CO-LEARNING re: “TALKING AND WALKING TOGETHER” OF INDIGENOUS AND MAINSTREAM SCIENCES

Albert Marshall¹ and Cheryl Bartlett²

¹ Eskasoni Mi’kmaq First Nation, NS, Canada
² Cape Breton University, Sydney, NS, Canada

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Indigenous Western

“bringing our sciences together”
Indigenous

“bringing our knowledges together”

Western
OUR KEY CONCEPTS and ACTIONS

- respect
- relationship
- reverence
- reciprocity
- ritual (ceremony)
- repetition
- responsibility

- hypothesis
  (making & testing)
- data collection
- data analysis
- model & theory construction

The breath of life versus the embodiment of life: Indigenous knowledge and western research


CINDY BLACKSTOCK
Executive Director, First Nations Child and Family Caring Society of Canada

Despite the diversity of Aboriginal cultures, there are several common fundamental differences between Aboriginal and western epistemologies. 1) Aboriginal peoples believe their ancestors were rights on most things and western peoples believe their ancestors were either mostly wrong or their ideas could be improved upon (Assembly of First Nations, 1993; Auger, 2001), 2) Aboriginal peoples believe they hold the land and life knowledge in a sacred trust for the generations to follow whereas many western peoples believe they can own land and knowledge and use it for individual benefit with little concern for future generations (RCAP, 1996; Pinto, in press), and 3) Aboriginal knowledge is situation within more expansive concepts of space and time (Auger, 2001). From these differences, flow very different concepts.
CO-LEARNING
“LESSONS LEARNED” over 15+ years

Elders, Mi’kmaq Nation
and other community
Knowledge Holders
together with university
Researchers and
Students
within various
Knowledge Applications and Workshops
LESSONS LEARNED

1. ACKNOWLEDGE WE NEED EACH OTHER ...
   co-learning journey
Go into a forest, you see the birch, maple, pine. Look underground and all those trees are holding hands. We as people must do the same.

(late Mi’kmaq Chief, Spiritual Elder and Healer Charlie Labrador)
LESSONS LEARNED

1. ACKNOWLEDGE WE NEED EACH OTHER ... co-learning journey

2. Two-Eyed Seeing
   learning to see with the strengths of each & together

Albert Marshall, Elder, Mi’kmaq Nation
“LEARN ... to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western (or Eurocentric or mainstream) knowledges and ways of knowing ... and to use both these eyes together, for the benefit of all.”

TWO-EYED SEEING

Elder Albert Marshall
Eskasoni community
Mi’kmaq Nation
It is not enough to go through life with one perspective; we must embrace all the tools we have ...
The Bras d’Or Lakes have been essential to the Mi’kmaq for thousands of years, for:

- sustenance
- spiritual education
- recreation
Mi’kmaq World View
Species possess rights.
Humans possess responsibilities.

Our culture is built on long term vision and our decisions were made with the next Seven Generations in mind.
We are equal to, and part and parcel of, the whole.
Our seasons follow the cycles of Mother Earth ...

... so that our children will always be reminded of the beauty of creation, and of our dependence on her.

Artist: Basma Kavanagh
Mother Earth provides for us, shelters us, nourishes us.
Humans are not privileged, rather we are to be responsible.

from:
Mi’kmaq Family & Children’s Services
Everything that we do to our natural world …

… we also do to ourselves

… since we are all part and parcel of the whole.
Netukulimk
developing the skills and
sense of responsibility
required to become a
protector of other species
Ecosystem Audit
Water is the cradle of life.
Life, Land, Language, Love

Artwork by children at Eskasoni Elementary School
Like nature, we must always have a nurturing component.
Knowledge is spirit.

It is a Gift passed on through many people.

We must pass it on.
As Elders in Our Time

We seek to be a conduit for wisdom of our Ancestors. We seek to see with “Two-Eyes” ... to take the accomplishments of Western Science further by blending it with the wisdom of our Ancestors.
Walking and Talking Together
ACKNOWLEDGE
WE NEED
EACH OTHER ...
co-learning journey

3. view “SCIENCE” inclusively
Indigenous and Western scientific knowledges are based in observations of the natural world.

“stories of our interactions with and within nature”

pattern smarts

Science is dynamic, pattern-based knowledge.
stories of our interactions with and within nature

- recognition
- transformation
- expression

Science

pattern

- various ways to connect the dots
- variety in our stories

Artist: Basma Kavanagh
stories of our interactions with and within nature

SANCTIONED PERSPECTIVES & INTELLIGENCES:
who we are; where we are; where we were;
what we know, do and value

(Howard Gardner’s “multiple intelligences” … a brain-based, Western science theory)
... dynamic, pattern-based knowledge

Science

PATTERNS ...

- spirits within ecosystem-wide minds
- ideas in brain-based minds

stories of our interactions with and within nature
stories of our interactions with and within nature

Science ... dynamic, pattern-based knowledge

PATTERNS ...
- spirits within ecosystem-wide minds
- ideas in brain-based minds

cognitive neuroscience

sense of place, emergence, and participation
“know, do, value” (CEPI Workshop Oct 2004)

Murdena Marshall, Elder, Mi’kmaq Nation

LESSONS LEARNED

1. ACKNOWLEDGE WE NEED EACH OTHER ... co-learning journey

2. DO ... in a

3. view “SCIENCE” inclusively

4. CREATIVE, GROW FORWARD WAY

Together We Heal & Grow seeing & acknowledging my deeds

Murdena Marshall, Elder, Mi’kmaq Nation
LESSONS LEARNED

DO ... in a
CREATIVE, GROW
FORWARD WAY

4.

Murdena Marshall, Elder, Mi'kmaq Nation

Together We Heal & Grow
“See, in the Mi’kmaq world, in all Native worlds, you have to give recognition to everything: misdeeds, good deeds, past deeds, you know? Anything. You have to give that acknowledgement. Everything that you do, you have to acknowledge it.”

5. put our values + actions + knowledges in front of us ... like an object

Murdena Marshall, Elder, Mi’kmaq Nation

Together We Heal & Grow
seeing & acknowledging my deeds
“See, in the Mi’kmaq world, you have to give recognition to everything: misdeeds, good deeds, you know? Anything that you do, you have to acknowledge it."

Murdena Marshall, Elder, Mi’kmaq Nation

Togehter We Heal & Grow

seeing & acknowledging my deeds
Together We Heal & Grow

seeing & acknowledging my deeds

Murdena Marshall, Elder, Mi’kmaq Nation

5. ME

actions, values, knowledges

the “HEALING TENSE”
“together we heal & grow”

5. ME & YOU
actions, values, knowledges

Murdena Marshall, Elder, Mi’kmaq Nation

Together We Heal & Grow
seeing & acknowledging my deeds
LESSONS LEARNED

1. ACKNOWLEDGE WE NEED EACH OTHER ... co-learning journey

2. DO ... in a CREATIVE, GROW FORWARD WAY

3. view “SCIENCE” inclusively

4. put our actions + values + knowledges in front of us ... like an object

ME & YOU
actions, values, knowledges
Since 1999, I have participated in the Language of Spirituality dialogues between Native Americans, scientists, and linguists, which are held in Albuquerque, NM, every summer. During one such dialogue, a number of the Native American participants told long, winding stories, seemingly unconnected to the topic at hand. Finally, one of the Anglo physicists lost his composure and began criticizing the proceedings: “Let’s get beyond just telling stories,” he said, “and get down to a real discussion. Let’s really get into it and sort out what is good and what is bad about Western science and Native science.” What he had heard so far had not qualified for him as a “real discussion.” The response, from the Native Americans present, was not the direct, confrontive type of argument that he was seeking, but instead, more stories, even more long and winding, which then elicited another outburst from the impatient physicist, who felt that his earlier plea had been ignored.
What was happening here? It was a failure of communication at the meta-level between people with different models of what constitutes proper social behavior and the correct way to get one’s opinion across. The physicist, in being direct, critical, and confrontive, was breaking every rule of Native American social interaction. The Native Americans could not directly tell him that without also breaking their rules. Their way to show him that he was in the wrong and had something to learn was through indirect stories which he was expected to be able to “hear” and apply to himself. Their response of more stories, which to them was a highly refined, polite, and indeed, ethical response to his social insult, seemed to him to be insulting.

At the beginning of every Language of Spirituality dialogue, the moderator, Leroy Littlebear, tells us that in dialogue, we should set aside our tacit infrastructures, our currently held beliefs about reality, in order to listen deeply for whatever words, ideas, feelings, or perceptions surface in us during the experience. **However, as the above story illustrates, becoming aware of and setting aside one’s tacit infrastructure is easier said than done.** [emphasis added]
LESSONS LEARNED

1. ACKNOWLEDGE
   WE NEED
   EACH OTHER ...
   co-learning journey

2. DO ... in a

3. view “SCIENCE”
   inclusively

4. CREATIVE, GROW
   FORWARD WAY

5. put our actions + values
   knowledges in front of us
   ... like an object

6. use VISUALS

ME & YOU

LANGUAGES
The breath of life versus the embodiment of life: Indigenous knowledge and western research


CINDY BLACKSTOCK
Executive Director, First Nations Child and Family Caring Society of Canada

Despite the diversity of Aboriginal cultures, there are several common fundamental differences between Aboriginal and western epistemologies. 1) Aboriginal peoples believe their ancestor were rights on most things and western peoples believe their ancestors were either mostly wrong or their ideas could be improved upon (Assembly of First Nations,1993; Auger, 2001), 2) Aboriginal peoples believe they hold the land and life knowledge in a sacred trust for the generations to follow whereas many western peoples believe they can own land and knowledge and use it for individual benefit with little concern for future generations (RCAP, 1996; Pinto, in press), and 3) Aboriginal knowledge is situation within more expansive concepts of space and time (Auger, 2001). From these differences, flow very different concepts.
put our actions + values knowledges in front of us ... like an object
7. WEAVE back and forth between our worldviews
7 basic or fundamental LESSONS LEARNED

1. ACKNOWLEDGE WE NEED EACH OTHER ... co-learning journey
2. DO ... in a CREATIVE, GROW FORWARD WAY
3. view “SCIENCE” inclusively
4. put our values + actions + knowledges in front of us ... like an object
5. 6. use VISUALS
6. 7. WEAVE back and forth between our worldviews
Artist: Basma Kavanagh
4 BIG QUESTIONS

ontologies

epistemologies

methodologies

goals
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR WORLDS

#1

BIG QUESTION

What do we believe the world or cosmos to be? (ontology)
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR WORLDS

#1

BIG UNDERSTANDING ... IN WORDS

**interconnective**

beings ...
interconnective
and animate:
*spirit + energy + matter*

with
**CONSTANT CHANGE**
within balance and wholeness

**parts & wholes**

objects ...
comprised of parts and wholes characterized by systems and emergences:
*energy + matter*

with
**EVOLUTION**
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR WORLDS

#1
BIG UNDERSTANDING ... IN VISUALS

interconnective

parts & wholes

CONSTANT CHANGE
within balance and wholeness

EVOLUTION
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR KEY CONCEPTS and ACTIONS

#2

BIG QUESTION

What do we value as “ways of coming to know” the cosmos? (epistemology)
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR KEY CONCEPTS and ACTIONS

#2

BIG UNDERSTANDING ... IN WORDS

- respect
- relationship
- reverence
- reciprocity
- ritual (ceremony)
- repetition
- responsibility

- hypothesis
  (making & testing)
- data collection
- data analysis
- model & theory construction

Two-Eyed Seeing
learning to see with the strengths of each & together

OUR KEY CONCEPTS and ACTIONS

#2

BIG UNDERSTANDING … IN VISUALS

photo credit: NRC
What can remind us of the complexity within our ways of knowing?
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR LANGUAGES and METHODOLOGIES

#3
weaving of patterns within nature’s patterns via creative relationships and reciprocities among love, land, and life (vigour) that are constantly reinforced and nourished by Aboriginal languages

un-weaving of nature’s patterns (especially via analytic logic and the use of instruments) to cognitively reconstruct them, especially using mathematical language (rigour) and computer models
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR LANGUAGES and METHODOLOGIES

#3

BIG UNDERSTANDING … IN WORDS

Life
Love
Land

vigour

WEAVING

Math
& Instruments

rigour

UN-WEAVING

"Two-Eyed Seeing" learning to see with the strengths of each & together

"Two-Eyed Seeing" learning to see with the strengths of each & together

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Two-Eyed Seeing
learning to see with the strengths of each & together

OUR LANGUAGES and METHODOLOGIES

#3

BIG UNDERSTANDING ... IN VISUALS

Life
Love
Land

vigour

WEAVING

Math & Instruments

rigour

UN-WEAVING
What overall goals do we have for our ways of knowing?
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR OVERALL KNOWLEDGE OBJECTIVES

#4

BIG UNDERSTANDING … IN WORDS

collective, living knowledge to enable nourishment of one’s journey within expanding sense of “place, emergence and participation” for tribal consciousness and interconnectiveness
dynamic, testable, published knowledge independent of personal experience that can enable prediction and control (and “progress”)
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR OVERALL KNOWLEDGE OBJECTIVES

#4

BIG UNDERSTANDING ... IN WORDS

collective, living knowledge to enable nourishment of one’s journey within expanding sense of “place, emergence and participation” for collective consciousness and interconnectiveness
dynamic, testable, published knowledge independent of personal experience that can enable prediction and control (and “progress”)

towards resonance of understanding within environment
towards construction of understanding of environment
Two-Eyed Seeing
learning to see with the strengths of each & together

OUR OVERALL KNOWLEDGE OBJECTIVES

BIG UNDERSTANDING ... IN VISUALS

from: CCL Aboriginal Learning Knowledge Centre (www.ccl-cca.ca/CCL)

towards resonance of understanding within environment

towards construction of understanding of environment

from: www.leads.ac.uk
Wela’lioq
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