and seek to work out how the difference of others is respected and ensured. He cautions that, "at the superficial level of encounter, the two entities may indeed acknowledge each other but there is a clear lack of substance or depth to the encounter" (Ermine, 2007, p. 195). Persisting and having a flourishing relationship, "of substance and depth" across such space involves attending to emotional realities. The move past the superficial, or the token, required the development of trust that went beyond merely fulfilling our

academic roles. This work required close proximity to each other, not only intellectually, but emotionally over many months, now years, just to establish the beginnings of productive and responsive collaboration.

Ermine (2007) suggests that the negotiation of the ethical space "offers a venue to step out of our allegiances, to detach from the cages of our mental worlds and assume a position where human-to-human dialogue can occur" (p. 202). This human-to-human dialogue is inextricably linked with attending to the emotive sensibilities and challenges that emerge as one encounters others that differ from oneself, and especially so, when other people differ in significant ways.

Conclusion

We accomplished our goal of aiding each other in working with our respective groups of teacher candidates. Resources were identified and employed, and eventually, a new course was envisioned and proposed for our college that was accepted and approved. However, the work we undertook was challenging for each of us, and intense, in terms of the time, the energy, and the emotional demands required. Each of us at moments was ready to retreat from our attempts at collaboration. Yet we persisted and developed, each in our own manner, a fuller understanding of what is required to undertake anti-racist work while meeting the academic demands of teaching and tenure. More profoundly perhaps, we were reminded of the significant work required among people that welcome the difference of others and learn from others when working across ethno-cultural difference. As Todd (2003) notes, there is something profoundly at risk in encounters, such as ours, that involve change, perhaps even renunciations, of particular beliefs and ways of knowing and aspects of self that are discomforting even as they are part of learning and deepening one's knowledge. We suspect that for any meaningful change across ethno-cultural difference in pursuit of anti-racist education, and across the epistemological and philosophical gaps inherent in this, there is no easy path if one wishes to get beyond a superficial effect. Both for those of Indigenous or non-Indigenous heritage, negotiating ethical space will always and necessarily and inevitably so, accompany the more practical aspects of working with allies in collaboration in anti-racist education. We believe this is necessary and hard work but the outcomes are highly desirable and rewarding for all involved.

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Appendix

Some Puzzle Pieces
Anti-Oppressive
or Humanistic
Science Education

Worldviews

Individual and
Ethno-cultural
Realities

Issues of Identity

Settler, Hunter-
Gatherer Cultures
Who is really
settled?

Berry
Authority&Grand
Narratives

Macintosh
White Privilege

Diversity, Putting
into question
"Whiteness" as the
norm

Understanding
Essentializing &
Continuums of
Difference

Knowing
Indigenous
Ways of Being

Assimilation or
Enculturation ?

Connelly
Objectivity,
Knowledge

Sammel
Whiteness SciED

Cultural Broker,
Walking in
Multiple Worlds

Hodson-Denick
Anti-R SciEd

The Complicity of
WMS

Demarcation
Tensions - Valid
knowledge (?)

Excessive
Rationalism

How Humans
Learn?

Scientism

Naive Realism

SK Curriculum Content

Ways of
knowing,
assessing

Understanding the
nature of Western
Science

Credulous
Experimentalism

Reconceptualizing
Responsibility

Ethics

Canonical
Knowledge
of Science

History of (WM)Science
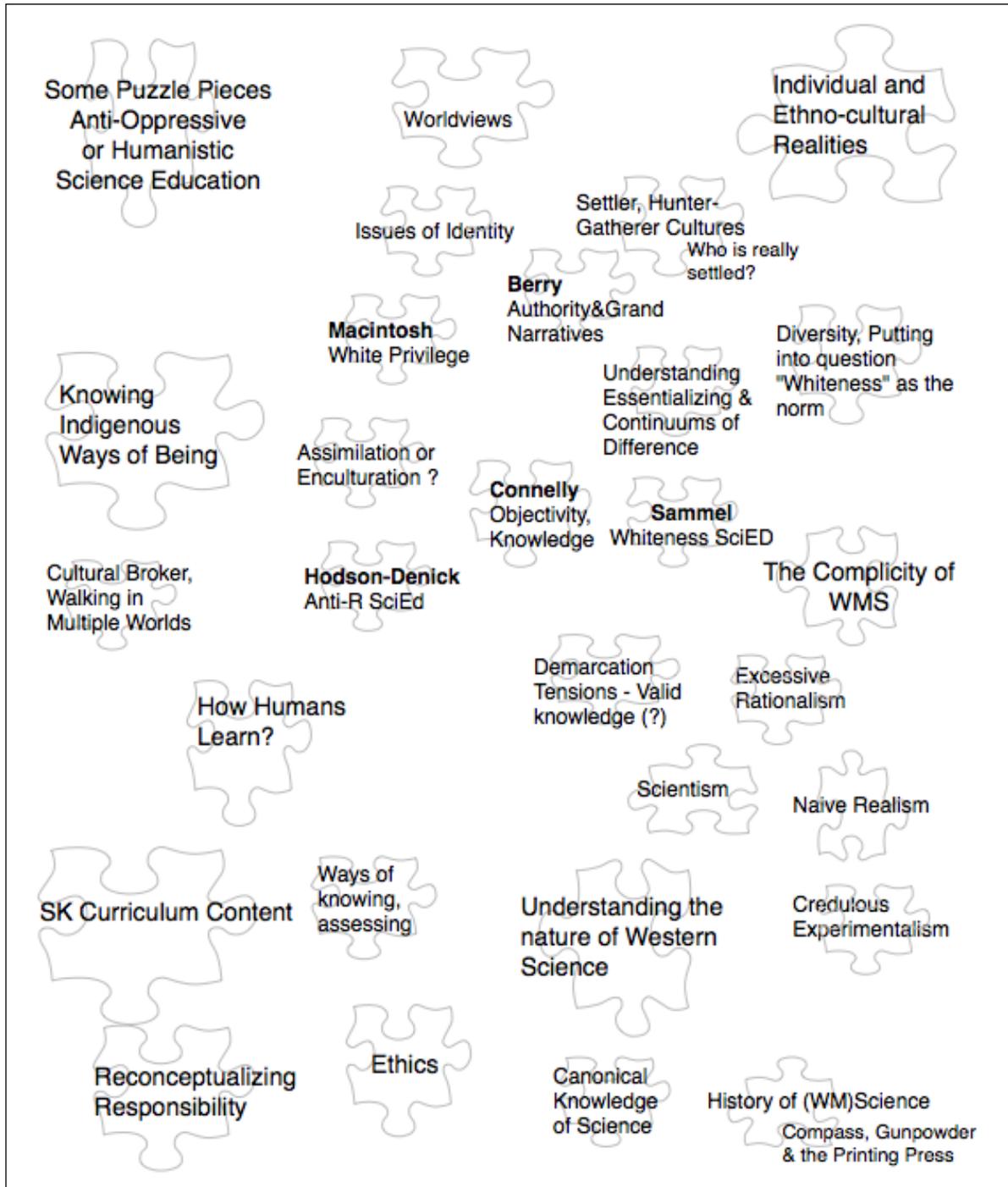Compass, Gunpowder
& the Printing Press

Figure 1 - Puzzle Diagram used for inviting discussion among teacher candidates; students could choose areas of interest for initiating discussion and in linking concepts.
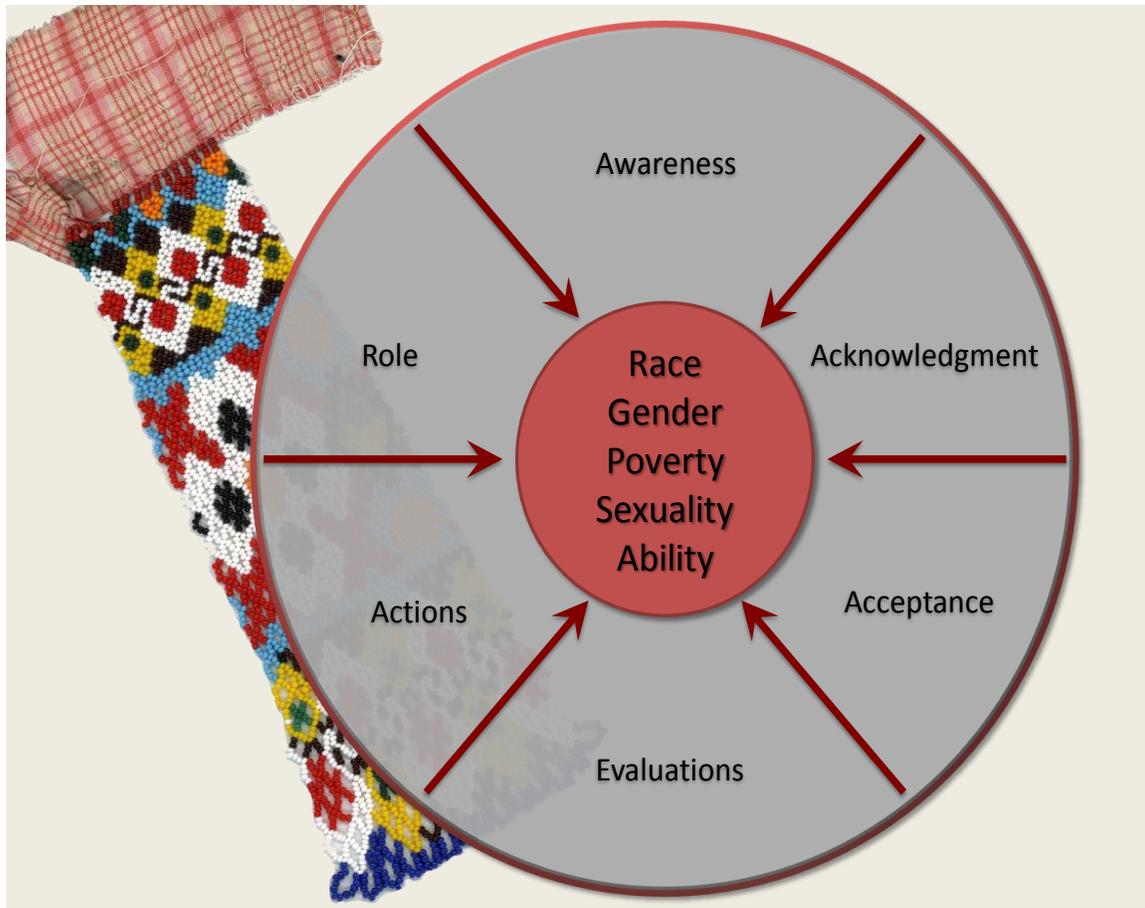
Science & Knowledge

Using the number guide (1,2,3,4) for each of the continuums below (A,B,C,D,E) write out a number expressing what you think <u>most people believe</u> about the development of techno-science knowledge in contemporary society.

	1	2	3	4

A. Science knowledge is neutral and objective regardless of who is talking ⟷ Science knowledge is subjective and contingent - who is talking affects understanding

B. Science privileges certain groups ⟷ Science is neutral and privileges no particular group

C. The language of science is uniform and carries the same meaning for all, it's logic and reasoning is universal ⟷ The language of science is culturally specific and gendered

D. The truths of science and math emerge from nature's regularities and the operations of reason ⟷ The truths of science emerge from social relations as well as by nature's regularities and operations of reason

E. Science learning should help us understand the universal truths of nature ⟷ Science learning should help us understand what different approaches to science might make possible or impossible in terms of understanding the world

Working off ideas from K. Kumashiro, 2001. Educational Researcher, Vol 30. No. 3, pp. 3-12, "Posts" Perspectives on Anti-Oppressive Education in Social Studies, English, Mathematics, and Science Classrooms.

Figure 2 - A science and knowledge survey used to generate discussion around the meaning of science and its relation to other ways of knowing; later linked to discussions of anti-racism and Eurocentic science's complicity in racism.

Figure 3 - Dr. Jessen Williamson's Re-Awakening Model based on work by Egbo (2008) and Thompson and Cuseo (2009). Used to aid teacher candidates in considering curriculum and teaching practice.