Indigenous sharing, collaboration and synchronous learning

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Abstract: Online learning is progressively accepted in Indigenous communities with the realized potential for sharing, collaboration and learning for adults living in remote and isolated communities. This study used a design-based research approach that provided opportunity to integrate the current literature, literacy practitioners' views and community members' self identified literacy needs to generate ten draft guiding principles which guided this study. A collaborative community engagement project was created by the community members in consideration of these principles and presented in three iterations in a synchronous environment which will lead to design-based principles for working with technology and Indigenous communities. This paper examines the framework and approach for this study, provides a short literature review and presents the draft guiding principles drawn from data collected from the stakeholders and from which the project was created.

Introduction and Aims

Synchronous learning occurs when learners and instructors are exchanging information and interacting simultaneously within an online learning community in *real* time. Technologies that support synchronous learning include Internet conferencing, satellite broadcast, mobile or cellular phones, video teleconferencing and interactive chat rooms (Aderinoye, Ojokheta, & Olojede, 2007; Australian Flexible Learning Framework, 2009; Greenall & Loizides, 2001).

For Indigenous learners, literacy practitioners have found synchronous learning platforms to be successful in teaching employment-related skills. An added benefit is that learners increase their computer skills at the same time as acquiring literacy outcomes (Eady, 2004; Greenall, 2005; Johnston, Petty, & Shafer, 2004; O'Lawrence, 2006; Porter & Sturm, 2006). The limited research in this area suggests that online learning programs, when designed and delivered in culturally appropriate and community-relevant manners, can be potential solutions to effectively address the unique learning and skills development needs of Indigenous learners (Battiste, 2005; Eady, 2004; Greenall, 2005).

The importance of learning plans that equally respect and use westernized learning philosophies and Indigenous knowledge and learning is crucial to the success of learning programs. Positive experiences using synchronous technologies such as real time discussions, group work, interactive white boards and video feed with Indigenous adult learners in Canada (Eady, 2004), prompted the following research questions:

- What are the literacy needs of an Indigenous community, as identified in the literature, by literacy practitioners and community members?
- How can self-identified literacy needs for an Indigenous community be supported by online synchronous learning technologies? What is the role of sharing and collaboration in this process?

In the present study, the team employed a commercial synchronous platform environment, and worked within an Indigenous community in South Australia. The online, live time interactive classroom setting made possible by the platform had been greatly accepted by Indigenous community members in previous work and research (Eady, 2004) in Northwestern Ontario, Canada, with the Sioux Hudson Literacy Council's Good Learning Everywhere distance literacy program. The platform allows the instructor to show their course content on PowerPoint slides, use an interactive white board, assemble learners into break out classrooms, and show websites and documents, all in live time classroom settings. The next section describes how the first author's experience in Canada led to the development of the present study.

Background

The Sioux Hudson Literacy Council has made groundbreaking strides to reach Indigenous adult learners who reside in remote, isolated communities of Northwestern Ontario, Canada. The 35 communities in the area, which have a total population of approximately 35,000 people, are often accessible only by plane in the summer months and by ice roads during the winter. This literacy organization currently services Indigenous adult learners across the province using online synchronous technologies. Many of these adults who live and work in Indigenous communities have not had the opportunity to improve their existing reading, computer and employment skills. There are currently programs in these communities offered to high school and college students via video- and audio-conferencing. It appears; however, those adults who would benefit the most, the people who need assistance to improve literacy levels needed for further education and/or employment, are those who have had the least educational opportunity.

Generous funding from the National Literacy Secretariat and Ministry of Training Colleges and Universities, in collaboration with Contact North/Contact Nord; the distance learning platform management organization, has made it possible for the Sioux Hudson Literacy Council to deliver, "Good Learning Anywhere," a distance literacy education pilot project. Over the last six years the Sioux Hudson Literacy Council has been offering solutions for the Indigenous literacy learner at a distance. The organization has a unique website with direct links to synchronous online classrooms and offer solutions to the growing number of Indigenous learners who have had few opportunities to improve their literacy skills. Along the journey, they have discovered the many challenges and issues surrounding the obtaining and retaining of both online learners and mentors through this program.

The primary author of this paper filled the role of distance projects coordinator for the Good Learning Anywhere project for nearly six years. The program flourished and received the Council of the Federation of Literacy award in 2007 -- provincial recognition for innovation in literacy practice. The program's success also resulted in many opportunities for conference presentations on a global level and provided opportunities for reflection and a platform for further study. In one such arena, it was evident through comments made by a fellow conference presenter that Australian Indigenous adult literacy learners living in remote areas have similar issues and barriers to learning as their Canadian counterparts. These initial connections and further discussions and reading led to a research project that investigated the ways that literacy practitioners and researchers from a westernized viewpoint could effectively approach literacy and learning in Indigenous communities while incorporating online technologies.

Indigenous learners in the Australian Context and the potential of computer technology

Current data support the conclusion that Australian Indigenous adult literacy learners in remote areas face similar issues and learning barriers as their Canadian counterparts. In 2006, the Australian Census indicated that 19% of Indigenous adults had completed high school compared to 45% of non-Indigenous adults (ABS, 2006). Of these adults who had completed high school, most live in urban areas, suggesting that Indigenous adults living in remote and rural areas of Australia have had limited access to education in comparison to the rest of Australia (Biddle, Hunter & Schwab, 2004).

The statistics for Canada and New Zealand are comparable. Canadian statistics indicate that 53 % of Aboriginal adults aged 25 to 64 years have less than a high school diploma, compared to 15% of the non-Aboriginal population (NILA, 2006). In 2000, the Auditor General of Canada reported that at least twenty years of "accelerated and restorative education programmes" (Auditor General of Canada, 2000, p. 8) would be required to be at par with the mainstream Canadian school system. New Zealand statistics also indicate a significant number of Maoris scoring below the basic literacy levels compared to non-Maoris (UNESCO, 2004).

The inequalities between social groups are expected to widen as the maintenance and acquisition demands of new literacy competencies for Indigenous populations continue to increase due to technological advancements in the current workforce (Bougie, 2008; Greenall, 2005; Greenall & Loizides, 2001; Miller 2006). As employment skill requirements reflect the growing technology trends of the global market, there looms a significant threat to under-skilled Indigenous people who will be excluded from new economic and employment opportunities, thus being pushed further to the margins of society (Greenall & Loizides, 2001; Miller, 2006).

Despite these challenges and inequalities, the literature included in this review indicates that Indigenous communities have the capacity to lessen the margins, given the opportunity and access to adequate resources. The

increase in access to information computer technology has resulted in greater access for those living in remote areas and the potential capacity to deliver literacy services to those who may not have had the opportunity previously.

Approach and Methodology

The research questions were addressed through a qualitative study, using a design-based research approach. Design-based research combines the creation of solutions to problems in learning environments and results in principles that can be applied to future research practices and investigations (Herrington, McKenney, Reeves, & Oliver, 2007). The design-based research approach was well suited to this study and took into account the practitioners' experiences and expertise and combines them with the literature reviewed. This resulted in a detailed and relevant analysis of the literature, practitioners' views, and community input to the development of the formalized research questions. Figure 1 provides an overview of the four stages of design-based research.
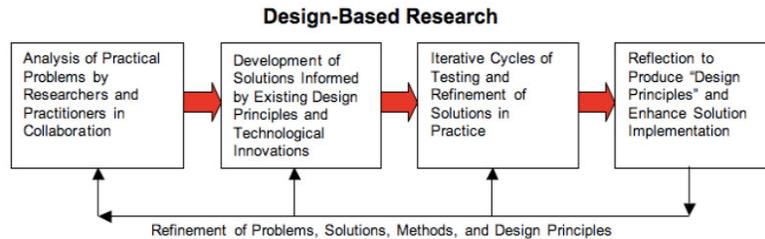

Figure 1 Pictorial representation of the design-based research approach (Reeves, 2006)

The use of a design-based research approach in the present study resulted in four phases of research:
Phase 1: Analyze the literacy gap in remote Indigenous communities through literature review and in collaboration with practitioners in the field and community members
Phase 2: Development of a solution to the identified problems found in Phase 1
Phase 3: Testing and refinement of a solution to the literacy gap using synchronous technology
Phase 4: Reflection and identification of design principles for implementing synchronous literacy experiences for Indigenous adult learners
The present paper summarizes the results of Phases 1-3. Phase 4 is still in progress.
The theoretical framework for this study utilized a combination of theories, which related to Indigenous adults, distance learning and technology. These include: Vygotsky's socio cultural theory (Vygotsky, 1978), Lave and Wenger's (1991) situated learning theory, and Henderson's multiple cultural model for e-learning design (Henderson, 1996). Figure 2 below represents the circular interdependence of these theories identified in the present study. The combining, interweaving, and reflecting on these theories throughout the entire research project supported the approach taken towards the study and provided the foundation on which the proposed collaborative community solution is based (Herrington et al., 2007).
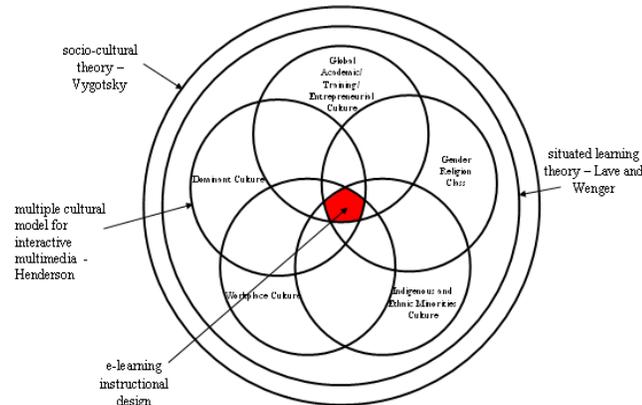

Figure 2. Pictorial representation of theoretical framework

Literature Review: Supporting learning by Indigenous people

The first phase of the research incorporated a literature review along with the data collected from practitioners who work with Indigenous communities and community members themselves. Details of keywords and database search are provided in Eady, Herrington, & Jones (2008). The main points that emerged in the literature review are summarized in this section. These insights feed into the guiding principles developed in Phase 1.

   When working with Indigenous learners, researchers have argued that practitioners should consider the various ways in which Indigenous people have historically approached their learning in order to provide the best approach to adult literacy skill acquisition for the Indigenous learner (Antone et al., 2002; George, 1998). The main key points in this area include oral traditions, Indigenous ways of learning and knowing, and supporting learning from a wholistic perspective.

Oral Tradition

Research with Indigenous cultures indicates that knowledge is often transferred through an oral tradition via speech, story telling, song, and dance (Eagles, Woodward, & Pope, 2005). Audio and visual curriculum can incorporate cultural components into lesson design and delivery, and support Indigenous language development when learners are not fluent in English (AISR, 2006; Daniels, 2003; Sawyer, 2004). This potential has so far translated into little research, however (AISR, 2006; Greenall & Loizides, 2001; Kral & Schwab, 2003).

Indigenous Ways of Knowing

Several writers have conceptualized Indigenous ways of knowing as reflecting the ways communities have passed on information between generations since before colonization. Battiste (2008b) defines Indigenous Knowledge as a multifaceted system of knowing which encompasses "the complex set of languages, teachings, and technologies developed and sustained by Indigenous civilizations" (p. 87). Warner (2006), using the term *Native Ways of Knowing*, describes Indigenous Knowledge as "acquired and represented through the context of place, revolving around the needs of a community and the best efforts to actualize a holistic understanding of the community's environment" (p. 150).

   Advocating that Indigenous knowledge and culture are completely separate entries, Battiste and Henderson (2000) caution academia against blindly amalgamating the two, emphasizing that Indigenous knowledge delves deeper than cultural systems, encompassing "the expression of the vibrant relationships between people, the ecosystems, and other living beings that share their land" (p. 42). Expanding from the individual notion of Western thought and intellect, Indigenous knowledge challenges the individual to view his/her relationship in the context of the community, natural environment and global perspective (Cajete, 2000). Warner (2006) differentiates between "the emphasis of Native Ways of Knowing on *knowing* as a verb and Western educational practices that emphasize the accumulation of *knowledge*, a noun" (p. 150).

   Indigenous knowledge bears a specific and significant role in Indigenous communities. Brady (1997) writes: "The desire to 'know' is not sufficient reason in Aboriginal societies for receiving knowledge" (p. 418). Within the Indigenous community there are often specific rules governing the passing of knowledge, specifically in relation to spoken and unspoken knowledge (Brady, 1997). Within the protocols of knowledge transfer is the understanding of the importance to preserve the uniqueness of local knowledge which will aid in the preservation and social order of the culture and community (Brady, 1997; Des Jarlais, 2008; Kinuthia, 2007).

Indigenous Ways of Learning

While Western techniques of educating citizens mainly focus on developing the mind, the Indigenous perspective of learning involves a deeper process, emphasizing survival skills such as observation and memory to ensure continuation of culture, language and citizenship (Des Jarlais, 2008). Oral tradition is a central process; Friesen and Friesen (2002) describe the use of legends by Indigenous groups in Canada as "the intricately-devised deliberate process of verbally handing down stories, beliefs, and customs from one generation to the next" (p. 64).

   Through observations in traditional Indigenous societies, educational researchers have determined that Indigenous learners exhibit several commonalities in their methods of learning in comparison to non-Indigenous learners. Hughes and More (1997), the Australian National Training Authority (2002) and Dyson (2002) refer to the following learning styles and preferences for Indigenous adult learners:

- learning through doing, rather than observing;
- learning from real-life experiences;
- a focus on skill acquisition for specific tasks;
- careful observation before practising new skills;
- trial and feedback approaches (not verbal instruction by an expert);
- the interest of the group taking precedence over the individual;
- a wholistic approach of comprehending the entire concept before putting it into practice;
- strong representation of visual-spatial skills;
- deployment of imagery;
- contextual learning as opposed to abstract concepts;
- unprompted learning;
- an aspect of personal, face-to-face instruction; and,
- an emphasis on people and relationships.

Contrary to the common perception that the ways of Western civilization are being rejected by Indigenous communities, many Indigenous learners have indicated a desire to receive instruction in English to improve their speaking and writing skill in order to function more effectively in English society (Ellis, 2004; Kral & Falk, 2004). Many Indigenous societies are advocating for traditional learning methods to be incorporated into Western education frameworks in a way which both honours and maintains Indigenous identity (Hughes & More, 1997).

Advocates of Indigenous learning styles caution against approaching the perspective with a *one-size-fits-all* attitude. Although commonalities have been represented in regards to Indigenous ways of learning, Battiste (2008a) cautions researchers and literacy practitioners not to view the Indigenous learner as "the homogeneous 'other'" (Battiste, 2008a, p. 179). It is recommended that practitioners utilize an individual approach specifically designed to assess the learning style of each adult learner to prevent the stereotyping of Aboriginal learners under a specific learning style or group of learning styles (ANTA, 2002; Battiste, 2008a; Eagles, Woodward & Pope, 2005; Hughes & More, 1997).

Supporting Indigenous Literacy from a Wholistic Perspective

Indigenous communities place an intrinsic and collective value on education which is woven into the present and future needs its people. Battiste (2008a) writes: "Aboriginal scholars and writers have recognized that education is the key matrix of all disciplinary and professional knowledge and central to alleviating poverty in Aboriginal communities" (p. 176). Other authors concur that through increasing the literacy capacity in Indigenous communities, the current pandemic of poverty prevalent among Indigenous people may also be alleviated (Des Jarlais, 2008; Kim, 2009).

Incorporating various learning styles, Indigenous literacy is viewed as a multi-faceted progression which spans throughout an individual's lifespan (Antone et al, 2002; Donovan, 2007; George, 1998; McMullen & Rohrbach, 2003; NADC, 2002). In the Indigenous community, increasing one's literacy skills is recognized as more than a means to increase one's education and obtain viable employment; it includes the objective of striving to maintain cultural identity, preserve language and achieve self-determination (Antone et al., 2002; Battiste, 2008a; Kral & Schawb, 2004; NADC, 2002; Paulsen, 2003).

Priscilla George/Ningwakwe, a well-known and highly respected advocate for First Nations literacy in Canada and a founding member of the National Indigenous Literacy Association [NILA], describes Indigenous literacy in this way:

> Native literacy is a tool, which empowers the spirit of Native people. Native literacy services recognize and affirm the unique cultures of Native Peoples and the interconnectedness of all aspects of creation. As part of a life-long path of learning, Native literacy contributes to the development of self-knowledge and critical thinking. It is a continuum of skills that encompasses reading, writing, numeracy, speaking, good study habits and communication in other forms of language as needed. Based on the experience, abilities and goals of learners, Native literacy fosters and promotes achievement and a sense of purpose, which are both central to self-determination. (George, 1997 p. 6)

In this passage, George (1997) refers to the wholistic nature of literacy which encompasses mental, emotional, physical and spiritual attributes. She emphasizes the importance of recognizing the prior learning of adults through life experience, while considering the acquisition of skills required functioning in modern society.
Similarly, Henderson's multiple cultural model promotes a learning environment that ensures equality for all

learners. Especially suitable for adults from Indigenous groups, this theory of adult learning integrates three cultural logics: those of the academic, mainstream epistemologies of the learners, and minority cultural issues; including the issues of gender, class, religion, age, politics, and various workplace cultures (Henderson, 1996).

These views expressed in the literature review were further explored and discussed when considering the opinions of literacy practitioners and community members.

Results and Discussion

The presentation of the results follows the phases of design-based research approach (Reeves, 2006) adopted in this study.

Phase 1
Analyze the literacy gap in remote Indigenous communities through research and in collaboration with practitioners in the field

In the first stage of phase 1 we identified literacy practitioners who work in the area of Indigenous adult literacy. The practitioners were recruited over three months in one of four ways: through a workshop presented by the first author as an online interest session for the Australian Council for Adult Literacy (ACAL); at the ACAL annual general conference on the Gold Coast; and the community support group in the community where the research took place. The practitioners were of varying ages and experience but all had worked with Indigenous communities, community members and/or with Indigenous literacy issues, in either a face-to-face or computer-based capacity. In total, ten literacy practitioners participated in the online focus group using an online live-time synchronous platform.

The practitioners provided answers to questions about their teaching experience, particularly with computer technology and Indigenous learners, and their views on literacy needs in Indigenous communities. The results of the online focus group (see Eady, Herrington, & Jones, under review) reveal four main perceived needs: better understanding of complexities of the Indigenous learner (from a language and personal perspective), improvement in all literacy skills; better support for the children; need for literacy to provide a voice for the community. Almost all practitioners had used technology with learners, and considered it has potential for supporting learning (through the fit between multimedia possibilities and visual literacies, oral memory and spatial relations, and through transgenerational group learning and sharing). Practitioners also noted technical issues, e.g. lack of computers, lack of ongoing service, lack of computer skills training, lack of internet access in some areas.

Phase 2
Development of a solution to the identified problems found in Phase 1

In Phase 2, a process was established for engaging with a remote Indigenous community in South Australia. The community was connected with the researcher through a partnership that was already in place between communities and the working team of the Digital Bridge Unit (DBU), part of the Information Economy Directorate in the Department of Further Education, Employment, Science and Technology of the Government of South Australia. The manager of the DBU first approached the community in question, raising awareness of the project. This introduction promoted a partnership-based approach where community council members discussed issues that their community members faced, as well as discussed the benefits of involvement in the research to both their community and other Aboriginal communities as a result. A volunteer community focus group of ten members in the collaborative community engagement process was formed. The group was recruited after permission was granted from the community council for the researcher to be in the community. This effort resulted in a group that worked together to identify the literacy needs in their community and create a solution to help meeting some of those needs. This collaborative solution was built from the compilation of common themes in the literature, the data collected from literacy practitioners, and the self-identified literacy needs from within the community. The solution was created together with the community focus group and consistently reflected the following compiled guiding principles:

1. The literacy levels amongst Aboriginal adult learners are well below the expected skill level of the average Australian adult learner.
2. Indigenous communities in general have complex systems of language, specific cultural ways of knowing and learning and social struggles that must be considered when approaching the community with new learning opportunities.
3. Literacy is more than the mechanical skills of language, but provides a sense of ownership and a means of power of position in society which can also result in an authentic voice for Indigenous learners.

4. Culturally 'marinating' or saturation of curriculum is seen as something that was imperative at all levels of learning for Indigenous communities.
5. The internet has become an accepted method of learning in most Indigenous communities where employed, and there are suggestions in place for using technologies in Indigenous communities. There have also been many types of online learning applications tested in Indigenous settings.
6. Computer-based learning faces many challenges including technological challenges, accessibility issues, cost factors, low skill levels, lack of human resources.
7. There is a plea for generational support in the literacy process, which means that a recurring theme has been the need to support the entire population in an Indigenous community; from prenatal learners through to the oldest grannies.
8. Mentoring, peer support programs and technological support are seen as a necessity and wanted by community members as well.
9. Social learning, groups learning and feeling comfortable in one's community and safe from ridicule is important to Indigenous learners.
10. Genuine partnerships with the government and strong beliefs of bottom up learning approaches were emphasized.

The community focus group identified computer literacy as one of the many literacy needs in their community and also raised concern about the possibility of their primary school closing due to lack of enrollment. They decided to create a presentation that showcased photos of the education in their community since the community was created nearly 140 years ago and share the project using an online synchronous platform with other communities and interested stake holders. The presentation focused on why the local school is such a vital part of their community.

During this phase of development of the project, there were several activities which were informed by socio-cultural theory based on the work of Vygotsky (1978). The premise of the socio-cultural theory is that learning is not happening in isolation but in interaction of the learner with the social and cultural environment. Based on this philosophy, adults will learn more effectively when they socialize with other learners in a positive environment and learning is deemed more effective when it is connected to cultural content relevant to the learner. In this research a very important aspect of working with the adults in the Indigenous focus group was that they were comfortable in their community environment. The group volunteered their time and came forward to work together. The focus group members had grown up knowing one another and had been through life's challenges and successes together. There was an understanding of where the learners had come from, the history of what their people had been through, the realities of today's community and the hopes for the future. There was care and concern for the topic that the community group had chosen to talk about and because of the meaningfulness of the topic and the potential impact on their culture that losing the school may have on the community.

Vygotsky's theory proposes that supportive social interactions with more knowledgeable members of society can enhance the development of higher order functions such as self-regulation and self-directed learning (John-Steiner & Mahn, 1996). Guided social interactions serve a cognitive function which occurs in the Zone of Proximal Development (ZPD) which, simplistically, is the difference between what a learner can do independently and what can be accomplished cognitively with guided support from more knowledgeable others (van der Veer & Valsiner, 1991). The pedagogy, based in teaching in the ZPD (often referred to as scaffolding), was applied in a variety of ways as the research project progressed through the training of the synchronous platform as well as the isolated tasks of the project such as scanning, creating a presentation and adding and editing audio files. Careful scaffolding is an essential factor of the development of a self-regulated, life long learner (Verenikina, 2008). Computer literacy skills fit well with these combined theories as they direct the process of moving the learner from assisted performance to greater self-assisted and self-regulatory competence (Henderson & Putt, 1999; van der Veer & Valsiner, 1991)).

During this phase there was evidence of scaffolding between the researcher and the focus group members while the members learned to scan photos, resize the photos and placing them into the presentation. There were also instances of a more knowledgeable and skilled community member, who had experience with computers, aiding fellow focus group members and assisting with their skills so that overall, the group attained a greater level of competence in the skills due in part to the assistance of the experienced focus group member. This project has shown that research of this type is influenced by the need for the learner to feel comfortable in their learning environment and for the learning task to be relevant and culturally appropriate context presented.

Phase 3
Testing and refinement of a solution to the literacy gap using synchronous technology
In Phase 3 of the research there were two cycles of the collaborative community solution to address the literacy needs of the community. The first cycle included the first implementation of the online literacy activity with audio

recordings and field notes being taken throughout. At the end of the first activity, a meeting took place with participants in both the development and participation of the first cycle in order for the group to identify successes and improvements to be made. The data collected over the time period of the first activity was analyzed and common themes identified. A meeting with the focus group to discuss the common themes and suggested changes to the initial activity with the intent of the suggested changes to be implemented for the second cycle of phase 3 followed. The newly revised activity was then delivered again, with audio recordings and field notes taken.

Phase 4
Reflection and identification of design principles for implementing synchronous literacy experiences for Indigenous adult learners

The fourth and final phase of the research reflected on the analysis of the data and established connections between the activity in phase 3 and the data collected through the literature review, practitioner input and community concerns collected in phase 1. The analysis will help to identify the design principles for implementing synchronous literacy experiences for Indigenous learners. These principles will provide practical and relevant guidelines based on the expertise and experience of literacy practitioners and community members. The repetitive cycles of testing and refinement of solutions in phase 3 will ensure a level of confidence in the results which when connected to the compiled information in phase 4, will impact future synchronous literacy learning research.

Conclusion

Previous research and experience suggests that synchronous learning tools have the potential to incorporate culture and various learner styles in an environment conducive to the principles of Indigenous peoples, and revealed that the synchronous platform is best used when people are working together in close collaboration based in authentic activity. The preparation for the use of this platform provided an environment for community members to gather and share history, stories and their concerns for the future. This environment came as a reflection of the theoretical framework developed for this study. Socio-cultural view (Vygotsky, 1978) informed the study on the role of shared ideas and joint participation in meaningful activities as an essential factor of successful learning. The arena in which research took place allowed for capitalizing on the strength of informal learning approach (Lave & Wenger, 2003) which appears to resonate with the Indigenous ways of learning and knowing. Multiple cultural model (Henderson, 1996) ensured that all elements of the wider community as a whole were taken into consideration.

The design-based research approach incorporated practitioners' input and responded to a community's self-identified needs. It also allowed for iterative cycles of testing and refinement of a solution to identified needs. The data collected in phase one resulted in guiding principles around Indigenous ways of learning and knowing, and supporting Indigenous learning in a wholistic perspective as noted in the literature and through inquiry of literacy practitioners. In the second phase of the research a voluntary collaborative community focus group was brought together to confirm community literacy needs and to provide a solution to the needs identified. In phase three of this research, the iterations of the proposed collaborative community solution took place with a focus on community concerns and strengths. During this phase several examples of scaffolding were evident, of three kinds. Peer scaffolding was essential in the creation of collaborative, trusting and safe community engagement in the on-line experience. Peer mentoring naturally evolved when more advanced community members with higher developed computer skills fostered positive guidance for other members of the focus group. The position of the primary researcher as mentor allowed for a third type of mentoring – that of a guide who was always aware of the community needs and cultural protocols and at the same time attentive to the needs of each individual participant.

Finally, in phase four, a reflection of the literature review, practitioners' input, data collected, and iterative cycles of the proposed solution will take place. This will result in the design principles and a model for literacy practitioners when providing synchronous literacy learning and sharing opportunities to Indigenous learners at a distance.

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