

Agency and Reciprocity in Digital Education: Lessons from Indigenous Sewing Practices

Tanya Elias

Critical Theory

Decolonization

Educational Technology

Higher Education

Feminist Pedagogies

Digital Education

Holistic Technologies

Prescriptive Technologies

Indigenous Cultures

Feminist Critical Digital Pedagogy

In this chapter, I share the lessons I learned while sewing handmade kamiks with my mother-in-law, an Inuvialuk elder. Drawing on the work of Ursula Franklin, I compare the holistic technologies of sewing in communities with the prescriptive technologies of mass production used to produce boots. Using this boot-kamik analogy, I explore the dynamics of mainstream prescriptive technologies that normalize neoliberalism and a culture of compliance by adopting automation, algorithms, surveillance and data tracking throughout educational systems at a massive scale. I then consider how women-led indigenous knowledge systems and technologies, in the form of needles, sinews might challenge digital educators to pursue more holistic, smaller-scale alternatives that acknowledge situated context, enable reciprocity and value direct experience.

Several years ago, [I had a day of thinking](#). I thought about the connections between my past experiences and digital pedagogy. I thought about my emerging interest in the notion of scale within education, Massive Open Online Courses (MOOCs) and Open Educational Resources (OER) and Open Educational Practices (OEP), educational technology, data, analytics, privacy and surveillance. I thought about my kids, control, conformity, reciprocity, culture and sewing. I thought about the tremendous expectations we have of our digital education, for it to be available on demand, for it to work seamlessly, for it to scale limitlessly. Then I began to think about boots and, more specifically, about two different kinds of northern footwear: store-bought boots and handmade kamiks. The former represents a common, mass-produced option. The latter is a handsewn alternative. I use this boot-kamik comparison to explore the dynamics of mainstream technological approaches and those of women-led technologies, in the form of needles, sinews and threads; and reflect on the implications of these same dynamics for digital educators.

Image 1

Store-bought boots and handmade kamiks. By T. Elias.



Ursula Franklin (1985) was a distinguished scientist, educator and humanitarian who considered the ways power is woven into technology. More than 30 years ago, she said,

Technology...exhibits its own dynamics. It is up to us, as feminists, to come to an independent understanding of these dynamics and, in the clarity of our own vision, to use this knowledge to fashion a web of life that is intrinsically human. (p. 6)

Throughout this chapter, I use the boot-kamik analogy to explore the dynamics of the technologies of digital pedagogy. I first describe how I came to learn about both boots and kamiks. Next, I introduce the ideas of “prescriptive” and “holistic” technologies. I then seek to clarify my own vision of how digital education could be fashioned by “different kinds of work processes and knowledge-practices” (Lindström & Ståhl, 2014, p. 54). By stitching the lessons learned while sewing with my mother-in-law together with small-scale examples of holistic digital pedagogy, this chapter is my tentative contribution to the emergence of feminist digital pedagogies that are, first and foremost, intrinsically human.

Positionality

I am a white woman who grew up in Regina, Saskatchewan, a city in the middle of the Canadian prairies. When I was growing up, I wore winter boots with thick plastic soles and felt liners. They were the same as winter boots that you find in most Canadian cities and towns. Like all of the kids I knew, I disliked my winter boots; they were uncomfortable and heavy. Despite their drawbacks, I could neither conceive nor imagine anything other than those widely available, familiar, standardized, inexpensive, easy, disposable, inevitable boots. I accepted them as “normal” without questioning or seeking alternatives.

In my early twenties, I moved to Inuvik, a small town in Canada’s Western Arctic. Inuvik’s population is predominantly indigenous and is made up of the Gwich’in First Nation, Metis and the Inuvialuit. The Inuvialuit are the Inuit of the Western Arctic whose settlement area includes the coastline along the Arctic Ocean between Alaska and Nunavut. There, I married into an Inuvialuit family. I spent the next ten years developing a close relationship with my mother-in-law, Lilian Elias. We did many things together, including sewing kamiks, and I learned a tremendous amount, of which I share a small fraction of here.

It was not until years later that I began to see important connections between kamiks, boots and contemporary digital pedagogy. While exploring two alternative digital communities I began to recognize the importance of their quiet, small-scale existence on the fringes of the corporate giants (Elias et al., 2020). I then started to see similarities between these small-scale digital communities and communities of women sewing kamiks. Both communities offer alternatives that are culturally, financially and structurally different to the mass-produced commercial options. In both cases, these

undertakings are rarely treated as viable options, instead rejected as too small, too hard to learn and too labour intensive. I began to wonder how and why these alternatives are so readily rejected.

Prescriptive & Holistic Technologies

To make sense of the current and future possibilities of our digital technologies, we must move beyond “a technology of things” and instead adopt an approach in which we more carefully consider the complex interactions that surround those things (Elias, 2019). Franklin (1999) adopted this type of practice-based definition of technology. Using this type of definition, technologies are not products or tools, but instead the ways of doing something. They include not only the technical means of production, but also the associated cultural practices (Foucault, 1988).

Franklin (1999) further differentiated between holistic technologies and prescriptive technologies. Prescriptive technologies involve specialization by process in which “something is broken down into clearly identifiable steps. Each step is carried out by a separate worker, or group or workers, who need to be familiar only with the skills of performing that one step” (Franklin, 1999, p. 11). They are defined by their focus on efficiency, control, standardization, and maximizing gain. They usually favour machines over people and pay little attention to “externalities” that exist beyond the production process. Store-bought, factory-made boots are the output of prescriptive technologies.

By contrast, within holistic technologies artisans “control the process of their own work from beginning to finish... they draw on their own experience, each time applying it to a unique situation” (Franklin, 1999, p. 9). They are defined by their focus on reciprocity, direct experience and minimizing disaster. They value people and long-term communal benefits. Inuit Qaujimaqatugangit (IQ) expands this definition. Arnakak (2001) described IQ as:

...a living technology... a means of rationalizing thought and action, a means of organizing tasks and resources, a means of organizing family and society into coherent wholes... It is holistic, dynamic and cumulative in its approach to knowledge, teaching and learning — that one learns best by observing, doing and experience. (para 2-4)

Kamiks are the output of such holistic technologies.

Compliance & Conformity

I once accepted store-bought winter boots as the only option. In the same way, educators have mostly accepted mainstream digital technologies without asking critical questions. We readily accept such options because of the dominance of prescriptive technologies that characterizes not only materials production but a wide range of administrative, economic and governance activities (Franklin, 1999). As a result, most educational technologies rely on prescriptive platforms, focused on achieving efficiency and maximizing financial gain. The design of Learning Management System shapes the teaching and learning taking place (Castañeda & Selwyn, 2018). Moreover, we are increasingly reliant on the “Big Five” technology corporations (Amazon, Microsoft, Apple, Google and Facebook) for the provision of tools that support digital education (Joseph, Guy & McNally, 2019). Recently, there has been a dramatic increase in the use of online proctoring systems (Hussein et al., 2020).

Generating my own list of the reasons why educators might adopt these tools, the words align closely with those that I might have used to describe my store-bought winter boots: widely available, standardized, familiar, inexpensive, easy, disposable, inevitable, normalized. The words, however, carry with them risks:

While we should not forget that these prescriptive technologies are often exceedingly effective and efficient, they come with an enormous social mortgage. The mortgage means that we live in a culture of compliance, that we are ever more conditioned to accept... that there is only one way of doing “it.” (Franklin, 1999, p. 17)

We have adopted these tools because they are easy to use, but their cost is becoming increasingly apparent. In the process of adopting them, we have normalized neoliberalism in education, through automation, algorithms, surveillance and data tracking in educational systems. Machines in the form of algorithms built into digital tools and platforms now regularly select what we see and see first; they moderate who and what is allowed via their terms of service. This “web of platforms, personalization, clickbait and filter bubbles is the only web most students know” (Gilliard, 2017, para 2). Simply put, it is difficult for both students and educators to imagine anything else.

In so doing, prescriptive digital technologies support a form of “digital feudalism” (Schneier, 2013), “digital imperialism” (Watters, 2014) and “surveillance capitalism” (Zuboff, 2017) in which the privacy and security of users is decided on their behalf by others, with neither their input nor consent. As Gajjala et al. (2017) explained:

Algorithm and community bylaws together produce opaque hierarchies and invisible control over the process where the rules of so-called participation and the level playing field have the potential to exploit and oppress... Furthermore, [they] promote education through the guise of neutrality. (p. 146)

As a result, rather than opening up new ways connecting and relating, the use of these mainstream digital tools standardize our actions in ways that decide for us what is and is not possible both within and beyond the context of education. At the same time, both students and teachers are now regularly exposed to the largest-ever surveillance network without their knowledge or consent (Gilliard, 2018; O'Brien & Farris, 2016).

Simpson (2014) explained the risks of uncritically adopting prescriptive digital “solutions.” She warned that if we “learn to normalize dominance and non-consent within the context of education, then non-consent becomes a normalized part of the ‘tool kit’ of those who have and wield power” (p. 15). What happens when we begin to accept such non-consent as simply an inevitable component of the educational landscape? Where might we seek alternatives?

Acknowledging Situated Context

When it came to winter footwear for my kids, the alternatives came in the form of kamiks, handmade by their naanuk (grandmother) and me. These kamiks had several obvious benefits; they were hand-beaded or embroidered, hand-sewn and far prettier than the non-descript mass-produced store-bought boots I grew up with. Every pair is different.

Image 2

Many different pairs of kamiks and slippers. By T. Elias.



They also had other benefits. Where store-bought boots were heavy, kamiks were light. Store-bought boots fell off and could get lost in a snowbank; kamiks were tied on. Another advantage was that kamiks could be worn directly from inside to outside. When I walked my kids to school in the morning, they shook off the snow and walked straight inside without leaving ugly puddles behind. It was in their kamiks that were perfectly adapted to Inuvik's cold climate with dry snow, that my kids learned to run fast in the snow. Kamiks offer a very different approach to winter footwear than the mass-produced winter boot of my childhood. They offered an alternative I could never have imagined. They were different, not only in terms of how they looked, but in terms of how they allowed my kids to move. In their kamiks, I watched my kids run freely and with a sense of possibilities that I could never have imagined as a kid.

What, then, is digital pedagogy's equivalent to running fast in the snow? Just as kamiks have many benefits, many vibrant free open-source software and critical digital pedagogy communities exist. They are often hand-built or cobbled together using a variety of different sources. While they are not always prettier, they do tend to be smaller and lighter than their mainstream counterparts; they are purpose built and adapted to specific contexts. Many digital educators have had experiences with alternative, more holistic approaches (Mackness & Bell, 2015).

Christen (2012) highlighted a series of examples in which "off the grid, Latin American and Australian indigenous peoples have used pirate satellites and radio programming to connect politically, socially, and culturally between dispersed communities" (2881). She further challenged us to imagine "alternative systems of knowledge production that rely instead on social relations maintained and forged through negotiated interdependencies, which have as their goal the mutual gain between stakeholders in social, economic, and cultural terms" (2880). Crissinger (2015) described how another project enabled a local community "to decide if objects should be open, closed to the community, or open to a specific community or during a particular time based on the historical sharing of objects by season, status, or gender" (para. 21).

In the above examples, diverse local communities are creating and sharing knowledge in contextual and meaningful ways, using "old" tools. They suggest an approach that is measured, not by an ability to create and manipulate software and platforms, but by the ability to identify and respond to complex, contextual needs, like running fast in the snow.

Enabling Reciprocity

Although my focus here is digital pedagogy, Franklin (1999) noted that most educational institutions seek to "turn the student into a specifiable and identifiable product" (p. 22). It is within the context of these prescriptivist systems that most educational technology has been developed, gathering and responding to user feedback and often serving as a handmaiden to bad pedagogy. By contrast, holistic technologies enable reciprocity. Franklin (1999) explained:

Reciprocity is not feedback... Feedback normally exists within a given design. It can improve the performance but it cannot alter its thrust or the design. Reciprocity, on the other hand, is situationally based. It's a response to a given situation... Reciprocal responses may indeed alter initial assumptions. They can lead to negotiations, to give and take, to adjustment, and they may result in new and unforeseen developments. (p. 43)

Sewing kamiks was reciprocal. As we sewed, my mother-in-law told stories of her own mother-in-law who taught her to sew. While sewing one pair of kamiks, we combined her knowledge with ideas generated by a girl who was staying with us from another community. As we experimented, we gave them to my four-year-old daughter to test in the snow. When they fell down, we adjusted the design to include laces. In these ways, our sewing was reciprocal and deeply relational. Even though we did not always get it right or even agree, we laughed, we shared, we talked, we learned; we created something new. Together.

What, then, does reciprocity look like within the context of digital pedagogy? In an experimental course for digital educators, for that making, sharing and creating "led each participant to the discovery that 'our way' is a collaborative affair" (Bali et al., 2015, p. 113). In another example, in what he called "holistic open pedagogy," Worth (2017) made it

explicitly clear that the teachers did not have definitive answers to the questions being asked, but instead acted as contextualizers. He further highlighted the importance of reflecting on the following powerful questions:

Have I enabled my class to give their informed consent to learn with the digital? Is there an equitable share of the power within and without the class, and if not, is that dynamic transparent? Do any of my teaching decisions constitute barriers to entry/engagement, such as geographical, cultural, technological, linguistic or academic? Who owns our data? (p. 101)

Such questions of consent, power, transparency and ownership demonstrate a deep commitment to reciprocity and an approach to learning in which such ideas are not an “add-on,” but deeply integrated within its practices. Just as sewing kamiks involved listening, adjusting and learning so, too, must a holistic approach to digital pedagogy.

Honouring Direct Experience

My initial interest in holistic approaches to digital pedagogy began with a direct experience in a small, alternative online community that I then connected to my previous direct experiences with boots and kamiks. I learned through experience that store-bought boots lasted for a certain amount of time and then broke or no longer fit. Their lifespan was short. We never fixed them; they constituted part of our disposable world. Kamiks, however, were treated differently. They too broke down over time, often getting holes in the soles or breaking at the seam, but this type of damage was expected. Before I learned to sew a new pair of kamiks, I listened and observed as my mother-in-law sewed. Then she taught me to rip apart, repair and replace.

Image 3

Soles that require repair. By T. Elias.



By taking the seams apart, I learned to pay attention: to notice how a kamik was constructed and how each pair was slightly different, to appreciate the small and tight stitches, to recognize which parts were reused and which needed to be replaced. According to Kimmerer (2013), “paying attention acknowledges that we have something to learn from intelligences other than our own. Listening, standing witness, creates an openness to the world in which the boundaries between us can dissolve” (p. 300). As I listened, I learned more than how to sew. I heard the stories of my mother-in-law learning to sew from her own mother-in-law and the boundaries between us dissolved.

By repairing, I learned patience and to appreciate the work of those who had created before me. I learned that sewing kamiks was less an act of one-time product creation and more about developing an ongoing practice of use and repair. Simpson (2014) said, “If you want to learn about something, you need to take your body onto the land and do it. Get a practice... It’s not just pedagogy; it’s how to live life” (pp. 17-18). A holistic practice of use and repair ensures producers and consumers stay connected and remain attentive to one another.

Digital education can be designed and enabled in ways that similarly center on attention and practice. Manifold's (2009) described young people within digital fan communities who

...relentlessly copy, recopy, study, reflect upon, and practice difficult aspects of creating fanart. They discuss and debate others' interpretations of favorite narratives. In-person and through internet connections, they become peer teachers of one another. (p. 19)

In the earlier days of the internet, young women bloggers had "a desire to be a cultural producer; that is, to actively engage in the construction of one's cultural world, rather than simply consume" (Harris, 2008, p. 491). Within another open online course designed for educators, Zamora (2017) explained that "emphasizing learning-through doing in a social environment, maker culture has emphasized informal, networked, peer led, and shared learning motivated by hands-on production and fun" (p. 106). Reading these descriptions, I see more alignment with the holistic sewing of kamiks than with the production of boots or the prescriptive pedagogies that most often characterize digital and non-digital education.

Valuing the Whole

Kamiks were by far the more functional choice in our Northern winter months, but not sold in stores. Instead, they were made by Inuvialuit women. My mother-in-law's sewing knowledge is not captured in the literature. She was told at residential school that such skills were irrelevant. And yet, she learned from her mother-in-law and kept sewing. She chose to believe what she knew from her own direct experience rather than what she was taught by the "experts." What did I gain, what did my kids gain, because my mother-in-law, and her mother-in-law before her, chose not to put down their sewing needles in favour of mass-produced boots?

Kimmerer (2013) said, "This is our work, to discover what we can give. Isn't the purpose of education, to learn the nature of your own gifts and to use them for good in the world?" (p. 239). Some of my mother-in-law's many gifts include her skilled use of technologies: needles, sinew and strong hands. Using these gifts, my mother-in-law taught me many things. She taught me to question my white woman-ness. She taught me that there could be other ways, ways that challenged many of the things I previously "knew" to be true. Although I could not have named it at the time, she was teaching me to think holistically and to value "small." She taught me the strength of small stitches, small stories and small ways to withstand and to restore. She taught me about persistence and resistance. I am privileged to carry these lessons with me, lessons that challenge me to think differently about everything, including digital pedagogy.

Franklin (1999) said, "Let me emphasize again that technologies need not be used the way we use them today. It is not a question of either no technology or putting up with the current ones" (p. 46). Where my mother-in-law chose not to put down her sewing needles, educators, educational technologists and instructional designers can choose not to silently accept the prescriptive approaches to education entrenched throughout our institutions. Morris (2020), for example, described his experiences in response to Covid-19:

On the ground, in their living rooms and bedrooms and kitchens and cars, a bevy, a flock, an urgency of teachers realised there was another way. Or rather, they realised there could be another way. Not apparent. Not obvious. Not something anyone had prepared ahead of time. But something not this or that, not rigour not rubric, but something otherwise. Something the imagination could perceive. (para 13)

Our experiences and our responses to those experiences shape us. The above teachers have been profoundly changed by Covid-19.

My experiences have also shaped me. My approaches to feminism and critical digital pedagogy have become inseparable from my experiences sitting in a circle on the ground with other women and kids, surrounded by scraps of materials and fur, beads, needles, threads and sinew, the strong smell of smoked moosehide filling the room. These memories have become my something otherwise, something completely apparent and obvious now that my imagination can perceive it. When someone proposes a new technological tool or pedagogical approach, the lessons I

learned while sewing lessons serve as my measure. I refuse to accept that “there is no choice” because I have been taught the tremendous value of a single hand-sewn stitch. I know that learning, including digital pedagogies can and should support deeply relational experiences. Experiences that value the whole: the whole student, the whole family, the whole community, the whole environment. Experiences built on laughter, sharing, dialogue. And love.

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I would like to thank my mother-in-law for everything she has taught me. I have shared the lessons I learned while sewing with her because they illustrate the deep impact of her teaching has had on everything I think and do, including digital pedagogy. I recognize that I cannot tell this story without appropriating it in some way. What I can do is acknowledge my awareness of these issues and treat her teachings with the utmost care, which I hope I have done here.

References

- Arnakak, J. (2001, January 13). *What is Inuit Qaujimajatuqangit? Using Inuit family and kinship relationships to apply Inuit Qaujimajatuqangi*. <https://edtechbooks.org/-BKEd>.
- Bali, M., Crawford, M., Jessen, R., Signorelli, P., & Zamora, M. (2015). What makes a cMOOC community endure? Multiple participant perspectives from diverse cMOOCs. *Educational Media International*, 52(2), 100-115.
- Castañeda, L. & Selwyn, N. (2018). More than tools? Making sense of the ongoing digitizations of higher education. *International Journal of Educational Technology in Higher Education*, (15), 26.
- Christen, K. (2012). Does information really want to be free? Indigenous knowledge systems and the question of openness. *International Journal of Communication*, 6(0), 24. Retrieved from: <https://ijoc.org/index.php/ijoc/article/view/1618/828>
- Crissinger, S. (2015, October 21). *A Critical Take on OER Practices: Interrogating Commercialization, Colonialism, and Content*. In the Library with the Lead Pipe. <https://edtechbooks.org/-DBbv>.
- Elias, T. (2019). Troubling “technologies”: Exploring the global learning XPRIZE using the frameworks of Skinner and Foucault. *Current Issues in Emerging eLearning*, 6(1), 1.
- Elias, T., Ritchie, L., Gevalt, G., & Bowles, K. (2020). A pedagogy of ‘small’: Principles and values in small, open, online Communities. In Conrad, D., & Prinsloo, P. (Eds.) *Open(ing) Education* (pp. 364-389). Brill Sense.
- Foucault, M. (1988). *Technologies of the self: A seminar with Michel Foucault*. Univ of Massachusetts Press. Retrieved from: <http://www.heavysideindustries.com/wp-content/uploads/2012/02/Michel-Foucault-Technologies-of-the-Self.pdf>
- Franklin, U. M. (1985). *Will women change technology or will technology change women?* Ottawa: Canadian Research Institute for the Advancement of Women.
- Franklin, U. M. (1999). *The real world of technology*. House of Anansi.
- Gajjala, R., Behrmann, E. M., Birzescu, A., Corbett, A., & Bondor, K. F. (2017). Epistemologies of doing: Engaging online learning through feminist pedagogy. MOOCs and Their Afterlives: Experiments in Scale and Access in Higher Education, 135.
- Gilliard, C. (2017). Pedagogy and the logic of platforms. *Educause Review*, 52(4), 64-65.

- Gilliard, C. (2018, October 15). Friction-free racism: Surveillance capitalism turns a profit by making people more comfortable with discrimination." Real Life. Retrieved from: <https://reallifemag.com/friction-free-racism/>.
- Harris, A. (2008). *Next wave cultures: Feminism, subcultures, activism*. Routledge.
- Hussein, M. J., Yusuf, J., Deb, A. S., Fong, L., & Naidu, S. (2020). An evaluation of online proctoring tools. *Open Praxis*, 12(4), 509-525.
- Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed Editions.
- Lindström, K., & Ståhl, Å. (2014). *Patchworking publics-in-the-making: design, media and public engagement* (16093) [Doctoral dissertation, Malmö University]. DiVA.
- Joseph, K., Guy, J., & McNally, M. B. (2019). Toward a critical approach for OER: A case study in removing the 'big five' from OER creation. *Open Praxis*, 11(4), 355-367.
- Mackness, J. & Bell, F. (2015). Rhizo14: A rhizomatic learning cMOOC in sunlight and in shade. *Open Praxis*, 7(1), 25-38.
- Manifold, M. (2009). What art educators can learn from the fan-based artmaking of adolescents and young adults. *Studies in Art Education*, 50(3), 257-271.
- O'Brien, D. R., Budish, R., Faris, R., Gasser, U., & Lin, T. (2016). *Privacy and Cybersecurity*. Research Briefing, Berkman Klein Center, Harvard University.
- Schneier, B. (2013). Power in the Age of the Feudal Internet. MIND: Multistakeholder Internet Dialog: Co:llaboratory [sic] Discussion Paper Series No, 1(6), 16-20.
- Simpson, L. B. (2014). Land as pedagogy: Nishnaabeg intelligence and rebellious transformation. *Decolonization: Indigeneity, Education & Society*, 3(3).
- Watters, A. (2014, September 28). Ed-tech imperialism and the XPRIZE for global learning [Web log post].
- Worth, J. (2017). The learning cliff: Peer learning in a time of rapid change. In E. Losh (Ed.) *MOOCs and their afterlives: Experiments in scale and access in higher education*, (pp. 81-103). University of Chicago Press.
- Zamora, M. (2017). Reimagining Learning in CLMOOC. In E. Losh (Ed.) *MOOCs and their afterlives: Experiments in scale and access in higher education*, 104.





Tanya Elias

University of Calgary

Tanya Elias has worked in learning design and associated fields for over 10 years in a variety of educational and corporate settings. She is currently an EdD Candidate at the University of Calgary. Her research focuses on exploring digital and open education from critical perspectives. She lives in New Westminster, BC with her two youngest children and their cat.

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