I Built an App to Revitalize a Language: Now What?

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Summary

Indigenous communities are using technology to document languages and support language maintenance and revitalization activities. My research examined how technology has been incorporated into Upriver Halq'eméylem language programs. Participants identified that ICT is being used successfully as a supplementary tool in coordination with specific learning strategies and activities such as story-telling, games, and looking up a word or concept but that the ICT is not being used outside of those specific learning activities. The study indicates that ICT can be a valuable tool in the effort to revitalize a language; however, technology to revitalize languages needs to be carefully planned with post-implementation activities and oversight to ensure that the language continues to grow.

A Real–World Problem

Linguists estimate that 50-90 percent of the 6,000 to 7,000 known languages in the world will disappear in the 21st century (Grenoble, 2011) with Harrison (2007) estimating that loss is occurring at a rate of one language every ten days. Endangered languages are often spoken primarily, or only, by Elders and as fluent Elders are lost, so is the language. Indigenous languages in Canada are not exempt from language shift; indeed, only 50 of the more than 60 Indigenous languages known to have been spoken in Canada exist today and most of these languages are classified as either endangered or already extinct (Kirkness, 1998). Only three (Norris, 1998) or four (Kirkness, 1998) of these languages are expected to survive.

The loss of an Indigenous language is associated with the loss of Indigenous knowledge and culture. Such knowledge systems incorporate social and historical dimensions including social relationships, cosmology or world views, oral history, place names, spiritual relationships, ecological knowledge, oral literatures, and philosophies (Battiste, 2008; Berkes, 1993; Hinton, 2008a, 2008b; Kipp, 2009). These knowledge systems are embedded within the language and the loss of the language results in the loss of the knowledge systems. Language is important to the health of the community and language revitalization has been identified as playing "a vital role in community growth, healing, education, development, strong families and reconnection to the past" (First Peoples' Heritage, Language and Culture Council, 2010: 7). Language loss and revitalization is a global, real world problem.

Challenges

Challenges to language revitalization include lack of ideological clarification (Dauenhauer and Dauenhauer, 1998); disagreement as to recording or sharing language (Adley-SantaMaria, 1997); differences in personal beliefs (Kroskrity, 2009); economic impacts (Adegbija, 2008; Hornberger and King, 2008; Kroskrity, 2009); the perceived status of a language and the self-esteem of speakers; and feeling shame and embarrassment about the language and culture (Dauenhauer and Dauenhauer, 1998).

The digital divide is another potential barrier to language revitalization. The digital divide separates individuals and communities who have access to technology and those individuals and communities that do not. Exacerbating the issue of the digital divide is that language programs may inadvertently become technology projects which "often focus on providing hardware and software and pay insufficient attention to the human and social systems that must also change for technology to make a difference" (Warschauer, 2004: 6). Discussions around the digital divide must include the technical aspects such as access to technology and problems with infrastructure as well as the social aspects including education in the technology, gender, age, language, economics, and literacy (Warschauer, 2004).

Technology

Information and communication technology has been used with languages since the late 1800s, when audio recordings of Indigenous peoples were made on wax cylinders (Makagon and Neumann, 2008). These recordings allowed for unidirectional activity; that is, individuals could listen to the recording but could not interact with it. Today, the advances in ICT can provide an interactive, bi-directional experience in which users can interact either with the technology or other users. Language can also be captured in context with cultural activities allowing for a deeper understanding of

the language. Multimedia applications are becoming increasingly easy to create and allow for the integration of video, audio, pictures, and text, as well as interaction with human beings. Access to databases and dictionaries provides teachers, administrators, and learners immediate access to language at the word, grammatical, and contextual levels. However, Tyler (2002) notes that:

> *"The Internet provides people with a technology that allows them to engage in activities that they have already had ways to engage in but provides them with some added efficiencies and opportunities to tailor their interactions to better meet their needs. However, there is nothing fundamentally different about the Internet that transforms basic psychological or social life. "* (204)

If we apply this statement to Indigenous language programs, technology will be most successful where the language is already being used and where the language is not being used, technology will not increase the usage as is the case of the Upriver Halq'eméylem language community. An endangered language requires very different strategies than a thriving language, and these strategies should determine how digital technologies are used. For example, a community with a thriving language may use technology to encourage conversations between geographically dispersed individuals, to increase the use of language through written communication using email or chat functions, or to provide exposure to the language by posting information on social media sites or blogs. A community with an endangered language may choose to use technology for documentation and archiving so that the language is not lost forever.

My research attempted to understand the effectiveness of technology within an established language program with the goal of providing additional information to help communities that are either considering a language program or have one in flight that uses technology.

Findings

The Upriver Halq'eméylem language community began to use ICT in the mid-1900s to document their language. Over time, the community continued to incorporate ICT and today ICT is an integral tool in the teaching of the language. Table 1 identifies the ten technologies identified as being used with the Halq'eméylem language along the top row and the learning strategies used in the first column.

Learning strategy identified by participant	Functional description of learning strategy	Video	FirstVoices Dictionary	FirstVoices Games	Story books	CAN-8 VirtuaLab	Quizlet	Audio recording	Email	Social Media	Language Master
"A really neat way of learning"	Multidimensional	✓	✓	✓	✓	✓	✓	✓	✓		✓
"Listening to the words"	Recitation, repetition, recording		✓			✓	✓				✓
"You're really engrained in the language"	Learning while creating	✓					✓	✓			
"I had to think how to respond"	Interaction with people		✓						✓	✓	
"At the dinner table"	Integration into daily life		✓						✓	✓	
"It's all Stó:lō… And it hits home"	Accessing cultural specific content	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
"Hearing an Elder's voice"	Access to Elders' voices	✓	✓	✓	✓	✓	✓	✓		✓	✓

Table 1: Intersection between ICT and learning strategies as identified by participants

Understanding the how the learning strategies intersected with the technology used provided key information as to how the technology supports language learning. Participants identified that ICT is being used successfully as a supplementary tool in coordination with specific learning strategies and activities such as story-telling, games, and looking up a word or concept but that ICT is not being used to support Halq'eméylem learning activities outside of those specific learning activities. Additionally, participants indicated that ICT that enables human to human interaction has significant potential to contribute to developing fluency but only if the language is already being used.

Table 1 highlights that ICT is rarely used with the Halq'eméylem language outside of learning situations such as classrooms. This does not seem to be related to any digital divide issues as participants confirmed that they and other community members use ICT on a regular basis for non-language related activities. There may be multiple reasons why participants do not use ICT with the Halq'eméylem language; however, Burton suggested that the primary reason that Halq'eméylem specific ICT is not used by community members is because people do not use the language:

> "*But the thing about the technology, the thing about everything, classes, education, language planning, everything that we try to do, it's like we're trying to support something that's not happening. So, if people were talking to their aunt and their grandmother or a couple that said we're going to make Halq'eméylem a part of our*

life and so on, then the technology and the classes could help them. But if all you have is the technology, then that's not going to solve the problem. The problem is a social problem, or a personal problem." (personal communication, July 11, 2013)

Technology will be most successful where the language is already being used and, where the language is not being used, technology will not increase the usage as in the case of the Upriver Halq'eméylem language community. Technology to revitalize languages needs to be carefully planned with corresponding plans to introduce the technology and then post-implementation activities and oversight to ensure that the language continues to grow.

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