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THE DIGITAL GAP: ACCESS,
INNOVATION, AND IMPACT IN
ABORIGINAL COMMUNITIES

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Key Messages

Peer Reviewed Articles and Policy Journals

- Connectivity, accessibility, digital technologies and media resources have created opportunities for learning and engagement, creation of digital resources for community and individual empowerment, language documentation and preservation, and intergenerational knowledge transfer.
- Lack of funding impedes the implementation, maintenance, training, and delivery of the benefits of digital programs in communities and schools.
- Access to digital resources for K-12 students in First Nations schools and post-secondary institutions will benefit from reliable and sustainable sources of funding, if the goal to close the digital gap is to be realized.

Private/Public Research and Policy Reports

- Opportunities for access and utilization of digital technologies in remote Indigenous communities are important for building self-confidence, developing digital skills relevant for youth participation in the new economy, and learning.
- A national digital strategy is warranted to ensure that all Canadian provinces and territories have access to the benefits of new media and technology, and contribute to sustainable national development with a goal of closing the digital divide.
- Funding for Mobile Learning Technologies is promising for Indigenous learners.

Periodicals, Websites, Professional Development Trade Books

- Provision of digital tools and skills for children, youth, and communities in remote and urban areas supports wide coverage so that communities are informed and up to date with new literacies required in the new economy.
- Equity and social justice notions in addressing digital gaps help to reduce social ills and bring positive change to youth through technology.

Stakeholders' Viewpoints

- Digital resources to support First Nations language learning, renewal and revitalization in various Canadian provinces involves Elders and community members in documenting and archiving language through multimodal forms.
- Teacher training in digital skills and culturally relevant pedagogies is critical in implementing digital initiatives in schools, especially in remote areas.
- Benefits of working in partnerships and consultation encourages participation and engagement of all members and empowers communities to innovate, renew, and contribute to development of digital initiatives.

Executive Summary

Introduction and Background

Improving digital literacy underpins not only a nation's capacity to provide individuals and groups with equity of access to social opportunity; it is a necessity for participation in the digital economy. As such, education must change. A shift must occur from the traditional view of educational practice to a transformative view which embraces learning as a social process, with students and teachers working in partnership and supported by digital technologies. This shift will challenge Aboriginal communities, specifically those where teachers potentially lack training and access to digital technology resources. Despite the fact that using digital technologies as part of the educational environment fits into the philosophy of active learning and constructivism, it poses a tremendous obstacle for teaching and learning in Aboriginal communities that may not have access or experience a digital divide.

Although there are a number of research projects focusing on digital literacies/ technologies across Canada, until now no single or comprehensive overview has been conducted that takes into account their impact on teaching/learning outcomes in K-12 education and beyond. This knowledge synthesis provides a national overview of digital literacy projects in Aboriginal communities, including successes, criteria for effective programs, and how these successes can be applied to other digital initiatives. This synthesis acts as a catalyst for knowledge mobilization, specifically, the development of a suite of digital tools in the form of Pods which can be thematically organized, for example, a single pod could potentially contain digital technologies that address challenges posed by Climate Change. Finally, this knowledge synthesis provides insights into the efficacy of digital initiatives and their potential to develop skills and confidence in youth, and to foster a dynamic, competitive and diverse workforce to assist Canada in becoming a leader in the digital age.

The synthesis aimed to review a range of digital literacies initiatives in Aboriginal contexts. Three overarching questions guided the synthesis: i) What do we know about digital literacies projects in Aboriginal communities? ii) How robust is the research base about the impact of these projects on teaching and learning in K-12 education? iii) What further research and development are needed for successful implementation of projects focusing on digital literacies in Aboriginal communities?

Research Design, Participants, and Methods

The knowledge synthesis focused on digital literacies initiatives in Aboriginal contexts, with a goal to review the range of digital projects, synthesize what is known about access and implementation around digital initiatives, and highlight their impact on teaching and learning in K-12 education and beyond. In order to address these questions, the knowledge synthesis included: i) developing an inventory of provincial

digital literacies projects; ii) planning for a general assessment of digital technology projects, including strategies, programmes, and existing networks; iii) identifying key stakeholders that lead or are part of digital technology projects; and iv) conducting a scoping review of relevant studies on digital technologies in Aboriginal communities over the past 10 years, and their impact on teaching/learning.

In order to capture a wide variety of information, four kinds of knowledge sources for analysis and synthesis were identified: Type 1 includes empirical and descriptive studies published in peer reviewed education and policy journals; Type 2 knowledge sources includes empirical and descriptive studies published (including online) in venues other than peer reviewed journals; Type 3 sources includes published expert knowledge, opinion and/or advice (not research) located in periodicals or on websites and professional development trade books. Type 4 was collected through visits to various locations to meet with and interview stakeholders (community partners, Elders, etc.) affiliated with specific digital initiatives. This source reflects current practice based knowledge gathered through discussion, including participants' backgrounds and basic beliefs about and views of key characteristics of effective digital technologies and effects on teaching and learning. The above identified four types of knowledge sources were used to assist in identifying potential knowledge gaps and barriers to successful implementation of digital technology projects focusing on Aboriginal communities.

Key Findings

Nationwide, there are a number of digital/technology initiatives in place, however, until now no single or comprehensive overview has been conducted that takes into account the impact of these initiatives on teaching/learning outcomes in Aboriginal communities. The knowledge synthesis research findings indicate that in Canada there is a growing number of academic and policy literature written on digital initiatives over the past 10 years; more so within the last 6 years. Despite the digital initiatives implemented across Canada, there is a need for constituent interest groups to come together to discuss and share their experiences, initiatives, and research. Highlights of the knowledge synthesis include:

- A number of digital projects are dedicated to language and cultural preservation, and intergenerational learning;
- Women are active users of Internet and consider Telehealth services useful for communities;
- Partnerships and consultations with communities and researchers stress challenges to connectivity, accessibility, and use of digital technologies;
- Lack of funding impedes implementation and maintenance of digital programs in communities and schools;
- Mobile learning technologies are viable tools for Indigenous learners in remote areas;

- Technology giant, Google, is supporting an Indigenous mapping project that imbeds culture into the digital expanse of Google Earth;
- Indigenous language archiving and teaching resource allows Indigenous communities to document their language for future generations; and
- A coordinated national strategy focusing on strengthening digital literacy in Canada should be implemented in order to ensure that all Canadians have access to essential training in acquiring digital literacy skills.

Summary

This knowledge synthesis of digital technologies and literacies and their impact on teaching and learning in K-12 education is aimed at both the research community and the practice community, but also has value for the policy community. The research community will benefit from a deeper understanding of where knowledge gaps exist in the research base around the impact of digital technology on teaching and learning in Aboriginal communities, as well as hypotheses for new or further investigation, and a suggested agenda for future research in the areas related to digital technologies in Aboriginal culture. The practitioner community will benefit from the discussion of what is known about different digital projects, their impacts, implementation issues and generalizability around digital literacy in Aboriginal communities – along with what gaps are present with respect to interest, engagement, and skill development. The policy community can use this information as they consider professional development plans, and school organizational design and use of resources, including programming that promote digital literacies in education. Finally, this knowledge synthesis provides insights into the efficacy of digital initiatives in terms of engagement, interest, skills, and ultimately career aspirations.