

DIGITAL ACCESS FOR LANGUAGE AND CULTURE IN FIRST NATIONS COMMUNITIES

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KEY MESSAGES

Documentation of community-initiated, community-grounded, and community-directed work to protect and revitalize Indigenous languages is not present in the published literature, nor is it readily available outside of individual communities. The tenor, perspective and value of such work is distinct enough that it needs to be included in the process of determining national directions for future strategic research priorities. To develop such policies without the inclusion of locally-grounded knowledge and experience would be inadequate and problematic.

Why is evidence of the vibrant history of communities stewarding their language and culture unavailable outside of communities? In large part because it had to be hidden. The resilience of Canada's Indigenous languages is despite—not because of—government policy. On account of repressive government legislation regarding the practice of Indigenous cultural traditions and the ban on speaking Indigenous languages in Indian residential schools, the continued use and development of Indigenous languages and cultures was a necessarily subversive activity for most of the nation's history. Although federally prohibited, cultural activities continued underground, hidden from government scrutiny.

The story of resilience of Indigenous languages and cultural health in Indigenous communities is a story of local endurance and perseverance against enormous opposition. The complex and dynamic ways in which individual Indigenous people, community organizations and nations have chosen to engage with others, including academic researchers and institutions, other nations, and Indigenous organizations and governments are important aspects of the 'technoscape'.

Understanding and evaluating success in language revitalisation is community-dependent and locally contingent. Necessarily, it must take stock of different language learning strategies as well as embodied, place-based knowledge transmission and sharing that exists within Indigenous communities. Imposing external metrics of success to measure language learning, generally derived from assessments intended for colonial languages, is at best inappropriate and potentially damaging.

Externally-generated best practices models are rarely effective for localized implementations and often work to position Indigenous organizations for failure and disappointment. Rather, community-based support networks and localized knowledge-sharing are more appropriate ways to develop criteria and tools for the evaluation of language programs, and have the benefit of strengthening the support for effective language methods and tools at the community level.

The 2015 SSHRC *Statement of Principles on Aboriginal Research* is welcome but needs to go further to reimagine Indigenous communities as principal and primary applicants on grant applications, who draw on university partners as needed. Funding grassroots, community-initiated, community-grounded, and community-directed research will likely be less bureaucratic and have higher impact. At the same time, federal and provincial funding agencies must acknowledge that much fundamental work is not research, but is necessary to enable Indigenous communities and community leaders to participate in research in a meaningful way.

Externally inspired research projects can exert complex pressures on Indigenous communities, diverting community energy and resources away from core tasks and requirements to address outside agendas and expectations. Direct provincial and federal investment in the research infrastructure and human capacity in Indigenous communities is therefore imperative and urgent.

EXECUTIVE SUMMARY

CONTEXT

In Canada, the documentation and revitalization of Indigenous languages and cultural knowledge are now increasingly cited as priorities in support of well-being in Indigenous communities [1]. Although undermined for generations by colonial institutions and processes, elders and youth in Indigenous communities actively use and appropriate emerging technologies to strengthen their traditions and language in ways that challenge conventional representations of the ‘digital divide’. Whereas cutting edge technological efforts in the 1970s included specially modified typewriters and custom-made fonts to represent Indigenous writing systems, contemporary Indigenous communities draw upon digital tools—online, text, Internet radio and mobile devices—to nurture the continued development of their languages and cultures.

FINDINGS

Historically, media technologies in English (and other colonial languages) informed how settler cultures imagined Indigenous peoples—whether through print, photography or film. The design of the Internet, initially envisioned to serve specific military functions, unexpectedly developed into a widely available, free and relatively open space, available to anyone with access to a computer and a level of comfort in one of its principal languages.

Yet, just as Indigenous writers, photographers and filmmakers have carved out powerful Indigenous spaces in earlier media, so too Indigenous communities around the world are working to develop unique networked, digital tools that support their work. While digital technologies certainly can and do mediate Indigenous experiences, in this report we are more interested in the ways that Indigenous experiences and traditional knowledges also mediate the suite of digital technologies that we now commonly refer to as cyberspace.

We now live and work in such ‘digitized’ spaces, with portable devices, databases and materials present in all aspects of our lives, that the very word ‘digital’ is becoming less relevant. While the term ‘Digital Humanities’ still has traction in universities, we foresee a time in the not-so-distant future when the ‘Digital’ aspect of humanities scholarship will be implicit, and students

will instead refer to an era of ‘Analogue Humanities’ before access to computing power was so widespread.

The availability of free, sometimes open source, versatile and mobile technologies has created high expectations among young people in terms of what digital tools can do, how they function and what they should look like. Many mobile (in all senses) users now rely exclusively on devices, such as smartphones and tablets, with operating systems that are app-driven. This “appification” has fragmented digital functionality, assigning specific tasks to specific software, and it is not clear what the long term intellectual, practical or legal consequences of this splintering will be.

With the consistent encoding, representation, and handling of text expressed in most of the world’s writing systems—known as Unicode—now in place for many Indigenous languages, some analysts see the next step to effective language mobilization being computational tools such as automated translation, optical character recognition, semantic interpretation and speech recognition. These developments are very much in their infancy. Even for well-supported Indigenous languages such as Hawaiian (‘Ōlelo Hawai’i), most widely used translation software can still only effectively manage individual words or short phrases. Users expect to realise all of their work through off-the-shelf systems, yet assumptions baked into many of these tools limit their functionality for different languages and across various operating systems. Basic research is critical to identify opportunities to increase the flexibility of such systems as they cross epistemological and ontological boundaries.

While emerging technologies provide opportunities for crowd-sourcing information and funding, they can also amplify the risks that communities already face. Collaborative technologies are being used by linguists and community language learners to collect and synthesise knowledge about language programs. Crowd-funding websites can provide a digital platform for people to campaign, raise awareness and gather resources for language programs, with filmmakers, artists, poets and teachers launching effective online campaigns to realise specific projects around language revitalisation.

Despite the sharp uptake of digital tools to support endangered language learning, there is little in the way of systematic and rigorous evaluation on the results of their use. In order for such technologies to have lasting and positive impacts on language revitalisation, all stakeholders—communities, policy makers and academics—need to know which tools are proving to be most effective, where, why and how. For that, longitudinal case studies need to be commissioned that assess the success and review the impact of emerging technologies using criteria that are community-developed and locally appropriate.

Unworkable standards and a dogmatic insistence on ‘best practices’ in digital technologies and language documentation, set by scholars and funding agencies, can have a disempowering effect on individuals and communities. Even well-funded academic research programs, archives and library systems are not always able to adhere to the standards that they themselves promote and advocate. No surprise, then, that community-based language mobilization projects that utilize emerging technologies—often without sustainable funding and outside of academic research ‘standards’—risk being silenced in a culture that promotes unrealistic technical ideals. The First Nations in BC Knowledge Network, a hub for First Nations in the province to share ideas and tools on many aspects of governance and community development, encourages the creative term ‘inspired practices’ [2].

Digital technologies do not, cannot and will not save languages. Speakers keep languages alive. A digital dictionary on its own won’t revitalize an endangered language, but speakers might use it to do work that will. At the same time, technology can be as symbolically powerful as it is practically useful, and often carries considerable political weight. In the English-dominant world of cyberspace, Indigenous communities are engaging with and disrupting technologies to create their own online presences. By generating their own digital visibility and legibility, Indigenous communities become ‘present’ online, and thereby exert increasing control over the terms of their own representation rather than be continually misrepresented by others [3].

Although rarely addressed in the scholarly literature, there are significant trauma-based barriers to language mobilization within Indigenous communities. As a result of the legacy of the Indian Residential school system, many Indigenous language learners and teachers still carry feelings of distress and shame in relation to their language, and can have deeply emotional responses to learning, hearing and sharing their language. Such conversations are rooted in complex historical, social and emotional contexts that go far beyond simply building and implementing a curriculum, let alone an emerging digital tool or technical platform. These complicated and interconnected factors need to be better recognised and understood by technologists, educators and academics involved in language revitalisation.

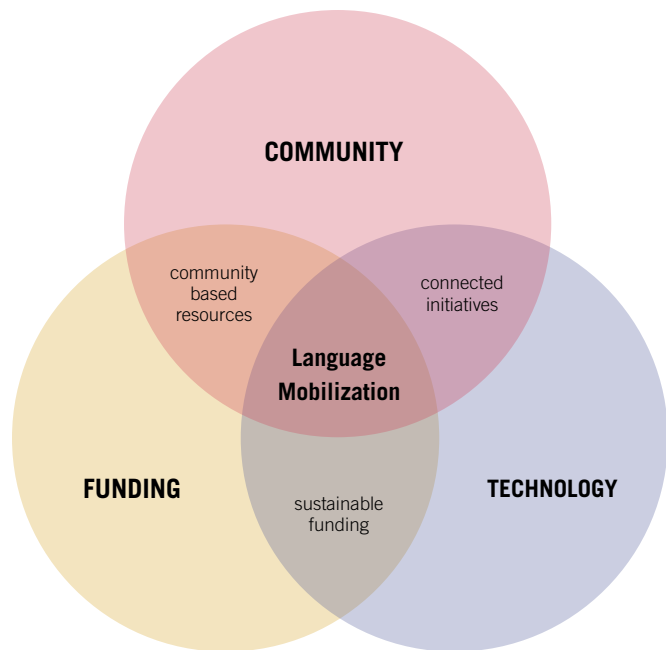
IMPLICATIONS

Implications from our report can be organised around three intersecting themes: **community**, **funding** and **technology**.

The following eight implications emerge from this report:

1. **Community-based language work needs significantly more resourcing.**

2. There is an urgent need for **sustainable funding models** to support long-term technology investment and language planning.
3. **Connected initiatives** that ground work within a community’s specific revitalisation environment are essential.
4. **Not all work is research.** An overemphasis on funding mechanisms for academic research can divert energy and resources from community needs in order to fulfill research agendas and strategic objectives forwarded by post-secondary institutions. Additional investment in strengthening communities is necessary for the experts and knowledgeable people within Indigenous communities to participate in research—even collaborative research—in ways that don’t negatively impact other important community initiatives and needs.



5. The growing availability of open source and payment-free technology platforms offers an opportunity to **build digital tools that better support Indigenous content.**
6. **Unicode is central** to achieving a baseline agreement about digital language encoding. Customised, proprietary character sets and unique encodings pose barriers to digital language use and wider mobilization for Indigenous languages.
7. **Support networks should be fostered** to share expertise and experience within, across and between communities. Technology platforms can incorporate channels of communication to support sustainability and community knowledge-sharing.

8. **Community-grounded evaluation and impact assessments are needed.** Given the great variety of ways in which emerging technologies are already being used by Indigenous communities and the fast rate of technological change and innovation, there is a surprising scarcity of published material reporting on their impact. Going forward, evaluative criteria must be grounded in local understandings of impact and success that are rooted in the experiences and aspirations of Indigenous communities.