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Chapter Four

Comparative Indigenous Ways of Knowing and Learning

Katherine Madjidi and Jean-Paul Restoule

INTRODUCTION

Comparative education tends to focus primarily on mainstream national systems of education. These systems are often colonial models imposed on the earlier inhabitants of the country, although that point is not always made explicit by the comparativist.[1] Indigenous epistemologies and pedagogies have garnered little attention in comparative education theory and practice. However, Indigenous peoples have maintained and honoured their distinct ways of knowing for generations, even while experiencing intense colonial pressure. In a time when many are recognizing the limitations of Western, monocultural education systems, Indigenous ways of knowing and learning provide a rich basis for comparative education study. As this chapter will illustrate, these worldviews have much to offer today's Indigenous and non-Indigenous students and educators as we seek sustainable, peaceful ways to live.

This chapter highlights key areas for the comparative study of Indigenous ways of knowing and learning. We begin by demonstrating that an opportunity for comparative education presents itself within nation-state borders, through the study of Western (mainstream) and Indigenous (locally contextual) worldviews. We then discuss the representation of Indigenous knowledge in comparative education, and introduce four areas for further comparative study: the reclaiming of Indigenous ways of knowing, comparative Indigenous-to-Indigenous exchange, Indigenous knowledge and international educational policy, and the relevance of Indigenous ways of knowing for mainstream educational reform. We conclude by discussing some implications of Indigenous ways of knowing and learning for teachers, and suggest ways to incorporate these into today's classrooms.

In this chapter, the terms *Indigenous* or *Indigenous peoples* refer to the original inhabitants of a particular geographic territory or area, as well as to collective Indigenous peoples internationally.[2] The capitalized term *Aboriginal* refers specifically to the First Nations, Métis, and Inuit peoples in Canada, although it can also be used synonymously with *Indigenous*. *Native American* or *American Indian* refers to the Indigenous peoples residing in what is now known as the United States of America.[3] *Western* is used to designate people, customs, and ideas originating from a European context, including countries with majority populations of European descendents such as Canada, the United States, and Australia. Wherever possible, the specific name for a particular cultural group will be used (for example, Anishinaabe, Innu, Swedish).[4] We note that Western and Indigenous, as monolithic categories, are broad generalizations, both comprised of diverse national and cultural groups, each with their own unique traditions, perspectives, and approaches to learning. However, we use these general categories as a basis for drawing out points of comparison between two distinct sets of worldviews and approaches to knowing and learning.

COMPARATIVE WESTERN AND INDIGENOUS WAYS OF KNOWING AND LEARNING

The clash of Western and Indigenous epistemologies can be traced back to first contact, meaning the moments in which colonial and Indigenous cultures first collided. Although it was usually assumed by colonizers that the Indigenous populations were so-called primitive cultures without sophisticated social systems, each Indigenous group had its own developed worldview and corresponding approaches for the socialization and education of its people.[5] For example, Wendy Brady states that her Australian Aboriginal ancestors had systems of education in place for 40,000 years before these were destroyed by 208 years of colonialism.[6] Further conflict occurred as the colonizers attempted to assimilate, subjugate, or "save" Indigenous people by indoctrinating them in Western educational systems. In Canada, this was carried out by forcefully taking Aboriginal children from their families and sending them to residential schools far from home, where they were subjected to foreign belief systems, foods, language, clothing, and religion, and often to physical, emotional, psychological,

and sexual abuse. This systematic effort to instill Western knowledge and values and to simultaneously erase Aboriginal cultural ways of knowing and learning is at the root of many of the challenges troubling Aboriginal populations in Canada.[7] This experience was not unique to Canada: systematic, imposed residential schooling for Indigenous children was also implemented in the United States (under the name Indian boarding schools) and Australia (where the children who were taken are called the Stolen Generation). In developing countries such as Guyana, in South America, the boarding school model is still used in rural Indigenous regions, and many of the same practices (including discouragement of Indigenous language, dress, and culture; imposition of Western curriculum; and separation from family and community) continue today.

Western and Indigenous models of education are each framed by worldviews that inform their epistemologies and pedagogies. Epistemology, from a Western standpoint, is the theory of knowledge, and pedagogy, the processes by which people come to learn or know.[8] The essential conflict between Indigenous and imported educational systems arises, as Vandra Lea Masemann describes, "from a basic epistemological difference in the path to knowledge itself; that is, a basic disagreement about how people come to know what they know and why they believe it to be true."[9]

As the primary basis for most colonially imposed systems of education, Western methods are currently accepted as the mainstream approach to education in most countries. This model emerged relatively recently from its own comparative background across Western cultures; for example, we learned in Chapter One that the United States borrowed from the Prussians in developing free and compulsory education in the mid-1800s. This system of schooling has not always been widely accepted or implemented, as we learned from Karen Mundy in Chapter Three. However, Western educational models have converged today to comprise what is commonly thought of as schooling or education, and generally include formal school settings, age-graded classrooms, separation of learning into disciplines, belief in a linear and objective pursuit of truth, and a focus on literacy, numeracy, and science as primary areas for basic education.

Common generalizations comparing Western and Indigenous epistemologies include binary classifications such as linear versus

cyclical, objective versus subjective, secular versus spiritual, industrial versus nature- and context-based, and fragmentary versus holistic.[10] To construct a more in-depth comparative picture, the following aspects of ways of knowing and learning can be explored: What are learning and knowledge? Where do people come to learn and know? How do people come to learn and know? From whom do they learn? And, why/for what purpose do they learn? Given the wealth of literature on Western models of education, and the Western educational paradigm in which this chapter is being written, this section will focus on Indigenous educational approaches and perspectives from Indigenous scholars on these five questions. Through an analysis of this literature, we will draw out comparisons between Western and Indigenous ways of knowing and learning.

What Are Learning and Knowledge?

Mi'kmaq scholar Marie Battiste describes Indigenous epistemology as theories, philosophies, histories, ceremonies, and stories as ways of knowing. She offers the following commonly used understanding of Indigenous knowledge: "Indigenous knowledge comprises all knowledge pertaining to a particular people and its territory, the nature or use of which has been transmitted from generation to generation."[11] However, she also claims that rather than being diametrically opposed to Western education, Indigenous knowledge reveals Western limitations by presenting a more holistic, developed form of knowledge that "fills the ethical and knowledge gaps in Eurocentric education, research and scholarship."[12] She provides a fuller definition of Indigenous knowledge, explaining:

> [It] embodies a web of relationships within a specific ecological context; contains linguistic categories, rules and relationships unique to each knowledge system; has localized content and meaning; has established customs with respect to acquiring and sharing of knowledge ... and implies responsibilities for possessing various kinds of knowledge.[13]

Several Indigenous scholars identify two central themes underlying Indigenous worldviews: all things are animate and all things are interconnected. Joseph Couture writes, "There are only two things you have to remember about being Indian. One is that everything is alive, and the second is that we are all related."[14] Willie Ermine articulates the two key concepts in Indigenous philosophy as power and place, "power being the living energy that inhibits and/or composes the universe, and place being the relationship of things to each other."[15] In this worldview, human beings are seen as one element in a greater circle of unity with all Creation. Understanding this relationship is foundational to learning one's place in the world.

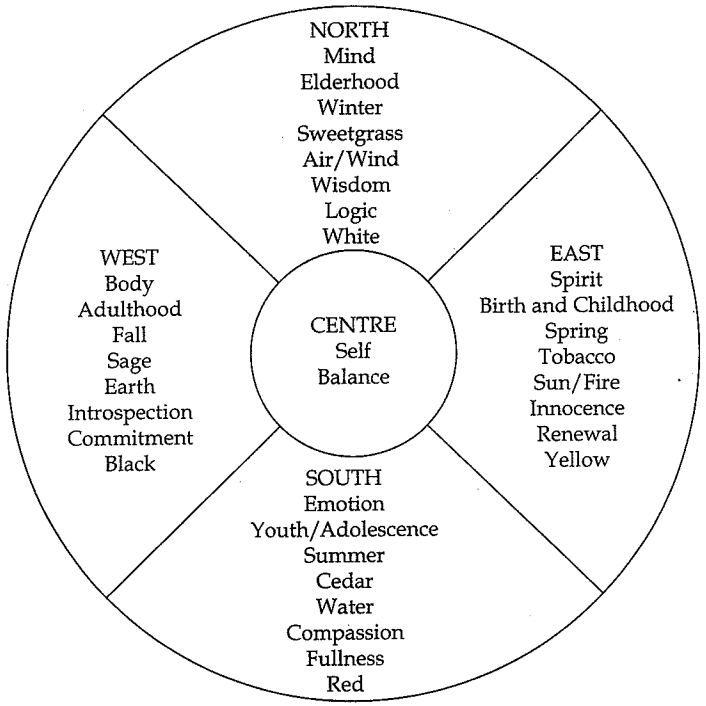
The notion of spiritual reality is also central to Indigenous epistemology.[16] Battiste explains, "Knowledge is not secular. It is a process derived from creation, and as such, it has a sacred purpose. It is inherent in and connected to all of nature, to its creatures, and to human existence."[17] Leroy Little Bear states, "In Aboriginal philosophy ... 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."[18] From an Indigenous perspective, it is through the spiritual or metaphysical worlds that one can construct meaning in the physical world.[19] This contrasts sharply with the modern-day secularity of Western education. Although many colonial schools were associated with a church, current Western religious education in schools is primarily externally imposed, prescriptive, and treated as separate subject matter within the disciplinary pursuit of knowledge. Indigenous spirituality is largely personal, sacred, and integrated throughout one's interaction with and interpretation of the world.[20]

The importance of spiritual development is represented in the Indigenous-based framework known as the medicine wheel. Depictions of the medicine wheel are usually divided into four quadrants, representing the four cardinal directions as well as the four areas of human development (physical, emotional, mental, and spiritual). Each of these directions is associated with multiple meanings, such as stages of life, seasons, animals, gifts, or qualities. Some cultures include additional dimensions, such as placing the self at the centre of wheel to mark balance and the spiritual relationships between all things,[21] or two additional directions above and below to represent the spirit world and the Mother Earth. Although its use is primarily associated with North American Plains cultures (such as Cree, Dakota, and Blackfoot), similar concepts are used by Indigenous groups throughout the world, such as the Maori *Nga hau e wha* (four winds) and other models based upon the

circle and the idea of four or six directions.[22] Marlene Brant Castellano writes that the medicine wheel "is not a model of rigid categorization ... rather it is a model of balance ... The medicine wheel teaches us to seek ways of incorporating the gifts of the other quadrants ... Through the sharing of diverse gifts, balance is created in individual lives and in society as a whole."[23]

The medicine wheel, as Figure 4.1 depicts, offers a clear basis for Indigenous epistemological frameworks and the development of related pedagogy.[24] *The Sacred Tree* describes the four directions as each holding particular gifts, which an individual has the potential to develop throughout a lifelong journey of learning. Rather than viewing education as the development of intellectual capacity, as is primarily the case in Western education, the medicine wheel frames human

Figure 4.1
Medicine Wheel[25]



development holistically. With developmental capacities falling within each area of the medicine wheel, corresponding pedagogical practices and educational objectives can be constructed.[26]

Where Do People Learn?

For Indigenous peoples, knowledge is firmly grounded in a particular sense of place. Little Bear writes, "The Earth cannot be separated from the actual being of Indians."[27] This relationship with the earth as Mother, and with a traditional territory as the basis for and source of life, is central to all processes of learning and knowing for Indigenous peoples. Pueblo educator and scholar Gregory Cajete explains, "Indigenous education is, in its truest form, about learning relationships in context."[28] African scholar George Dei also emphasizes the importance of place as the basis for Indigenous spirituality and knowledge,[29] as we learned in Chapter Three. Therefore, when Indigenous peoples are educated in Western school buildings, separate from their traditional land, this decontextualizes their learning and disconnects learners from their base of experience.

The Canadian Royal Commission on Aboriginal Peoples describes the importance to Indigenous peoples of learning from the land:

> The need to walk on the land in order to know it is a different approach to knowledge than the one-dimensional, literate approach to knowing. Persons schooled in a literate culture are accustomed to having all the context they need to understand ... embedded in the text before them.... Persons taught to use all their senses—to interpret a complex, dynamic reality—may well smile at the illusion that words alone, stripped of complementary sound and color and texture, can convey meaning adequately.[30]

In this context, Western educational superiority is questioned, and claiming to understand through words alone is exposed as a limited experience of knowing.

Another point of contrast between Western and Indigenous cultures is the relationship of human beings to the earth and other beings. Western, monotheistic religious perspectives place "man" as dominant over all Creation, a concept that has been applied to humanity's search for domination over the earth and its resources.

This belief has also been translated to a search for domination over knowledge itself. In contrast, many Indigenous nations view humans as the last beings to be created and therefore the most humble in relation to the natural world.[31] Similarly, knowledge is viewed not as an area to be dominated but rather as an ongoing experience of understanding one's relationship to the land, community, and all created beings.

In an Indigenous worldview, education is based upon the requirements of everyday life. In this way, education is "an experience in context, a subjective experience that, for the knower, becomes knowledge in itself. The experience is knowledge."[32] Thus, the "where" of learning defines one's experience and happens everywhere. The idea that learning should take place only within the four walls of a school, through the prescription of a fixed written curriculum, is diametrically opposed to the idea that learning is dynamic, experiential, and grounded in a sense of place.

Indigenous epistemology conceptualizes education and learning as both life-wide (happening across formal, non-formal, and informal settings) and lifelong.[33] Traditionally, education from an Indigenous perspective is not conducted through a formal, age-graded system. The importance of different life stages is recognized, represented in the medicine wheel by childhood, adolescence, adulthood, and old age. Different learning takes place at different points in time. For example, the period of adolescence is marked in many Indigenous cultures by rites of passage and initiation. These rites of passage are important for a healthy transition from childhood to adulthood. David Lertzman ties some of today's youths' social struggles to the loss of these cultural practices.[34] Fhulu Nekhwevha describes similar cultural practices that are central to Indigenous education in African contexts.[35] This concept of ongoing learning throughout the different stages of life is distinct from current Western systems, which place learning within a formal age-graded schooling structure. In Western cultures, education is often considered synonymous with schooling. Although this is changing as more emphasis is placed in Western cultures on lifelong learning, the general expectation still is that one must first learn through the intensive accumulation of knowledge over several years of formal schooling, and then "do" once he or she graduates from the formal system. In contrast, in Indigenous cultures, learning has always been viewed as "a life-long responsibility"[36] for each individual, taking place in a variety of contexts.

How Do People Learn?

Indigenous worldviews on the origin of knowledge inform how one learns in an Indigenous epistemological framework. Castellano presents three categories of Indigenous knowledge, each with a particular origin. The first, traditional knowledge, includes the histories, Creation stories, genealogies, rights, and relationships that are passed on from generation to generation. This knowledge is often considered sacred to a particular Indigenous nation, and is passed on through storytelling, apprenticeship, and elaborate ceremonies and rituals to ensure its preservation. The second category, empirical knowledge (such as the healing properties of a particular plant), is most easily related to Western means of obtaining knowledge as it is acquired through testing and observation. However, in Indigenous epistemology this is not considered a linear process in which a particular truth is hypothesized, tested, and then proven as true, as in the Western scientific method. Rather, empirical knowledge is viewed as cyclical, dynamic, and evolving over time through the collaborative observations and inputs of many individuals. The third category Castellano calls revealed knowledge. This kind of knowledge comes from the spirit world, and is acquired through dreams, visions, and intuitions. Whereas revealed knowledge in the Western world is reserved exclusively for prophets of God and miracles, in the Indigenous world each individual has the responsibility to make their own inner journey into the metaphysical.[37] Great significance is attributed to dreams and vision quests as ways for an individual to find his or her purpose of life. Castellano explains, "Sometimes knowledge is received as a gift at a moment of need; sometimes it manifests itself as a sense that the 'time is right' to hunt or counsel or to make a decisive turn in one's life path."[38] This multi-faceted understanding of the origins of knowledge makes learning a dynamic process, going far beyond the limits of an approved curriculum, textbook, or schoolteacher's personal knowledge base.

A commonly cited difference between Indigenous and Western modes of education is of primarily oral versus primarily literate cultures. In Indigenous societies, great emphasis is placed on the oral transmission of knowledge through storytelling, traditionally used to convey Indigenous knowledge, customs, and values.[39] Cajete says that "stories [teach] people who they are so they can become all they were meant to be."[40] Storytelling is described as the oldest form of the

arts and thus the basis for the other arts, such as drama, dance, and music.[41] Whereas Western cultures often view storytelling as an activity to entertain small children, in Indigenous pedagogy it is a central tool for teaching and learning.[42]

Equally important to Indigenous pedagogy are the various modes of experiential learning, such as modelling, observation, in-context learning, apprenticeships, and games as methods for learning by doing.[43] "Through observation, experience, and practice children learn the skills, beliefs, values, and norms of their culture."[44] These practices are not exclusive to Indigenous cultures, and were central to most cultures prior to industrialization. However, the introduction of Western schooling marked the separation of children from the community as a base of experience and learning. Lertzman describes the Indigenous context for learning: "Within a community, extended family supplies the social context, along with teachers and individual specialists for these important tasks. Mother Earth provides everything else: classroom, science lab, playground, athletics facility, church, grocery, hardware store, and drug store."[45]

Another important aspect of Indigenous pedagogy is language, which "embodies the way a society thinks."[46] Ermine calls language a "touchstone" for Indigenous culture, saying, "It is imperative that our children take up the cause of our languages and cultures, because therein lies Aboriginal epistemology, which speaks of holism."[47] As has been well documented by anthropologists, language is central to cultural worldviews. For example, in Mi'kmaq culture, languages are verb-rich, process and action oriented, describing "happenings" rather than objects.[48] James (Sákéj) Youngblood Henderson explains that the use of fewer verb tenses in some Indigenous languages does not imply a more simplistic language structure but rather a view of time and space as continuous rather than fragmented.[49]

Other language differences include a varying cadence of speech, commonly known as "wait-time." From an Indigenous perspective, when in dialogue one should take time to internalize and process the other's remarks before responding. Eber Hampton terms this reflective thinking.[50] When Indigenous students do not respond immediately to a question in the classroom, the Western teacher might consider them slow, disrespectful, or unknowing, whereas for the Indigenous student this may be a sign of their thoughtfulness and respect for the other's ideas.

Sacred cultural practices embody ways for knowing and learning that often fall under the spiritual education quadrant of the medicine wheel. Ceremonies help create the conditions necessary for the inward journey towards metaphysical knowledge,[51] "instilling the attitude of expectant stillness that opens the door to full awareness."[52] Ceremonies are also considered opportunities for educational reward, praise, and recognition. Through honoring ceremonies, such as conferral of a name or holding of a potlatch,[53] the community recognizes the individual's movement through the life stages and/or development of certain capacities. Rather than conforming to external rules, as in Western society, in Indigenous societies one is responsible to the group. Ceremonies also confer rights to hold knowledge and authority to wisdom keepers in the community. Sacred practices thus serve as educational markers, points of recognition or "graduation," and award a greater level of responsibility in the community.

Western evaluation of knowledge contrasts with the sacred practices and educational measures of Indigenous peoples:

> Educational philosophy in contemporary education has focused on information to the masses, leading to standardized tests ... and those who can extract information are called educated and intelligent. What this approach ignores is the knowledge that comes from introspection, reflection, meditation, prayer, and other kinds of self-directed learning.[54]

The subjective, such as the experience of participating in ceremonies and cultural practices, is central to Indigenous epistemology and access to truth. This stands in opposition to the Western value of objectivity.[55] This notion of Aboriginal knowledge as personal and sacred leads us into the next discussion, of who teaches or confers knowledge.

From Whom Do People Learn?

In Western educational contexts, the authority of those who confer knowledge is clearly established. Through formal certification, an individual receives the designation "teacher," carrying the defined role and responsibility of educating his or her students. Other sources for knowledge in the classroom include the approved curriculum and pedagogical materials.

In an Indigenous context, the question of who may teach and from whom one learns is much more complex. As previously described, Indigenous knowledge is grounded in the land; therefore, Mother Earth is considered by many as the supreme teacher. Equally important is the spirit world, which includes all Creation and ancestors who have passed on. As all Creation is considered animate, all beings are imbued with Spirit and are therefore potential teachers. Animals or transformative spirit beings, such as the trickster, are characters used to teach children what to do and especially (through their mistakes) what not to do.[56] Rocks are referred to in many cultures as grandmothers and grandfathers and are considered the oldest living teachers.

In Indigenous epistemology, the self is the ultimate teacher. Ermine describes the meeting of Western and Indigenous peoples in 1492 in North America as a clash between peoples destined for two different journeys of discovery: one towards the physical, or "outer space," and the other towards the metaphysical, or "inner space." He writes, "Aboriginal epistemology is grounded in the self, the spirit, the unknown.... [It] speaks of pondering great mysteries that lie no further than the self."[57] Ways of knowing and learning in an Indigenous paradigm are therefore profoundly personal and spiritual, based upon a journey into the inner metaphysical and spiritual worlds of the self.

Indigenous pedagogy assumes personal authority in the search for knowledge, and "values a person's ability to learn independently by observing, listening, and participating with a minimum of intervention or instruction."[58] The Indigenous educational principle of non-interference sets forth the idea of respect for others' wholeness and their independent ability to understand and access knowledge. Although Western educational theorists such as Johann Pestalozzi, Hans Frochel, Maria Montessori, and more recently Paulo Freire have argued for the inherent capacity of the individual and for child/learner-centred dialogic education, mainstream Western education historically has viewed the teacher (and the text) as the authority who holds the knowledge and who has the responsibility to confer this knowledge to students. These contrasting values have been a source of conflict between Western teachers and Indigenous students in the classroom, leading some Indigenous students to rebel when they feel they have been disrespected through the teacher's interference in their personal learning processes.

Conflicts also arise in relation to questions of authority. On the one hand, all beings are teachers in an Indigenous paradigm. Education is considered a collective responsibility that is taken on by the whole community.[59] On the other hand, the right to hold and transfer knowledge is a responsibility endowed by the community based on an individual's earning of that right, as well as by familial and ancestral relationships. Particular individuals are designated as educators in specific contexts; for example, an uncle or aunt is typically chosen to lead a child through his or her rites of passage. Therefore, an Indigenous child entering a Western classroom may question the teacher's authority, since he or she has no context within which to value that authority.

In Indigenous communities, positions of knowledge or respect within the community, such as Pipe Holders, Bundle Holders, or Wisdom Keepers, are obtained through ancestral rights or personal worth, as well as through an elaborate process of apprenticeship and training. These are viewed as positions of service and responsibility rather than of hierarchical superiority. For example, in most Indigenous cultures Elders hold a central role in teaching and guiding children and the community. The designation of Elder (in contrast to "senior citizen") implies gifts of experience and knowledge. Most Elders do not seek status, and position themselves with humility, understanding that they are still learning.[60] One Elder stated, "I am just one day old."[61] Elders traditionally are treated with ultimate respect: if an Elder is speaking, he or she will not be interrupted or questioned critically. This value of respect can create confusion or conflict for the Indigenous student in a Western context, when they are encouraged to think critically and to question those in authority.

Deborah McGregor, an Anishinaabe educator, argues that Indigenous knowledge is governed by rules that are inextricable from Indigenous peoples' traditional relationships to personal and historical identity, experience, land, and ancestral or earned rights. Therefore, Indigenous knowledge is not a subject that can be studied and then mastered: "[J]ust because someone has studied [Traditional Ecological Knowledge] does not mean that one now has it."[62] In contrast, in Western science, the objective is to obtain or possess knowledge by studying it, with an increasing number of years of education directly correlated to one's qualifications as a so-called expert in a field.[63] From

an Indigenous perspective, "Knowledge is not a commodity that can be possessed or controlled by educational institutions, but is a living process to be absorbed and understood."[64]

For What Purpose Do People Learn?

The question of why we learn, or what is the purpose of knowledge, is best understood within the Indigenous worldview that all things are related. If all life is interconnected, then the survival of each life form is dependent on the survival of the others. A common Indigenous saying is, "The honour of one is the honour of all; the hurt of one is the hurt of all."

The Western concept of education as a means for the personal advancement of the individual contrasts with the idea that education is a means for the individual to serve the group. According to Eber Hampton, "Education is to serve the people.... The competitive success of the individual is an implicit value of Western schools and, as such, is in direct conflict with the Indian value of group success through individual achievement."[65] In a study conducted on the student experiences in the American Indian Program at Harvard, Hampton found that the majority of Native American students went there with the intention of using their education to help their communities.

The goal of Indigenous education is not individual prosperity or success, but dignity and responsibility to the community. The ultimate purpose of learning is to understand one's place in relation to the web of life, and to gain the skills and knowledge needed to contribute to the advancement of all beings. In this context, the greater one's knowledge, the greater the responsibility that one holds.

THE COMPARATIVE STUDY OF INDIGENOUS KNOWLEDGE

Representation of Indigenous Knowledge in Comparative Education

Within the formal field of comparative education, surprisingly little attention has been paid to specifically Indigenous educational worldviews and contexts. Comparative research has focused rather "on the education systems ... that were superimposed on the earlier inhabitants of the country."[66] The most significant studies addressing Indigenous peoples prior to 1990 are compiled in Philip Altbach and Gail P. Kelly's *Education and Colonialism* and *Education and the Colonial Experience*[67] (see Chapter One). However, as indicated above, such literature focused more on the effects of colonial systems of education on Indigenous peoples, rather than independently valuing local or Indigenous educational practices.

The notion that Indigenous perspectives could hold equal validity did not significantly enter the field of comparative education until 1990, when Masemann advocated the meaningful inclusion of diverse ways of knowing, including Indigenous knowledge, in her Comparative and International Education Society (CIES) Presidential Address.[68] Since that date, there has been notable movement: the 1996 World Congress of Comparative Education Societies saw the first special Commission for Indigenous Education, and the resulting book, *Tradition, Modernity, and Post-Modernity: Implications for Comparative Education,* included articles on Indigenous education.[69] Robert Teasdale and Zane Ma Rhea's *Local Knowledge and Wisdom in Higher Education,* published in 2000, presents Indigenous perspectives on higher education, in contexts such as Papua New Guinea, Peru, and Australia.[70] Scholars such as Claudia Zaslavsky and Anne Hicking-Hudson have also pioneered comparative research on topics such as ethnomathematics, culturally powerful pedagogies, teacher preparation in Indigenous school settings, and Indigenous teacher identities, thereby deeply enriching the comparative literature with a consideration of Indigenous and local knowledges.[71]

This scholarship is encouraging; nevertheless, our studies suggest that Indigenous ways of knowing are still far from accepted as mainstream. It was not until 1998 that Indigenous knowledge (IK) was included as a subject area in the US-based *Comparative Education Review*; a review of articles since that date reveals very few published on Indigenous topics in the major comparative education journals, with a disproportionate majority in special issues or non-mainstream journals. For example, in 2003 several articles were grouped in a special issue of *Comparative Education*, entitled "Indigenous Education: Addressing Current Issues and Developments." Further, most articles in that issue (as well as in the field) were written from non-Indigenous perspectives, and focused on languages and mother-tongue literacy. While important subject areas, this focus on language demonstrates a persisting interest in the outer (and some would argue, "safer") forms of Indigenous culture, without incorporating a deeper investigation of Indigenous knowledge and underlying worldviews.

In the remainder of this chapter, we therefore suggest four areas for the further incorporation of Indigenous ways of knowing and learning in comparative education studies. We hope that our brief exploration of these areas will both stimulate teachers to consider potential implications for their classroom practices as well as encourage comparative education students to pursue research in these areas.

Rediscovering Indigenous Ways of Knowing and Learning for Indigenous Classrooms

Through the comparative study of Western and Indigenous knowledge, scholars are striving to understand and bring forth models of Indigenous epistemology and pedagogy that have been suppressed and de-validated for years by the imposition of colonial education systems and residential schools. Given the differences illuminated earlier in this chapter, it is not difficult to understand why Western, colonially imposed models of education have been a site of conflict for Indigenous peoples. An essential lack of agreement and understanding between the two worldviews, combined with the forced assimilation of Indigenous peoples into Western school systems, has led not only to Indigenous peoples' disconnection from their own ways of knowing and learning, but also to their perceived failure in the mainstream school system. Documents such as the 1996 report of the Canadian Royal Commission on Aboriginal Peoples have brought this reality to the forefront.

A rift in common understanding between Western and Indigenous cultures in countries such as Canada and the United States continues today. For example, a survey of students in Toronto area schools in 2002 found their knowledge of Aboriginal peoples and issues in Canada greatly lacking.[72] The same year, Indian and Northern Affairs Canada's National Working Group on Education appeared to confirm the trend across Canada.[73]

On a hopeful note, the Indigenous scholars cited in this chapter offer snapshots of the movement by Indigenous peoples to reclaim their ways of knowing and learning. This literature has been growing in strength since 1972 when the landmark document *Indian Control of Indian Education* was presented to the government of Canada, but change has been slow to occur. Reports in Canada and the United States recognize the failure of the Western school system for Indigenous peoples and the need to develop culturally relevant models of education.[74] Although

Figure 4.2
The Thanksgiving Address[75]

Onkwehshon:a *(The People)*
May we now gather our minds as one and give one another greetings and thanks that we are gathered here in good health and in peace. (All agree).

Iethinistenha Onhwentsia *(Mother Earth)*
May we now gather our minds together as one and greet and give our thanks to our mother earth for all that she gives us so we may live.

Ohnekashon:a *(The Water)*
May we now gather our minds together as one and turn to the spirit of the waters of the world. With oneness of mind, we now send our thanks to the waters of the world for quenching our thirst and purifying our lives.

Kariota'shon:'a *(Animal Life)*
May we now gather our minds as one and give our words of greetings and thanks to the animals.

Okwire'shon:'a *(Trees of the Forest)*
May we now gather our minds together as one and give greetings and thanks to the trees of the forest for the fruits we eat, for the shade in summer, and for the shelter of our homes.

Otsi'ten'okon:'a *(Bird Life)*
The Creator instructed the birds to sing upon the arrival of each new day, and to sing so that all life will not know boredom. With one mind we now greet and thank the bird life.

Ratiwe:ras *(Grandfather Thunders)*
The Creator instructed the grandfather thunders to put fresh water the rivers, lakes, and springs to quench the thirst of life. So with one mind we give our greetings and thanks to our grandfathers.

Ehtsitewahtsi:'a Kiehkehnekha Karahkwa *(Our Eldest Brother The Sun)*
We are the younger siblings and our brother sun shines the light so we may see and radiates warmth that all life may grow. We now with one mind give greetings and thanks to our eldest brother the sun.

Iethihsotha Ahsonthenhka Karahkwa *(Our Grandmother The Moon)*
Our Creator placed her in charge of the birth of all things and made her leader of all female life. All babies of all nations are born by her orchestration. May we now gather our minds into one and send our greetings and our thanksgiving to our grandmother the moon.

Shonkwaia"tison *(Our Creator)*

Our Creator made all of life with nothing lacking. All we humans are required to do is waste no life and be grateful to all life. And so now we gather all our minds into one and send our greetings and our thanksgiving to our maker, our Creator.

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there is still a gap between rhetoric and practice, educational projects and programs created by and for Indigenous peoples, which integrate Indigenous ways of knowing and learning, continue to emerge. Exemplary models in Canada include the Kanien'kahaka (Mohawk) Akwesasne science and math program, the Dene Kede curriculum, and the Innuqatiglit program in the Northwest Territories.[76]

The Akwesasne science and math program is a remarkable three-year set of curriculum units integrating Western and Kanien'kahaka thought and methods for learning about the world we inhabit. Akwesasne is based upon the Thanksgiving Address (see Figure 4.2), a central spiritual and cultural tradition of the Haudenosaunee (Six Nations) people, which acknowledges and gives thanks to each aspect of Creation.

The curriculum follows its structure, moving from the Earth upward through grasses, trees, animals, to the waters, birds, sky, stars, and universe. Students learn about these topics from both Western and Kanien'kahaka perspectives, with neither approach receiving greater weight. For instance, the children may learn how Western biologists classify local trees, and at the same time the Kanien'kahaka words for local flora. Elders are incorporated into the teaching process and often take the students out on the land to learn the language and stories containing the traditional knowledge about particular topics. An early unit provides students with the skills to deal with conflicting information, a necessary prerequisite to handling information from disparate worldviews (see Chapter Ten for a further discussion of peace and conflict education).[77]

Other examples of integration of Aboriginal learning into Western educational settings in Canada include early childhood education programs such as Aboriginal Head Start, the initiatives featured in the Red River College video series *Our Children, Our Ways,* and innovative elementary schools such as Eel Ground in New Brunswick

where technology and traditions are seamlessly interwoven. At the high school level, some Indigenous students have the opportunity to learn in their language and culture at cultural survival schools such as Kahnawake (since 1978), and Joe Duquette School in Saskatoon (since 1980). At the post-secondary level, Blue Quills First Nations College and Algoma University College have proven that, while a residential school building may remain, Aboriginal peoples can transform those sites with programs providing truly empowering experiences and knowledge. Some movements seek a complete immersion in cultural learning, such as the Mohawk Language Immersion Project at Kanatsiohareke in New York State and the Seventh Generation Education Institute near Fort Frances, Ontario. In a partnership between the University of Manitoba and the Centre for Indigenous Environmental Resources, continuing education is offered to build capacity in Aboriginal communities. Courses embody integration and are team-taught by an Elder providing traditional knowledge, an Aboriginal scholar with university training, and a Western-trained scientist.

Indigenous peoples in Canada have noted the Tribal College system in the United States and the famous language nests of the Maori in New Zealand as models they may want to reproduce locally. This marks an emerging form of comparative education: Indigenous peoples from one region learning from Indigenous peoples in another post-colonial context.

Indigenous-to-Indigenous Comparative Study and Collaboration

Increased possibilities for global travel, communication, and cross-cultural sharing have prompted the formation of international Indigenous alliances and cross-Indigenous partnerships and scholarship. Diverse Indigenous nations from around the world have been meeting, formally and informally, to share their knowledge practices and to form bonds of solidarity in a movement to promote Indigenous knowledge and to demand the recognition of Indigenous rights and knowledge on a global scale. These interchanges are laying the foundation for a new kind of comparative education study, among and between Indigenous peoples.

Many of these cross-Indigenous gatherings do not appear in the formal, documented literature: they have been primarily based upon oral sharing and experiential immersion in the ways of another

Indigenous nation. Although these gatherings are considered examples of non-formal learning, they are often, in fact, quite formal, including strict protocols as to who can participate, what knowledge can be shared, and how the sharing may happen. Examples include various Elders' gatherings that have been taking place throughout the world and meetings premised on the prophecy of the Reunion of the Condor and the Eagle, which predicts the coming together of North and South American Indigenous peoples as a precursor to the achievement of world peace.[78] Cross-circumpolar activities, between the Inuit in Canada, Alaska, and Russia, and the Saami peoples in Norway, Finland, and Sweden, are also gaining momentum through the creation of circumpolar peoples' organizations, research centres, and councils.

Indigenous scholars who have straddled both Indigenous and Western ways of knowing are also engaged in a movement to promote formal, literary scholarship and sharing among Indigenous peoples. Examples include the World Indigenous Peoples' Conference on Education (WIPCE), and a newer body created in 2002, the World Indigenous Nations Higher Education Consortium (WINHEC), which promotes comparative scholarship on higher education from an Indigenous perspective. Articles published in the WINHEC journal are often based on collaborative scholarship between Indigenous peoples from different regions of the world.

Within international and development education, there are a few examples of international exchange programs and development projects based on Indigenous-to-Indigenous sharing of cultural traditions and approaches to learning. In the Nunavut Youth Abroad program, Canadian Northern youth learn to value their own culture through comparative experiences with other Indigenous peoples. For example, a program participant is quoted in *Aboriginal Planet* online magazine: "In Botswana, I learned that the San people or Bushmen lifestyles were very different to our Inuit lifestyles ... I learned that my culture is unique and interesting to other people ... I'm proud of my culture and had fun answering questions that people asked. I found out that our language is similar in some ways."[79] Ghost River Rediscovery's Youth Leadership Program is based upon a similar premise of developing Indigenous youth leadership capacity through the international exchange of culture and experience amongst youth of various Indigenous nations. Aboriginal youth from Canada participate in co-operative learning and development projects in Indigenous communities in countries such as Guyana, Dominica, and Bolivia. Comparative learning naturally takes place in these settings; for example, Aboriginal youth share with Guyanese Amerindian youth about the perils of alcoholism and the ways that it has negatively affected their communities, and the Amerindian youth in turn demonstrate traditional ways of living that have been forgotten by many Aboriginal youth in Canada.[80]

International funding agencies and universities are recognizing the value of promoting official collaboration among Indigenous peoples. For example, the Canadian International Development Agency (CIDA) established the Indigenous Peoples' Partnership Program to fund partnerships between Indigenous organizations from Canada and South America. The University of Calgary's International Indigenous Studies Program focuses on the study of topics related to international Indigenous peoples, often in an "explicitly comparative perspective."[81] The field of comparative Indigenous-to-Indigenous study and collaboration, in its early stages, offers exciting potential for a new kind of cross-cultural comparative learning.

Education for All and the Multilateral Incorporation of Indigenous Knowledge

As "Education for All" is being promoted throughout the world as a Millennium Development Goal (MDG), it is timely to consider the relevance of Indigenous and local knowledge in relation to global educational movements and educational multilateralism. Education for All (EFA), discussed in Chapter Three, sets forth the objective of universal access to formal primary education and literacy. However, most EFA efforts, the targets of which are largely marginalized and Indigenous populations, continue to propagate a Western-based model of schooling and curriculum with little attention to local or Indigenous models of education.

As has been demonstrated in this chapter, vast differences exist between Western models of schooling and Indigenous ways of knowing. Further, attempts to eradicate Indigenous peoples' ways of knowing and to assimilate them in Western systems have resulted largely in failure in those school systems and severe negative impacts on those peoples. In countries such as South Africa and Zimbabwe, there has been a serious backlash against Western neo-colonialist educational

models, a warning that EFA and other such movements are destined to fail if they continue to ignore Indigenous epistemology, pedagogy, and values. South African scholar Fhulu Nekwevha quotes Ethiopian Hailom Banteyerga as saying:

> What we see today is that the so-called "modern education" is not satisfactorily addressing the problems of Africa to meet the needs and aspirations of the African people. In other words, it has not done much to boost the material growth and spiritual development of Africa.... If Africa is to regain its place as the centre of culture and civilization, it needs to re-think and reframe its education in the context of Africa—and its problems and aspirations.[82]

Similar concerns are raised in relation to the current world trend towards international standardization and testing measures, such as those discussed by Karen Mundy and Joseph P. Farrell in Chapter Eight. Although these assessments aim to provide a means for comparing education on a global level, they generally promote a presumed universal (Western) standard of knowledge that places value on particular kinds of learning and performance and excludes and de-validates other (Indigenous) modes of learning and knowing. Further, as Stephen Anderson discusses in Chapter Seven, school improvement initiatives increasingly encourage teachers to teach to the test. This suggests that these tests are not only measuring performance, but in fact dictating what knowledge is taught, valued, and promoted. This tension has been well documented within the United States, where it has long been argued that standardized tests privilege a particular model of cultural capital and learning style.[83] As a result of these studies, minor adjustments have been made, such as efforts to remove questions that contain obvious cultural or historical bias. However, contrasting worldview definitions of knowledge (and how that knowledge is demonstrated, assessed, and validated) challenge notions of what constitutes cultural bias, as well as the relevance of these tests for a large percentage of the global population.

In developing evaluation measures or promoting Education for All, meaningful consideration of Indigenous ways of knowing and learning is certainly a more difficult task than simply importing an established Western curriculum. Local perspectives and approaches are excluded

not only because Western models are considered superior, but also because inclusion of Indigenous models would be more challenging and time-consuming. If the goal of EFA is to be met by 2015, it may seem more expedient for governments to continue to focus on implementing the dominant Western model of education, including a standard curriculum and teacher training, rather than to develop locally relevant models. However, in our experience, as documented by Nekwevha in this chapter and by Bickmore in Chapter Ten, when international programs do *not* take into consideration local perspectives they are doomed to fail, and worse, they often have lasting negative implications for the participants. In contrast, examples such as those presented by Jospeh P. Farrell in Chapter Five demonstrate that locally relevant methods of education are likely to produce the best learning outcomes for children and the highest chance for success in a developing country or marginalized population context.

On a broader scale, the validity of Indigenous knowledge is slowly being recognized by international multilateral organizations. For example, the World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO) have websites dedicated to the collection and dissemination of Indigenous knowledge practices. The World Bank publishes a newsletter called "IK Notes" for the sharing of Indigenous knowledge practices. The UNESCO database collects best practices in Indigenous knowledge and posts them online for anyone to access. The recognition by these agencies of the role of Indigenous knowledge represents a positive shift in consciousness for the international community. However, the way that this knowledge is being treated also raises important concerns about the rights and responsibilities associated with that knowledge.[84] For example, posting forms of Indigenous knowledge in a web-based database suggests that they can be borrowed and applied outside of their human and geographical contexts, which contrasts with the above-cited literature establishing the centrality of place and context to Indigenous knowledge.

As Indigenous educators and practitioners of international development, we suggest that Indigenous knowledge does hold relevance for global education and development practices, particularly where those practices impact Indigenous peoples. This knowledge may even have application outside of local contexts, for example, in

approaches to environmental sustainability or more holistic models of education, as we discuss below. However, sharing of Indigenous knowledge must go beyond merely documenting practices; it must be integrated in ways that fully consider underlying worldviews, and provide greater participation of Indigenous peoples as respected partners on their own terms. Further, careful consultations with communities and Elders are necessary to determine what is culturally appropriate and to respect the rights and responsibilities associated with that knowledge. To integrate Indigenous knowledge and perspectives meaningfully, greater exposure to the teachings and greater comprehension will be required.

The Fourth Way

Could aspects of Indigenous ways of knowing and learning be incorporated in mainstream educational reform, not just for Indigenous peoples but for all people? Is there value in this? Could it be done while respecting the rights to and sacredness of that knowledge? What would a curriculum incorporating Indigenous knowledge look like? These questions set the stage for our final discussion.

In her 1990 CIES presidential address, Masemann proposed that forms of Indigenous knowledge were not only valid, but also potentially instructive for widespread educational reform. Referring to the rise of alternative paradigms for knowing, she argued, "What these paradigms have in common is that they are holistic, context dependent, and integrative. They propose ways in which society might be knit together again, not sundered apart."[85]

Although world culture theory (discussed in Chapter One) suggests that we are moving towards a uniform, standardized education model based upon a Western, graded, formal system, there is strong evidence that this model does not work for many of the worlds' peoples. For example, demand is swelling in North America for alternative schooling options such as Montessori and Waldorf, which promote more holistic, child-centred pedagogy. There is also a growing openness to Indigenous practices, as individuals become increasingly dissatisfied with the current trend of world affairs, and with the failed mission of modernity as the elixir for the progress of humanity. Evidence of this shift has emerged in several arenas, notably in health and environmental sciences, as the world looks to Indigenous peoples to share their traditional knowledge in a time of crisis.

For Indigenous peoples, this knowledge is not new; the post-modern debate is merely the recognition by the Western world of paradigms that Indigenous peoples have lived and known for thousands of years. Despite years of oppression, scholars, leaders, and Elders from within the Native world are also reaching out to their non-Indigenous brothers and sisters, offering once again to share their wisdom where the dominant paradigm has fallen short. For most Indigenous peoples, this is the only choice. If education is service, and the hurt of one is the hurt of all, then the sharing of Indigenous wisdom at a time of need is the fulfillment of prophecy and our responsibility as part of the circle.

A leading example of this kind of scholarship is *The Fourth Way: An Indigenous Contribution for Building Sustainable and Harmonious Prosperity in the Americas*. This document, written by Four Worlds International and the United Indians of All Tribes Foundation, originates from nine years of consultation with Indigenous leaders and communities across the Americas. *The Fourth Way* proposes that the time has come for humanity to adopt new ways of learning that will prepare us for a sustainable global future, and that we need to look towards an Indigenous-based, holistic education model to lead the way towards the establishment of world peace.[86] The Fourth Way movement is not alone in this call: organizations such as Global Elders are also offering to share models of Indigenous pedagogy and teachings.[87] Couture writes, "There are those who say that the Native Way holds a key, if not *the* key, to the future survival of mankind."[88]

IMPLICATIONS FOR TEACHERS

It is not difficult to imagine that all people might thrive in environments that value wholeness, spirituality, and diverse modes and means of learning. Indigenous pedagogical methods present a "valuable addition to the present systems of education in any teaching topic, not only when teaching Indigenous peoples. By incorporating observation, experience, introspection, and inquiry during the education process, we will begin to create linkages from the experiences of human beings and transmit them wholly to students in the classroom."[89]

Note that the shift required is not to adopt the "cultural" or "exotic" elements of Indigenous ways. As demonstrated in this chapter, the

foundations of Indigenous epistemology are much deeper than this. Investigations of the relevance of Indigenous knowledge for Western or global education must consider the values and philosophical underpinnings informing Indigenous pedagogy:

> Indigenous knowledge presents several goals for educational reform: acknowledging the sacredness of life and experiences; generating the spirit of hope based on experience as a connection with others in creating a new and equitable future; generating the meaning of work as a vocation and as a mission in life; and developing the capacity to do everything to open a new cognitive space in which a community can discover itself and affirm its heritage and knowledge in order to flourish for everyone.[90]

Any investigations of how Indigenous ways of knowing and learning could be applied to mainstream efforts *must* involve Indigenous peoples in their research, design, and implementation. Otherwise, despite the best of intentions, they risk becoming yet another example of colonization, co-optation, and exploitation of Indigenous peoples. As this chapter has demonstrated, Indigenous knowledge is intimately connected to the historical, ecological, social, spiritual, and ceremonial fabric of Indigenous societies and to the Indigenous peoples themselves. Therefore, it cannot be understood outside of those contexts. Through encouraging respectful, collaborative, comparative scholarship between non-Indigenous and Indigenous peoples, and among diverse Indigenous peoples, lies the potential for discerning the path forward for education.

For teachers searching for practical ways to incorporate Indigenous ways of knowing and learning in the classroom, there are many curricular and online resources available.[91] At the end of this chapter, we offer some ideas for incorporating Indigenous ways of knowing and learning into your teaching practice. The way in which you incorporate these suggestions will vary based on your personal interests and expertise, and your classroom and school context. As a start, consider teaching in ways that value every learning style in the medicine wheel: the spiritual, emotional, physical, and mental. In other words, for each topic, find a way to intuit, feel, act, and think about it.

Figure 4.3

Ideas for Incorporating Indigenous Ways of Knowing and Learning in Your Classroom

Find out who the traditional inhabitants are of the land on which your school stands. Using proper protocols, invite an elder to come to your classroom and share some of their teachings. Make a field trip to a local teaching facility such as a friendship centre.

Make space for the expression of spirituality in your classroom. Create a regular "spirit spot" or quiet time that students can use for reflection, journaling, art, prayer, or meditation.

Reinforce respect among students for one another and the world around them. Demonstrate that same respect towards them.

Post teachings such as the Seven Sacred Teachings or the medicine wheel in your classroom.

Use circles and interactive modes of sharing, such as a "talking circle" in which all students have the opportunity to have a voice and share their emotions.[92]

Incorporate music, art, and storytelling integrally in your classroom as valid ways of sharing and learning. Invite Aboriginal and community artists to the class to share these traditions.

Have your class explore Indigenous languages through place names on the map. Words such as Toronto, Ontario, and Canada all have surprising and interesting stories behind them.

When studying history, ask students how these events would affect Aboriginal peoples. As part of a local oral history project have students interview community elders (of all backgrounds) to tell the history not represented in textbooks.

Assign groups to research Aboriginal perspectives on all topics covered in a year.

When studying biology, take your students outside to learn the names of the plants around your school. Have students bring examples of Indigenous foods or medicines to class.

Promote a sense of knowledge and learning as a means for service to the greater community.

Use the world as your classroom, and all of its beings as teachers.

A common question from teachers, both Indigenous and non-Indigenous, is, "Do I have the right to teach from Indigenous cultural worldviews and perspectives?" An Aboriginal Studies scholar at University of Toronto has advised reframing this question to ask, "What is our responsibility?"[93] At a time of spiritual, ecological, and social crisis, the opportunity exists to turn towards Indigenous-based holistic frameworks for knowing and learning, to help humanity develop a sense of respect and relationship with all Creation. In this age of rapid globalization and increased interaction and interdependence across cultures, the need to take into consideration Indigenous ways of knowing and learning has never been more relevant.

QUESTIONS FOR REFLECTION AND DISCUSSION

1. Which characteristics or examples of Indigenous knowledge and pedagogy do you think fit in with typical educational practices in your teaching context? How might you use Indigenous knowledge and pedagogy in your teaching?
2. How do you think the need to incorporate/recognize Indigenous worldviews in the classroom can be reconciled with the need to respect the context, rights, and responsibilities associated with that knowledge?
3. What do you consider to be the relevance of Indigenous and local approaches to learning in the context of global educational movements such as Education for All?

SUGGESTED FILM: *THE LEARNING PATH*, BY LORETTA TODD

The Learning Path tells the story of Aboriginal peoples' forced participation in the residential schooling system in Canada, including experiences of racism, loss of cultural identity, and of educational alienation. It then shows how Native Canadians are now regaining control over their education, highlighting the work of three Aboriginal educators in Edmonton, Alberta. Part of a five-part documentary series entitled *As Long as the Rivers Flow*, the feature-length version of this film won a Silver Hugo award at the Chicago International Film Festival.

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