



GARRISON INSTITUTE

Pathways for Planetary Health



# Learning with the Land: Re-Imagining Education in Mi'kma'ki

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## LEARNING WITH THE LAND: RE-IMAGINING EDUCATION IN MI'KMA'KI



*Greeting sunrise on the southeast shore of Nova Scotia.*

What happens when teaching and learning are rooted in Indigenous cultural traditions?

In 2024, the Garrison Institute's [Pathways to Planetary Health](#) program partnered with the [Ulnooweg Education Centre](#) to explore this question together. Funded by the William T. Grant Foundation, this project affirmed that culturally grounded education can foster deep belonging, educational success, and well-being for young people.

Our collaborative project focused on an immersive, nature-based education program for First Nations youth in Mi'kma'ki, the original name for a homeland that includes the Canadian provinces of New Brunswick and Nova Scotia.

We explored key ways to strengthen engagement and belonging for Mi'kmaw youth by integrating science education with cultural identity and tradition. Intergenerational teaching, nature-based learning, and language revitalization emerged as important pathways to deep learning with the land.

### Project Overview

A core guiding principle for our work together was Etuaptmumk, or [Two-Eyed Seeing](#) – a philosophy that inspires us to view the world from one eye with the strengths of Western science and from the other eye with the strengths of Indigenous ways of knowing. Using

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interdisciplinary and culturally appropriate research methods, we described an Ocean-based Education Program and ways to improve it.

We joined Mi'kmaw youth ages 15–18 in coastal New Brunswick at the Huntsman Marine Science Centre. The educational settings included intertidal ecosystems, marine science labs, and the Atlantic Reference Centre (ARC) – an applied environmental research center that is a partnership with Canada's Department of Fisheries and Oceans and houses a vast biodiversity collection, including several hundred thousand species of fish, shellfish, sharks, plankton, and more.

We learned about nature: The marine science facilities provided the opportunity

to engage in lab experiments and behold rare species like dragonfish, which live over a mile underneath the ocean surface.

We learned in nature: Time in the field together enabled youth to study and experience marine life in the field. The youth also kayaked through unique ecosystems and culturally significant sites off the coast of Nova Scotia.

We learned with nature: Guided by Indigenous pedagogy, we were grounded in relationships. Through storytelling with Elders, cultural rituals, and kinship-based learning, education became a multidimensional experience rooted in connection to land, culture, and community.



*Education took place in classrooms, laboratories, and natural settings that stoked curiosity and promoted active engagement in understanding the world.*



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A foundation focused on research that improves the lives of young people supported our project. Our participatory research was guided by questions about how Indigenous cultural pedagogy holds promise for promoting academic success and overall well-being, while providing a pathway for increasing equality and promoting relationship with nature.

We deviated from the typical research process by seeking and receiving ethical approval through an Indigenous ethics review process rather than the typical Institutional Review Board (IRB). In this way, the process itself integrated diverse perspectives, created cross-cultural understanding, and fostered mutual respect among people from First Nations, philanthropy, and research organizations.

### Key Findings

Our research revealed that Indigenous cultural pedagogy—rooted in Earth, language, and relationships—enhances youth engagement, belonging, and educational outcomes.

When cultural identity was affirmed, young people showed increased motivation and engagement. Elders enriched learning environments by modeling gratitude, kinship, and responsibility. Nature-based education nurtured teamwork, curiosity, and a sense of interconnectedness and [wonder](#).

These approaches challenge dominant models of education and reveal the limitations of standardized assessments that fail to reflect Indigenous worldviews. Together, the findings support the integration of cultural language, stories, and community-based knowledge systems into education, with implications for reducing inequality, advancing ecological stewardship, and strengthening collective well-being.

### *Eldership and Intergenerational Learning*

Elders play a critical role in sharing wisdom, experience, and cultural wealth, yet their presence in educational settings often requires additional support. Building intergenerational relationships enhances learning environments by integrating knowledge often absent from conventional curricula. Experience with boundary spanning is especially valuable for facilitating cross-cultural exchange if Elders and youth from different cultures are interacting. Lessons from Elders contribute to reducing inequality in multiple ways:

- **Gratitude:** Practices, rituals, and ceremonies emphasizing gratitude cultivate an ethos of abundance rather than scarcity and orient young people toward relational and mutual ways of living.
- **Kinship and Belonging:** Understanding interconnectedness can reshape school environments, fostering mutual respect between students and teachers. This way of being in relationship is also important for guiding intentions and ethical application of science, technology, and engineering.
- **Community Responsibility and Resilience:** Elders instill a sense of relationship with community that invokes responsibility, which positively impacts academic success and post-graduate employment.
- **Social Awareness and Patience:** Learning and doing activities together at the group's pace under an Elder's guidance enhances sensitivity to social dynamics and teamwork skills by reminding young people, "We are in this together."
- **Cultural Identity and Healing:** Stories about heritage and history aid social healing and self-understanding, fostering resilience and empowerment. Hearing stories about "where we come from" and "what happened to us"

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*Elders from the community taught lessons that are often missing from formal classroom instruction, like patience, gratitude, and Mu naqltultiwkw, “We don’t leave each other behind.”*

can be powerful ways to facilitate social healing processes. These stories help young people understand “who we are” and create meaning from their relationships with cultural knowledge. Framing personal resilience and educational attainment as part of a larger, intergenerational struggle to continue flourishing on these native lands can help empower students to be more engaged in their learning.

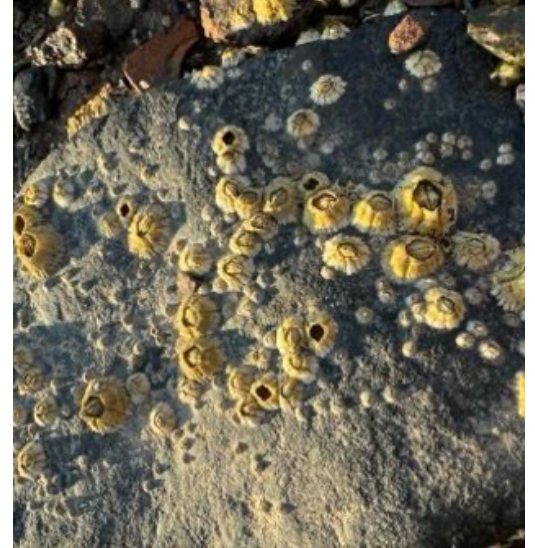
### *Nature as Teacher, Classroom, and Place of Belonging*

Natural environments such as the intertidal zone can serve as powerful conduits for

learning. The exploration of coastal ecosystems engaged all students in ways that help them value themselves, each other, and the Earth. Activities like measuring green crabs encouraged teamwork and diverse forms of natural intelligence—some youth excelled in field observation, others in data analysis or sense-making about observed patterns.

These experiences validated multiple learning styles and provided pathways to success for those underserved by conventional education models. Engaging in this type of active learning, which delivers measurable benefits to the communities (e.g. monitoring invasive crab species and ecosystem health), instills a sense of pride and contribution in educational activity

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*The intertidal zone provided a rich, living learning environment for young people from Indigenous communities. Barnacles were part of marine biology lessons as well as storytelling and natural history interpretation.*

- a motivator not often observed in typical classroom settings.

On a deeper level, by fostering cultural identity and ecological curiosity, this nature-based education program affirmed Indigenous values and cultivated a powerful sense of belonging to place, community, and Earth. Students who experience caring for the ocean and the ocean caring for us can develop a sacred bond and lifelong appreciation for interconnectedness.

### *Language, Stories, and Cultural Pedagogy*

Language and storytelling are foundational to cultural pedagogy. Acknowledging cultural

narratives as legitimate, while integrating Western scientific perspectives, empowered Indigenous youth, reinforcing their sense of pride and belonging. The philosophy of Etuaptmumk (Two-Eyed Seeing) exemplifies this principle, fostering mutual respect between diverse ways of knowing. This perspective laid the groundwork for collaboration and social inclusion among Mi'kmaw youth living within their communities.

### **A Story from the Field**

A story from Stephen, Director of the Pathways to Planetary Health initiative at the Garrison Institute, highlights how language, learning, meaning, and cultural identities are intertwined.



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*On the first day of the program, as we walked toward the Atlantic coast to explore the intertidal zone, a young Mi'kmaw man struck up a conversation with me. It was a clear, late-summer morning—we could see the ocean ahead and smell the salt air. He introduced himself in both English and Mi'kmaw, proudly explaining the meaning of his name. When I asked if he spoke the Mi'kmaw language, he enthusiastically shared more words he knew—especially the names of animals.*

*One of those names was Kitpu, meaning eagle. I responded by sharing the Latin name I knew for Bald Eagle—*Haliaeetus leucocephalus*—and explained how it translates literally to “sea eagle white head.” Then I asked him if he knew where the name Kitpu came from, or if there was a story behind it. He paused, then said simply, “Oh. You’d have to ask an Elder about that.”*

*In that moment, I saw something shift. What had started as a joyful exchange became a quiet lesson in cultural protocol and humility. He wasn’t deflecting—he was showing respect. In his response, he acknowledged the boundaries of his own role and honored the deeper knowledge carried by Elders in his community. I realized that my question, though well-intentioned, had skipped a step in the cultural rhythm of learning.*

*That small exchange stayed with me. It revealed how language, identity, and relational learning are deeply intertwined—and how vital it is to create space for Elders as teachers and knowledge keepers. The next day, as that same youth eagerly explored preserved specimens in a marine science lab—handling jars of deep-sea fish and pointing out creatures he recognized—I found myself wondering what we might all learn if an Elder were present to share Mi'kmaw language and stories alongside the scientific ones.*

*This encounter reminded me that true learning requires curiosity, respect, and relationship. It’s*

*not just about what we know, but how we come to know—and with whom.*

This story carries lessons in cultural protocol and language and powerfully illustrates relational learning and [boundary spanning](#). The title “Elder” for First Nations and Tribal Nations means more than simply a person’s age – Elders are respected members of the community who serve as knowledge keepers, teachers, and guides, and who model relational ways of knowing through lived values.

### Rethinking Inequality in Education

This project invited us to reconsider how we define and measure educational success. Standardized assessments often reflect the worldview of their creators and may unintentionally exclude or marginalize Indigenous knowledge systems.

By focusing on ocean-based learning, cultural traditions, and intergenerational knowledge, we found that culturally affirming and community-driven education fosters a stronger sense of belonging, responsibility, and well-being among Mi'kmaw youth. These experiences reveal that true equity in education must include the right to learn from, in, and with the living Earth, as affirmed in Treaty relationships. Centering education in cultural traditions—while also providing non-Indigenous students opportunities for mutually respectful, cross-cultural learning—can create more inclusive learning environments.

A key insight from this work is that education should nurture relationships—between people, place, and purpose. Mi'kmaw ways of knowing offer a powerful complement to conventional models, emphasizing values like reciprocity, shared responsibility, and collective care.

When integrated into schools, these approaches have the potential to enrich learning



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*Wild turkeys greeted the group at Huntsman Marine Science Centre each morning and became a fun part of the educational experience.*

for all students and foster inclusive environments where every learner feels they belong. By embracing diverse worldviews, we can reimagine education as a pathway to equity, ecological stewardship, and shared well-being.

### Looking Ahead to Planetary and Community Health

This project reinforces a powerful understanding: Indigenous cultural pedagogy is not only essential for reducing inequality in education, but also foundational for restoring right relationship with the Earth. The integration of Indigenous ways of knowing—such as Etuaptmumk (Two-Eyed Seeing), language revitalization, intergenerational learning,

and nature-based education—offers a framework for fostering social cohesion and ecological responsibility.

These approaches speak directly to the core of planetary health: honoring diverse knowledge systems, repairing relationships between people and place, and cultivating a collective ethic of care. Our findings demonstrate that programs rooted in community and the living Earth can shape learning to be more responsive to the social and ecological challenges of our time.

Looking ahead, this work invites expanded partnerships with educators, Elders, policymakers, and universities. Future efforts could deepen the inquiry across multiple years



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*Greeting the sun in New Brunswick, a place with a rich history of cultural exchange.*

and diverse regions, supporting new models that embed cultural pedagogy into curricula and recognize land- and ocean-based learning as rigorous and relational. Priorities include supporting Indigenous review boards and amplifying the role of Elders in community-based, ecological education. Our work also challenges conventional assessments of inequality, calling for new measurement tools that account for diverse worldviews and learning styles.

One promising direction is a cross-national ocean research, education, and food-sharing initiative, grounded in the Mi'kmaw teaching of Netukulimk, "Sharing what is harvested with community." A member of the Peskotomuhkati Nation offered the use of a new hybrid boat to

do a day trip to Grand Manan off the coast of the U.S./Canada border to visit ancestral sites, including immense shell middens and places of spiritual and cultural significance.

This boat was purchased by the nation because it creates fewer emissions, sets a precedent for a greener future, and demonstrates a conservation ethic. The boat is used for scientific initiatives, such as a research program about microplastics and lobsters, as well as fishing. There are opportunities to integrate this research into future education programs and to inspire youth with a hybrid fishing program: a collaboration between three Nations spanning the United States and Canada through which Indigenous fishers sell half of what they catch and

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give the other half to people in the community to feed them.

These inspiring examples demonstrate how to integrate fishing with research, education, and

programs that meet community needs. Future efforts will further transform education into a pathway for healing and relationship, as well as planetary and community flourishing.

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### Acknowledgements

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