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ENGAGED SCHOLAR JOURNAL:
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Book Reviews

From the Editor

Lori Bradford

This semester, I received a big surprise when I was anonymously nominated for our institution's undergraduate student association teaching excellence awards. This nomination was a first for me at the University of Saskatchewan. Though I didn't end up being one of the ten superb instructors who were eventually selected, the nomination itself is incredibly gratifying. It reinforces the risks and novelty I am purposely taking as a part of my teaching practice. Some of the innovations in my teaching include an expansion of the variety of assessment techniques I use, such as inbox exercises, fact-checking exposés, and artistic assignments in technical fields (like engineering and water security). I set out to engage students in purposive decision making about how they might demonstrate their learning for the greatest impact on others, not just for impressing me into receiving an "A". I wanted students to work with each other to decide on deliberate actions that recognize each person's unique strengths as they together demonstrate their learning—for example, two students commented on collaborative art as a process by co-creating an assignment directed by the background research of one which was expressed in the incredible painting of another and then reflected on in a co-written account of the partnership as it progressed.

Lori Bradford

While many of the articles published in the Engaged Scholar Journal (ESJ) report on fieldwork, research, and collaborations, we do often have works devoted to teaching, pedagogy, and curriculum, and lessons from each of the pieces we publish can usually be transferred to teaching contexts. In this issue, the first essay by Hill, Whintors, and Bailey is from the context of teaching and learning. Their piece takes academics, educators, and scholars back to our primary years and narrates place-based learning from the lens of children, their teachers including Elders and the Lands and Waters as sentient beings. The works describes how the children grow to be stewards of the land, the water, and each other. The authors nudge engaged scholars towards postcolonial scholarship and their own reflections on such, guiding us to consider how we teach, at all levels, about caring for each other. The theme of caring is important to ESJ, as our upcoming thematic issue in Spring 2023 is about Care and Climate Change. In this issue's second essay, in the post-secondary context, engaged scholars and educators are also nudged to get back to basics through planning for community-university developmental processes to grow certificate-based programming. DeSantis and Tremka describe, for example, how using a variety of engagement tactics, in the co-creation of a certificate on Non-Profit Organizations, makes a better product that will produce graduates who are ready, technically and interpersonally, to work for and with NPOs. This piece demonstrates the versatility of community-engaged scholars. The authors show how our innate drive to use multiple ways of knowing and doing for community engagement (they list seven tactics) benefit equity-deserving groups and ultimately, in the certificate program, those seeking to support equity-deserving groups through NPOs.

The Reports from the Field of this issue are incredibly intuitive in outlining areas for scholars and educators to direct our attention: that is, data and its preservation, and preserving learning through doing at the meta-level when scholars face barriers to research and education. On the latter, these reports provide enriching accounts of adapting and innovating students' experiential learning offerings during and despite the COVID-19 and other technological restrictions. On the former, these reports expand the utility and meaning of disaggregated data for social justice, thereby giving us pause to consider critical gaps in the evidence used in engaged scholarship and who benefits from data; and combining the strengths of archaeology and oral stories to curate Indigenous pasts and artifacts for future generations.

I believe in reinforcing da Cruz's (2018) push for academic institutions like universities to fulfill their civic mission to advance the public good by encouraging faculty to investigate public issues in their courses, issues brought forward and requested by community groups and members. Doing so models ethical citizenship and care for others, something university graduates should come away with as a part of their degree training. How could a university encourage faculty to embrace community-university partnerships driven by community needs in their course development and teaching? One way could be to build teaching awards around community engagement in coursework, rather than around a standard of excellence that rests on students to feel so moved to nominate an instructor without specific criteria. Another way would be redeveloping promotion, tenure, and merit criteria around engaged scholarship (for a commentary on that, see Bharadwaj's piece in ESJ, Vol. 5 No. 2 (2019): Fall 2019).

Our cover art this month is called The Ripple Effect by Canadian artist Cindy McMath. It strikes me that one small act, such as bringing kids to care for their local school environment, can have a ripple effect on the choices they make for the rest of their lives. As engaged scholars, teachers, and community members, we pass that ripple of motivation on to others through our nominations: nominations for awards or recognition, nomination for change put out as challenges to society based on critical reflection, and nominations of pieces to publish here in ESJ through your peer-review. I know that I now feel even more motivated, after my nomination, to include community needs in my teaching. I hope you do too.

Reference

da Cruz, C. G. (2018). Community-engaged scholarship: Toward a shared understanding of practice. *The Review of Higher Education 41*(2), 147-167. https://doi.org/10.1353/rhe.2018.0000

Acknowledgements

The quality of our Journal depends on scholarly collaboration between the two groups of scholars, the authors and the anonymous peer-reviewers of their work. We thank both groups for their interest in and support of our Journal. We are especially grateful to the peer-reviewers listed below, who reviewed submissions to the current issue (Volume 8 Issue 4), for their time and commitment to excellent scholarship.

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David P. Aday Jr.
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Mary Beckie
Ranjan Datta
Jana Grekul
Jaylene Murray

Issue Statistics

A. Authors and Submissions

Authors and Co-Authors	
University-based	45
Community partners	1
Non-university-based partners	10
Total	**56**

Article Submissions	
Original proposals for peer and editor review	7
Articles submitted for editor review	4
Articles submitted for peer review	3
Peer-reviewed articles accepted for publication	2
Editor-reviewed articles accepted for publication	3
Book reviews submitted for editor review	1
Book reviews accepted for publication	1

Geographic Distribution (Corresponding Authors Only)	
Eastern Canada	
Lakehead University	1
University of Ottawa	1
Western Canada	
First Nations University	1
Simon Fraser University	2
University of Regina	1
University of Saskatchewan	1
Total	7

B. Peer-Reviewers and Peer-Reviewing

Peer Reviewers	
Total invitations to peer review	13
Number of peer reviewers who accepted invitations	6

Geographic Distribution (Peer Reviewers)	
Western Canada	
University of Alberta	4
Victoria Island University	1
International	
College of William and Mary	1
Total	**6**

Essays

We are the Salmon Family: Inviting Reciprocal and Respectful Pedagogical Encounters with the Land

Cher Hill, Neva Whintors, Rick Bailey

Abstract Through this action-based research project, we endeavoured to reconfigure pedagogical encounters involving children (ages 8-9) and the natural world to be more reciprocal and respectful, while simultaneously responding to the crisis on the Fraser River in which Salmon runs have reached unprecedented lows. Informed by posthuman and Indigenous perspectives, we joined with our students in a creative practice of world-making during weekly visits to the forest, as well as various field trips to care for Salmon. Practices that moved our community beyond human-centric engagement with the Land were participatory and embodied, and included experiences in which the Land was understood as sacred, agential, and existing independently of the human gaze and desire. As guided by Elders, children advocated for Salmon from within, by caring for them as Family, and engaged in placemaking with the world. While our learning was embedded within specific relational fields, this research contributes to the scholarship on how we might educate for post-colonial futures, providing five signposts that may guide the work of other educators. We see our research as a site for what Kari Grain calls "critical hope."

KeyWords posthumanism, ecological education, Indigenous education, non-human agency, caring for Salmon

In recent years, Salmon runs in the Fraser Basin Watershed in unceded Indigenous territories on the west coast of Canada have reached unprecedented lows, and multiple species are deemed threatened or at risk of extinction (Government of Canada, 2019; 2020). This drastic decrease in Salmon, a keystone species, signals a pending environmental disaster. Further, it threatens food security, as well as traditional and spiritual practices of Indigenous communities who have harvested Salmon in sustainable ways on these Lands since time immemorial, perpetuating colonial legacies. Despite ongoing efforts, practices that put Salmon at risk continue, such as development, deforestation, and overfishing. Further, due to global warming, the temperature of the Fraser has been steadily increasing, creating conditions that are progressively lethal for Salmon (Hinch et al., 2011). Such concerns point to an urgent need for immediate action to care for Salmon and their habitats, while simultaneously developing empirically informed pedagogical models to educate communities to respond differently to the crisis on the Fraser.

Through this action-based research project, we endeavour to reconfigure pedagogical encounters involving children (ages 8-9) and the natural world to be more reciprocal and respectful, as well as responsive to the ecological crises unfolding within our watershed, as well as the climate emergency (IPCC, 2022).The goal of our research is to advance understandings of how to educate children to become good relatives to all the beings on these Lands, as well as good ancestors to this place (Heath Justice, 2018). We are guided by the question: *How can we educate children to live like Salmon People[1] (those Indigenous to this place) and develop more reciprocal and respectful relationships with Land and place?* This, we believe, is the sacred responsibility of all those residing on the Coast Salish territories.

Theoretical Framework

Our project is informed by Indigenous and posthuman scholarship, which provides a promising theoretical approach for ecological education. These philosophies have the potential to reconfigure mainstream relationships between people and the natural world, pushing them beyond the typical western human-centric framing. Posthuman scholarship provides a non-dualist relational approach that disrupts binaries between humans and more-than-humans, and illuminates the entangled, dynamic, and co-constitutive nature of reality (Barad, 2007; Braidotti, 2013). As Dr. Karen Barad (2007) explains, "existence is not an individual affair" (p. 336)—it emerges through relationships. Boundaries between humans and nonhumans are understood as elastic (Datta, 2016), leaky (Ingold, 2011), and slip-slidy (Bennett, 2010). While some post human scholars address ethical responsibility as inseparable from ontology and epistemology (see Barad, 2007), relational ethics is more fundamental, pervasive, and advanced within Indigenous worldviews (Rosiek et al., 2020). In this regard, post human scholarship has much to learn from Indigenous perspectives (Rosiek et al., 2020).

Indigenous scholarship is characterized by a similar relational ontology (Cajete, 1995; Kimmerer, 2014) in which knowledge is "formed by relationships within a specific context" (Wilson, 2008, p. 123). Ways of coming to know and be in the world are situated within webs of interconnectedness and interdependency. All beings are understood as active participants in these relationships. As Lummi scholar Dr. Michael Marker[2] (2011) explains, "epistemologies, founded on relationships with a *sentient* Landscape, shape a pedagogy of place, giving local knowledge a pre-eminence over imported, abstract and techno-globalized knowledge" (emphasis in original) (p. 199). Land-centred learning is inseparable from considerations of spirituality, as well as a desire to connect with more-than-human beings (Marker, 2011).

Our work is informed in particular by local Indigenous worldviews, especially those related to Salmon and Salmon-beings (eagles, bears, and trees that are sustained by Salmon). The Lower Fraser Fisheries Alliance (LLFA) (n.d.) has articulated guiding principles for Indigenous

1 Living like Salmon People does not include the appropriation of sacred Indigenous cultural traditions or practices but rather a shared stewardship of the Land, as well as a focus on enacting ethical commitments to all beings.

2 In efforts to make Indigenous scholarship and the scholarship of other Racialized Peoples more visible, we have included cultural affiliations where such information is available when authors are mentioned by name

governance in our area based on ancestral knowledge and teachings, drawing from over 200 sources including Elders' teachings and other documented stories. These principles underlie an intricate set of overarching responsibilities that local Indigenous Peoples have to these Lands, including "an inherent reciprocal responsibility to take care of everything that belongs to them" and "a reciprocal responsibility to treat cultural keystone fish species as relatives" (p. 21). Maintaining the life cycles of fish, caring for their habitat, and creating opportunities to learn from them are core responsibilities articulated by the LLFA. These teachings are carried by Rick Bailey (co-author) and guide our work.

Within Indigenous and posthuman scholarship, there are many commonalities, including understanding the relationship between humans and other beings as non-hierarchical and recognizing non-human agency (Rosiek et al., 2020). It is important to acknowledge, however, that Western understandings of the sentient nature of Land have been greatly informed by Indigenous knowledge systems, and that these influences are not always recognized, at times rendering them invisible (Todd, 2016). As Rosiek and colleagues (2020) contend,

> it should be understood that Indigenous thinkers and scholars developed ideas about non-human agency thousands of years earlier than contemporary philosophers of science. That being said, different communities may come to similar understandings of the world through different conceptual paths. (p. 332)

In our work, we endeavour to bring together these two lines of scholarship in respectful and mutually informative ways to guide our practice of educating children for a post-colonial world.

While there is much philosophical and conceptual scholarship about posthuman ecological education (Affifi, 2017; Carvalho et al., 2020; Lloro-Bidart, 2018; Lloro-Bidart, 2017; Lindgren & Öhman, 2019; Piotrowski, 2020; Ross, 2020; Stables, 2020; Strongoli, 2019; Verlie, 2020), less is written about the applications of such perspectives. As settler scholar of colour Dr. Ranjan Datta (2016) asserts, *practices* of posthumanism are often absent in the literature. Indigenous scholarship (Cajete, 1994; Wildcat & Deloria, 2001) does, however, provide insight into Land-centred pedagogies that invite understandings of non-human agency and relational ethics. Anishinaabe scholar Dr. Deborah MacGregor (2004), for example, writes about the use of creation stories to examine relationships to all beings. While incredibly insightful, some of these pedagogies might not be culturally appropriate for non-Indigenous educators to introduce to learners. Further, when applied outside of Indigenous knowledge systems, such pedagogies may favour only the aspects of Traditional Ecological Knowledge that are most compatible with Western ecological philosophies (MacGregor, 2004). While all educators have a responsibility for decolonizing education and incorporating Indigenous knowledges, we carry this work in different ways based on our positionality and our experiences (McDermott et al., 2021).

This research involves translating theoretical and conceptual knowledge into everyday teaching and learning practices, as well as theorizing pedagogical experiences. In this regard, it contributes to both the scholarship of application and the scholarship of discovery (Ream et al., 2015). As educators and researchers, we worked closely with one another, as well as with other Elders and knowledge keepers, to enliven post human and Indigenous/ist philosophies (Wilson, 2008) within children's learning. It is challenging to put ideologies into practice (Stenhouse, 1968); it is a scholarly act in and of itself. This paper outlines what we have learned as we experimented with pedagogical practices that we hoped would support children in developing more reciprocal and responsible relationships with Land and place, while simultaneously caring for Salmon.

Our Worldviews

Rick Bailey is a member of q̓íc̓əy̓ (Katzie) First Nation and is currently serving as the Councillor of First Nations Title and Rights, Fish and Wildlife, Treaties, and Justice. Rick grew up listening to his grandparents' stories, which have been passed down in his family since time immemorial. He carries deep knowledge of his territories, having learned to fish and hunt from his grandfather as a young child. At the same time, he works within Western systems to educate and collaborate with settlers. Rick walks in two worlds, and says, "I tell my stories but sometimes I need to tell them in a different way."

Neva Whintors is a teacher-researcher at a public elementary school located on the territories of the q̓íc̓əy̓, q̓ʷa:n̓ƛ̓ən̓, and se'mya'me Nations (Surrey, BC). She has Scottish and Icelandic ancestry. The learning she has done over the past year with Rick as well as other Elders and knowledge keepers has impacted not only how she cares for the Land, but how she views herself in relation to the Land. This work has changed her life.

In the sacred language of the territories where she lives as an uninvited guest, Cher Hill is a xʷənitəm—a white person, a "hungry one." She was brought up with values predominant in Western worldviews, including independence, individualism, and acquisitiveness. As an Assistant Professor in a Faculty of Education and a mother of three, she has been on a personal and professional journey over the past six years to educate herself about Indigenous knowledge systems and worldviews in order to decolonize her teaching and research, and to live in ways that are not so hungry.

Through this project we endeavour to work respectfully and collaboratively as Indigenous and non-Indigenous people across knowledge systems to contribute to post-colonial ecological pedagogies that are urgently needed to support communities in responding to the crises on the Fraser and the climate emergency, while simultaneously supporting children to develop more caring and connected relationships with the beings of this place.

Methodology

This action-based research is guided by post human and Indigenous methodologies. Through our process we endeavoured to transform our ways of being with place and one another, while learning about how to teach for post-colonial futures. Like Heron and Reason (1997), "we believe that what we learn about our world will be richer and deeper if … descriptive knowledge is incidental to a primary intention to develop practical skills to change the world" (p. 281). Viewed through a post human lens, we understand action research as a creative practice of world-making (Beyes & Steyaert, 2011). In this regard, our work is as much ontological as epistemological. As researchers, we see ourselves as participating ongoingly in the dynamic reconfiguration of the world (Barad, 2007), and we constantly considered what worlds were being brought forth within the complex relationships between the children, ourselves, and the Land[3].

Although there are distinct differences between action research and Indigenous methodologies, there is also much overlap, including the importance of empowering community members as researchers, valuing local knowledge, ensuring relational accountability, and centring the project on a focus that is important to local communities (Stagg et al., 2016; Wilson, 2008). As Opaskwayak Cree scholar Dr. Sean Wilson (2008) asserts, both Indigenous and action research seek to "improve the reality of the people you are working with" (p. 115), to which we would add the intention to improve the reality of the natural world.

The project was reviewed by both school and university ethics boards. Consent was received from parents for their children to participate in the research, and assent was sought from children on a regular basis. We received explicit approval from families to include photos in which children are identifiable within this publication. As we traversed through iterative cycles of "action" (or what we called "worldmaking") and reflection, we continuously discussed what we were observing, how the Land was guiding us, and how to best support the children pedagogically. We documented the dynamic, relational exchanges that occurred when the children were in wild spaces or helping Salmon through field notes, photos, time-lapse videos, and drone footage to understand the learning from a variety of perspectives. Neva also collected work samples from her students and documented how the experiences on the Land flowed back into the classroom. We kept journals and regularly reflected on our observations, and these reflections informed subsequent pedagogical approaches. Our analysis involved reviewing our data sources and fieldnotes, as well as our text messages to one another throughout the year to identify key moments that held energy, affected us, or marked a change that occurred in the community. Through dialogue, we organized these key moments thematically and reflected on the pedagogical practices and occurrences that contributed to these shifts.

Context and Background

The research was conducted within a Canadian elementary school, located on the unceded territories of the q̓íc̓əy̓, qʷa:n̓ƛ̓ən̓, and se'mya'me Nations, which backs on to a wild space (commonly used as a dumping ground) and is adjacent to a polluted creek. This community school is home to over 500 children and their families. The principal works within complex institutional structures, which often are antithetical to change, to support staff to enact their pedagogical visions, focusing on "what if?" rather than "yeah but." For eight months, we worked with children ages 8-9, many of whom did not go outside regularly with their families prior to the start of the project.

While caring for Salmon was a focus throughout our learning, we also aimed to cultivate broader reciprocal relationships with the natural world, as all beings are connected. Our learning was cyclical and flowed through various interrelated themes related to Salmon, the watershed, and the forest. We took children out weekly into a wild space to learn with and from the Land

3 We use the term "Land" to refer to all beings that make up wild spaces, including water.

based on Indigenous principles of ethical relationality, including relationality, respect, reciprocity, reverence, responsibility, and generosity (Doiron Koller & Rasmussen, 2021; Kimmerer, 2014; Parent, 2021). We endeavoured to develop a regular practice of giving and receiving in the forest and learning with and from the natural world (Blenkinsop & Beeman, 2010).

The project began when Rick met with the children and encouraged them to “care for Salmon like family.” The q̓íc̓əy̓ people come from the sockeye, as Swaneset, one of the original ancestors, married a Salmon wife (Elder Simon Pierre, as documented in Stuttles & Jenness, 1979). The Elder shared with the children that everyone has a responsibility to help:

> When I say “our” Salmon I’m talking about the world. It is not my Salmon or your Salmon but our Salmon. And when something is yours, you need to take care of it. So everybody needs to help. Even if you’re just one person, you can make a difference. So please help our Salmon.

In particular, Rick encouraged children to plant trees along creeks to create more shade for Salmon and in hopes of offsetting the impact of global warming, which is creating lethal conditions for Salmon.

During the school year the children engaged in various participatory learning activities to care for Salmon, including cleaning up creeks and surrounding areas, welcoming home the Salmon as they returned to a local creek to spawn, painting fish on drains to discourage the dumping of toxic substances into fish-bearing streams, testing local water for pollutants, and participating in a fry release to return Salmon that were raised in a hatchery to the creek. While field trips to care for Salmon were typically more structured, during our time in the forest, we invited place and the children to direct the learning. As the children became familiar with the wild space behind the school, and the place became familiar with the children, particular areas

Figure 1. The gathering place near XYZ where the clearing formed us into the shape of a heart

held different energies and encouraged us to engage with the Land in different ways. A place the children called "the Meadow" is a space void of trees. This space encouraged group gatherings and creative reflection. The children often painted here. Some mentioned that they felt safer in this area compared to more heavily treed areas in the forest. Another area that gathered the children is the creek, which runs adjacent to the school. It was always changing and called in the children as it turned to ice in the winter, bred bugs in the spring, and nurtured cattails and tall grasses in the summer. During our time there, it was a place of discovery and learning—some children engaged in a water inquiry in this location and others taught themselves to weave with cattail leaves in this place.

In some areas, the creek was full of garbage, and the discovery of a jeep stuck in the mud was particularly shocking to the students. To get to the pond, which is on the other side of the creek, the children built a bridge (first out of sticks, which collapsed, and later with an old pallet they found). Like the creek, the pond drew in the children, and they were enchanted by mysterious items partly visible under the murky water and delighted with the arrival of the tadpoles in the spring. "Bugcity"[4] was an area full of activity, with many decaying logs and an abundance of worms and wood bugs, which initially attracted the children because of the liveliness of the place. Children played with bugs and built structures for them here. "XYZ" was a place full of sticks and "hay" (long grass) where children did a lot of building (shelters, "survival tools," "fires"), as well as some tree climbing. The children found sticks that looked like letters here, which is why they called it XYZ. Adjacent to XYZ is a bit of a clearing where we often gathered (see Figure 1). It is in this place where the drumming log called out to the children, and they began to hear the songs coming from the Land.

Typically, there were three place-based groups within the wild space, with an adult facilitator in each area. Children were encouraged to go to the place that held the most energy for them. Certain activities and the learning that resulted, such as painting, building shelters, or looking for bugs, were often associated with particular areas within the forest, and these evolved over time. This is consistent with Indigenous understandings that particular places make "certain kinds of understanding possible" (Rosiek et al., 2020, p. 337). We rarely structured the learning but had a wagon full of items including art-supplies, tarps, sit mats, clip boards, pencils, jewellers' loupes, and drums, and the children helped themselves to what they needed. While place and the children guided the learning, we attempted to nudge, inspire, and/or intervene in the children's intra-actions (Barad, 2007) with the Land in small ways to encourage more caring and respectful relationships. This nudging involved facilitating conversations about ways of being with the Land, introducing everyday rituals and protocols (such as land acknowledgments and practices of gratitude), sharing powerful examples of caring for the Land that we witnessed with the full group, asking questions, and introducing perspectives from beyond our learning community (for example, reading books or inviting guest speakers). Neva, children's teacher worked to connect the learning that was occurring in the forest with the formal curriculum and invite this learning back into the classroom.

4 "Bugcity" was a name introduced by Cher, who instantly regretted it as it reified the children's goal to build human-inspired structures for the bugs.

Living like Salmon People

As we reflected on our experiences educating children to live like Salmon People and develop more reciprocal and respectful relationships with Land and place, we identified five signposts that continue to guide how we work with children. These include: 1) experiencing Land as sacred and deserving of gratitude, 2) recognizing the gifts and responsibilities of all beings, 3) placemaking *with* the world, 4) becoming family to Salmon, and 5) appreciating the interconnectedness of all beings. These signposts are discussed below, followed by a discussion of some of the challenges we encountered working across worldviews.

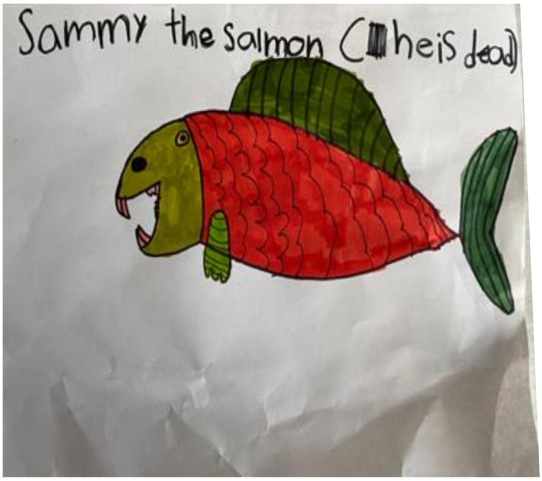
We want to clarify that we do not see learning as a linear and static, but rather we understand it as a complex process that unfolds within unique relational fields, producing different practices, identities, and knowledge (Smythe et al., 2017). In this regard, changes are never permanent. Learning is always an act in the making that requires ongoing participation in the worlds unfolding (Barad, 2007). Consistent with Indigenous and posthuman perspectives, this process of coming to know is as important (or even more important) as the knowledge itself and is inseparable from the context of the learning. As Dr. MacGregor (2004) explains, Indigenous ways of knowing are situated within dynamic relationships with the Land.

> In conventional Eurocentric definitions of Indigenous Knowledge, it is presented as a noun, a thing, knowledge; but to Indigenous people, is it is much more than knowledge. Indigenous Knowledge cannot be separated from the people who hold and practice it, nor can it be separated from the Land/environment/Creation. (MacGregor, 2004, p. 390)

Learning, therefore, is as much ontological as epistemological and involves becoming and knowing with place during the moment of contact. For us, learning to live like Salmon People is an ongoing practice that we continue to hone with our students.

Experiencing Land as sacred and deserving of gratitude

In the beginning, we observed that only a few children appeared to have a strong connection with Land, and most children were not particularly knowledgeable about the natural world, deeply connected with place, or engaged in respectful land-centred practices. The majority of encounters we observed between children and the natural world produced predominantly colonial and human-centric relations. Children marked "their" territory in the forest—sometimes with flags. They claimed that they "discovered" ponds, puddles, and the like—as if the world came into being only though their gaze. They tended to impose names on birds, bugs, and fish, such as glibly calling a dead spawning Salmon "Sammy," without any reverence or respect for this creature and the incredible journey it had undertaken (see Figure 2a). They played with wood bugs and worms in a way that served their own interests (see Figure 2b). For example, they built "bug hotels" complete with swimming pools, with no consideration of the needs of the actual inhabitants. Their creative practices in the forest were largely disconnected from the world around them. They loved to sing and paint in the forest, but their renderings



Student: We made a bug hotel. I made a little baby room and there's a little thing on top for like a crib. I moved it a bit and I said "rock-a-bye-baby on the treetop" (singing) because it is a baby's room where the baby can sleep and it can chill. I really want to make a pool there. Then they can have a pool party!

Cher: Perfect. So it's gonna be interesting to think about what we want for the bugs and what the bugs might want for themselves. Amazing. Thank you.

Figure 2. a) "Sammy the salmon (he is dead)" and
b) conversation between a student and Cher about building a bug hotel

had little or no relationship to place. They painted tropical scenes including palm trees (we live in a West Coast Rain Forest) and sang songs that were popular in the movies or on the radio.

Two practices introduced early on by the children's teacher (Neva) appeared to have a substantial impact on the children's relationships with the natural world. One involved beginning each forest visit with a Land acknowledgement in the hən̓q̓əmin̓əm̓ language[5], thanking the Nations, and recognizing the Land as theirs and, importantly, as sacred. Over time, we observed children shifted from claiming ownership of the forest and possession of parcels of Land to understanding that "you can't claim stuff out in the forest because it is q̓íc̓əy̓ Nation's already" or because "the Land belongs to the forest."

Inviting practices of gratitude also contributed to shifting relationships with the Land and facilitated communication with the more-than-human. How to talk with the forest was a mystery for some students, particularly in the beginning. As one child said, "I don't even know how to talk to the forest cause it doesn't even talk." Communicating with nature, however, was straightforward for others. As one girl said, "you just *talk*." One child, who is Indigenous, was a community leader in this regard. She sang to the forest, offered up words of care and love to the Land, and left leaves all along the trail through the forest as an act of gratitude. As Potawatomi scholar Dr. Wall Kimmerer (2013) contends, gratitude is a "powerful medicine" that "propels the recognition of the personhood of all beings and challenges the fallacy of human exceptionalism—the idea that we are somehow better, more deserving of the wealth and services of the Earth than other species" (para 17). Developing a regular practice of gratitude contributed to more joyful and responsive relationships with the Land.

5 The hən̓q̓əmin̓əm̓ words included in this paper come to us from Clayton Maitland, and his teacher, sesmélət Fern Gabriel, from qʷa:n̓ƛ̓ən̓ Nation.

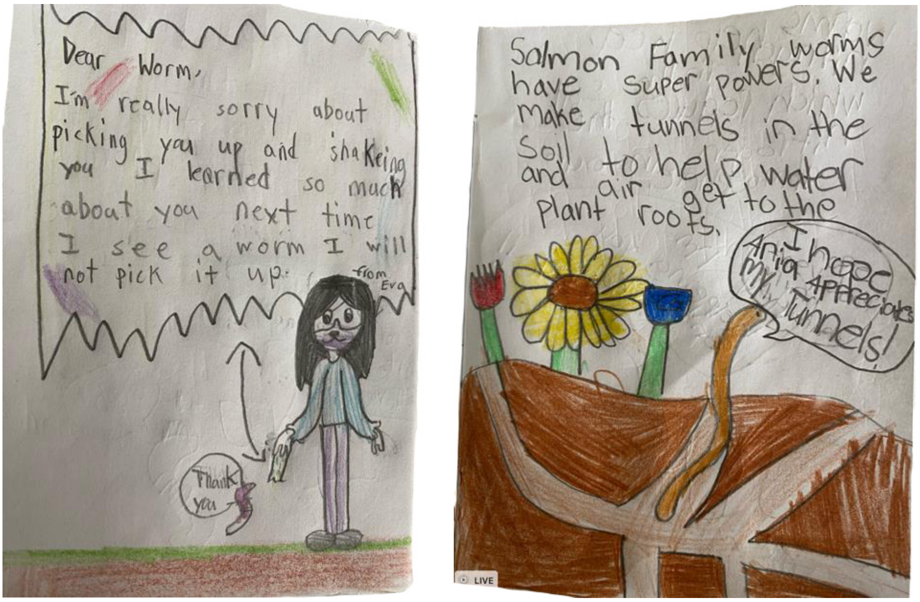


Figure 3. a) Apologizing to worms, and b) Learning about worms' superpowers and their contributions to the ecosystem

A group of children created concoctions of mud and plants, which they gifted to the animals. They referred to themselves as "priests" and performed the gifting in what they described as a "ceremony." This was an activity that was repeated on numerous occasions. It moved gratitude beyond a physical practice to a spiritual offering. Here the focus of the children's activity shifted from the product (what they were making) to their relationship with the beings of this place. The adults involved in the project did not introduce or facilitate ceremonial practice with the children. They developed this practice on their own (although it could have been, in part, inspired by a video shared by the teacher that included a water ceremony).

Recognizing the gifts and responsibilities of all beings

Community, individual strengths, and interdependencies were also emphasized by Neva (who holds much expertise in social-emotional learning), as she worked to support the children to recognize their own gifts and appreciate the gifts of others. We drew upon the Lil'wat pedagogical principle of Celhcelh (which literally translates to "hard working") as articulated by Elder Dr. Lorna Williams:

> Celhcelh suggests that each person is responsible for his or her own learning, for finding and taking advantages of all opportunities to learn, and maintaining openness to learn. Each person must find their place in the community, and offer what knowledge and expertise they have to benefit the communal work being carried out. (cited in Stanford et al., 2012, p. 24)

The practice of recognizing gifts and understanding the role of each being in the community, inspired by the concept of Celhcelh, grew to include the more-than-human. Neva introduced a series of books by Elise Gravel all about bugs and how they care for the Land and contribute to ecosystems. We continuously discussed our unique "superpowers" and the need to respect and acknowledge what each friend in the classroom and in the forest contributes. The children developed a newfound respect for bugs in their own right and stopped using them as a source of their entertainment (see Figure 3).

Placemaking with the world

Over time we began to observe more instances of children engaging in placemaking *with* the world (Pyyry, 2017), rather than imposing their visions, needs, and desires on the Land. Here the ecologies of place, including the Salmon, the plants, the sticks, the grasses, and the water awakened a connection and became the teacher. Within these encounters, the act of creating was located in the spaces between the child and place. For example, children were encouraged to paint *with* the Land, and they began painting with sticks, leaves, and mud. They experimented making paint from grass, blueberries, and other things they found in the forest. Over time the art became more abstract, emotive, and locally inspired (e.g., a rendering of "the Meadow"), and less disconnected with place (e.g., images of palm trees or cartoon drawings of dogs). It is through these types of responsive practices of collaboration and meaning making that "space" becomes "place" (Johnson, 2021). Practices that encourage placemaking *with* the world (Pyyry, 2017) are significant as the stories that we tell about Land impact ways of knowing and being. As Delaware and Cherokee scholar and geographer Dr. Jay Johnson (2012) asserts, "the Landscape we carry within us, continually remembered and retold; the Landscape which has played a part in our education, alters how we see the world around us and how we engage in the social production of knowledge" (p. 832).

One of the most profound examples of placemaking with the world (Pyyry, 2017) was the evolving practice of drumming within our community. One day a boy began drumming with sticks and on logs. His actions seemed intuitive as he hit sticks together in a rhythmic beat (see Figure 4). Students were moved by the sound and others came to watch or to participate, finding their own sticks. Cher shared an Indigenous teaching that songs and stories come from the Land (Cariou, 2018; Styres, 2019). The children embraced this idea and began listening carefully to place. Drumming became a powerful method of connecting us with the Land and closing the spaces between us all (Wilson,

Figure 4. Children drumming, clapping, stomping, and shaking grass in unison

Figure 5. Singing the Water Song for tadpoles

2008) (see Figure 4). We brought in some Indigenous hand drums, and we invited local Indigenous community members to guide us in our learning.[6] Drumming was not part of our initial vision, but it arose from the Land through the students and created an opportunity for us to connect this learning to local, and later global, communities. The children learned to drum and sing public Indigenous songs and community songs that were gifted from Elders, as well as local Indigenous drumming protocols. We identified the drums as Indigenous cultural items and prioritized their use for students with Indigenous ancestry, while providing all children with a chance to learn. As drumming, however, is ubiquitous across cultures, we began to collect drums from other places and encouraged all students to learn about their ancestral connection to the drum. As Métis and Anishinaabe scholar Dr. Vicki Kelly (2013) teaches, two-eyed seeing (Bartlett et al., 2012) is a "pathway to manyeyed" seeing or seeing through "multiple eyes" (p. 18). Currently we are working to represent all children's cultural heritage through drums.

Drumming became a new way for children to relate to Land and one another. Although drumming was typically an organized community event, children began taking the drums to different areas in the forest and drummed in small groups or individually. Children also began to sing as acts of care for other members of the wider community. For example, a group of children sang the Water song for the tadpoles in the pond (see Figure 5). A boy named Daniel[7] (who was not Indigenous) practiced the Woman's Warrior song[8] until he perfected it and created a video recording of the song to honour his Indigenous Auntie. In this regard, practices of care were materially choreographed across various bodies (Haraway, 1991) as the beat vibrated from the skin of the drum radiating outwards, permeating the bodies of other beings. Here, again, the focus was on the relationship as much as the activity.

Becoming family to Salmon

Understanding Salmon as family, in the way taught by Rick, was incredibly impactful and continued to reverberate throughout the children's learning during the school year. As documented in the Neva's journal entry, this encounter lived on in the bodies of the children, long after Rick's visit.

6 Those stories are not included here as they are not ours to tell.
7 Name and story shared with permission.
8 The Women's Warrior Song, created by Martina Pierre of the Lílwat Nation, is sung to lift up the voices of Indigenous women and girls and honour and remember those who have experienced gender and racialized violence.

> Rick is an Indigenous story teller. His passion, connection, and love of the Land enveloped each and every word he spoke. His words were alive with šxʷqʷéləwən (inner mind, feelings). He came to our school and spoke outside on a cold fall day. . . . and shared how his life experience and connection with the Land created connection with Salmon where he saw Salmon as his brothers and sisters. He spoke for about two hours, sharing the decline of Salmon over the years in the Fraser River, the impact on him, the q̓íc̓əy̓ culture, and on us, the students and families of our school community. . . . (H)is words and spirit filled our soul, and he was magical to our students. After he left, we debriefed around his presentation. The students decided we wanted to call ourselves the Salmon Family. Rick's visit was more than I imagined. He was our first Indigenous teacher. He lives in balance and harmony with the Land and his knowledge, words, and being was alive within us. (Neva's Inquiry Journal, June, 2022)

As evident in this account, it was not only Rick's message but the way that he shared his teachings in such a wholistic and heartfelt way that was impactful. His words "were alive," affective, and continued to live within the children.

Throughout the year, the children identified Salmon as their brothers and sisters and one child referred to herself as a "salmon girl" (see Figure 6a). These identities were pervasive outside of the structures of schooling. For example, one child bought his personal journal to school to show his teacher his entry about how he was a steward and a brother of Salmon. This connection with Salmon was incredibly powerful and moved children to become passionate advocates. Without the involvement of the adults, they organized themselves to monitor storm drains on the school property and became extremely distressed when there was garbage in the drain, an abundance of rocks, or a lack of water, which they believed would harm the Salmon (see Figure 6b). The children immediately took action and went directly to the school principal with their concern. During one lunch hour they recruited children with small hands that could fit

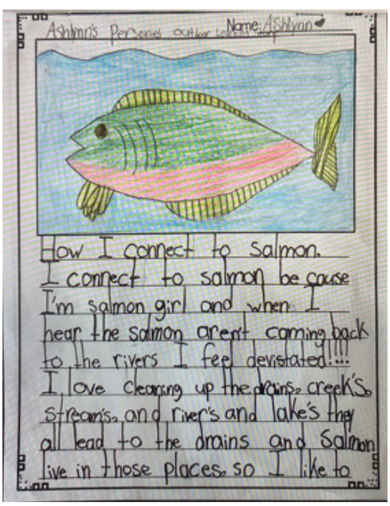


Figure 6. a) Becoming Family with Salmon and b) Advocating from within: Caring for Salmon as Family

through the grate to try to remove the pebbles from a drain, and when that failed, they found a strong friend who could lift up the grate so the rocks could be removed.[9]

Children's understanding of themselves as Salmon brothers and sisters was both conceptual and embodied. After learning about the life cycles of Salmon, for example, two children made yolk sacks and requested that Neva film them as they joyfully moved their bodies like Salmon and ate from their yolk sac (see Figure 7). Within this embodiment of "becoming-other" (Green, 2015), the usual boundaries between human and fish were dissolved.

Appreciating the interconnectedness of all beings

Neva mapped much of the learning about Salmon and the forest to the connectedness of all things through water.[10] The class read the book The Water Protector by Anishinaabe *Métis* author Carole Lindstrom and watched videos about the life-giving force of water that brings us all into being. The children learned that there is only one body of water on earth and the same water moves about throughout the world. The teacher said, "It could be here today and tomorrow that water could be evaporated and turned into something else and could be living in another space. The water that is in my drinking glass could have been the water that Salmon swam in." The children explored maps of the watershed and traced where the water goes when it rains at their school. They investigated how water moves through their body when they drink it and how it gets recycled. The class went outside in the rain, hail, and fog, and talked about where they saw water, what its stage was in the cycle, and how it provided life. All these learnings connected with an Indigenous Water song, which we drummed with Elders. Of all the songs we learned, the Water song was one song that the children returned to time and time again. At the end of the school year, Rick shared the teaching that "the River knows what it needs," and we came to appreciate bodies of water as entities that must be acknowledged and respected beyond their function as a lifegiving source (also see Rosiek et al., 2020, p. 339). These teachings will be more prominent in our future work with students.

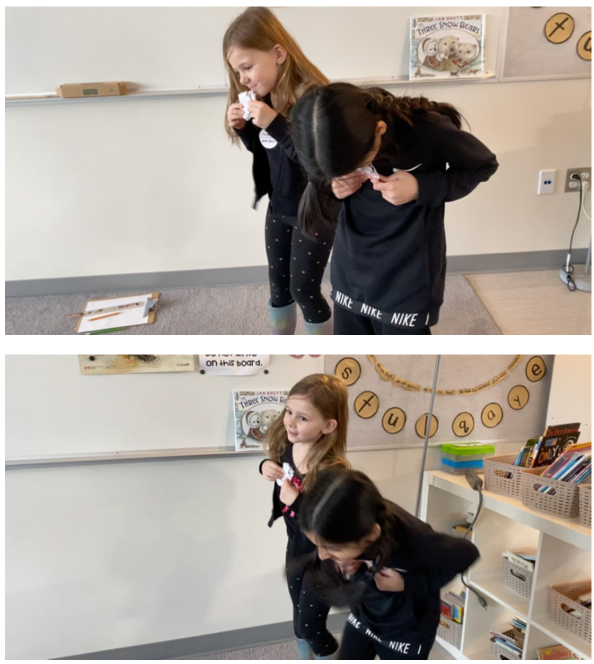


Figure 7. a) Becoming Salmon. b) Alvin swimming and eating from their yolk sac

The entangled complexity of human and nature relationships became evident

9 As a result, we purchased garbage grabbers for them.
10 The water cycle is part of the grade 2 curriculum.

Figure 8. Children's drawings of interconnectedness with place

in the children's drawings and their writing. For example, when asked how they are a part of nature, one child wrote,

> I blend into the leaves because when a leaf falls to the ground, some insects and worms would come out and eat the leaf and poop it out. And their poop will enrich the dirt and it will turn into soil and the soil will help grow fruit and vegetables that the humans will eat. The vegetables and the fruit that helps our bodies and hair grow.

The children drew powerful depictions of how they are part of the natural world, and the natural world is part of them (see Figure 8).

Working Across Worldviews

During the project we experienced several complexities that countered our work to support children in developing caring, reciprocal relationships with the natural world. One stemmed from our provincial curriculum. Although the curriculum for grades 2 and 3 includes First Peoples' knowledge, stories, perspectives, and practices, including stewardship, conservation, and sustainability, it also structures relationships with Land through the science of discovery (questioning, predicting, collecting data, analyzing), as well as through practices of Land management and resource extraction. When mapping the children's learning on to the curriculum, at times there was a felt tension between these opposing ideologies. For example, one winter day the children were delighted to discover that ice had formed on the top of the creek. They extracted chunks of ice to perform experiments trying to melt it with metal, as well as to use it to make a refrigerator for their shelter. Neva's caution that the water was needed in the creek for the animals was ignored by the students. The children's learning in this regard was consistent with multiple aspects of the British Columbia curriculum; however, it was inconsistent with ethical relationality. In this moment, Cher felt torn between the exuberant joy of the discovery as well as the pull of the "teachable moment" that seamlessly met the multiple curricular goals, and the desire to learn with place while acting responsibly and living in balance with the natural world. As Kimmerer (2014) asserts, scientific and Indigenous knowledge systems can complement each other, but it requires ongoing work to harmonize these worldviews. We have found that working across knowledge systems we must continuously consider "to whom are we are giving voice and agency, and at whose expense?" (Datta, 2016, p. 57).

Our learning, as guided by place, was emergent and unfolded in a circular fashion. We engaged in cyclical explorations, spiraling deeper and deeper into themes of Salmon, water, Land, and community, which connected us with all things. The curriculum, however, is predominantly organized to unfold in a linear, lock-step fashion, with predetermined, age-based learning goals. While there is much pressure for educators to demonstrate learning that looks impressive on paper, the deep and complex learning and reflection that supports students in connecting with the Land, where it becomes a part of us and we become part of it, cannot always be planned and does not wrap up quickly in a pretty worksheet. As K-12 teachers, we are commonly taught to utilize "backwards design"[11] when developing curricula, use instructional strategies, and preplan quality assessment. But how do we plan curricula and instructional strategies that create lessons to support students to learn, connect, and build relations with the Land in a meaningful way? How can we preplan a lesson in which each individual student authentically creates wholistic connections to living things, when in reality, each is called to the Land in their own way? How do we plan for assessment of learning when we cannot predict what teachings the Land will offer? These tensions were deeply felt.

Another complexity resulted from the municipal Land-use polices. The fish-bearing creek adjacent to the school was full of garbage and surrounded by invasive species. The children were very upset by the extent of garbage in the creek and worried about its impact on fish. As one child wrote in his journal, "We cannot believe that people are doing this a lot." We were all very keen to work to restore the creek to care for the Salmon and had access to knowledgeable experts to guide the work. We were unable, however, to care for the creek, as the area is zoned as "unimproved park land" and will only be restored when (and if) the Land is rezoned. This process would be completed under the direction and management of the park staff. While we appreciate the need for safety considerations and the importance of ensuring that any restoration work is guided by knowledgeable experts, it was incredibly frustrating. We could see that the Land was hurting, yet we could not care for it. Elders have instilled within our community that we have a *responsibility* to care for the Land. As Kapyrka and Dockstator (2012) explain, within Indigenous worldviews,

> people must concern themselves with the health and well-being of everything in the cosmos just as they concern themselves with their families and communities (Miller, 2008). There is an inherent responsibility attached to this way of thinking about oneself in relation to the entire cosmos, grounded in relationships, and how one relates to all of Creation. (pp. 99-100)

11 Backwards design involves pre-determining desired learning outcomes and then "working backwards" to identify lessons and scaffolds that support students in working towards these goals.

Within neoliberal Western knowledge systems, the personal responsibility to care for Land is grossly outweighed by concerns about risk management and liability, as well as the conservation of wild spaces in ways that often can preclude human connection with place (Kapryka & Dockstator, 2012). This type of hierarchical management of Land reduces opportunities for locals to develop reciprocal caring relationships with the places they inhabit.

The municipality encouraged us to consider other options for creek restoration, which involved bussing children to another part of the city to work for a few hours to care for a creek where they had no connection with the Land or any expectation of returning to this place. While this alternative would address our vision to care for Salmon through creek restoration, it was not sustainable and likely would not contribute in substantial ways to building ongoing relationships with Land. It would be another "one-off" activity within children's already very busy and over-scheduled lives. If we are serious about disrupting colonial practices of schooling and lifting up Indigenous worldviews and pedagogies within the curriculum, city planners and municipalities must prioritize access to green spaces near schools and reduce their mediation of community members' relationships with the more-than-human wherever possible. In other work (Hill et al., 2021), we have questioned, what is the right of the Land to receive care? In our current project we extend this question: what is the right of the children to have regular access to wild spaces and to care for the place that they love when they see that this place is hurting?

Concluding Thoughts

Through this action-based research, we worked to reconfigure pedagogical encounters involving children and the natural world to be more reciprocal and respectful, as well as responsive to the ecological crises. While this learning was embedded within specific relational fields, this research contributes to the scholarship on *how* we might educate for post-colonial futures. Pedagogies that contributed to more respectful relationships with Land included participatory, responsive, and wholistic encounters that engaged learners in mind, body, and soul. Experiences in which the Land was understood as sacred, agential, and existing independently of the human gaze and desire moved us beyond human-centric exchanges. Having regular access to a green space that was predominantly wild was paramount in contributing to developing deep and joyful relationships with Land. This is an important consideration for urban planning, as well as for public access to wild spaces. Working with young children was an ideal starting place, as they had less "unlearning" (Hill et al., paper in progress) to do and it was relatively easily to normalize communicating with more-than-human friends.

Within the context of our research, sustained acts to care for Salmon and other beings from a standpoint of interconnectedness (brothers and sisters) was particularly powerful. Often times, stewardship programs, although well intentioned, reify hierarchical relationships between humans and other beings, constituting humans, unlike the natural world, as agential, knowing, and independent. Within this project, informed by Indigenous knowledge, children were advocating *from within* by caring for Salmon *as Family*. Rick's teachings were instrumental in creating space for children to care for Land and place from a relational perspective. We have come to understand that how teachings are offered is as important as the teachings themselves.

Learning that is embodied or that "comes alive" for students, through the materiality of bodily stirring, soul-filling, and magic, continues to live within our hearts, and calls us to care for Land and place. This learning signals the importance of ensuring that Indigenous-informed content is taught through Indigenous-informed pedagogies, as well as the importance of Indigenous teachers with diverse expertise to carry this work.

Experiences that illuminated the Land as an agential being contributed to the students' shifting world views about their relationship with place. Importantly, Indigenous understandings of Land as a source of teachings, creativity, songs, and stories (Cariou, 2018; Styres, 2019) shifted our world-making. When learning unfolds within the space between the Land and the children, understandings become embodied within relational contexts, producing new possibilities for knowing and being. This intra-active play involves placemaking *with* the world (Pyyry, 2017), disrupting human-centric relationships with Land. In this regard, our research is as much ontological as epistemological, as it inspires new everyday practices of relationality. Increasingly, students began to engage in physical, spiritual, and emotional acts of care, gratitude, and reciprocity with human and more-than-human friends that permeated across the spaces in between bodies. They no longer saw learning as something they do with paper and pen, but rather something connected to the innate pull of passions within place, a transformation of their being, an awaking of something deep within themselves that engages them with this world.

We see our work as a site for "critical hope" (Grain, 2022). While we are mindful of the ongoing impact of colonization, systemic racism, and human-centrism on these Lands, we also believe that transformative change is possible. Observing children passionately advocating for Salmon and caring for them like family brings us much joy and optimism for the future. It is the accumulation of these collective moments in which we are living in balance and harmony with the Land that become significant. As Dr. Kari Grain (2022) asserts, transformative change is more likely to result from "relentless incrementalism" (p. 49)—the small, deliberate, and regular actions by a critical mass of people. We invite everyone to join us in contributing to this change by experimenting with your own practices to develop more reciprocal and respectful relationships with Land in the places where you live. We encourage you to start small by focusing on a very specific issue that is of great importance locally and to work collaboratively with Indigenous communities in the creative practice of world-making (Beyes & Steyaert, 2011). We have found that by focusing on an issue that profoundly affected us, being open to the magic, miracles, and mysteries all around us, and listening closely to the stories of the Land, our project spiraled outwards and drew in more and more people. Caring for Salmon like family took us on an amazing journey that profoundly connected us with place and community.

About the Authors

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From the Ground Up: Critical Reflections About Co-Constructing a New Non-Profit Sector Undergraduate Certificate

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Abstract Community-university engagement is a growing field and takes many different forms. We explain and reflect critically on a community-university developmental process that we created to design a new non-profit studies undergraduate certificate. A steering group comprising students, non-profit organizations (NPOs), and faculty guided our process. We adopted a community-based, emergent, multi-tactic process that went from testing an idea, to collectively designing and co-constructing the certificate to building momentum to operationalize it, over an 18-month period. Our strategy was based on the convergence of three main bodies of literature—community-engaged scholarship, citizen participation, and naturalistic inquiry—and included seven tactics: community-university dialogues, e-communication, interactive booths in public places, presentations and learning circles, student research projects, student and NPO surveys, and pilot-testing undergraduate courses. The outcomes of our process revealed strong community support for a new certificate, which was then co-constructed and later approved by the University Senate. Today, five years later, we reflect on the ebb and flow of our process, in particular: emergent design challenges, the space-in-between, community/university black boxes, ownership, and facilitation work. This exploration contributes to the knowledge base on co-construction processes.

KeyWords community-university engagement, emergent design, knowledge exchange-creation-mobilization, non-profits, curriculum design

We embarked on a community-university engagement (C-UE) process to answer the question, is there interest and support for a new non-profit sector undergraduate certificate and if so, what should the certificate look like? Now that the certificate has been in place for five years and continues to have students enrolled in it, we thought the time was right to reflect on our co-construction journey.

Today, the certificate comprises five courses including a list of core competencies deemed important in Saskatchewan by non-profit organization (NPO) participants. Statistics show there were 64 students enrolled in the certificate (as of January 2022) and that 46 students have graduated with this credential (as of October, 2021). These numbers are credible for a small liberal arts institution like Luther College at the University of Regina. Thus, this program continues to thrive, be guided by a steering group, and have ongoing C-UE activities.

This process to design a new undergraduate certificate was based on an understanding of the benefits that occur when universities and communities interact. This paper illuminates our community-based journey from exploring an idea to collecting design ideas to co-designing curricula to then building momentum to implement these new ideas in Saskatchewan. This article is a macro-level overview of our journey—the process we undertook to develop the certificate.

"Community-university engagement is one of the strongest trends cutting across our university campuses" (Hall, 2011, p. 5). In Canada, community-university relationships are now considered vital. There is recognition of the benefits of "eroding barriers between the ivory tower and the community surrounding it" (Ratsoy, 2016, p. 77). When we contemplate eroding the barriers between communities and universities, we can imagine the value of being porous wherein both can benefit from the presence of the other (Castle, 2014). Interestingly, both have always been present to each other—often sharing the same physical space—but closed off from each other because of perceived impermeable walls. Siemens (2012) and Anyon and Fernández (2007) note that the university can be perceived by communities to be a "black box" of complexity and confusion given the many players, departments, tensions, politics, and processes. However, for many university faculty who have never worked in/with communities, the same perception of communities as "black boxes" can exist. C-UE provides the opportunity for interaction to better deconstruct these "black boxes". There is much literature espousing the benefits of C-UE for universities, students, and communities (Barth, 2018; Harkavy & Hartley, 2012; Renwicka et al., 2020). It is to each one of these that we now turn.

Some scholars note that community engagement may be both a "matter of survival" for universities as well as "an urgent responsibility" given the complexity of societal problems requiring resolution (Petter, 2017, p. 1). Universities are uniquely positioned to enable transformation to a socially just and sustainable world (Strandberg, 2017, p. 6). Some argue that universities have an obligation to the public; universities should share knowledge about best practices but also create spaces for diverse groups of people to gather to dialogue about public issues (Ratsoy, 2016; Stein, 2007). Indeed, universities are increasingly concerned about being sensitive to, and involved in, local and regional issues (e.g., medically underserved neighbourhoods) (Powell, 2013; Vogt, 2016). With this trend, university researchers are now viewing community members as active partners, co-participants, and knowledge-holders as opposed to passive subjects to be studied (Lewington, 2017; Vaterlaus et al., 2016). Many universities in Canada today (e.g., University of British Columbia and University of Alberta)—including ours—articulate the importance of these community relationships in their strategic plans.

The benefits of C-UE for students are also widely cited in existing literature (Barth, 2018). Student capacity building is noted in our university's strategic plan. Within this strategic initiative is the need to develop engaging volunteer opportunities for students, but more specifically to offer these opportunities within the context of full-credit courses so that students can develop real-world knowledge and skills. Community-engaged learning is known to create students who have a sense of agency, who are empowered to build their own livelihoods and those of others, who become active in their communities, and who have a sense that they can make progressive societal change (Hicks Peterson, 2009). Community-engaged learning encourages a shift “from knowledge as self-interest and private good to knowledge as civic responsibility and public work” (Hicks Peterson, 2009, p. 543). Further, students want meaningful real-world experiences that support their learning (Lewington, 2017) but that also prepare them for careers (Vogt, 2016).

Finally, the benefits for communities are clear. When universities and communities work together, community problems can be solved (Powell, 2013; Vogt, 2016). Community people working in non-profit organizations (NPOs) experience real-world problems and therefore have intimate knowledge of them. Their experiences and knowledge when combined with those of university faculty members and students can result in the resolution of problems. Communities today are asserting their expectations that their universities serve the public good by reconfiguring the ivory tower (Lewington, 2017).

This kind of C-UE work matters because community engagement is a requirement in most universities’ and funding agencies’ (e.g., Tri-Council funders) strategic plans, thus sharing experiences and knowledge is important. Further, there is a vast literature on C-UE (e.g., community service-learning, partnership development, and fixing local problems such as food insecurity) and in many disciplines (e.g., engineering, business, nursing, etc.), but there is a dearth of material on building undergraduate programs with and specifically about the non-profit/charitable sector in Canada. In addition, in our literature review we found little information about the involvement of students on curriculum advisory groups in C-UE processes. We believe that if we want NPOs to participate in our courses (e.g., as co-instructors or co-creators of student assignments), then they should be involved from the beginning. Today, this undergraduate certificate continues to be guided by an advisory group comprising students, NPOs, and faculty, which seeks to ground the evolution of the curriculum in the real world.

The Project

The rationale for our community-university project was three-fold. First, we understood the multiple student-community-university benefits described above. Second, we knew there was not a non-profit studies undergraduate certificate offered at any Saskatchewan universities or colleges despite the fact that NPO academic programs exist across Canada and the USA. Third, we were aware of a looming labour force deficit in the non-profit sector (HR Council for the Nonprofit Sector, 2010), thus there was a need to educate students about the non-profit sector with the hope that some would eventually seek out careers in this area.

Our project began with seed money from Luther College in 2015. Over the course of 18 months, a diverse group of NPOs, students, and faculty participated in a series of community-university dialogues with the goal of testing the idea of creating a new non-profit sector studies undergraduate certificate and envisioning what it should look like. We understood that by creating opportunities for conversations among these three groups dynamic and mutually beneficial relationships as well as reciprocal learning could ensue (Nasmyth et al., 2016). It is noteworthy that our process was *not* about securing “partnerships” with NPOs. Partnership building was seen as premature as this was an ideas testing and design process.

A twelve-member steering group formed to guide our process. The steering group comprised equal numbers of students, community members, and faculty (i.e., four of each). The steering group shaped and guided the work at monthly meetings; it was the glue that held the process together. Our project ended with University Senate approval of a new undergraduate certificate in June 2016.

Before going further, it is important to explain our positionality in this developmental co-design process. We were a coordinated pair whose main function was to both serve and inspire the steering group; our tasks were to build momentum, keep it going and tend to the logistics of our multi-pronged process (e.g., organize meetings, transcribe meeting notes). We were simultaneously facilitators, participants, observers, and writers. Gloria DeSantis was a pracademic—a "boundary spanner" (Hollweck et al., 2021) who worked in NPOs for 20 years before returning to university to complete a doctoral degree and begin a faculty position. Angela Tremka was an undergraduate student who chose to do a practicum with this project. She has since graduated and now works at a non-profit in Regina. We both had a fundamental belief in the important role the non-profit sector plays in our society, which underpinned our motivation to undertake this co-construction process.

Context

Our C-UE work focused on the non-profit sector. NPOs—also known as the voluntary sector, the third sector, or the community-based sector—exist to serve a public benefit through the work of both staff and volunteers, are self-governing and operate independently of governments and the private sector, and do not distribute profits to members (Hall et al., 2004). Saskatchewan has a diverse non-profit sector comprising 14 different types of organizations (e.g., art/culture, social services, etc.); there is an estimated 8,000 registered NPOs in Saskatchewan serving a population of approximately one million people spread over 600,000 square kilometres (DeSantis, 2013).

Literature and webinars/podcasts produced over the past decade in Canada reveal concerns about the future of the non-profit sector especially with the recent impacts of COVID (e.g., Akingbola, 2020; Barroll, 2022). Our project was ultimately about supporting the healthy evolution of a sector that is known to provide public benefits in ways that neither the private sector nor the government sector do (Mulholland et al., 2011). Over the past decade, there has been an increasing interest in labour force and human capital development by those working and volunteering in the sector as well as those that fund these organizations. Some literature points to the need for a more formal and co-ordinated approach for enhancing the sector especially given demographic and other trends in Canada (e.g., a large cohort of staff are expected to retire from the sector within the next decade, Indigenous people make up a growing portion of the labour force) (HR Council for the Nonprofit Sector, 2011, 2012; McIsaac et al., 2013). Finally, there has been an increase in awareness by all levels of government about the importance of the sector in society, governance, and democracy (Laforest, 2011; Mulholland et al., 2011). With this growth in awareness has come interest in educating and training CEOs, program managers, and front-line workers as is currently done in both the public and private sectors (Hall et al., 2005; HR Council, 2010).

While three pillars constitute our society—the government sector, the private sector, and the non-profit sector (Mulholland et al., 2011)—the non-profit sector has traditionally lacked a formal, coordinated academic presence in Saskatchewan. While there are currently strong University of Regina links to the business community (through the Paul Hill School of Business), to government (through the Johnson-Shoyama School of Public Policy), and to some NPO sub-sectors such as human services (through the Faculties of Social Work and Nursing) and sport/recreation (through the Faculty of Kinesiology and Health Studies), there was no academic program specifically focused on the non-profit sector.

Our Journey

The following three sections—engagement strategy and key concepts, co-construction strategy, and some outcomes from our journey—describe our process. These sections provide the philosophical foundation for our work and the choices we made as well as the practical aspects of the strategy and tactics we employed. We also provide some highlights, at a macro-level, of some outcomes of our process. We explain the methods that we wove together and the people that participated in our C-UE process.

Our engagement strategy and key concepts: Operationalizing co-construction

Our community-university project blended multiple tactics in a community-based strategy that prioritized the participation of NPOs and students, not just faculty. Our strategy embraced democratic engagement instead of the long-standing technocratic-oriented, university engagement model "of academic expert-centered, deficit-based, hierarchical relationships" (Kniffin et al., 2020, p. 2). Rather, our relationships were "grounded in democratic values and commitments that position everyone involved as co-educators, co-learners, and co-generators of knowledge" (Kniffin et al., 2020, p. 2)—the focus was on co-creation and co-learning among equals while recognizing that relationships among participants are complex and dynamic. Operationalizing this approach to co-production required us to make trusting relationships a priority, for all participants to be involved at the earliest stage of a process, for all voices to be heard equally, and for value to be placed on all perspectives (Tembo et al., 2021). We adopted the term "co-construction" as used by Vaillancourt and Aubry (2017) to label our process; they used the term democratic co-construction to refer to their participatory process wherein hundreds of NPOs worked together with government staff to design new legislation.

Our student-NPO-faculty steering group was the central entity that guided our process. This process was emergent, non-linear, and synergistic with multi-way dialogues taking place throughout the project. The Steering Group was tasked with ensuring all voices, but especially those from NPOs, were heard equally throughout the process and included in the final framework for the undergraduate certificate. This was a major challenge that we confronted at the outset because we were aware "that all thought is fundamentally mediated by power relations that are socially and historically constituted" (Kincheloe & McLaren, 2005, p. 304).

Before presenting our community-engaged mixed-tactic process, some foundational material and key concepts require explanation. The foundation of our C-UE project was formed through the union of three main bodies of literature: community-engaged scholarship, citizen participation, and naturalistic inquiry. The key concepts were: emergent design, power and voice, knowledge exchange-creation-mobilization, diversity and sensitivity, and time/timing. Taken together, these formed the foundation upon which our co-construction journey unfolded. It is to each of these that we now turn.

First, community-engaged scholarship (CES) informed our work. CES is a systematic, rigorous, documented, and replicable process of collaborative discovery that is entrenched in the real-world and results in mutually beneficial relationships as well as collectively created products that are public, peer-reviewed, and made available to others for use and adaptation for positive change (Hatala et al., 2017; Seifer, 2003). These products can include public policies and programs, students' videos, and artistic works. The five main values that our steering group worked to embrace are: empowerment that encompasses self-determination and features increasing control and voice for those who are usually silenced; supportive relationships are inherently co-operative and based on a belief in equality among everyone involved in a process; social justice oriented in that knowledge that is co-produced is action-oriented toward positive and equitable social change; ongoing reciprocal learning among all participants; and respect for the diversity of "various perspectives, beliefs and norms" (Ochocka et al., 2010, p. 5).

Second, the much older literature on civic engagement and citizen participation as traditionally defined in urban planning literature also informed our work. In urban planning literature, governments are known to "consult" communities about public policies, public programs, and more recently municipal budgets but consulting does not require governments to adopt what communities recommend. Before C-UE became a trend, universities too were more involved in "consultation" than collaboration and power sharing. In a classic work by Arnstein (1969), "consultation" was described as a type of participation wherein citizens are invited to meetings to voice their perspectives, but "they lack the power to ensure that their views will be heeded" and there is seldom any follow-up or meaningful and ongoing interactions (p. 217). This process was the midpoint on Arnstein's classic "ladder of citizen participation" (p. 216). Those with the power to organize meetings had the power to decide what information from citizens to keep and what to discard. Arnstein promoted the notion that at the top of the ladder, authentic citizen participation embraces full citizen power, control, and decision-making. Our steering group was interested in reaching beyond consultation to listen carefully, especially to community voices, to create feedback loops and post dialogue proceedings on our website (https://www.luthercollege.edu/university/academics/luther-programs/voluntary-sector-studies-network/research) that explicitly contained community voices in order to encourage ongoing conversations—essentially creating space for the co-construction of ideas. Recent renditions of citizen participation strategies include additional elements such as trust, collective problem-solving, co-learning, and governance (Hurlbert & Gupta, 2015).

Third, naturalistic inquiry informed our work (Lincoln & Guba, 1985). Emergent design is a central element of naturalistic inquiry. Adopting an "emergent design" means the design of the project will unfold as time goes on because not enough can be known *a priori* to completely map out the process (Lincoln & Guba, 1985, p. 208). Emergent design requires that a process be fluid, non-linear, and based on iterative loops. Negotiated outcomes is also central to naturalistic inquiry. "Negotiated outcomes" refers to "facts and interpretations that will ultimately find their way into a report [and] must be subjected to scrutiny by respondents who earlier acted as sources for the information"; critical feedback loops are required to ensure that reality has been reconstructed appropriately (Lincoln & Guba, 1985, p. 211). Finally, and linked to negotiated outcomes, is "trustworthiness" of the results and the requirement for "member-checking" (Lincoln & Guba, 1985). This is where credibility is established; when a provisional report is written and released for public scrutiny and checked for accuracy (e.g., errors are corrected, clarifications are added, new information is invited) before finalization.

A number of concepts were central to the implementation of our C-UE strategy, including power and voice, knowledge exchange-creation-mobilization, recognition of diversity, and awareness of time and timing:

- Our process explicitly called into question power, control, and voice. As already noted, Kincheloe and McLaren (2005) state that typically university faculty have the power and voice to identify, define, design, analyze, and conclude projects. Often, this is not questioned as faculty head out into communities to do their work.
- From the beginning, our goal was knowledge exchange-creation-mobilization among the three main groups of participants (e.g., faculty, students, and NPOs); "knowledge creation is not the monopoly of academics" (Hall, 2011, p. 13). Our C-UE process was built on the notion that knowledge can be co-constructed by all participants throughout various phases in a process.
- Our process required sensitivity, humility, and for us to know that communities comprise diverse people with unique cultural traditions and ways of knowing.
- Time and timing is not often deemed worthy of scholarly discussion; however, creating time and space to develop relationships and centralize reciprocity at the beginning and throughout a process is essential (Goulet, 2011; Nichols et al., 2014).

We reflect in more depth on these concepts in the critical reflections section below.

Our co-construction strategy comprised multiple tactics

This foundation and these key concepts formed our co-construction strategy. Seven main tactics were operationalized over an 18-month period: community-university dialogues, e-communication, interactive booths in public places, presentations and learning circles, student research projects, student and NPO surveys, and pilot-testing undergraduate courses. Table 1 provides a summary of these tactics.

The emergent nature of our project is best demonstrated with an example. We initiated e-communication and set up a website at the beginning of our project; these were in existence until the end of the co-construction work when the undergraduate certificate was approved by the University Senate. The Koffee Klatches ran for eight months in the middle of the process and then surveys were completed during the last few months given the results of the Klatches and student research projects.

Triangulation of information, based in qualitative research methods, was a technique we used to analyze collected material (e.g., Koffee Klatch discussions). Triangulation incorporates evidence collected from multiple avenues (Creswell, 2014; Lincoln & Guba, 1985). We operationalized Lincoln and Guba's (1985) process of continuously building on new information each day using inductive techniques so that insights and gaps could be pursued on subsequent days. This is the essence of our iterative loops.

Table 1. Summary of tactics

TACTICS	Brief Description
1. Community-university dialogues	A public launch was held at Luther College at the University of Regina (N=60 participants) followed by eight intentional dialogue opportunities (i.e., Koffee Klatches) held primarily in community locations using iterative feedback loops. A Koffee Klatch, kaffeeklatsch, is a German word, that is "an informal social gathering for coffee and conversation" (Merriam-Webster Online Dictionary). Koffee Klatches were gatherings that provided the opportunity for students, NPOs, and faculty to dialogue. Some of the same participants attended numerous Koffee Klatches, but new people also attended. Each of these community dialogues had between five and 35 participants. Transcripts of each dialogue session were created and posted on the website for transparency purposes. Thematic analyses were completed on these transcripts; these reports were posted on the website. These became the basis for the next dialogue session.
2. E-communication	Regular e-updates occurred: on our website, on social media, via monthly e-newsletters and via announcements sent out to those on our e-list (N=220 on the e-list after one year). E-communications were important tools for transparency; everyone who was interested could stay informed about all aspects of our process. We tracked social media metrics each month and e-newsletter growth, which gave us a sense of our community reach.
3. Interactive booths	The booths focused on informal discussions about careers and search engines for volunteer/job opportunities. We took notes about the number of conversations and topics that occurred. These took place at the University of Regina Career and Volunteer Fairs, Heritage Saskatchewan Trade Show, and Neil Squire Society Job Fair.

4. Presentations and learning circles	Steering group members—including students—presented some preliminary ideas about an undergraduate certificate based on the Koffee Klatch results, asked participants questions, and invited them to become engaged in our process. The following took place: meetings with provincial government Assistant Deputy Ministers and Ministry of Parks Culture & Sport Executive Directors, Learning Circles for faculty, SaskCulture Inc., and Museums Association of Saskatchewan. Field notes were written and analyzed for themes.
5. Student research projects	In pilot-testing of courses, students completed: an environmental scan of 70 programs offered at post-secondary institutions across Canada (students used the Charity Village list); an environmental scan of professional development courses offered by non-profits in Saskatchewan; and scans of literature in the fields of non-profit labour force trends, millennials, trends in higher education, curricular standards.
6. Pilot-tested undergraduate courses	Interdisciplinary liberal arts courses using real-world-real-time NPO projects were pilot-tested. Focus groups were held with students at the end of the courses. Course instructors analyzed both the procedural and substantive nature of weekly modules as the courses unfolded. Analyses were discussed at steering group meetings.
7. Surveys to collect data	Collected data from students on campus and NPOs off campus included face-to-face surveys with 100 students conducted at the Student Centre and an online survey of NPOs staff/volunteers (N=59) who participated in one or more of the Koffee Klatches with a focus on rank-ordering possible new courses, the skills and knowledge required of students, etc. Both quantitative and open-ended questions were included.

Figure 1 below shows our conceptualization of our C-UE strategy. Each circle contains one tactic and is formed by a dotted line because we viewed each tactic to be porous and blending with the others; they appear as separate entities in the figure for the sake of explanation. These dotted lines also signify transparency, from all angles of the process, which we believe reflects our philosophy.

The middle of the figure contains the steering group, which comprised equal numbers (four each) of students, NPO staff, and faculty. This circle too is dotted to reflect the transparency the steering group practiced.

The two-way arrows demonstrate flow among the tactics and the steering group. These arrows reveal the dynamic non-linear process that unfolded. These two-way arrows indicate information and advice sharing, flows of ideas, feedback loops, and postings of reports and proceedings on the website. For example, what was found in the student research projects was posted on the website and results shared at subsequent community-university dialogues as well as at the steering group table.

Finally, and most importantly in Figure 1 is the "space-in-between". In diagrams, we often explain the visible parts but not the invisible parts. We believe it is essential to make visible the space-in-between in our process. The "space-in-between is where knowledge is constructed and shared" among people interacting with each other (Goulet, 2011, p. 180); it is a place where synergy happens. Being in, and interacting in this space, paves the way for the formation of relationships, power-sharing, and the recognition of unique contributions from diverse groups of people. Fundamentally, C-UE is about inviting people to enter the space-in-between (adapted from Goulet, 2011). This space is simultaneously individual and interpersonal and it can be physical, virtual, social, psychological, emotional, and spiritual. Trust, reciprocity, and collaboration evolve in this space and usually go hand-in-hand (DeSantis, 2014; Nichols et al., 2014).

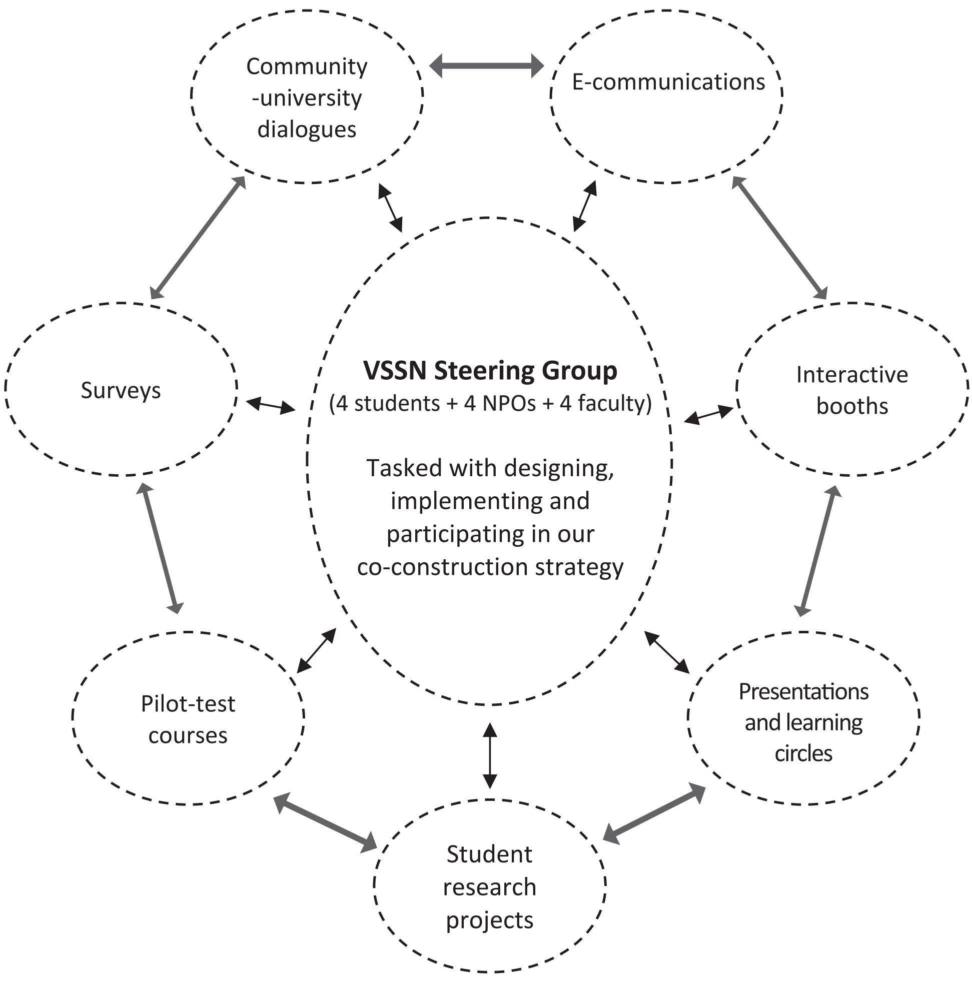

Figure 1. Our community-engaged strategy was grounded in multiple tactics

Some outcomes from our process

In the preceding sections, we provided an overview of the C-UE process that we created to collectively explore the question: is there interest and support for a new non-profit sector undergraduate certificate and if so, what should the certificate look like? Despite the fact our focus in this paper has been on our process/journey, we offer some highlights of some outcomes here.

Based on all the community-university dialogues, no one said "don't do it", but that we should move forward carefully to ensure we did not duplicate anything that was already being offered by NPOs in the community (e.g., some NPOs offer professional development courses). Additionally, our analyses indicated there is student demand, that students will take courses and will enroll in an undergraduate certificate if it is made available (DeSantis, 2015). It was early on in the process—approximately five months into our community meetings—when we realized we could start designing this undergraduate certificate because those who participated said we should, but that it should be shaped by the results of the engagement process. Table 2 highlights some of the outcomes.

Table 2. Some outcomes from the various tactics

Tactics	Outcomes
1. Community-university dialogues	Community-university dialogue found: • it best not to duplicate what the NPO sector is already offering in Saskatchewan. • a diversity of NPOs indicated interest in participating in knowledge sharing through new courses (e.g., team teaching courses, mentorships, and co-creating assignments). • thematic analysis led to a list of seven core competencies required of students finishing an undergraduate certificate: general knowledge about the NPO sector; capabilities in areas such as governance and administration; methods and analytic capacities; personal capabilities such as adaptive capacity to work in complex, messy environments; cross-cultural, interpersonal and communications capabilities; cognitive and critical thinking including the ability to think reflexively and independently; generic skills.
2. E-communication	Posted all Koffee Klatch proceedings, research reports and career links on our website as well as sent out monthly e-newsletters and announcements to our e-list (N=220 on list after one year); used social media almost daily.
3. Interactive booths	Information about careers and job website search engines were shared and field notes were taken at each booth. The booths had a total of 194 visitors.

4. Presentations and learning circles	Six meetings took place with a total of 191 participants, thus government representatives, NPO staff/volunteers and faculty learned about the NPO sector and offered suggestions about the undergraduate certificate. We were then invited to present at additional community meetings after our project was approved by the University Senate.
5. Student research projects, literature reviews, and curricular standards	Four major environmental scans were completed: • a scan showed 70 NPO programs offered in post-secondary institutions across Canada. Some appear to have been suspended while others were successfully restructured and new programs opened, but none were in Saskatchewan (Tremka & Karman, 2015). • a scan of professional development courses offered by NPOs to NPO practitioners in Saskatchewan showed there were many. • a scan of literature of the following fields was completed: labour force trends in the non-profit sector, characteristics of millennials, trends in higher education. • reviewed Non-profit Academic Centres Council standards.
6. Pilot-tested courses	Twenty students enrolled in two undergraduate courses that were pilot tested. They engaged in cross-disciplinary, real-world-real-time NPO projects for course credit. Students' assignments had double impact: NPOs in the community received copies of their assignments to use and students received course credit.
7. Surveys	Two major surveys completed: • students surveyed on campus (N=100) indicated: 57% are already involved in working/volunteering for NPOs; 44% are interested in learning more about the sector; 71% said the sector is relevant/very relevant to their careers; and 46% would be interested in enrolling in a new university certificate (Tremka, 2015). • NPO off-campus online survey (N=59) revealed: a prioritized list of new courses; proposed names for the new program; a prioritized list of core competencies; a serious need to understand and adopt First Nations history, spirituality, and treaty rights material (Billan, 2015).

The results indicated there was much interest in a new undergraduate certificate. The events, presentations, and interactive booths that we hosted were attended by people from diverse NPOs (e.g., Multicultural Council and Nature Saskatchewan) who were interested in talking about and contributing to the development of learning opportunities for students. Participants indicated their support for new program ideas—in fact, they offered much advice to this end. Further, the pilot-course students indicated their interest and support. One student stated:

> The course opened my eyes to this enormous sector which is essentially invisible even though it plays such a significant role in so many aspects of our lives. I enjoyed

> taking this course for the diverse group of students it brought together. Each of us came from different educational backgrounds and faculties which led to a more enriching learning environment for everyone. This course highlighted numerous career opportunities, which I have further explored as I aim to find employment in the sector upon graduation. (undergraduate student involved in pilot course, 2015)

In summary, given current literature as well as participants' sharing during community dialogues, it is a sector with important sustainability challenges. In general, we heard about the lack of stable funding, a decreasing number of volunteers, a projected labour force deficit, and ageing infrastructure, which cumulatively threaten the survival of the sector. However, the sector is also very resilient and adaptable to change. Further, we learned about demand for professional development and university courses. Based on the Koffee Klatches, steering group meetings, the cross-Canada environmental scan, and student surveys, there is a demand for learning opportunities in Saskatchewan. However, we also heard that the certificate must ensure it is building on a network of learning opportunities that already exist in the province—its aim should be to fill the gaps.

Our work coalesced into a proposal for a new undergraduate certificate that was publicly circulated on campus and in the community. The proposal made its way through seven university committees to the University of Regina Senate where it was approved in June 2016. Further, our project won a sustainability award from the Regional Centre of Expertise on Education for Sustainable Development. Our project was awarded its highest award, Outstanding Flagship Project, for its role in "Enabling Policy and Contributing to Capacity Development" in higher education.

Critical Reflections and Lessons Learned

We chose to design this undergraduate certificate from the ground up, thus we confronted many challenges articulated by others when universities and communities decide to work together (e.g., who is defining the problem, who is the knowledge expert, etc.) (Key et al., 2019; Wenger et al., 2012). The ivory tower can be transformed and more porous walls can be constructed when reciprocal and truly mutually beneficial interactions are sought during C-UE processes. In this section we reflect on our experiences, share our learning, and offer suggestions to others wishing to embark on a co-construction journey.

First, we reflect on emergent design. Our emergent design process was grounded in the real world and we took our cues from and often prioritized community voices. Our process was a multi-layered collection of tactics (as per Table 1), many of which unfolded simultaneously, while others were implemented sequentially, yet were informed by each other. We learned that given this emergent design, ongoing individual and collective reflection was essential; we needed to be flexible and adaptive, yet facilitate a collective sense of moving forward. This dynamic nature with "numerous ebbs and flows over time" included shifting relations among participants (DeSantis, 2014, p. 65). We suggest to others pondering a similar undertaking that steering groups adopt what Pratt (2017) refers to as a "plan-act-reflect" approach wherein active listening is a key element. Hatala et al. (2017) state that respect, humility, and the ability to listen are central characteristics in this kind of work—these shape behavior. Without intentional listening, participants would have left the process and not returned; we know this from previous experiences.

This emergent design process taught us a lot about letting go. But emergent design is paradoxically and simultaneously about letting go of control while still facilitating forward movement. Our project was about maximizing the community's sense of control as Arnstein (1969) described it. Our emergent mixed-tactic process capitalized on the multi-way sharing of ideas during dialogue sessions. We learned about how to share, collaborate, and grow ideas that were simultaneously about collective information gathering and thematic analyses as well as relationship building. We encourage faculty contemplating a C-UE process to learn about emergent design and spend time practicing "letting go" in other areas of their lives (e.g., being more spontaneous in their classrooms) before heading out to the community.

But with this letting go and multi-way sharing came some unanticipated moments. First, when we do not assume control, people will not wait until the end of a project to act on good ideas. For example, after one of the Koffee Klatches, one NPO modified its bylaws in order to permit students under the age of 19 to sit on its board of directors for shorter terms of office than what is typically expected (i.e., students' windows of commitment are often based on the eight-month university cycle of classes whereas board members terms of office are usually 2-3 years duration). A problem with control also surfaced as some Koffee Klatch participants did not want their proceedings posted on our website and we struggled with this because we wanted to hear their ideas, but we felt they had a right to privacy even though this did not fit the public and transparent process we had created. After further reflection, we now see that we should have created an option for them to withdraw their consent to participate, thus releasing them from the need to post their proceedings.

Letting things go while sitting shoulder-to-shoulder among these three groups—students, NPOs, faculty—influenced our thinking about "peer review". Peer review is a process to validate research. It is a process where our peers review and assess our academic work, including the creation of knowledge. In our work, our peers were NPO staff, students, and faculty. Further, knowledge exchange-creation-mobilization by this group of peers was central to our project. Knowledge was created and re-shaped again and again by many different people during the life of our project; "knowledge creation is not the monopoly of academics" (Hall, 2011, p. 13). We learned that our series of iterative loops of knowledge-making became our "peer review" process. Public reviews by participants of both the dialogue proceedings and the thematic analyses were a form of "member-checking", validation, and an indicator of "trustworthiness" (Creswell, 2014; Lincoln & Guba, 1985). We suggest that ample time be built into these kinds of processes for "peer review".

Given the ebb and flow of our emergent design process, e-communication via the website, social media, e-newsletter and e-list was essential for keeping both participants and non-participants informed about past and future dialogue sessions as well as the progress being made. For example, all dialogue agendas, goals, and timelines as well as results were posted quickly (usually within two weeks) so that the feedback loop was short. Information was provided in advance so potential participants could inform themselves and plan to attend dialogues. Given the number of unique hits on our website as well as the other analytics noted above, our interest in creating an open door to the university seems to have occurred. We learned that our e-communication served four functions: it was a tool to aid transparency and accountability during our process; it portrayed the university as an open, approachable place; it supported participants' search for each other and relationship building; and it assisted in making the non-profit sector more visible. Thus, e-communication that is accessible to diverse groups, including rural/remote participants, should be prioritized in these C-UE processes.

Second, we reflect on the space-in-between and many questions about diversity/inclusion, participation, power/control, institutional culture, the formation of relationships during knowledge exchange, time and timing, and limitations. Given the inherent diversity of communities, we had to be open to daily listening and learning. Accompanying this listening and learning was our need to understand our own social location and the implications this had for our interactions with community members and how we drafted and shared reports. For example, we never filled in gaps in the notes from dialogue sessions, but rather took these unfinished reports back to the next community meeting and invited participants to complete the discussion while we captured their voices verbatim. Participants needed to see that we did not advance anything on the agenda without them.

We were aware that leaving our power/control at the door when we headed into the community would likely be problematic because in our society, community members often defer to academics in meetings (Fay, 2003). Power varies in degree and changes over time depending on the context, participants, and issues; this can be either positive or negative (Grabb, 2007). We learned that, similar to community-engaged scholarship literature, C-UE is collaborative: "community members and researchers share control of the research agenda through active and reciprocal involvement in the research design, implementation and dissemination" (Ochocka et al., 2010, p. 2). We suggest to other C-UE practitioners that they work to ensure all participants—not just faculty—see their voices and suggestions captured verbatim in written proceedings and then used in formal reports going forward (Pratt, 2017). When people see their words being used in concrete ways this is one form of power sharing and inclusion.

We learned that institutional culture helps to contextualize the space-in-between. Institutional culture (e.g., values, motivations, and behaviours) supports certain initiatives and collaborations to emerge as well as influence student development (Nichols et al., 2014; Taylor & Kahlke, 2017). Our project was directly influenced by the attitudes, values, and interpersonal skills of the people involved in the steering group (Vaterlaus et al., 2016). Thus, steering groups for these kinds of C-UE projects should comprise people who are willing to learn, can see themselves as equals in the world (not people at the top of a hierarchy), and are willing to roll up their sleeves and help out with any task along the way.

Recall that in this space-in-between, knowledge can be exchanged-created-mobilized and relationships can be formed. We sat together in community meetings, exchanged knowledge with each other from our own perspectives, created new knowledge as discussions unfolded, and then decided what all of this meant for moving forward. For example, in the discussion about the design of courses, NPOs offered information for curricula (e.g., service models and case studies) based on their front-line experiences with various groups, faculty offered thoughts about how to conceptualize material into four-month-long courses, while students pointed out the need for the course assignments that may be co-created to actually be do-able and affordable (e.g., students do not have to travel far from campus to complete their assignments). This approach is most closely aligned with focus group theory. Focus groups promote "among participants, synergy that often leads to the unearthing of information ... [and] facilitate the exploration of collective memories and shared stocks of knowledge that might seem trivial" (Kamberelis & Dimitriadis, 2005, p. 903), but end up being crucial building blocks. Further, with the emergent nature and iterative feedback loops built into our process, we learned about the inherent reciprocity of building on each other's words and ideas throughout the process and that when C-UE processes are action-oriented, participants are highly motivated (Lantz et al., 2006, p. 239). For C-UE to be successful, faculty need to understand they are not the center of knowledge-making, but rather, part of a dynamic circle of diverse people engaged in iterative loops of creation.

In this space-in-between, we learned to pay attention to time and timing. We took time to form bonds, to talk about power/voice issues, to understand the local context, and then to collect and analyze information together. Taking time to share stories, share information, listen carefully to others' perspectives, laugh together, work hard together, and celebrate were all important. The timing of various elements of work plans, rolling out different activities, and connecting with people who could help influence change, all required careful thought. When time and timing is handled well, it can enhance trust/rapport building among participants and pave the way for reciprocity and authentic collaboration (DeSantis, 2014; Nichols et al., 2014). Now we know that if we want NPOs to participate in our courses (e.g., as co-instructors, as co-creators of student assignments), then they should be involved from the beginning; we understand that co-creating something from scratch can lead to a sense of co-ownership and longer term, healthier relationships for ongoing work together.

Despite all of this, we remain curious about limitations, in particular, who did not fully enter—physically and psychologically—this space-in-between. Upon further reflection, we see that some of the very structures and engagement processes that we created may have excluded people from fully entering this space-in-between. For example, we did not create Koffee Klatches in campus locations where students may have felt more comfortable psychologically, but rather focused on using off-campus community locations in order to maximize the engagement of NPOs. There are student-run NPOs on our campus that we should have engaged in our process. We also did not engage Indigenous students specifically. Western ways of inviting and engaging students by hanging posters/flyers and spreading information through word-of-mouth via mainstream student groups and social media were likely not effective in engaging Indigenous students specifically. We should have intentionally worked at establishing relationships with Indigenous students via the ta-tawâw Student Centre on campus. Most of our C-UE work was completed shortly after the Truth and Reconciliation

Commission of Canada (2015) released its 94 calls-to-action—many of these actions would have been instructive to us in the development of our engagement strategy. Finally, even though evaluations were completed after each community-university dialogue we believe we did not pay enough explicit attention to what was happening to students, NPOs, and faculty in this space-in-between. What were participants' actual experiences of inclusion/exclusion, the formation of trust, authentic relationships, and our attempt to create a democratically designed engagement process? We suggest that evaluation tools such as the Transformational Relationship Evaluation Scale (Kniffin et al., 2020) should be adopted in future processes in order to more fully understand the impacts of these C-UE processes on all participants.

In sum, as we stand back and ponder the complexities of emergent design and the space-in-between, we can say with certainty that our process was rife with skepticism, mystery, and "black boxes". NPOs harboured skepticism about the university being able to design and implement a new undergraduate certificate within a year or two given its complex bureaucracy. One NPO participant stated in their evaluation form: "When I read the notes from the December dialogue, I was worried that the process may be ethereal or bogged down in minutia, but I was pleasantly surprised when it was practical" (February 2015 Koffee Klatch). This concern was not without merit as "given the size of university structures and processes, they are known to be very slow in decision-making and adopting change" (Horowitz Gassol, 2007). But 18 months after our process formally ended, a new undergraduate certificate had been approved by the University Senate! Additionally, some faculty harboured skepticism about the worthiness of the NPO sector as a scholarly field. We had to create a list of non-profit scholars in Canada (e.g., Jack Quarter, Laurie Mook, etc.) and a list of peer reviewed journals (e.g., International Journal for Third Sector Research, Canadian Association for Nonprofit and Social Economy Research Journal, etc.) that focused specifically on non-profits. These lists were presented at a faculty meeting as evidence that the non-profit sector is indeed a scholarly field. Thus, these black boxes are now likely a little less mysterious to participants.

As we draw our reflections to a close, we are left struggling with the question: might we be able to test our university's seriousness about eliminating the ivory tower by asking questions about ownership? Who actually owns the undergraduate certificate that was generated through a community-based process? Yes, the university is formally and legally responsible for administering the new undergraduate certificate, but who should be involved in its ongoing evolution and how? The university has a moral commitment to ensure the steering group continues with engagement of all three groups—students, NPOs and faculty—and that ongoing community-engagement processes carry on with a strong commitment to intentional listening. At this time, the University is showing its commitment to the certificate by continuing to fund a full-time coordinator whose job is to continue working with NPOs on the ongoing evolution of the certificate.

Finally, "facilitation" was an interesting concept upon which to reflect as co-authors. We set out to facilitate a wide open, community-university process that saw all participants as equal and contributing members of a complex process with many activities that ebbed and flowed over time. Respectful collaboration with community members was seen as primary. In order to facilitate a process of "plan-act-reflect" (Pratt, 2017) with diverse participants, we had to juggle multiple roles and apply multiple skills. Throughout our process, we were supporters, translators, writers, negotiators, nurturers, celebrants, bridge-builders, co-ordinators, analyzers, and listeners. In our facilitation work we had to find the balance between process and product, between thinking and acting, between the needs of communities as well as students and faculty, between chaos and linearity, and between noise and silence. Others contemplating a C-UE process should think carefully about their talents/skills and their ability to juggle them as they prepare to enter the dynamics of emergent design and the space-in-between.

Conclusion

Our process was grounded in our local community and fulfills a moral obligation of the modern-day university to serve the public good; this was our attempt to create a more porous academy. We began with an intentional goal of listening to community voices and ensuring those voices had a primary place in our dialogues, subsequent analyses, and the design of a new undergraduate certificate. This was an intentional effort to minimize power and control usually held by universities. A steering group continues to exist and community meetings continue to happen. A diversity of NPOs continue to be interested in and participate in C-UE activities regarding the evolution of the certificate, which is a good sign. As we move forward, lessons shared by others such as Clifford and Petrescu (2012) are instructive regarding the need to pay attention to key dimensions in C-UE processes: internal (institutional), external (community), and personal.

As universities continue to move toward greater engagement with their local communities, there will be a growing importance on interrogating the concept of governance. "Governance is a means of organizing, shaping and steering a course of decision-making … [it] is a critical component in the organization of knowledge production" as well as action on complex societal issues (Runnels, 2011, p. xi) and advancing the public good (Strandberg, 2017). C-UE governance will require careful attention to the space-in-between where people gather to co-construct things, especially during this era of reconciliation in Canada. How do we transcend existing colonial relationships and recognize "the mutual autonomy of the communities involved" (Evans at al., 1999, p. 190)? It is time for us to incorporate insights from scholars developing curriculum (Ragoonaden & Mueller, 2017) as well as those who have synthesized recommendations for creating authentic, trust-based, relationships with Indigenous communities (Lin et al., 2020). Working in and with the radically different world views of Indigenous people and settlers is the knowledge exchange-create-mobilize challenge before us—embracing this work will lead community-university engagement to a better place.

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Reports from the Field

Adapting Experiential Learning in Times of Uncertainty: Challenges, Strategies, and Recommendations Moving Forward

Eileen O'Connor, Emily Marcogliese, Hanan Anis, Gaëlle Faye, Alison Flynn, Ellis Hayman, Jamel Stambouli

Abstract Experiential learning offers students the opportunity to gain practical experience with a community or industry partner in their field of study. During the Covid-19 pandemic, many workplaces transitioned from in-person to at-home work environments, and those that did not, often reduced or removed access for non-essential personnel. In this report from the field, multiple viewpoints are shared that emerged from an interdisciplinary panel on experiential learning in the June 2022 Spotlight Series hosted by Teaching and Learning Support Services at the University of Ottawa. These voices "from the field" shed light on the impact of uncertain times on experiential learning and, collectively, focus on identifying challenges, implementing strategies and good practices, and sharing recommendations moving forward.

KeyWords experiential learning, higher education, Covid-19, community engagement

A defining feature of post-secondary institutions' approach to student learning is the commitment to building strong community–campus partnerships that enhance and expand students' learning opportunities. These partnerships support students' experiential learning placements within the community, government, and private sectors. The resources and relationships invested in university–community collaborations are extensive, as evidenced by well-established co-op and practicum placements, as well as smaller community service-learning placements. Experiential learning is recognized not only as direct, hands-on learning acquired through doing, but also for its role in building participants' confidence to learn in different settings, make critical connections to their curricula learning, learn from local communities, and build greater self-efficacy and self-awareness through critical thinking and reflection (Kolb, 1984). Building on Kolb's cycle of experiential learning, students are increasingly encouraged to renew their focus and efforts on the reflective aspect of their experiential learning and to assume a greater role in learner responsibility (Morris, 2020; O'Connor et al., 2021).

Given this commitment, we turn our attention to the current context of practicing experiential learning during a worldwide pandemic and to questions that arise from challenges to that practice: How do students, community partners, administrators, and faculty respond and adapt their experiential learning during times of uncertainty such as a global pandemic, war and displacement, or significant weather events that disrupt in-person learning on campuses? Considering the Covid-19 pandemic, what were the main challenges in navigating experiential learning? What experiences and strategies could be shared to inform the creation of safe practices during times of uncertainty? While many researchers are publishing on adaptations to experiential learning in universities in other countries, particularly in medicine and pharmacy (see Butler, 2022; Castro et al., 2021; Leite et al., 2020), evidence from Canada (and from community partners) is only now emerging. To that end, we share this note to move the conversation forward.

This Report from the Field focuses on our involvement with experiential learning in partnership with community organizations in the Ottawa–Gatineau region of Canada as we take stock of our collective experiences and share recommendations moving forward by summarizing emergent ideas from a panel discussion. The panel on experiential learning during Covid-19 included six panelists and a moderator and was featured in the Spotlight Series at uOttawa in June 2022. The series grew from the work of the Strategic Committee for Teaching and Learning Supports, which has representatives from across the institution, including Teaching and Learning Support Services, students, and faculty. In this piece, we share multi-disciplinary and multi-stakeholder viewpoints on experiential learning at the University of Ottawa (uOttawa) and Saint Paul University. These viewpoints reflect the context of working in a large, comprehensive, bilingual university offering a range of undergraduate and professional graduate programs, including Medicine, Nursing, Law, Engineering, and Education, in the capital city of Canada. Our goal is to actively contribute to the ongoing reflection on the operations of higher education institutes for experiential learning in Canada during Covid-19. In doing so, we strive to contribute to the necessary broader reflection on the challenges, opportunities, and recommendations for experiential learning during times of uncertainty.

Listening to Multiple Perspectives from the Field

Panelists affirmed that the Covid-19 pandemic disrupted in-person learning and education around the world. They said that as disruptions increased, it was uOttawa's leaders in pedagogy and teaching who assumed crucial leadership roles on campus during a period of critical discussion and decision-making. Shared best practices and guidelines were developed and disseminated to assist faculty and students in the temporary and/or ongoing pivot to online classes. Panelists stated that it became apparent that intersecting issues of students' isolation and mental and physical health would need to be addressed in new learning practices, as was reported at other institutes (Hager et al., 2020; Krendl, 2021). Challenges abounded, as did the necessity of finding solutions while being receptive, flexible, and adaptable to emergent and ongoing pandemic-related issues. The scope of experiential learning at uOttawa is wide ranging and encompasses structured co-op placements, program internships, community-based research, and entrepreneurial or service-learning placements, as well as professional program practicum placements in Nursing, Medicine, and Education. While some reflections in this field report focus on specificities within our respective programs, several key themes emerged from our discussion, summarized below.

Challenges of Doing Experiential Learning During Times of Uncertainty

Many of the challenges discussed by panelists centered on the difficulties of working during times of uncertainty. With this uncertainty, they noticed higher levels of stress and anxiety related to increased work demands, difficulties around planning ahead, transitioning to online workspaces, and adapting to changing public health requirements. Not only did work become more challenging, so too did managing home life, family health, and children's schooling. Panelists revealed that they heard about struggles to balance work, home life, and assuming greater caregiving roles. They said the struggles were particularly challenging as social, learning, and work "spaces" blurred quickly together, and one's laptop and living space became the new focal point of learning.

Panelists noted that students involved in experiential learning felt that their program requirements, deadlines, and expectations remained relatively unchanged while the needs and capacities of community, government, and industry partners were going through enormous upheaval. Managing these gaps proved to be a challenge experienced by many of the panelists. Voices from the field in accredited programs such as Education and Nursing reiterated that experiential learning is a compulsory and valued aspect of their programs, but they grappled with a sharp decrease in available placements and an increase in host burnout, particularly for partners in long term care homes, hospitals, and schools. Conversely, other programs such as Business witnessed an increased demand for experiential learning placements and were challenged with recruiting enough students to fill the growing needs of their local, national, and international industry partners.

Finally, there was consensus among the panelists that during the pandemic, students and faculty missed the humanistic approach to engagement and learning. They noted that they had become more reflective on the privilege and benefits of in-person engagement with students, colleagues, and partners as they adapted from what was first anticipated to be a temporary transition to an evolving situation for the last two and a half years. Yet, experiences revealed this was not the case for all students nor all colleagues. For example, one panelist shared that many third- and fourth-year students who experienced on-campus learning prior to the onset of the Covid-19 pandemic saw the benefits of returning to classes on campus and placements within community settings, while in-person classes and experiential learning did not hold as much value for many of the second-year students. A new challenge was identified as an ongoing need for partners, administrators, and faculty to develop ways to rekindle interest in the human, in-person aspects of experiential learning.

Strategies, Solutions, and New Opportunities for Experiential Learning During Times of Uncertainty

Panelists stated that stakeholders used various strategies to adapt experiential learning for students, whether in the classroom, in their placements, or in research laboratories. While the transition and uncertainty were challenging to manage, they also created an opportunity for innovation and creativity. The Faculty of Engineering, for example, created and mailed laboratory kits to students across the globe. While this solution proved expensive and they eventually transitioned to a virtual simulation model, this demonstrates how the Engineering instructors developed creative solutions to meet the hands-on learning needs of their students. Similarly, other panelists described how they adapted experiential learning opportunities by working more closely with students to develop projects that could be done virtually. Panelists reiterated that they wanted to ensure that students felt they were receiving high-quality experiential learning opportunities despite the uncertain times.

It was also noted that some students did not move to their university city during the academic year as was previously the case with on-campus learning. This represented a significant opportunity for students for whom the cost of living away from home is a significant financial obstacle. Panelists continued that the shift in learning expanded the opportunity for international students to enrol in graduate level programs while living all over the globe. It also offered opportunities for students to feel empowered to take greater ownership of their own experiential learning and generate project ideas to create with local partners. Given the nature of Covid-19 lockdowns, students reached out to create new partnerships in communities in Ontario, Canada, and internationally. Panelists strove to maintain these new partnerships beyond initial projects.

While developing new partnerships was important, one strategy that panelists said consistently proved effective was to rely on community partners with whom they had created strong relationships and partners who were able to demonstrate flexibility and compassion. Panelists felt that maintaining open and frequent communication with these trusted community partners over the years allowed critical relationships to pivot closer together in uncertain times. Panelists shared common goals of providing mutually beneficial outcomes for students and partners. In professional programs like Education and Nursing that have compulsory practicums, efforts were focused on reinforcing existing relationships through recognition and retention. The adapted strategies during the Covid-19 pandemic reflected an ongoing commitment to experiential learning from all parties, including administrators, students, faculty, and community partners.

Discussion

While it appears the height of the Covid-19 pandemic is behind us, academics and community partners remain attentive to ongoing uncertainties such as new variants that could cause changes to university–community long-term planning. Hence, we wish to contribute here to a broader reflection and discussion by sharing experiences that provide valuable knowledge of how others adapt experiential learning in times of uncertainty—knowledge that transcends the Covid-19 pandemic. Ultimately, being prepared for unexpected disruptions may help ease the transition during times of uncertainty for all involved including community partners, students, administrators, and faculty.

During this uncertain time, needing to adapt quickly in so many areas of our lives required considerable time and effort. Within current workloads, trying to continue integrating experiential learning required additional effort and time that was largely unrecognized and unappreciated by administrators and students. Several strategies proposed by panelists to address these challenges emerged. The first was to simplify tasks and turn to those with whom one is closest for assistance. Panelists shared that, in their experience, university administrators and professors turned to their community partners with whom they had the strongest relationships. They negotiated mutually beneficial experiential learning opportunities that allowed them to pivot quickly and ensure students could continue to learn with and from these partners. In the ongoing discussion, the panelists said that challenges and lessons learned highlight the importance of establishing and maintaining strong university–community collaborations.

As previously noted by panelists, the humanistic approach to engagement and learning was difficult to create in a virtual setting. Developing human connection in virtual learning spaces, including experiential learning, requires additional effort and preparation by educators and administrators. Human connection was perceived to be an important element of developing a sense of community within the university where people helped and supported one another. One panelist facilitated more effective ways for students to express specific challenges they experienced during the pandemic and share how it impacted their studying, learning, and engagement in the community and/or business sector. Through reflective activities, students revised learning goals and identified supports needed to address challenges exacerbated by the pandemic. Moving forward, schools can look at what industry partners are doing to cultivate effective human connection in virtual workspaces. Blended learning may represent an innovative way for experiential learning to respond to the challenge of fostering human connection. Yet, while blended learning may provide some in-person human contact, it may not be sufficient in professional practice programs such as Education and Nursing. The value of hands-on learning in these programs is significant because graduates are expected to work competently and safely in practical settings like schools and hospitals. Although students may learn specific tasks or competencies, virtual and in-person environments are different. Online experiential learning made it difficult to develop the relational skills and confidence needed for students to navigate new environments in preparation for graduation. For nursing students, lives are at stake. Performing in a virtual environment does not mirror the pressures and relational aspects of in-person practice. Learning and mastering in-person communication provides tremendous value to students and can be one of the most enriching aspects of experiential learning. Learning to navigate relationships and the physical spaces of in-person experiential learning is part of the learning process for students. Moving forward, it will be important to recognize and valorize the relational learning that takes place during in-person experiential learning. This learning that happens as students navigate and adapt to new roles and relationships is a part of the learning process that is less amenable to being evaluated on a checklist. Seeing the value in this type of learning behooves educators to continue investing in in-person learning, particularly for professional practice programs. To our knowledge, pandemic effects on relational learning among post-secondary students has not yet been explored in the literature.

Although virtual experiential learning presents some accessibility challenges, such as the requirement for reliable internet access and computer devices, it also removes barriers and allows some students to participate in experiential learning for the first time due to increased flexibility in their schedules, with asynchronous classes and less structured commitments to sport or employment responsibilities. Another way that virtual experiential learning reduces barriers and offers more equitable access is found in international partnerships for experiential learning. Previously, students would have to pay for their travel and living expenses for an experiential learning placement with an international partner. The pandemic helped make international partnerships more accessible for students as many workplaces transitioned to online spaces. Students could then work with international partners without the burdens of travel and the additional associated costs (financial, personal). It is important, however, to acknowledge and account for the increased demand on time that is required by administrators, faculty, and partners in creating virtual and blended learning spaces with new partners.

Conclusion

Moving forward, it will be important to invest resources into the recruitment, recognition, and retention of community and industry partners. Investing in these partnerships and creating strong relationships that are mutually beneficial can ease the burden of trying to develop new partnerships in times of uncertainty when rapid change and trust are needed. This includes learning to better understand and adapt to the changing needs of community partners and the students who learn in those spaces. We need to actively listen to student voices and pilot their ideas to create healthy, open channels of communication among all stakeholders during times of uncertainty, in ways free from repercussions for students given the existing power relations. Students bring innovation and insights that can help shape our discussions on learning in the evolving landscape of higher education.

Sustaining strong partnerships necessitates sufficient human and financial resources to adequately recognize the tremendous work that community partners provide to support students, particularly those partners who stepped up for us in times of uncertainty. Another salient recommendation from our discussion is to continue to explore alternative experiential learning modalities that are less impacted by uncertainty, such as virtual and blended learning. Given the pivot to online spaces more broadly, it seems likely that virtual spaces will continue to be a cornerstone of our social, work, and learning spaces moving forward. Now is the time for renewed reflection and praxis among all stakeholders in experiential learning. Lessons learned during the Covid-19 pivot could shape the processes we need to put in place to ensure sufficient flexibility to better adapt in times of uncertainty and to ensure that relational learning occurs for the students we mentor.

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Realizing the Promise of Disaggregated Data and Analytics for Social Justice Through Community Engagement and Intersectoral Research Partnerships

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Abstract In Canada, community and policy leaders have issued urgent calls to collect, analyze, and mobilize disaggregated data to inform equity-oriented initiatives aimed at addressing systemic racism and gender inequity, as well as other social inequities. This essay presents critical reflections from a national Roundtable discussion regarding how meaningful community engagement within academia–community–government research collaborations offers the opportunity to harness disaggregated data and advanced analytics to centre and address the priorities of equity-deserving and sovereignty-seeking groups. Participants emphasized four key priorities: (1) Building equitable and engaged partnerships that centre community-driven priorities and address structural barriers to community engagement; (2) Co-creating ethical data governance policies and infrastructure to support community data ownership and access; (3) Stimulating innovation and pursuing community involvement to create contextualized, advanced analyses and effective visualizations of disaggregated data; and (4) Building the capacity *of all partners* to effectively contribute to partnership goals. Capacity building was viewed as a bridge across a diversity of lived and professional expertise, enabling intersectoral research teams to collaborate in culturally safe and respectful ways. Beyond identifying key structural barriers impeding the promise of disaggregated data, we present practical opportunities for innovation in community-engaged scholarship to address social justice challenges in Canada.

KeyWords disaggregated data, community-engaged scholarship, partnerships, science policy, social justice, inequity, big data

What we measure matters. In the absence of robust disaggregated equity data in Canada, systemic inequities faced by key populations and communities are repeatedly rendered invisible in evidence. Community and policy leaders have issued urgent calls to collect, analyze, and mobilize disaggregated data under the principles of ethical data governance and accountability. Such calls aim to inform equity-oriented policies to help address systemic racism, gender inequity, and other social inequities in Canada (Black Health Equity Working Group, 2021; British Columbia's Office of the Human Rights Commissioner, 2020). Disaggregated data can assist in identifying inequities and examining the intersecting variables influencing these inequities. Such analyses must then be used to drive policy responses and (re)allocation of resources for impact. Disaggregated data can also highlight community strengths that can be further enhanced through dedicated support. Alongside calls for the collection and use of disaggregated data, research infrastructure and analytic capacity are growing at universities across Canada. Such resources and expertise, however, remain largely inaccessible to community leaders with equity mandates, which risks widening power differentials and the digital divide that dictates who has access to, and the ability to use, data. Canada needs an effective pathway for grassroots and social justice organizations to access the power and promise of advanced data analytics to address social justice challenges. Creating new avenues for academia–community–government collaborations to identify research priorities, collect, access, analyze, and visualize disaggregated data, and engage in training offers opportunities to harness advanced analytics to address the priorities of equity-deserving and sovereignty-seeking groups.

> Simon Fraser University's (SFU) Equity Data Commons (EDC) initiative aims to work with community organizations and leaders to create a national community–academic–government data partnership hub to provide access to the resources, expertise, and infrastructure needed to support: (1) Community-driven data priority setting; (2) Joint community and university collection, analysis, and visualization of disaggregated data; (3) Use of disaggregated data to inform social justice and equity initiatives; and (4) Community partner training in data collection, analysis, and interpretation.
>
> Central to the EDC initiative is acknowledging and addressing community concerns about potential misuse of disaggregated data. The EDC recognizes the legacy of data being used against Canada's most oppressed communities, including as part of the colonial project, as well as experiences of academic research as "extractive" with little community benefit. We can and must do better.
>
> Historically, digital transformation and disruptive technologies have not been applied in ways that benefit the most structurally marginalized in society. The EDC seeks to ensure that citizens from all backgrounds have the opportunity to benefit from innovations in advanced data analytics by creating an ethical, intersectional data analytics platform and data resource for Canada.

Figure 1. Equity Data Commons

On September 15, 2021, the Equity Data Commons (EDC) initiative (Figure 1) at Simon Fraser University (SFU) partnered with the Canadian Science Policy Centre (CSPC) to convene a national virtual Roundtable to discuss and identify key principles, approaches, and priorities required to conduct responsible, data-driven, and equity-oriented research that addresses community priorities. Invited attendees included intersectoral stakeholders from community, academia, government, non-profit, and computational science sectors. This *Report from the*

Field summarizes participant feedback from the Roundtable and puts forward a position paper to inform the development of best practices and policies for building equitable and engaged academia–community–government partnerships to collect, analyze, and use disaggregated data; conduct ethical and responsible data governance; stimulate innovation in the pursuit of meaningful data analysis and visualization; and build the capacity of all partners to engage in these processes.

Methods

The Roundtable agenda, speaker list, and list of attending organizations are included in the appendices. Briefly, after an overview of the goals of the EDC and presentation of three brief case studies of exemplar academia–community collaborations across different health priorities (COVID-19, climate change, and HIV) (Black Health Equity Working Group, 2021; Hoogeveen et al., 2021; Kaida et al., 2019; Loutfy et al., 2017), participants joined small, moderated discussion groups in which they were asked to reflect on four questions (Figure 2). Notetakers in each group captured the discussion and summarized key points. The small groups returned to the main meeting room where the moderators and notetakers shared the key discussion points from their groups, offering opportunities for other Roundtable participants to comment, clarify, or expand on the points. Elder Valerie Nicholson closed the group discussion with the teaching that "new knowledge is old knowledge to new people," which informed our approach to intersectoral and interdisciplinary collaboration. After the Roundtable, we collated the notes from each breakout group and the larger collaborative discussion and conducted a thematic analysis to examine participants' perspectives on the opportunities and challenges across the four questions.

What do you think are the key considerations for:

1. Building equitable and engaged community–academic partnerships to support the responsible collection and use of disaggregated data and advanced analytics? What are the opportunities and challenges to this approach in Canada?
2. Advancing ethical and responsible governance of data collection, sharing, access, safety, and sovereignty? What are the opportunities and challenges?
3. Stimulating innovation in the pursuit of meaningful data analysis and visualization that leverages community–academic partnerships and advanced analytics to examine, expose, and address inequities? What are the opportunities and challenges?
4. Building the capacity of all partners to contribute to equitable and sustainable academic–community collaborations? What are the opportunities and challenges?

Figure 2. Discussion questions for the Roundtable participants

Key Findings

Roundtable participants identified several opportunities and challenges to realizing the power and promise of disaggregated data and analytics to address social justice challenges in Canada. Several identified issues are consistent with those identified by previous analyses of structural challenges to academia–community–government collaborations, while others were specific to collaborations centred on collecting, analyzing, and using disaggregated data.

Partnerships

Roundtable participants felt that building equitable and engaged partnerships lies at the centre of this work. They felt these relationships are best built on and sustained by trust and mutual value. This process requires the investment of time, care, and—although often left unsaid—resources. Many noted that previous work has pointed to strategies necessary to build trusting academia–community partnerships, including "showing up" in community, which entails centering community needs, being humbly present in the community when welcomed there, and committing to deepening one's understanding of community priorities and values. Additional practices include supporting each other outside of the specific parameters of the partnership, delivering on promises, spending time together working on common goals, maintaining flexibility, communicating actively, and sharing resources and networks (Nelson, 2021). Participants felt that government partners and policy makers must be similarly engaged early in partnerships to create a sense of shared ownership and the impetus to use the data to inform policy development. Under-acknowledged are the structural barriers that impede this work and reinforce existing power inequities. However, the participants emphasized that acknowledging and actively working towards dismantling such power hierarchies are essential components of building and sustaining equitable and engaged academia–community partnerships.

The participants also described how the existing structure of research funding opportunities introduces barriers to academia–community partnerships. First, research funding opportunities do not sufficiently value the building of academia–community relationships, making it difficult to attain the additional time, money, and other resources that are important in nurturing these connections. In addition, community organizations are often ineligible to hold research funding and reliant on academic partners for budgetary allocations, entrenching power hierarchies between academic and community partners. Moreover, while many community organizations are deeply invested in their work and wish to be involved in research processes, their capacity for investment in relationship building is strained by a lack of dedicated funding and administrative support for research. Participants offered creative solutions to these challenges, advising funders to adopt more flexible funding guidelines, expand the types and nature of allowable expenses (such as community honoraria or community consultation), and extend eligibility to community-based research personnel to hold funds.

Second, research ethics application, review, and approval procedures were identified as introducing structural barriers to academia–community relationship building, particularly with respect to practicing cultural humility and ensuring cultural safety. A research team working with Indigenous Elders shared that they submitted a research protocol to an institutional review board (IRB) that described a cultural process to acknowledge wisdom shared by the Elders with a gift of ceremonial tobacco. This gift was challenged by the IRB, requiring substantial effort to educate IRB members on the sacred nature of tobacco among Indigenous communities around the world. Roundtable participants underscored that IRB processes must be adapted to support culturally significant practices as an essential step in creating meaningful, equitable, and trusting relationships, particularly for communities that have been betrayed and harmed by colonial research practices.

A third structural barrier described is the way career advancement and reward structures for academics can be at odds with the time and care that it takes to build academia–community partnerships. The pressure to continuously publish for career advancement can disincentivize academics' investment in dismantling power inequities and building relationships with community partners. Participants articulated the need to shift the type of work that is valued in an academic setting. University leadership members who are responsible for hiring, tenure, and promotion processes and granting councils can initiate change by redefining expectations for career advancement to include considerations of community engagement and impact.

Data governance

A second central feature raised during the Roundtable pertains to advancing ethical and responsible data governance. Data governance is the ownership and control of collective data. Distinct from holding or housing the data, data governance entails decision-making about how data are collected, stored, analyzed, and shared (Black Health Equity Working Group, 2021). Data ownership and access are key considerations to using disaggregated data, data infrastructure, and data analytics to advance social justice causes. Community leaders at the Roundtable expressed that equity-deserving and sovereignty-seeking communities must have ownership over data collected from members of their community, particularly over disaggregated data. This includes the ability to mobilize and share (or not share) data—which is often hindered due to silos between researchers, disciplines, and sectors, as well as bureaucratic barriers.

Participants also reiterated that for Nation-based data, there are excellent examples of how data governance can unfold. The First Nations Principles of OCAP®[1] (ownership, control, access, and possession) provide a framework for the handling of data related to First Nations in Canada (The First Nations Information Governance Centre, n.d.). These principles establish clear expectations for how data are stored, interpreted, used, and shared, with an emphasis on data sovereignty. For non-Nation-based equity-deserving groups, establishing a clear understanding of and agreement on how data are to be collected, stored, analyzed, and used is similarly important. Participants also drew attention to the Black Health Equity Working Group, which has provided a framework for data governance regarding race-based disaggregated data, serving as an example for other non-Nation-based groups (2021). The framework outlines four principles: (1) Engagement: the meaningful and continued community consultation throughout the research process; (2) Governance: community decision-making

1 OCAP® is a registered trademark of the First Nations Information Governance Centre (FNIGC).

surrounding engagement and all data processes; (3) Access: communities' rights to determine rules for accessing their data, including who can access them and how they are used; and (4) Protection: safeguarding of individuals' rights across all types of data. Roundtable participants felt that formalizing these principles to apply to broader Canadian policy requirements for those engaged in race-based data collection would be an important step forward. Finally, participants emphasized that determining data governance policies requires recognition of the rich diversity within communities and intentional inclusion of those with dissenting opinions from the majority.

A current opportunity in data governance lies in harnessing academia–community–government partnerships to increase community control over their data. This includes connecting academics with skills and training in data collection, analysis, and interpretation with communities that are seeking those skills. Also important is mobilizing the extensive infrastructure at post-secondary and research institutions to securely capture, store, access, and protect data. Again, Roundtable participants discussed how opportunities for these partnerships and their equitable and safe data governance procedures are hindered by structural barriers and power inequities among and between partners.

A concern central to data governance is that current leadership in academic and government organizations in Canada does not demonstrate adequate racial, gender, or class diversity and is not representative of the general population. This distance from equity-deserving and sovereignty-seeking communities presents challenges to proposed academia–community–government partnerships, given that the data are usually collected from underserved, oppressed, systemically marginalized, and equity-deserving communities but are analyzed, interpreted, and owned by individuals who may have little understanding of community priorities. On the other hand, community organizations are often led by members from equity-deserving and sovereignty-seeking communities tasked with designing and delivering policy and programming to serve the needs of their communities. This creates a system where those who hold power and shape research and policy lack accountability for the impact of data/findings on communities, fueling community concerns about sharing data and engaging in data-driven partnerships. Roundtable participants emphasized the central role that transparency plays in navigating this dynamic. Researchers need to be accountable for clearly describing how data are being used and how conclusions are reached while ensuring the security and privacy of sensitive data. Accountability mechanisms are also required for researchers using disaggregated data to report to data-safety advisory boards consisting of community members.

Stimulating innovation

At the Roundtable, participants expressed strong agreement and excitement regarding the enormous potential of academia–community–government partnerships to overcome barriers to stimulating innovation in the pursuit of meaningful disaggregated data collection, analysis, and visualization. Participants felt that such partnerships could generate new questions driven by community priorities; insightful, nuanced, and contextualized analyses; and effective visualizations of data to serve our collective understanding and action on addressing social injustice. By definition, innovation means doing things differently—in this case, participants encouraged a reimagining of what research looks like through all phases of the process. Participants described areas that need innovative change across macro, meso, and micro levels.

At the macro level, entrenched biases within the structure of academia need to be examined and re-envisioned. As highlighted above, funding structures are currently more accessible to academics than to community members or organizations. This prioritizes the pursuit of research questions deemed important solely by academic researchers, potentially limiting the generation of knowledge driven by community priorities. Shared models of research leadership may create opportunities for community organizations to pursue research questions important to the populations they serve. Additional funding would enable community organizations to partner with researchers to evaluate and publish results from their culturally relevant programs serving a diversity of equity-deserving and sovereignty-seeking populations.

Participants detailed that existing funding structures tacitly rely on labour provided by community partners or explicitly request uncompensated "in-kind" contributions from these partners. Prevailing research models provide little room for meaningful support of those giving their time to these projects. For partnerships to thrive, funding structures must include adequate compensation for community partners. This means providing financial supports for activities that address barriers to community engagement in the research process beyond those included in the traditional funding schema. The Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS) offers a compensation framework that models community-informed practice (Kaida et al., 2019). CHIWOS compensated Peer Researcher Associates (women living with HIV who completed study-related research training) for time spent in training, as well as food, accommodation, and travel expenses incurred while participating in the training. Additional funds were provided for childcare where needed. Participants were encouraged by the learnings of this work and felt that this example could be developed into policy or guidelines to reduce barriers to engagement for broader academia–community–government partnerships.

Finally, the institutions that fund, publish, and assess ethical considerations within research may undervalue non-Western understandings of knowledge and cultural practices, as well as the living/lived experiences of community members. Roundtable participants expressed concern that impact on community is commonly not a key evaluation metric for prioritizing funding. Additionally, participants underscored that the peer review system for publishing does not sufficiently incorporate community knowledge, expertise, or priorities—authors and reviewers may have limited insider knowledge of the community involved in the research. A broader recognition of the value that community partners contribute to the research process was deemed essential. Across these macro-level barriers, power lies with editorial boards, ethics boards, and funders to realize innovation by restructuring processes to include an understanding of the value of relationship building and community insight across research.

On a meso level, Roundtable participants emphasized that research teams have the opportunity to reimagine knowledge translation (KT) and data visualization efforts. Traditional KT efforts can struggle to balance making information accessible and understandable to community members with preserving the nuance and full meaning of the research findings. Participants emphasized the importance of communicating in culturally relevant formats and pointed to the immense value of storytelling in KT efforts, describing how it can connect people much more deeply to the data and contextualize the findings in terms that are readily accessible. As one participant shared,

> The story of Indigenous people in the country was told in numbers and now their stories are being told differently. We are hearing their voices; we're hearing their stories and it is resonating very differently than all the numbers we've had before". (Roundtable participant, September 15, 2021)

Additionally, data visualization must be cognizant of the audience being served and strive to be interpretable by the diversity of community members. Communities need to guide the understanding and interpretation of research through "hand-in-glove" leadership and participation in its development at every stage, including broad community review and commentary on results.

To realize innovation on macro and meso levels, individual commitment to disrupting power inequities was discussed by participants as equally vital. On a micro level, participants emphasized that individual researchers need to make decisions about their research practices that challenge the status quo. The practice of reflection, reflexivity, and active work to address and dismantle power inequities is standard in academia–community partnerships. Participants emphasized that individual researchers' efforts to relinquish the power imbued by their positionality are essential in this process. Roundtable participants offered a clarion call that true innovation in academia–community partnerships includes researchers stepping away from the forefront and centering community partners as leaders.

Capacity building

Capacity building was discussed by participants as an opportunity through which to address some of the challenges outlined above. Critically, capacity building was viewed as necessary for *all* stakeholders in partnership projects. Capacity building can act as a bridge across different disciplines and groups, enabling teams to come together in safe, respectful ways with a shared understanding of the work to be done.

Capacity building for researchers prepares them to work in trusting partnerships that are grounded in respect. Participants highlighted that many researchers may have never worked in partnership with a community. To prepare them to engage in this work, important training topics include cultural safety and humility, recognizing and reflecting on power inequities within research teams, and strategies to dismantle such inequities. This is also an opportunity for community members to be experts and train researchers, which not only emphasizes the value and complexity of their knowledge and experiences, but also helps rebalance power in the research relationship.

Participants felt that, in a sense, community-engaged research is transitional as we create a more diverse and inclusive academic research community, with, for instance, Indigenous research led by Indigenous researchers. Participants felt that capacity building also requires universities and other well-resourced institutions to support community growth. One outcome participants said would come of the transformation would be having more diverse faculty and students who will transform how justice-oriented research is conducted in Canada. This includes opportunities for community partners to build skills around disaggregated data collection, storage, analysis, and visualization. A goal of building long-term capacity within communities is to increase community control of their data and sustainable social justice efforts.

Conclusion

The findings from this Roundtable discussion point to the need to learn from academia–community–government partnerships in other fields, adapting these strategies to build trusting and effective collaborations to benefit from the collection, use, and mobilization of disaggregated data in order to address social justice challenges. Innovation means reimagining how research has been conventionally conducted to create community-driven solutions that address power inequities and advance the priorities of equity-deserving and sovereignty-seeking populations. In this report, our intent is not to present these academic, government, and community spheres as mutually exclusive, for there is a multitude of intersections and inequities that exist within and outside each of these stakeholder groups. Rather, the intention in summarizing the Roundtable findings is to identify key nodes for innovation and transformation so that we as a research community can overcome systemic barriers built into evidence formation now and into the future.

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Authors' Contributions

All co-authors made substantial contributions to this work. AK, MH, and KN contributed to the concept and design of the work. AK and ZO contributed to the data analysis and wrote the first draft of the manuscript. All co-authors contributed to data acquisition and data interpretation and substantively reviewed and revised the manuscript.

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APPENDIX A: Roundtable Agenda September 15, 2021

How can academic-community collaborations help realize the power and promise of big data to address social justice challenges in Canada?

Time (PDT)	Time (EDT)	Length (min)	Details
9:00 to 09:05	12:00 to 12:05	5 min	**Welcome and introductions** • Angela Kaida, Simon Fraser University (SFU) • Mehrdad Hariri, Canadian Science Policy Centre (CSPC)
9:05 to 09:10	12:05 to 12:10	5 min	**Elder opening and welcome** • Elder Valerie Nicholson
9:10 to 9:20	12:10 to 12:20	10 min	**Overview of SFU's Equity Data Commons and the Roundtable** • Angela Kaida (SFU)
9:20 to 9:50	12:20 to 12:50	30 min	**Short case studies of Academic-Community Collaborations** • New ways of measuring the impacts of climate change on equity deserving populations in Canada - Maya Gislason and Dawn Hoogeveen • Race, ethnicity, equity, and COVID-19: Learnings from the Black Health Equity Working Group - Kwame McKenzie • Community-based research by, with and for women living with HIV - Valerie Nicholson and Angela Kaida
9:50 to 10:30	12:50 to 13:30	40 min	**First Breakout Discussion** • Attendees will breakout into 4 discussion groups with 6-8 participants each, moderated by a pre-assigned facilitator and supported by a pre-assigned notetaker (Chatham House rules in effect). • Introductions (brief) • Discussion will centre on two focus questions
10:30 to 10:40	13:30 to 13:40	10 min	**Break**
10:40 to 11:20	13:40 to 14:20	40 min	**Second Breakout Discussion** • Attendees will breakout into 4 different discussion groups with 6-8 participants each, moderated by a pre-assigned facilitator and supported by a pre-assigned notetaker (Chatham House rules in effect). • Introductions (brief) • Discussion will centre on two remaining focus questions
11:20 to 11:50	14:20 to 14:50	30 min	**'Harvest'** • Groups return to main room, facilitators/notetakers share key discussion points and learnings with time for questions and clarifications
11:50 to 12:00	14:50 to 15:00	10 min	**Closing remarks & next steps** • Angela Kaida • Closing by Elder Valerie Nicholson
End of event			

APPENDIX B: Organizations Participating in the Roundtable

1. ArcticNet
2. BC Centre for Excellence in HIV/AIDS
3. BC Women's Health Foundation
4. Black Equity Working Group
5. Canadian Institute for Health Information (CIHI)
6. Canadian Science Policy Centre
7. Canadian Statistical Sciences Institute
8. Compute Canada
9. Natural Sciences and Engineering Research Council of Canada (NSERC)
10. New Digital Research Infrastructure Organization (NDRIO)
11. SFU
12. SFU's Big Data Hub
13. Social Sciences and Humanities Research Council
14. St. Paul's Hospital
15. Statistics Canada
16. Universities Canada
17. University of Calgary
18. University of Illinois at Urbana-Champaign and Carle Illinois College of Medicine
19. University of Ottawa
20. University of Waterloo
21. WAVAW Rape Crisis Centre
22. Wellesley Institute
23. Women and Gender Equality Canada
24. YWCA National

APPENDIX C: Additional Resources

Included below are additional resources that helped inform the design of the focus questions and framework of this SFU's Equity Data Commons Roundtable meeting.

1. The GovLab works to improve people's lives by strengthening the partnerships between institutions and people to work openly, collaboratively, effectively, and legitimately to make better decisions and solve public problems.
2. The Kirwan Institute for the Study of Race and Ethnicity is an interdisciplinary engaged research institute at the Ohio State University established in May 2003. It was named after former university president William E. "Brit" Kirwan in recognition of his efforts to champion diversity at OSU.

3. The Black Health Equity Working Group includes Black health sector leaders and health equity experts advocating for the collection of race-based COVID-19 data and thorough, responsible governance. The group began meeting early in the COVID-19 pandemic to develop a governance framework for health data collected from Black communities in Ontario that addressed concerns from Black communities about the continued extraction of data from them without the return of tangible benefits.
4. Disaggregated demographic data collection in British Columbia: The grandmother perspective outlines the role of disaggregated data in addressing systemic inequality, states the importance of building respectful relationships, and offers recommendations that suggest legislative changes to protect communities, standards for all data processes, and areas for immediate action and collection of data.
5. The CHIWOS study outlines perspectives on community benefits to research, describing the team's approach to community-based research and the meaningful involvement in their work of people living with HIV.
6. Statement from Canada's Parliamentary Black Caucus calls on all levels of government to take action to minimize the impacts of systemic racism, offering concrete actions to do so, including the collection and mobilization of disaggregated data.

Studies of Physical Parameters of Indigenous Artifacts: Collecting and Preserving the Relating Oral Stories

Arzu Sardarli, Evelyn Siegfried, Ida Swan, Tim Panas, Andrei Volodin, Leta Kingfisher, William Patterson, Sandra Timsic

Abstract This project, supported by the Department of Canadian Heritage, was conducted by scholars from the First Nations University of Canada, Royal Saskatchewan Museum, University of Regina, and University of Saskatchewan in collaboration with Sturgeon Lake and Pelican Narrows First Nations communities in Canada. The objectives of the project were (i) to develop a research ethics protocol for collecting, studying, and preserving Indigenous artifacts; (ii) to determine physical parameters of artifacts from communities and Royal Saskatchewan Museum collections; and (iii) to collect oral stories in communities. Within the project, we also managed consultations with Elders and Indigenous Knowledge Keepers, organized two workshops in the communities, and trained Indigenous students for working in the communities. The laboratory measurements were carried out at the Scanning Electron Microscope Laboratory of the University of Alberta, Saskatchewan Isotope Laboratory of the University of Saskatchewan, and André E. Lalonde Accelerator Mass Spectrometry Laboratory of the University of Ottawa. We analyzed the data obtained from the measurements of physical parameters of artifacts collected in these communities and selected from the Royal Saskatchewan Museum collections. The purpose of the statistical analysis was to determine the similarities of artifacts with respect to their chemical compositions.

KeyWords Indigenous artifacts, archaeology, oral stories, statistical analysis, carbon dating

This paper provides brief information about a community-based project relating to Indigenous artifacts. Indigenous artifacts have been objects of interest to museums and private collectors (Henry, 2013). In recent decades, researchers determined that the aging of artifacts can help reconstruct Indigenous trade routes and exchange networks from hundreds of years ago (Gage, 2016; Livine, 2007). Schaepe et al. (2017) argue that community-based archaeology—meaning community-directed studies of ancestral places practiced by invitation—can improve individual and communal health and well-being. Archaeologists suggest that there is significant untapped potential for elucidating and verifying connections among people, places, objects, knowledge, ancestries, ecosystems, and worldviews. Such interconnections endow individuals and communities with identities, relationships, and orientations that are foundational for health and well-being. In particular, archaeology practiced as place-focused research can counteract cultural stress, a pernicious effect of colonialism that is pervasive among Indigenous peoples worldwide.

Modern laboratory technologies allow for precise, non-destructive physical and chemical analyses of artifacts (Ambrose, 1990; Katzenberg & Harrison, 1997; Nehlich, 2015). While this may be recognized within the non-Indigenous research community, some Indigenous Elders and Knowledge Keepers express ethical concerns. The purpose of this project was to study the Indigenous research ethics protocols recommended by First Nations community members for working with Indigenous artifacts to enhance processes for the engaged anthropological scholarship. Another goal of the project was to record and preserve samples of oral stories of collaborating First Nations relating to the artifacts.

Figure 1. Workshop in Pelican Narrows, Opawikoscikan School Library, October 13, 2018. (Photo by Arzu Sardarli)

From the beginning, we intended to co-create this knowledge with Indigenous communities. We initiated conversations with the communities of Pelican Narrows and Sturgeon Lake First Nations through primary contacts Elder Willie Ermine and Ida Swan. As a result of our initial engagement, Chief Greg Ermine (Sturgeon Lake) and Chief Peter A. Beatty (Pelican Narrows) expressed their support for our project. Subsequently, we developed the research proposal, which was accepted by the Department of Canadian Heritage.

Figure 2. Workshop in Sturgeon Lake, Sturgeon Lake First Nation Healing Lodge, October 22, 2018. (Photo: Arzu Sardarli)

Ethics Review and Research Protocol

According to the agreement between the First Nations University of Canada (FNUniv) and the University of Regina (U of R), our proposal was reviewed by the U of R Research Ethics Board and granted certification on July 17, 2018 (ethics REB#:2017-199).

After engaging with community members, community consultants, and a community research coordinator, we scheduled community workshops on October 13, 2018 (Pelican Narrows) and October 22, 2018 (Sturgeon Lake). Consultations were carried out within one-on-one and group meetings. The meetings were initiated by the principal investigator. Workshops were facilitated and organized by the community coordinator and community consultants. Elders, community members, community consultants, the principal investigator, the community coordinator, and the consultant for archaeology and anthropology participated in both workshops (Figures 1 and 2). Some research team members joined the workshops by teleconferencing. The principal investigator informed Elders about the project, asked for their permission and guidance, and invited them to participate. Research team members provided more specific information about the goals of the project and answered the questions of community members. Elders spoke of their own views and some concerns regarding the community-based research in their communities, the process of Indigenous artifact collection, and artifact exhibition at museums. They emphasized the importance of building trust between the community and the research team. After the discussions, Pelican Narrows Elders confirmed their willingness to participate in the project.

Elders and Knowledge Keepers of Sturgeon Lake First Nation requested another meeting to make a final decision regarding their participation in the project. They invited research team members to participate in a Sweat Lodge ceremony at Sturgeon Lake on December 6, 2018. Participation of research team members in the Sweat Lodge ceremony would be considered the beginning of the trust-building process and part of the ethics protocol for working in the Sturgeon Lake community.

The principal investigator and consultant for archaeology and anthropology participated in the Sweat Lodge ceremony. The principal investigator was asked to address their team's request about conducting the project to community members. After the ceremony, Elders expressed the community's willingness to support the project.

Training

Seven students (four Indigenous, three non-Indigenous) participated in the project as research assistants. Depending on their research field, students were previously trained in statistical analysis (Drs. Sardarli and Volodin), interview and transcribing techniques (Dr. Sardarli), working with artifacts and museum catalogues (Dr. Siegfried), Indigenous Research Protocol (Dr. Kingfisher), and basics of archaeology (Dr. Panas). The training of students working in the field included processes for archaeological research in Northern Saskatchewan in three separate stages. The first of these stages was a half-day lecture on archaeology at FNUniv (Northern Campus, Prince Albert, Saskatchewan). Major topics discussed in this lecture included:

Figure 3. Training session in Humboldt, SK, at the site of the Humboldt Telegraph Station. Dr. Panas working with research assistants. (Photo: Arzu Sardarli)

- Basic background in archaeology
- Methods used in obtaining calendar (or absolute) dates for artifacts
- General types of artifacts found in Saskatchewan (SK) (such as lithic, bone, and ceramic)
- History of the landscape of Saskatchewan, from the last Ice Age to today
- Currently understood archaeological history of the province
- Indigenous archaeological objects and site types found in Saskatchewan, including artifacts, tipi rings, medicine wheels,

Figure 4. Oral Story interview with Elder Gilbert Linklater, Opawikoscikan School Library. (Photo: Arzu Sardarli)

effigies, rock art, and cellar depressions
- Field survey methodologies, note-taking in the field, and the operation of handheld global positioning systems (GPS)

In conjunction with the public archaeological excavations organized by the Saskatchewan Archaeological Society, the second stage of the training took place in Humboldt, SK, at the site of the Humboldt Telegraph Station. During this stage, students acquired actual experience identifying artifacts, conducting field surveys of large areas of land, and recording archaeological information in the field. During the half-day exercise, students were responsible for surveying a portion of the telegraph site to locate and record any artifacts or features (such as foundation remains or evidence of campfires). Once located and identified, students took detailed field notes on their finds and recorded the location of each artifact using a GPS (Figure 3).

Within the third stage of training, the students visited the communities under the supervision of the principal investigator and archaeological advisor. Areas mentioned by Elders during the interviews were examined. Examination of the lands was conducted considering Elders' recommendations and included methodologies to survey and record any data collected at these locations. Following this trip, students conducted their own surveys of these areas.

Indigenous Protocol training was done at FNUniv (Northern Campus, Prince Albert, SK). During the week, the Indigenous Studies faculty member of FNUniv, Dr. Kingfisher, taught the community research assistants about the basics of the Indigenous Research Protocols.

Oral Stories

The names of five interviewees (Elders and Knowledge Keepers) from both Pelican Narrows and Sturgeon Lake First Nations were suggested by community consultants. The interviews were scheduled and organized by community consultants and the community coordinator, and they were held at the Opawikoscikan School Library of Pelican Narrows (Figure 4) and the Adult Education Centre of Sturgeon Lake (Figure 5).

Figure 5. Oral Story interview with Elders Rose and Mike Daniels, Adult Education Centre of Sturgeon Lake. (Photo: Arzu Sardarli)

One Pelican Narrows Elder was interviewed in her own home. Dr. Sardarli and research assistants interviewed Elders and Knowledge Keepers, and community consultants occasionally participated in interviews.

All interviews were recorded with the permission of interviewees by two voice recorders simultaneously. Some interviews were conducted in Cree, while others in English. The oral stories were transcribed by research assistants.

Figure 6. Indigenous artifacts borrowed from communities. (Photos: Arzu Sardali)

Archaeological Survey and Laboratory Measurements

The areas chosen for the archaeological survey (Pelican Narrows and Sturgeon Lake) were determined by community consultants. In the first days of surveying, the community research assistants were supervised by Dr. Panas, after which surveys continued with the community research assistants and Dr. Sardarli. On occasion, the community consultants participated in the surveys.

We obtained twelve bone and nineteen lithic artifacts from the Royal Saskatchewan Museum (selected by Dr. Evelyn Siegfried), nine artifacts from Pelican Narrows, and two artifacts from Sturgeon Lake (Figure 6).

Previously, we had developed a statistical method for analyzing the chemical compositions of surfaces of Indigenous artifacts (Sardarli et al., 2018). Within this project, the chemical composition measurements were carried out on a scanning electron microscope with the energy dispersive X-ray spectroscopy module at the Scanning Electron Microscope Laboratory of the University of Alberta. The radiocarbon dating of the bone samples was conducted at the André E. Lalonde AMS Laboratory at the University of Ottawa. The ages of seven samples were determined using methods that are accepted in the field and were explained to community members (Table 1). We sought to discover the composition of different radioactive compounds, such as the fractions of carbon-14 compared with carbon-12, to help achieve a timeline that would show community members which artifacts belonged together in the record. Calibration

Table 1. Radiocarbon results

Lab ID	Submitter ID	Material	Mat. Code	^{14}C yr BP	±	F^{14}C	±	Cal BC
UOC-11422	SAMPLE 01	Bone fragment	BU	3655	30	0.6345	0.0023	2133 – 1943 (95.4%)
UOC-11423	SAMPLE 02	Bone fragment	BU	3711	25	0.6300	0.0019	2198 – 2167 (11.7%) 2149 – 2031 (83.7%)
UOC-11424	SAMPLE 03	Bone fragment	BU	3559	41	0.6421	0.0033	2023 – 1771 (95.4%)
UOC-11425	SAMPLE 04	Bone fragment	BU	---	---	---	---	
UOC-11426	SAMPLE 05	Bone fragment	BU	3315	33	0.6619	0.0027	1682 – 1674 (1.5%) 1666 – 1509 (93.9%)
UOC-11427	SAMPLE 06	Bone fragment	BU	3590	28	0.6396	0.0022	2024 – 1886 (95.4%)
UOC-11428	SAMPLE 07	Bone fragment	BU	---	---	---	---	
UOC-11429	SAMPLE 08	Bone fragment	BU	3604	32	0.6385	0.0025	2036 –- 1885 (95.4%)
UOC-11430	SAMPLE 09	Bone fragment	BU	4496	25	0.5714	0.0018	3342 – 3097 (95.4%)
UOC-11431	SAMPLE 10	Bone fragment	BU	---	---	---	---	
UOC-11432	SAMPLE 11	Bone fragment	BU	---	---	---	---	
UOC-11433	SAMPLE 12	Bone fragment	BU	---	---	---	---	

of the machines involved was performed using OxCal v4.3 (Ramsey, 2009) and the IntCal13 calibration curve (Reimer et al., 2013). Those interested in more details on the process and material codes may explore Crann et al. (2017).

Figure 7. Preparation of bone collagen for isotope analysis. Collagen samples (top) are weighted into 6×4 mm tin capsules (≈0.5 mg per sample). (Photo: Sandra Timsic)

Carbon and nitrogen stable isotope analyses of bone collagen were conducted in the Saskatchewan Isotope Laboratory at the University of Saskatchewan by Dr. Sandra Timsic (Figure 7).

Statistical Analyses

Details of the statistical analyses of physical parameters of Indigenous artifacts have been reported (Sardarli et al., 2022) for the purpose of determining the level of similarities of artifacts with regard to their chemical compositions. We analyzed the amount of fifteen different chemical components: carbon, oxygen, fluorine, sodium, magnesium, aluminum, silicon, phosphorus, sulphur, chlorine, potassium, calcium, titanium, manganese, and iron. Based on the analyses,

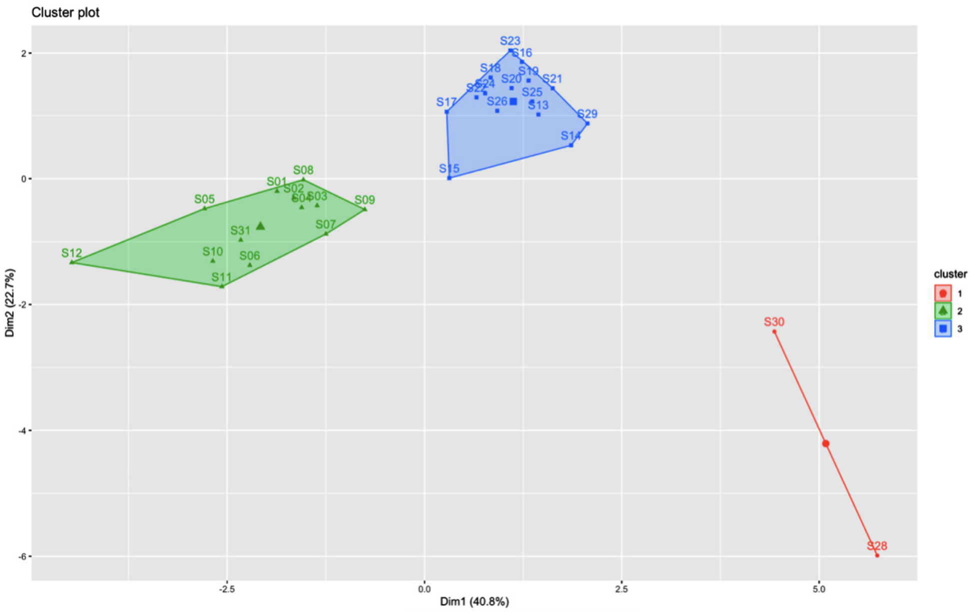

Figure 8. **Cluster Plot (Sardarli et al., 2022)** Green (triangle symbol) cluster: artifacts S01, S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, and S31; Blue (square symbol) cluster: artifacts S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S26, and S29; Red (circle symbol) cluster: S28 and S3

we found that there were three clusters containing the most similar artifacts (Figure 8).

The artifacts in a shared cluster have similar chemical compositions within the accuracy of measurements. The similarity of chemical compositions of artifacts belonging to the same cluster could be caused by the provenance of these artifacts from the same communities.

Preliminary Results About Our Processes

As a team, we reflected on some of the learnings in our research process. We found that with archaeological projects in Indigenous communities, formal and detailed discussions with Elders, local administrations, and informal leaders enhanced our relationships and ability to conduct sensitive research. It was also important to discover, and then follow, communities' individualized research protocols. We left space at each meeting for community experts to help address community concerns about proposed projects, our progress, and, ultimately, how the research would benefit communities.

We also found that Elders had differing opinions on the roles of museums in preserving artifacts. We learned that most Elders found laboratory analyses of artifacts acceptable if the items do not have any spiritual significance (such as animal bones and tools), whereas some were against any laboratory measurements on Indigenous artifacts. However, all Elders were against any measurement that could potentially damage the artifacts.

All Elders and Knowledge Keepers were pleased to share oral stories relating to their families and communities. We did not, however, observe statistically significant evidence of the correlation between oral stories and artifacts.

We determined the ages of seven artifacts by radiocarbon dating. The results correlated well with the Broken Axle site stratigraphy (oldest dates from the lowest layers, youngest dates at the top). The radiocarbon dating analysis also confirmed the results of earlier dating that had been completed on a number of bone artifacts that originated from the same archaeological site (the Broken Axle site) following excavation and site analysis in the 1980s. This earlier work was completed as part of the required analysis and summary reporting of the regulatory process.

The bison femur found in Sturgeon Lake was analyzed at the Saskatchewan Isotope Laboratory. Isotopic biogeochemistry of collagen found in the sample can now be used in the construction of paleoecology and paleoenvironments, including climatic variables such as temperature and precipitation.

Within the project, we used classical statistical analysis methods for determining the similarities of artifacts with respect to their chemical compositions. Our analysis shows that we need to increase the number of samples to develop a more complete record of paleoenvironments to better blend oral storytelling findings with laboratory analyses.

Conclusion

The final report on the project (Sardarli, 2020), including the project outline, oral stories, and preliminary results, and the catalogue (Sardarli et al., 2021) have been published in English and French. At the recommendations of Elders, the final report has been translated to Cree. Detailed information about the project has been made available via Indigenous Artifacts (http://indigenous-artifacts.ca), the project website. The project's preliminary results have been reported to community members. Elders, Knowledge Keepers, and team members participated in online discussions on these preliminary results.

This project can be considered a first step in developing a protocol for future engaged scholarship on Indigenous artifacts using contemporary technologies in collaboration with the two communities partnered here. The findings and conclusions have been co-developed based strictly on our knowledge created within this project and may not be suitable for all communities. It would be reasonable to consider developing a research proposal for a longer-term archaeological project within the extended geography surrounding the two communities that agreed to be part of this research project. Perhaps other Indigenous communities and museums may wish to become part of a larger project that explores the realms of oral history and connection to the materials found in archaeological contexts.

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Book Reviews

Minds Alive: Libraries and Archives Now by Patricia Demers and Toni Samek (Eds.). Toronto, ON: University of Toronto Press, 2020. 268pp. ISBN: 978-1-4875-0527-1.

Minds Alive comes at an important time for libraries and archives, which reside in both the world of books and kilometers of fonds and yet also need to adapt to the massive amounts of born-digital content that too require collection. This monograph, which features thirteen chapters split into five sections, also comes at an important time for memory institutions struggling to adjust to the Googlization of information. The editors note that "endless possibilities and robust importance of libraries and archives in the digital age are at the heart of this collection," while also suggesting that "libraries and archives embody the expanding scope of the public, and the emancipatory potential of public liberations" (p. 3).

These endless possibilities for libraries and archives are a result of seemingly endless difficulties when it comes to adapting to the monumental task of operating so many different functions for diverse users. As Tami Oliphant and Ali Shiri affirm in the foreword, "libraries and archives are vital to public life in the digital age" (p. xi). However, a book itself is finite, and while the editors have captured a wide array of specialists (archivists, librarians, editors, professors) in diverse disciplines delivering a broad number of topics, they arrange these categorically into five sections to help navigate a disparate and somewhat heterogenous collection.

Part I, "Enduring Values," seeks to "articulate, materialize, and defend the common ground of libraries" (p. 9). The authors in this section all begin with the premise that libraries are an emotional benefit to society: "we all love libraries" (p. 23) are the opening words to Guylaine Beaudry's contribution, "Academic Library Spaces, Digital Culture, and Communities." The opening sentence of Alice Crawford's "Libraries – Why Bother?" is "it's important not to be sentimental about libraries" (p. 11) but, tellingly, she wraps up the paper with appeal to their emotional and psychological necessity. Marc Kosciejew also affirms that the value of the public library is to offer not just access to things, but better lives. These papers are all concerned with justifying the library as a site of inclusivity, possibility, and as an ever-receding public space. They offer some arguments as to why these libraries are necessary in the age of *"can't we just google it?"* and lay the groundwork to remind the reader of the library's importance and the precariousness of the long-established social cornerstones in the new post-digital age. These papers remind us why a book like this is necessary.

Part II, "Public Literacy and Private Oasis," marks a shift in tone from the first. It is no longer that libraries *should* exist. They *need* to exist. Mario Hibert positions the library not just an example of social space, but as counterculture, a place to "question the dominant narratives of our times" (p. 52), and he positions the library's role in society in juxtaposition to the dangers of capitalism (represented writ large by the great bugbear for all librarians: Google). He argues that the role of the librarian, far from the re-shelving and (re-)shushing conservative sweater-wearing stereotype of the past, is as a chameleon who does not merely adjust to the changing times but to provide new systems and models for knowledge dissemination. Konstantina Martzoukou's contribution also sees the library as liminal, but positions it between the analogue and the digital. She borrows the term *apomediary* from Gunther Eysenbach, suggesting librarians need no longer steward information but act as a facilitator or advisor to a public in need of improved digital literacy. The path toward this apomediation is through continued professionalization and training, a theme that continues throughout the rest of the book.

Part III, "Transformations and Resistance," is focused on practicality. Michael Carrol wants a library 2.0, transitioning the model of the physical library into a kind of network node. This would allow libraries to exist as traditional spaces in their own communities, yet also allow the ubiquitous collection access made possible via the digital world. Rockwell and his team walk us through the shift from early web project to web 2.0 via *The Perseus Digital Library*, and Carolyn Guertin offers a history of travelling libraries, or *Wanderbibliotheken*, that she argues can be seen as prologues to modern phenomena like torrent sites and makers spaces. The social role of libraries and their democratic function are paramount for her as she wraps up this section, thoughtfully displaying libraries—traditionally considered conservative establishments—as subversive sites "for resistance to repressive political positions" (p. 131).

Part IV, "Disciplinary and Institutional Partnerships," begins with Richard Cox, ever the archivist, digging up an old article of his from 1986. He notes, "as digital information technologies took hold . . . [archivists] wondered if the basis of their knowledge . . . was being undermined or even obliterated" (pp. 137-138). He argues, like Martzoukou, for a new form of professionalism, suggesting that a new professionalism would lead to a sense of the discipline. The next chapter, by Nigal Raab, asserts a need for both physical and digital labyrinth, noting that convergence between the analogue and digital is necessary. Brendan Edwards adds another labyrinthal layer in the museum and calls for further convergence between traditional and new approaches, arguing that continuing 19th century distinctions between different institutions are holding them back. This section discusses thoughtfully the shifting needs of the archivists/librarians themselves, an issue that permeates the collection: being caught between the past and the future.

The final section, Part V "Curation and Commons," sees Seamus Ross discuss the impossibility of handling the deluge of digital data and note that current digital curation research is inadequate (p. 175). Instead, we need automation to account for an unsustainable model. Ross argues for a new model of going beyond the traditional confines of the archive, where everything and everywhere is an archive. The final paper, by Frank J. Tough, challenges the *Library and Archives of Canada Act's* claim of universal accessibility, especially in regard to First Nations research, and it notes that "no more cogent proof of the importance of archival records as a source of truth about Crown-Aboriginal relations . . . can be found than the state's unwillingness to reveal the contents of crucial archival holdings" (p. 222). Both of these papers address the limitations of the archives and opacity of access.

Gone are the days where the librarian or archivist, comfortably alone, guarded the dusty truth. This collection confronts head-on these institutions in a modern context: the creep of capitalism on data management (i.e., Google), the ever-changing role of the library and librarian/archivist, the rapidly shifting user and their new expectations, and the complexities of political pressures on heritage institutions. A lot is required of libraries these days and so too of any volume discussing them. Both the strength and weakness of the volume is the sheer diversity of the topics covered. But that is, in fact, the number one issue with libraries and archives these days: they need to do everything. The editors did a fine job bringing together disparate papers concerning wide-ranging topics into a somewhat cohesive unit, with some themes and motifs developed throughout. If your research area is in the challenges that archives and libraries of the twenty-first century face, there will be something in this volume for you.

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