Final Report: Indigenous Knowledge & Information Literacy

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Project Deliverables can be found at the Canvas Self-Enroll Link here.

Presentation scheduled for June 3rd 3-4pm. Zoom Link forthcoming.

Abstract of the Project

Indigenous Knowledge defined by UNESCO

> *"Local and indigenous knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings. For rural and indigenous peoples, local knowledge informs decision-making about fundamental aspects of day-to-day life."*
> *From UNESCO https://en.unesco.org/links*

The purpose of our project was to integrate indigenous knowledge approaches/practices into our course content and assignments in order to begin decolonizing the curriculum. From the perspective of information literacy, this included reframing how we teach the concept of 'authority' and how we discuss information organization systems in SSC101 and courses taught as linked courses to SSC101 such as ENVS& 101.

Indigenous or local knowledge has historically been the basis for decision making around a variety of activities including agricultural practices, environmental conservation, education, and many others. Indigenous or local knowledge is often passed down generationally and is integrally woven into the fabric of communities, cultures and society. In traditional Western Academic STEM curricula indigenous knowledge is often ignored or belittled because of the ideas passed on from Nineteenth century colonialism and social science that indigenous knowledge is primitive, simple and static. These notions were perpetuated even as early

naturalists often exploited indigenous knowledge as part of their scientific research and methodologies.

The lack of respect for and inclusion of indigenous knowledge in STEM courses is a common issue. This can alienate and prevent inclusion for those who have a strong connection to indigenous knowledge & sciences, which operate inherently differently from the dominant Western cultural perspective that is typically the only or primary perspective in STEM courses. We plan to begin incorporating more indigenous knowledge and science sources and methods into SSC 101 and ENVS 101 taught collaboratively as a soft link course. We believe based on previous studies, that this will help students from diverse backgrounds feel more connected to what we are learning and provide all students with a more well-rounded view of different cultural ideas about scientific study and reinforce respect for different ways of knowing outside of the dominant Western cultural model.

# Project Final Report, Outcomes & Assessment

ENVS&101

The outcome of this project in the context of ENVS 101 was to identify areas in our curriculum where we can integrate indigenous knowledge approaches/practices and to implement changes to our courses that reflect this. This work was done in concert with a curriculum development grant associated with this project as well. Our final product included creation of new content that addresses indigenous knowledge in the context of the subject material as well as updating existing content and assignments.

There were several difficulties when assessing the changes to curriculum that make variable isolation impossible at this time. The primary issue is that this course has traditionally been taught face to face or in a hybrid model with significant face to face interaction. I enacted these

curriculum changes during a quarter when all courses were being taught online due to COVID. Therefore I could not compare student performance data from previous courses to this course due to the modality change and all of the variables that modality change brings with it. Therefore, I felt the best metric I could use to assess increased student understanding of the indigenous/ local knowledge models is their own individual pre-knowledge versus their own individual post-knowledge of the concepts conveyed in this curriculum. I gave students surveys of pre and post knowledge about indigenous knowledge/ local knowledge before and after taking the course. I compared student responses of self-perception of pre and post knowledge. The pre-survey will focus on assessing student pre-knowledge about indigenous and local knowledge. I used student responses to gauge how student knowledge, understanding and ability to apply indigenous/ local knowledge has increased prior to the curriculum versus after. I have included a summary of the results below.
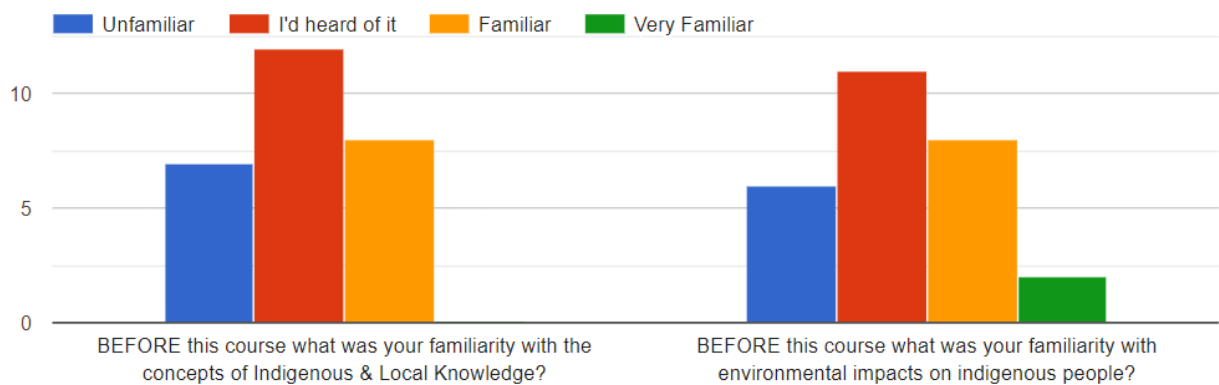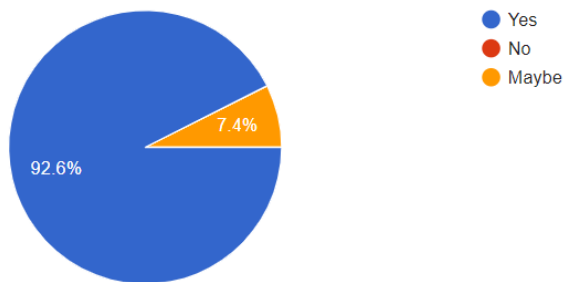

Graph 1 shows students' self-reported level of knowledge about indigenous & local knowledge prior to taking the course.
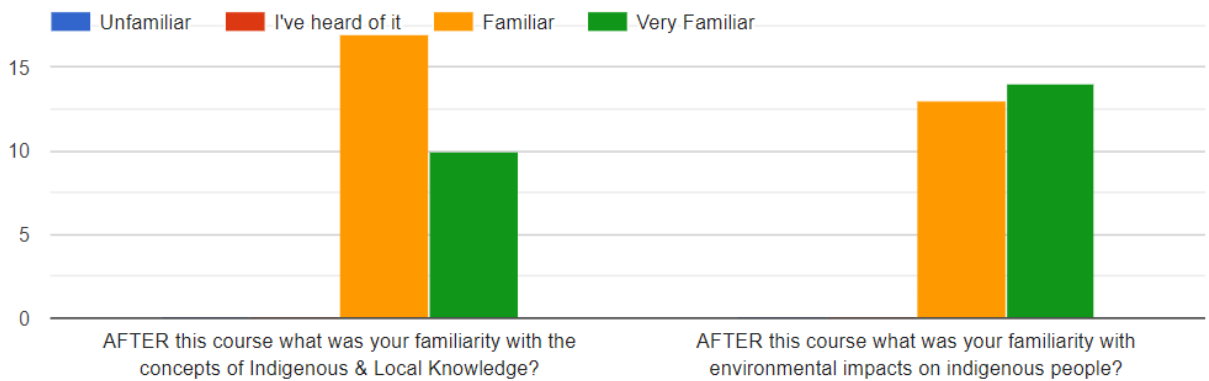
Graph 2 shows students' self-reported level of knowledge about indigenous & local knowledge

after taking the course.

Did this course increase your knowledge and awareness about indigenous knowledge and
environmental impacts on indigenous peoples?

27 responses

- Yes
- No
- Maybe

92.6%

7.4%

Graph 3 shows students' perception of whether this course increased their knowledge about

indigenous & local knowledge and environmental impacts on indigenous people.

The take away from these data is that students felt that the course increased their knowledge

about indigenous & local knowledge and environmental impacts on indigenous people. Before

the course the majority of students self-reported that they were unfamiliar or had only heard of

indigenous & local knowledge and environmental impacts on indigenous people before taking

the course. After the course **all** students self-reported that they were familiar or very familiar

with indigenous & local knowledge and environmental impacts on indigenous people after taking

the course. This supports the conclusion that the changes to the course were successful in

increasing student knowledge about indigenous & local knowledge and environmental impacts on indigenous people. This is also supported by student anecdotal comments from open ended questions in the survey. Below is a sample of student responses.

Student Responses to Open-ended Questions

Question 1: What impact, if any, did it have on your learning to incorporate indigenous and local knowledge into this Environmental Science course?

Sample Student Responses:
- "It brought an empathetic and real perspective to the conversation of environmental science/change."
- "I think that it is important to incorporate indigenous knowledge with environmental science because indigenous sciences consist of knowledge of the environment over thousands of years."
- "I found it really helpful. I felt like it brought it all together. Great book choice, I've learned so much and have been sharing more than I ever have."
- "It gave real-world examples of the impacts environmental science can have."
- "I think it gave a deeper understanding of the nuance of environmental issues-- they are largely produced by industrialized, wealthy, colonizer societies, though they disproportionately affect Indigenous communities who have lived incredibly sustainably for long periods of time."
- "I have a greater understanding of views on environmental science that would not have been included in a typical "modern science only" class"
- "I also think that this course has taught me that any topic I learn in school will always have a voice and a group of people with vital knowledge that are silenced."

Question 2: Is there anything else you'd like to share about your experiences in this class learning about indigenous knowledge in an Environmental Science context?

Sample Student Responses:

- "Learning indigenous knowledge made me realize that I know some knowledge from the Aztec and my ancestors like grandpa and grandma. I grew up with my mom telling me many things about the environment, she knew when it was the right moment for rain. She developed an eye and body temperature sensation because she needed to be aware of when to take her clothes down from the outside hangers. She used to tell me when it was going to start to rain by looking at the sky or looking at the ants gather food to their underground shelter. When we used to live in Mexico I was more connected to nature, I saw the ants behavior eating our mango tree every year, and when It wouldn't happen my mom would point out. I feel this class made me connect more to what I used to know and I have lost touch to it."
- "This class has been perfect. If anything, we probably could have spent another 2 or 3 weeks learning more about indigenous people/knowledge."
- "I love all the reading materials and the fact that every aspect of the chapter we learned this class had ties to the Indigenous communities."
- "I'm very thankful it was a part of the curriculum."
- "Super good class! Learned a lot and inspired me to want to get more in touch with nature."

In addition to student self reporting I noticed anecdotally that students were more engaged in discussions, offering more responses and exchanges than were required for completion of assignments. This was taught as a fully asynchronous course and I noticed more classroom community cohesion and social interaction than in other fully asynchronous courses I have taught. Indigenous knowledge was also incorporated into several student final project topics, which has never occurred in previous courses. These project topics are self-selected by

students. Lastly, despite the remote learning due to COVID my course completion rates were on par with pre-COVID completion rates, but with higher average GPAs than pre-COVID. It is unclear if this is directly related to these curriculum changes so I offer this only as a point of interest and anecdotal evidence that suggests this may improve student engagement, retention and performance. I'm excited to continue to offer this curriculum and grow it in this course and other courses to continue to grow student awareness of indigenous and local knowledge as well as environmental impacts on indigenous people.

SSC 101

Our project goals for SSC101 were to conduct research on Indigenous Knowledge (IK) in the context of information literacy and to identify areas in our curriculum where we could incorporate IK concepts and practices. We also had set a goal for ourselves to create a few new assignments. We accomplished these goals by creating a bibliography of research articles and resources (included below) and creating a course outline that mapped where we saw opportunities for integrating IK - for example, the units on source evaluation and authority, citation, scholarly publishing, and primary sources. This work allowed us to identify two new assignments we wanted to create as well as future projects for expanding on the work we started. The plan is to include these assignments in upcoming iterations of SSC101. An example of a future project is creating a tutorial that explores lived experiences as an authoritative source of information and how this intersects with authority as a construct.

Project Deliverables: Incorporating Indigenous Knowledge in Class

We created a [Canvas page](#) that includes content and assignments that we have incorporated or plan on incorporating in SSC101 and ENVS&101. Below is a brief description of what is included:

1. Information Literacy Assignment #1: Students will interview an elder in their family or community (about weather patterns) to explore the notion of authority while creating primary sources and to engage with local knowledge
2. Information Literacy Assignment #2: Students will watch footage from the Indigenous educational non profit repository Tribe Sourcing including an interview with one of the founders Riannon Sorrell. Students will compare historical footage of Dine (Navajo) people as narrated at the time of recording and as narrated by a Dine woman describing the events of the video.
   a. This exercise will explore primary indigenous sources and authority as a construct as articulated in the ACRL framework
3. Module on Indigenous Knowledge including:
   a. Environmental Ethics & Indigenous Knowledge Videos
   b. Environmental Ethics & Indigenous Knowledge Reading Assignment
   c. Environmental Ethics & Indigenous Knowledge Reading Reflection
   d. Western Science Catching Up with Traditional Knowledge Discussion
   e. This was supplemented by reading discussions created for curriculum development grant completed separately.

Annotated Works Cited

Littletree, S., Belarde-Lewis, M., & Duarte, M. (2020). Centering Relationality: A Conceptual Model to Advance Indigenous Knowledge Organization Practices. *KO KNOWLEDGE ORGANIZATION, 47*(5), 410-426.

The authors present an Indigenous System of Knowledge (ISK) model that centers relationality - the core principle of indigenous ways of knowing. Relationality is the "acknowledgment that we all exist in relationship to each other, the natural world, ideas, the cosmos, objects, ancestors, and future generations, and furthermore, that we are accountable to those relationships". It is also what makes Indigenous ways of knowing fundamentally different from Western knowledge. The ISK model includes the following concepts: relationality/holism, peoplehood, Indigenous ways of knowing, expressions of Indigenous knowledge, and institutions. These concepts are cradled by the Three Rs - respect, responsibility, and reciprocity. The importance of these values are echoed in many of the other sources we referenced for this project.

Loyer, J. (2018). *Indigenous information literacy: nêhiyaw kinship enabling self-care in research*. Library Juice Press.

Research can be traumatic, particularly for those whose "experiences are weakly reflected, absent, or neglected" in research assignments. Indigenous students are often still seen as sites of research as opposed to researchers. Additionally, the stories students research can also cause trauma, making it an essential information literacy skill to be able to make sense of research's effect on us and when we need to take a break. Librarians as teachers have a responsibility to student's holistic health – emotional, spiritual, and physical – and to create space for self-care in the research process. They can use wâhkôhtowin, kinship, as a framework for building relationships with students that center relationality and reciprocity.

Relationality = defined roles in how we are related to each other

Reciprocity = who we are accountable to and responsible for

nêhiyaw law of wâhkôhtowin: uses building kinship as a framework for responsibility and accountability in information literacy. It can be used as a framework for creating capacity for self-care in student researchers.

> Marsh, F. (2019, November 19). Indigenous Knowledge & Decolonising through Critical Information Literacy. *decolonsingcriticallibrarianship*. https://decolonisingthroughcriticallibrarianship.wordpress.com/2019/11/27/indigenous-knowledge-decolonising-through-critical-information-literacy/

We can explore the social construction of knowledge - including authority and ownership - and power dynamics through critical information literacy. Additionally, Indigengous Knowledge can teach us unique ways of understanding information evaluation concepts, such as, authority, credibility, and expertise. It's possible to approach information literacy in a way that recognizes and validates Indigenous ways of knowing and values. For example, reciprocity and relationship. The bibliography provided good starting points for further research.

Additional Reading

Hogan, M. P., & Topkok, S. A. (2015). Teaching Indigenous methodology and an Iñupiaq example. *Decolonization: Indigeneity, Education & Society*, *4*(2).

Gosart, U. (2021). Indigenous librarianship: Theory, practices, and means of social action. *IFLA Journal*, 0340035221991861.

Littletree, S., & Metoyer, C. A. (2015). Knowledge organization from an indigenous perspective: The Mashantucket Pequot thesaurus of American Indian terminology project. *Cataloging & Classification Quarterly*, *53*(5-6), 640-657.

Irlbacher-Fox, S. (2014). Traditional knowledge, co-existence and co-resistance. *Decolonization: Indigeneity, Education & Society*, *3*(3).

Patin, B., Sebastian, M., Yeon, J., Bertolini, D., & Grimm, A. (2021). Interrupting epistemicide: A practical framework for naming, identifying, and ending epistemic injustice in the information professions. *Journal of the Association for Information Science and Technology*.

Younging, G. (2016). The traditional knowledge–intellectual property interface. *Indigenous notions of ownership and libraries, archives, and museums. Berlin: de Gruyter Saur*, 67-74.

Additional Resources

ACRL Framework - Information Literacy framework and standards

iNative at University of Washington - a research group composed of Native American and Alaska Native scholars, information professionals, and students concerned with addressing the information challenges faced by Native nations.

UNESCO LINKS - information about UNESCO's Local and Indigenous Knowledge Systems programme (LINKS)

NAISA Journal - publication by the Native American and Indigenous Studies Association

Decolonization: Indigeneity, Education, & Society Journal - publishes works that purposefully engage in the decolonization process, regardless of discipline or field

Indigenous Information Literacy Libguide - Created by the Kwantlen Polytechnic University library

Decolonizing Citations Video - Video recording of a session about "citational politics", meaning what sources are considered authoritative to cite can validate and legitimize knowledge or oppress knowledge