

A note on indigenous knowledge systems

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This note gives a very brief and simplified overview of two aspects related to the differences between indigenous and European knowledge systems and their potential implications for education. It also offers a few examples of ideas about learning and curriculum based on the metaphor of the Native American medicine wheel. In talking about indigenous knowledge systems it is important to acknowledge that the representation of indigenous knowledge is very problematic. First, we need to acknowledge that we are working with knowledges from communities that have been oppressed and that this oppression happened precisely through the production of knowledge about them by non-indigenous peoples, so there are various ethical issues that need to be considered when trying to represent or use indigenous knowledges in non-indigenous contexts. Second, indigenous knowledge systems have different ways of producing knowledge that rely on oral stories and metaphors to convey messages that are always related to a context, which makes knowledge less fixed and more fluid. Therefore translating these knowledges into systems of alphabetic writing or fixing these knowledges in text or even in video clips will probably misrepresent their message. Third, like all knowledge systems, indigenous knowledge systems are dynamic – they change in response to contexts, so it is very important to have a historical and political awareness of indigenous peoples' past and present contexts (as well as our own) in order to understand how their knowledge is being shaped today.

So, before talking about indigenous knowledges we need first to briefly engage with the complexity of these historical and political contexts. This complexity starts with the definition of the word 'indigenous' itself. This word is defined in different ways (and contested!), by different communities (e.g. academics in different disciplines, politicians and activists in different countries, etc.). There is no one single definition. The definition that we are going to use in this note is that indigenous or aboriginal communities are communities that have continued to live a life based on a collective spiritual relation with the land (including animals, plants, stars, people, air, water and the spirit world) or that have recently had this way of living violently disrupted by colonialism through forced dispossession and linguistic, religious and cultural repression. The aim of this repression was to support the control and ownership of the land by non-indigenous people, to assimilate indigenous peoples into non-indigenous ways of living, organising, knowing and thinking, and to eliminate indigenous knowledges which were seen as primitive, backwards, animistic, unworthy and a threat to what was considered worthy and universal knowledge. Although this repression has been very successful in subjugating and marginalizing indigenous peoples and knowledges to non-indigenous institutions and processes – that are now known as 'mainstream', the repression was not so successful in eliminating indigenous knowledges. Indigenous people all around the world have resisted assimilation through various strategies, many of which were not necessarily strategies of direct or explicit opposition. Indigenous knowledges are living knowledges – both in the sense that they are alive and changing, and also as lived experiences of the communities in conscious and subconscious ways. It is also important to acknowledge that the violent trauma inflicted by colonialism and continuous oppression experienced by indigenous communities have produced effects that are still causing major problems today on both sides. This also affects how indigenous knowledges are shaped and produced in different contexts. Addressing these problems may involve a process of collective healing where different knowledge systems will need to complement each other.

Having said that, our intention in this note is to provide an entry-point for educators to engage with indigenous forms of knowing for two particular reasons: one we believe that more understanding is

necessary to transform the existing inequalities and oppression that indigenous peoples are still subject to; two as indigenous knowledges have often been excluded from important conversations, it is essential to create a space for their expression through indigenous peoples' participation in the construction of our collective futures. We believe their insights may offer alternative ways of knowing, seeing and relating that may help us address some of the most complex challenges we face today.

UNDERSTANDING KEY DIFFERENCES

In the academic discipline called 'indigenous studies' there are several comparisons between indigenous and non-indigenous knowledge systems available. Non-indigenous knowledge systems are generally represented as European and Western and based on Enlightenment ideas, which are criticized for providing justifications for colonialism and continuous domination of indigenous peoples. We will briefly give an overview of the most significant fault lines in terms of the reported differences between these two

Figure 1



knowledge systems that have major implications for how we think about education. The first fault line is related to relationships to the natural environment. According to European philosophers like Hobbes, Marx and Kant,ⁱ indigenous cultures live in a state of relationship with their natural environment where they are not in complete control of their existence and this has been seen as a problem to be fixed. According to dominant voices in European philosophy, human evolution meant that human beings (or simply 'men') should conquer and be in complete control of their environment and their destiny (see figure 1). They believed that this would happen through the use of reason and that this would even make it possible for human beings to engineer a universal perfect

society where everyone would agree and everything would be under control. Therefore, scholars and philosophers engaged in knowledge production that could deliver this project (and part of this knowledge justified the process of colonialism).

Figure 2



From an indigenous perspective, according to the literature, for indigenous people the present is woven into the future through the relationships we have with each other (including the land, the animals, natural elements, the metaphysical forces behind phenomena, etc.)ⁱⁱ, so the future cannot be fully predicted in advance as it is always open to the participation of other beings. Therefore, ideas of full environmental 'control' (i.e. having power over) would not make much sense as indigenous people do not see themselves as separate from their environment, but as an integral part of it and dependent on it and on the survival of other species for their own

survival (see figure 2). Therefore knowledge production does not focus on a predicted future, but on present challenges and necessitiesⁱⁱⁱ in a completely inter-dependent context where the survival of one species is dependent on the survival of the other. Professor Leroy Little Bear^{iv} explains:

In aboriginal philosophy, existence consists of energy. All things are animate, imbued with spirit, and in constant motion. In this realm of energy and spirit, interrelationships between all entities are of paramount importance, and space is a more important referent than time [...]. The idea of things being in constant motion or flux leads to a holistic and cyclical view of the world. If everything is constantly moving and changing, then one has to look at the whole

to begin to see the patterns. For instance, the cosmic cycles are in constant motion, but they have regular patterns that result in recurrences such as the seasons of the year, the migration of the animals, renewal ceremonies, songs, and stories. Constant motion as manifested in cyclical or repetitive patterns, emphasizes process as opposed to product. It results in a concept of time that is dynamic but without motion. Time is part of the constant flux but goes nowhere. Time just is. (LittleBear, 2000:78)

REFLECTIONS ON EDUCATION:

What would be the purpose of education from each perspective? Would there be a reason for putting children through a process of schooling? Why? How would each system of education shape young peoples' identities and aspirations? What challenges and problems would each system of education create? What would a blended system look like?

The second fault line we would like to explore is the mind/body split and the importance of reason in European thought. In the same way that man was separate from and supposed to control his environment, the mind was believed to be separate from the body and supposed to control the body. And as the whole project of an engineered society was based on the idea of universal reason (that one kind of thought could

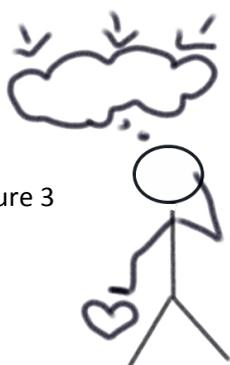


Figure 3

describe reality objectively), the mind became much more important than the body as it engaged in the most important activity for engineering the future: thinking. Descartes, an important scientist in the 16th century who challenged the arrogance of the church in describing reality, said the famous sentence: cogito ergo sum – I think therefore I am. He associated being human with his capacity for thinking as he believed God would not have given him this capacity without a reason. Because of Descartes, the idea that thinking prescribes our actions has become known as 'Cartesian thought'.

From an indigenous perspective, there is no idea of an self – individuals cannot be separated from their land, their communities ancestors (who are not human or imagined in human their 'internal' world consists relations. Therefore, the idea or mind is separated from the make much sense either. Indian philosopher argues indigenous communities believe in 'You are therefore I am'^v. In many Eastern indigenous philosophies it is believed that thought is very deceiving and therefore should be under check all the time for its origins, intentions and consequences. These philosophies also propose that our thoughts arise in our embodied experiences in relation to our environment (rather than from an abstract mind separated from the body that can see everything objectively). In many indigenous languages there is no distinction between the



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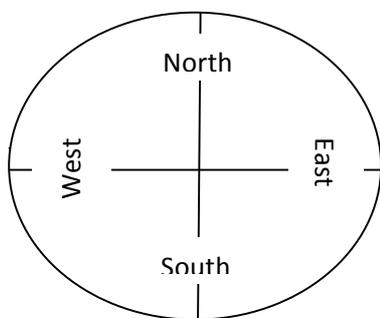
REFLECTIONS ON EDUCATION
 what are the implications of each perspective in terms of the organisation of educational experiences? What would a curriculum for well being look like? What would be the role of spirituality in each curriculum project?

word ‘thought’ and the word ‘emotion’ as they are not seen as separate or distinct. From this perspective, our well being depends on our capacity to achieve a form of balance and centering both within ourselves and in synchrony with those who we are inter-related with. This balance is sometimes represented as the absence of thought – an experience of oneness with everything. It may also be represented in ceremonial acknowledgements of interdependence through reciprocal exchanges and communication with non-human aspects of the environment in the form of offerings and prayer. Therefore, giving and reciprocation are the basis of ethical behavior for indigenous people who understand that the well being of the land is also the well being of humans^{vi}. This ‘gift logic’ based on gratitude for abundance (e.g. the Native American practice of potlatch) has been considered a threat to civilization and to the nation state (and has often been prohibited by law) because it disrupts the capitalist logic of classical economic utility (i.e. maximization of return and accumulation in exchanges based on debt and repayment within contexts of scarcity and individual competition for resources)^{vii}.

INDIGENOUS CURRICULUM PROJECTS BASED ON THE NATIVE AMERICAN MEDICINE WHEEL

As an example of indigenous curriculum projects, we have focused on representations of the Native American medicine wheel in indigenous educational literature, where the Native American Medicine Wheel is often used as a root metaphor for learning processes. As a metaphor, its meaning is attributed in context, and therefore different people will represent it differently according to their own contexts – thus, it is impossible to pin the Medicine Wheel down in a fixed way and many of the representations may involve both indigenous and non-indigenous ideas.

Our first example comes from Sharylin Calliou^{viii} a member of the Michel band of Alberta in Canada. She represents the medicine wheel as a model for a peacekeeping pedagogy. She associates the movement of the wheel (represented by seasonal cycles) with the continuity of learning as the condition of all beings.



She associates the North with the winter and with a cognitive realm that is best expressed in the quality of wisdom. The pedagogical focus of this phase in the cycle is anti-racism. Calliou associates the East with the spring and with the realm of spirituality, which is best expressed in the quality of enlightenment. The pedagogical focus in this realm is peacekeeping. The South is associated with the summer and with the realm of emotions. Here Calliou focuses on what she perceives as the most common and dangerous expression in this realm: racism and the glossing over racism (or denial of the existence of racism). She proposes a pedagogical focus of raising

FIGURE 5

North: Winter, cognitive realm, wisdom, logic, praxis, anti-racism

East: Spring, beginnings, spiritual realm, transformation, praxis, peace-keeping

South: Summer, emotional realm, racism, awareness, denial

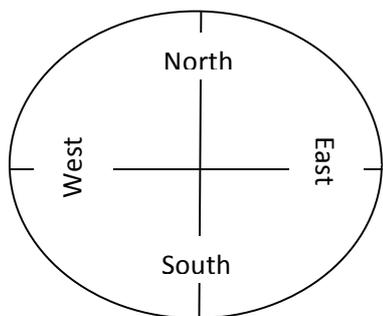
West: Autumn, physical realm, multiculturalism, insight, groundedness

awareness and the potential for love. The West is associated with Autumn and the physical realm. Calliou associates the groundedness of this physical realm (i.e. the Earth) as a basis of multiculturalism – of reaching out to others in our condition of interdependence in only one planet, one mother (see figure 5).

Our second example comes from Gregory Cajete^{ix}, a pueblo sociologist from New Mexico. He represents the four direction of the medicine wheel as a way of engaging with different perspectives:

The four or more directions generally serve as allegories for sacred orientations to places in Indigenous traditions. Each has associated plants, animals and natural phenomena. And each of the

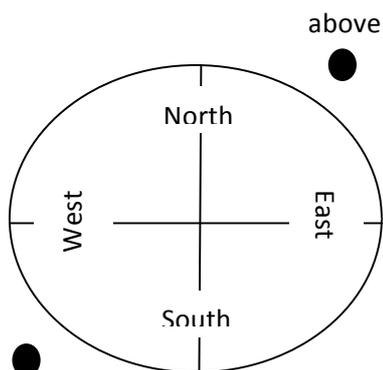
plants and animals represent a perspective, a way of looking at something in the centre that humans are trying to know. The idea of moving around to look from a different perspective, from the north, the south, the east and the west, and from above, below or within, is contained in the creative process [...]. Indigenous logic moves between relationships, revisiting, moving to where it is necessary to learn or to bring understandings together. This might be called the sacred dimension of Indigenous science. Western science has struggled mightily to remove the role of spirit from understanding the world. Indigenous science works from the other side, continually infusing relationships with spirit through its discovery and rediscovery. (Cajete, 2000: 210-11)



Cajete emphasizes the importance of the use of metaphor in education so that learners can establish affective relations with what is being taught and engage their intuition in the learning process, exploring the realm of the unknown. He also uses the medicine wheel to propose a curriculum for indigenous learners based on creativity where students would explore both indigenous and non-indigenous scientific and non-scientific myths and stories (see figure 6).

FIGURE 6

North: First insight – encounters with perceptions, metaphors, cultural content, experience
 East: Immersion – comparison and contrast between indigenous and Western perspectives
 South: Invention, creation – explorations, art, role play, experiments
 West: Reflections and symbolic orientations – evaluating what one has learnt



Chickasaw scholar Eber Hampton^x uses the medicine wheel as an organising principle for learning and movement. He says that there is a risk in representing it as a model emerging from thought and contained by words rather than something that guides thought and that is much more complex and dynamic than the imperfect picture that can be represented in visual text (see figure 5). He identifies six directions as principles for standards of Indian education. The first direction, above, is associated with metaphysics (the realm of spirit), spiritual identities and respect for spiritual connections

between all things. The idea of spiritual identity in this realm is related to freedom based on the acknowledgement of the necessity of diversity and of everyone's right to be who they are meant to be at the service of the collective cycle of life. The East is associated with spring, cultural identity and responsibilities and the acknowledgement of diversity

below

FIGURE 7

Above: Spirit, spirituality, service, identity, freedom, affiliation
 East: Spring, identity, culture, diversity
 South: Summer, affirmation, freedom, tradition, respect
 West: fall, education, service, history, relentlessness
 North: Winter, education, culture, vitality, struggle
 Below: Earth, affiliation, transformation

between indigenous cultural groups. The South is associated with summer and growth and the commemoration of indigenous traditions as living and evolving ways of living. Summer is the time for the pow-wows where different tribes reunite to exchange and celebrate together based on the principle of respect. West is associated with fall and the death of the grass that hides its seed under the snow so that it can live again in the next cycle. Therefore the focus of the West is on education related to indigenous histories and the affirmation of the power of survival. Hampton asks: how does the acorn unfold into an oak? He argues that the answer is within the acorn itself and this direction brings the message that relentless courage is at the heart of the indigenous struggle for life in often hostile institutional environments (such as schools). The North is associated with winter and night, endurance and wisdom.

Hampton sees the North as where Indian people need the vitality to face and challenge the worst effects of racism, specially in Western schooling, which, he sees as being affected by a pathology consisted of unconscious processes which he identifies as:

- 1) a perverse ignorance of the facts of racism and oppression;
- 2) delusions of superiority, motivated by fear of inadequacy;
- 3) a vicious spiral of self-justifying action, as the blame is shifted to the victims who must be helped, that is, controlled for their own good; and
- 4) denial that the oppressor profits from the oppression materially, as well as by casting themselves as superior, powerful and altruistic persons. (36)

The sixth direction is below – the Earth as a shared place. Here is where there is potential for healing as a partnership between indigenous and non-indigenous people to bring about personal, social and structural changes. However, he emphasizes that this partnership needs to acknowledge the violence of the past in order to make room for indigenous expression and revitalization – something that indigenous peoples themselves need to be able to do.

Working in the field of social work, Herb Nabigon (Anishinabe) and Anne-Marie Mawhiney (Cree)^{xi} draw on Cree teachings to propose a model for balance and well being based on the medicine wheel. Their model emphasizes key aboriginal principles that:

[...] all humans need healing [which] is a life long journey [...] Spiritual life is not separate from everyday life. Every aspect of existence is spiritual. Emphasis is on being rather than doing. [A]ll things are related. There is no sense of object and subject: all is one. Mind, body, emotions and spirit are not separate, and humans are not separate from the earth and everything on and in it (p.21).

Their representation of the medicine wheel consists of a ‘hub’ of three nested circles. The inner circle represents the inner self in its relationship with the metaphysical aspects of existence (the inner fire at the core of one’s being), and the outer circles the external selves in their relationship with the outside world

framed by culture, history and time. The external outer circle represents negative (disabling) sides of the external self; the middle circle represents positive and enabling sides of the external self. The internal circle also has negative and positive sides to it (represented by connectivity and relationality versus refusal to listen or learn). The circles are divided into four directions. The purpose of the movement of (and between) the circles is learning and healing towards balance of the three parts of the wheel. Feelings of inferiority/superiority and shame are represented in the outer circle in the east. The corresponding enabling/positive aspect of the external self represented in the middle circle is the acknowledgement, expression and sharing of ‘feeling’ with a view to create the possibility of unconditional acceptance of one’s learning journey and where one is at. The outer circle south represents

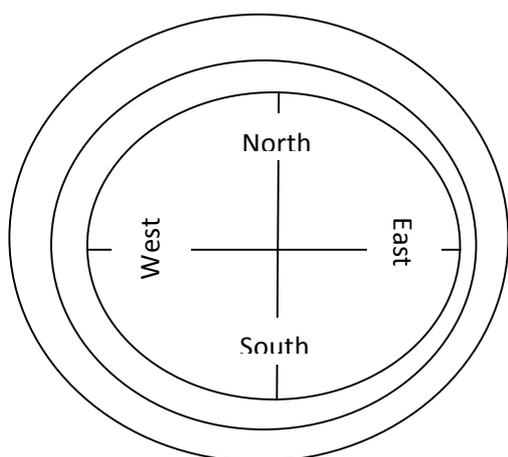


FIGURE 8
 East outer circle: inferiority/superiority – middle circle: feeling
 South outer circle: envy – middle circle: inner voice and value
 West outer circle: resentment – middle circle: respect
 North outer circle: apathy and disregard – middle: care

envy and greed, while the corresponding middle circle represents a connection with one’s inner voice and a sense of inner value. The outer circle in the west represents resentment and attachments to past emotions enacted in a single view of a situation. The corresponding middle circle represents respect – for self and

others – through acknowledgement and honoring of different perspectives. The outer circle in the north represents apathy and disregard for the self, which means that one cannot contribute to the healing and learning of others as one cannot do it for the self. The corresponding middle circle represents caring first for the (balance and healing of), the self which then translates into caring for everything else one is interconnected with. Nabigon and Mawhiney's medicine wheel emphasizes the need for looking at and healing the self first before one tries to change one's environment (or 'the world') as a person's imbalance can be projected in his/her relationships with everything else, creating more imbalances as a consequence.

We have chosen to show different examples of the use of the medicine wheel to illustrate how indigenous ways of knowing create meaning in a very different way from the ways we are used to in alphabetic writing. Rather than fixing one meaning for the medicine wheel that should be placed in an encyclopedia or dictionary, indigenous ways of knowing are open to and welcoming of multiple perspectives as long as such perspectives are accountable to their contexts of production, and their communities/relations in terms of their consequences in practice. Through the examples, we also intended to demonstrate how both indigenous ways of producing meaning/stories/knowledge are historically, culturally and politically situated. In other words, the examples show that all knowledge is connected to a context, it comes from somewhere, no knowledge is individual knowledge and every knowledge is also an ignorance of other knowledges produced in different contexts^{xii}. Therefore, at the same time that it is important to stand against the censorship of indigenous knowledges and peoples, it is also equally important to avoid romanticizing indigenous knowledges through Western lens, which often leads to non-indigenous people speaking *for* indigenous people and silencing them again.

We would like to conclude by saying that our intention is to emphasize the need for an ecology of knowledges^{xiii} where the gifts and limitations of every knowledge system can be engaged with and where indigenous and non-indigenous people can expand their frames of references and open new possibilities for thinking, seeing, knowing, relating and being. However, there is a need to recognize the historical absence of certain knowledges in education and the resulting blindness and arrogance of believing that only one knowledge system can get it right. As an initial step in that direction, we invite educators to think about the implications of considering indigenous knowledges seriously in equipping indigenous *and non-indigenous* young people for adulthood as part of a global community that consists of both human and non-human relations.

REFLECTIONS ON THE CONTRIBUTION OF INDIGENOUS KNOWLEDGES:

Watch the you tube animation 'Abuela Grillo' about the uprising of the people of Cochabamba in Bolivia against water privatization. The animation is based on an Ayoreo (indigenous) narrative about a cricket grandmother whose singing produces water. The grandmother can be seen as a metaphor for the metaphysical forces/spirits behind natural phenomena (represented, in this case, in human form). As you watch the film, think about: how does the grandmother establish her relations? What happens when the grandmother starts to be exploited? How would the story of the uprising be different if told from a Western perspective? What can we learn from the telling of the story from a Quechua perspective that we would not be able to learn through a Western narrative? What are the educational implications of these different modes of telling stories?

<http://www.youtube.com/watch?v=YMM7vM7aiNI>

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- ⁱ See for example: Murphy, M. (2009). *Civilization, Self-determination and Reconciliation*. In Timpson, A. (Ed.) *First Nations, First Thoughts: The Impact of Indigenous Thought in Canada* (pp. 251-278). Vancouver: UBC Press; Henderson, J. (2000). *The Context of the State of Nature*. In M. Battiste (Ed.) *Reclaiming Indigenous Voice and Vision* (pp.11-38). Vancouver: UBC press; and Turner, D. (2006). *Oral traditions and the politics of (mis)recognition*. In A. Waters (Ed.) *American Indian Thought* (pp. 229-238). Oxford: Blackwell.
- ⁱⁱ See Cajete, G. (2000). *Native science: Natural laws of interdependence*. Santa Fé: Clear Light Publishers; Jackson, M. (2010). *Restoring the nation: Removing the constancy of terror*. In J. S. Te Rito & S. M. Healy (Eds.), *Proceedings of Traditional Knowledge Conference 2008: "Te tatau pounamu: The greenstone door"*, The University of Auckland, Auckland, New Zealand; and Ermine, W. (1995). *Aboriginal epistemology*. In M. Battiste & J. Barman (Eds.). *First nation education in Canada: The circle unfolds*. (pp. 101-111). Vancouver, BC: UBC Press.
- ⁱⁱⁱ Burkhart, B. (2006). *What coyote and Thales can teach us: an outline of American Indian epistemology*. In A. Waters (Ed.) *American Indian Thought* (pp. 15-25). Oxford: Blackwell; and Jackson (2010)
- ^{iv} Little Bear, L. (2000). *Jagged worldviews colliding*. In M. Battiste (Ed.) *Reclaiming Indigenous Voice and Vision* (pp.77-85). Vancouver: UBC press.
- ^v Kumar, S. (2002). *You are therefore I am: A declaration of dependence*. Devon: Green Books; see also Cordova (2006); and Hester (2006) in A. Waters (Ed.) *American Indian Thought*. Oxford: Blackwell.
- ^{vi} Kuokkanen, R. (2007). *Reshaping the University: Responsibility, indigenous epistemes and the logic of the gift*. Vancouver: UBC Press.
- ^{vii} *ibid.*
- ^{viii} Calliou, S. (1995). *Peacekeeping actions at home: A medicine wheel model for a peacekeeping pedagogy*. In M. Battiste & J. Barman (Eds.). *First nation education in Canada: The circle unfolds*. (pp. 47-72). Vancouver, BC: UBC Press.
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- ^x Hampton, E. (1995) *Towards a definition of Indian education*. In M. Battiste and J. Barman (Eds.). *First Nations education in Canada: The circle unfolds* (pp. 5-46). Vancouver: UBC press.
- ^{xi} Nabigon, H. and Mawhine, A. (1996). *Aboriginal Theory: A Cree Medicine Wheel Guide For Healing First Nations*. In F. Turner (Ed.), *Social Work Treatment: Interlocking Theoretical Approaches*. Toronto: The Free Press.
- ^{xii} Santos, B. (2007). *Beyond abyssal thinking: from global lines to ecologies of knowledges*. *Revista Critica de Ciencias Sociais*, 80. Available at <http://www.eurozine.com/articles/2007-06-29-santos-en.html> . Last accessed February 26, 2010.
- ^{xiii} *ibid*