

Chapter 10

Mobile Learning and Indigenous Education in Canada: A Synthesis of New Ways of Learning

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ABSTRACT

M-Learning holds great potential for supporting the positive educational outcomes of underserved Indigenous communities in the Canadian North, and even in urban centers, that are at risk of exclusion from affordable, high-quality learning experiences. The technical advantages of having mobile technology to deliver educational curricula and assess outcomes, however, must not overshadow the continuing need for culturally relevant teaching modalities that work for Indigenous learners. When used innovatively, mobile learning can be integrated successfully into a context of existing practices, beliefs, experiences, and values related to Indigenous epistemologies and pedagogies. These mobile technologies are not only helping Indigenous learners to develop new media aptitudes, they are providing an opportunity for learners and instructors to develop stronger links between formal and informal learning opportunities, building on the inherently mobile and contextual traditions of Indigenous peoples.

INTRODUCTION

This article provides an analysis of existing research knowledge and identifies knowledge gaps relating to mobile learning (m-learning) technology and its applications to urban, rural and remote Indigenous communities and learners in Canada. It begins by providing a brief global context for m-learning initiatives, and then ties this context into an emerging global discussion relating to mobile learning and Indigenous peoples. This discussion provides a benchmark from which to consider Canada's adoption of mobile learning; more specifically, the potential applications, and associated challenges, of mobile learning for Indigenous learners in Canada. This analysis concludes with some discussion on specific challenges and constraints related to the adoption and innovation of these new and emerging educational technologies in support of Indigenous learners and education in Canada.

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The inspiration for this research came in 2012 when the author was conducting field research in Canada's North, documenting three case studies related to successful Indigenous Youth Wellness programs (Pulla, 2014). During the course of this research he was struck deeply by a comment made by a respected member of the Yellowknives Dene Community. This member of the community acknowledged that even though today's Indigenous youth in Canada's North have many more options for education and work than their parents and grandparents ever did, it is increasingly hard for these youth to put their "gadgets and gizmos" away "to stop and look at Nature, at wildlife, and just relax." This raised the question: what if it was possible to leverage the use of these "gizmos and gadgets" by youth as an educational strength and not as a distraction? What if smartphones, tablets and other mobile devices could be used as powerful tools to facilitate further interactions between Indigenous youth, their Elders and their cultures?

Research suggests that, in fact, mobile technologies do provide powerful learning affordances (Lai et al. 2007; Cochrane & Bateman 2010; Dalgarno & Lee 2010). These include mobile connectivity to education resources for learning communities disadvantaged by traditional educational curriculum delivery (Malisuwan, Settapong & Sivaraks, 2008; Keegan 2005, p. 53); and supporting positive student achievement outcomes in populations who typically struggle with traditional approaches to learning (Gray 2011; McFarlane et al. 2008; Wallace 2011). Within the context of Indigenous education in Canada, mobile learning technologies (MLTs) may allow for learners and educators to build on the successes of e-learning and virtual high school initiatives such as Sunchild Learning, Wapawskwa Virtual Collegiate, and Keewaytinook Internet High School. While these e-learning initiatives have successfully substituted the traditional delivery of education curriculum for Indigenous learners through the use of technology, they are not necessarily able to augment or innovate the delivery of education to align with the diverse array of indigenous epistemologies and pedagogies within Canada.

Current research shows that the integration of mobile technologies into teaching and learning is producing positive student achievement outcomes (Gray, 2011; McFarlane et al., 2008; Wallace, 2011); and opening up new vistas "for extending the scope, scale and quality of education" (Isaacs, 2012, p. 12; Mishra, 2011). For example, the results of a study that examined the impact of mobile-based English lessons on Japanese university students' vocabularies concluded that using mobile phones extends learning beyond class time and allows students to manage and direct their own learning at different times and locations throughout their day. The students in the mobile phone group performed significantly better than those who studied identical materials on websites or with paper-based resources (Thornton & Houser, 2005). M-learning, however, involves more than "merely incorporating new technology into current pedagogical strategies; it requires an instructional paradigm shift that promises to fundamentally change the way students learn" (Fritschi & Wolf, 2012, p. 7). This includes an increasing demand for academic student achievement, the importance of digital literacy and the use of skills now required to compete in the twenty-first century global economy (Fritschi & Wolf, 2012, p. 7).

At its heart, mobile learning provides an opportunity to build contextual, ubiquitous and participatory forms of learning. This includes student-generated knowledge that has the potential to link and merge formal and informal learning environments (Mbat, 2015; Wishart, 2015). In order to address effectively and move beyond the lasting colonial legacies of residential schools and forced relocations, these kinds of new and innovative approaches to learning provide crucial avenues to build trust and reconcile cultural values through the delivery of appropriate, collaborative, and culturally relevant educational programming for Indigenous learners. The integration and promotion of this type of Indigenous cultural content

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