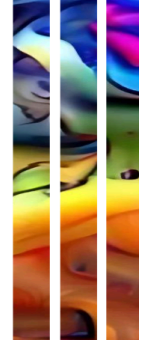


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CCE IN TEACHER EDUCATION PROJECT REPORT

Developing Climate Change Education Leadership Among Pre-service Teachers: Learning from the Land



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Summary

We proposed to develop a Climate Change Education course integrating Indigenous wisdom, ways of knowing, living, and being. Our desire to develop such a course was motivated by the critical and urgent problems associated with climate change and humanity's disconnect from Mother Earth. We aimed to reach young people's hearts and help them connect with Mother Earth through the teachings and wisdom of Indigenous Knowledge Keepers. The specific objectives of designing the course were to help young people: a) connect with their place and with Mother Earth, b) connect with themselves, c) develop intergenerational sustainability thinking, and d) understand the principle of reciprocity and the mutual respect among Indigenous Peoples and other Beings.

We approached a Knowledge Keeper, Elder Mike Nadjiwon, to lead and guide us in developing the course. We also worked with two Pre-service teacher candidates who provided insights and perspectives from their experience taking land-based courses. The course development process involved initial teachings by the Elder. This initial stage was critical in helping us understand Indigenous Prophecies about Mother Earth and what is happening. We also learned about women's teachings, offerings and the earth's vibrations. We held several meetings to brainstorm the course objectives and module topics and received feedback from the Elder. Course development occurred over Zoom since the Elder was in a different location. A key outcome of the project is that we have developed the first draft of a ten-module, 36-hour land-based climate change education course for pre-service teachers.

Gaps & Needs Addressed

Our project sought to disrupt the status quo climate change education that prioritizes understanding climate science and ways to change behaviours towards sustainable futures. We believe there is a need to transform the teaching of climate change education through a holistic approach that borrows from the wisdom and knowledge of Indigenous peoples' sustainable ways of living and being. We cannot expect the same way of thinking and learning that led us to the current climate crisis to help solve the problem. Indigenous peoples have been protecting waters, lands, and all life since time immemorial. Indigenous knowledge is closely aligned with sustainability principles and corresponding actions leading to kinship and community wellness.

By seeking the wisdom of knowledge Keepers and Elders, we can help future generations understand how we got to the current climate crisis and learn how to become environmental stewards who can nurture and protect Mother Earth. This project will close the gap between Western thinking about climate change and Indigenous ways of thinking, living, and being on the land. The land-based course will prioritize teachings and learning on the land. Literature shows that learning on the land is transformative for learners and promotes connecting with Mother Earth.

Theoretical Framework/s or Guiding Concepts

The land-based approach and two-eyed seeing are the theoretical frameworks guiding the development of this land-based climate change education course. The land-based approach encourages direct engagement with the local environment, using land as both the classroom and the teacher. It highlights the unique climate challenges of specific places (e.g., by observing fluctuating seasonal changes). It integrates Traditional Ecological Knowledge (TEK) with scientific climate data to comprehensively understand environmental changes. Two-Eyed Seeing is a concept introduced by Mi'kmaq Elder Albert Marshall that encourages learning from multiple perspectives—combining the strengths of Indigenous knowledge systems and Western science.

Through experiential and relational learning, students engage in land-based education, learning directly from the environment and connecting with the land through activities like storytelling with Elders, plant and animal identification and environmental observation and monitoring. Indigenous teachings emphasize relationality—the interconnectedness of all living things—while science provides ecological explanations for these relationships.

Outcomes

Our original project outcome was to develop a Climate Change Education course that integrates Indigenous ways of knowing, living and being and sustainability thinking. The course we envisioned would emphasize the integration of climate change education across the curriculum by engaging all professors in the department to participate at all stages, from course development to implementation. Our envisioned course would comprise classroom-based activities led by Dr. Gwekwerere and land-based instruction led by Elders, Knowledge Keepers, and Dr. Wood.

Our project achieved new and unexpected outcomes. As we started researching and reading about land-based education, we quickly realized that we did not know enough about the topic to develop the course. Most importantly, we learned that Elders lead land-based courses that must be taught on the land. We needed to seek the knowledge and wisdom of an Indigenous Knowledge Keeper to provide guidance and the course content. It was not possible to involve other professors in co-developing the course due to the time commitment required for learning and consulting with the Knowledge Keeper. We plan to share the course resources with other Professors, and we hope they can combine the knowledge across the curriculum.

Successes & Challenges

The project's most tremendous success was working with an incredible Indigenous Elder, Mike Nadjiwon, who is passionate about land-based learning and knew precisely what was needed to develop such a course. Teachings from the Elder included understanding how prophecies help us see what is happening to Mother Earth, how we can help heal Mother Earth through understanding women's teachings and the birthing process, making offerings/gifts, breaking the bondage of the thinking of an individual who may be trying to understand themselves and their spirit, reaching students' hearts through Indigenous teachings and looking at climate change and solutions from a different perspective. These teachings paved the way for the ten modules of learning from the Land course.

The most significant challenge we faced was securing an Indigenous Elder to guide us with course development. We experienced unexpected roadblocks as we explored different channels to find an elder. Because of this delay, we developed a draft course outline and are continuing to consult with the Knowledge Keeper to get feedback and revise the modules. Another significant challenge is that the honorarium payment

procedure at our institutions does not work for the Indigenous Elders. After sending the form to the Elder to provide bank details, they seemed uncomfortable with the process, making them feel like they were charging for sharing their knowledge. We have clarified to them that we are gifting the money in gratitude and supporting their work. We hope to find an alternative way to gift without requesting banking details.

Lessons Learned

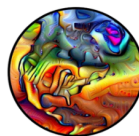
Working on this project was a steep learning curve for us. When we started, we had a general idea that we would need guidance from a Knowledge Keeper. Still, we did not anticipate the roadblocks we encountered while accessing an Elder. Finding the proper knowledge keeper required us to talk to multiple colleagues and send requests through the regular channels we know.

Still, when we finally found Elder Mike Nadjiwon, we were very grateful for the teachings and course development guidance we received. We learned to listen and soaked in all the wisdom he imparted. Some lessons we learned are that the most critical outcome of a land-based course is to think about strategies to help reach the spirit of learners who are trying to understand themselves while thinking about helping Mother Earth.

Being on the land will help students connect to Mother Earth and themselves. These connections can be achieved through learning about prophecies, songs, offerings/gifts, and exploring one's place. We learned that climate change is a symptom of Mother Earth hurting from many years of neglect. It is important to connect with and heal her through reciprocity and Seven Generations sustainability thinking.

Advice & Resources

- Plan for more time than you think when working with Elders and Knowledge Keepers.
- Be prepared to listen and learn from Knowledge Keepers.
- Be willing to let the Elder lead the course development.
- Be prepared to understand how gifting works for the Elder you are working with. Unfortunately, our university's processes for gifting the honorarium go against the beliefs of most Indigenous Elders. We are still trying to find a respectful way of gifting the Elder in a good way.



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