Virtual School Leadership: Professional Development Using Digital Technologies in Canada and Haiti

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ABSTRACT

The rapid growth of digital (e-)learning and mobile (m-)learning has created the potential for people to access learning opportunities throughout the world. Although there has been significant research on e- and m-learning (e.g. Valk, Rashid, & Elder, 2010), there has been much less attention given to how school leaders can access these resources for their own professional learning, particularly in the developing world. This study provides an examination of how digital technologies can facilitate learning and professional development of school leaders in Haiti and in other fragile states. The key research question at the center of the study is: How can digital technologies facilitate learning that occurs in a professional learning network built to support educational leadership capacity-building in Haiti? Three key themes developed from the research study: Collaboration, authentic and real-time problem-solving, and engagement. These themes are discussed in relationship to literature that argues for a new understanding of globalization for school leaders (Brooks & Normore, 2010). In the conclusion, the challenges and opportunities of accessing e-learning to support educational leadership capacity-building across borders are discussed.

Keywords:

INTRODUCTION

School leaders in the developing world often experience significant challenges in engaging in professional development (Kitavi & Van Der Westhuizen, 1997). In a country such as Haiti, these challenges can prevent school principals from developing the types of skills and abilities that will improve their schools (Lockheed & Levin, 2012). Economic barriers may restrict the financial ability of school principals to pay for professional development courses. Geography can also be an obstacle in preventing principals from marginalized areas in traveling to cities to take part in professional learning sessions. Principals in Haiti want to develop school leadership abilities but these challenges, as well as socio-political ones, can prevent this from occurring (Sider, 2014).

One potential solution to some of the challenges of providing professional development in contexts such as Haiti has been to consider alternative means of delivering professional development. Instead of expecting school leaders from across a region to travel to a central meeting area, there has been an increase over the past 20 years in professional development activities and learning opportunities that utilize distance education, particularly mobile (m-)learning (Valk, Rashid, & Elder, 2010). The development of cellphone, smartphone, and web-based applications has supported these opportunities (Allen, 2011). At the same time, the increasing use and familiarity of digital devices by the general population in many parts of the developing world has facilitated the ability to use m-learning as a means to support education and professional development (Foss, 2010).

A pilot project developed in 2011 by a Canadian university and school partners in Haiti, using digital technologies to support educational leadership capacity-building, is the focus of this study. The Digital Mentoring Project (DMP) involved two Canadian and eight Haitian school leaders over a three year period with the goal of connecting the participants in a digital professional learning community. The DMP was created to examine how school principals could engage in distance learning, using digital technologies, in which they would share resources and collaborate beyond their own contexts. The participants used digital technologies such as smartphones and tablet computers to enter into the discussions and resource-sharing opportunities. This paper presents an opportunity to

consider the research question that guided the study: How can digital technologies facilitate learning that occurs in a professional learning network built to support educational leadership capacity-building in Haiti?

Literature Review

School Leadership in Haiti

As in other parts of the developing world, there are many challenges to being a school principal in Haiti. Haiti is the poorest country in the western hemisphere and one of the poorest in the world (World Bank, 2011). Half of the population lives in absolute poverty of $1/day and 78% survive on less than $2/day (World Bank, 2011). Further, the educational context of Haiti presents many challenges to school leaders. Approximately 77% of children attend primary schools and only 20% attend secondary schools (UNICEF, 2011). The goal of Universal Primary Education of providing free education for all children in the primary years is rapidly being realized but with a wide variety of school experience and quality (Samy & Carment, 2011).

School principals in Haiti also experience other challenges. One of the most significant challenges is financial. Most school principals rely on tuition monies as the source of school income since 85% of schools in Haiti are private (MENFP, 2011). Not having consistent income from parent fees can make it difficult for principals to budget for activities such as professional development. As well, most teachers in Haiti have limited formal teacher training (Sider, 2009). This, combined with the minimal oversight that the Ministry of National Education provides to schools means that school principals often have to rely on developing their own curriculum, often with limited training themselves on how to do so (Sider, 2014). These problems can be exasperated due to the limited training which a principal may have. Further, there is no national professional association of school principals in Haiti and very little scholarly research that is grounded in the Haitian context. Thus, principals do not normally have a support system in place to help shape their decisions or to facilitate the development of resources.

The January 12, 2010 earthquake devastated an already weak educational system. Nearly 5,000 primary and secondary schools were destroyed or badly damaged and approximately 38,000 students were killed, as were 1,300 teachers (Leeder, 2010). Although many non-governmental and international governmental organizations have worked toward rebuilding the educational system, much of the focus has been on building schools. There continues to be very limited attention to developing the skills of school leaders, a requisite for developing effective schools (Birkeland & Feiman-Nemser, 2012; Leithwood & Jantzi, 2008; Leithwood & Riehl, 2003). It is against this backdrop that we consider how distance education and m-learning can support the development of school principals who will be equipped to move Haiti forward.

Distance and m-learning to Support School Leadership

There has been a rapid transformation in education over the past twenty years with a global movement to move beyond traditional education (Collins & Halverson, 2009). Collins and Halverson (2009) suggest three areas of potential gain in this new era of transformation: customization, interaction, and control. Customization refers to the ability to alter curriculum and teaching methods to meet the diverse needs of students. Technology can also contribute to heightened interaction between students and their learning environments through tools such as assistive devices (Sider & Maich, 2014). As well, control of the curriculum, at the individual class level and at a macro system level is enabled through technology. Technology can support standardized report cards, sharing of curriculum resources, and a better sense of students' responses to interventions. The shift of moving away from traditional education involves not only changes to the tools of teaching and learning but a shift in the ways in which teaching and learning occur (Beetham & Sharpe, 2013).

A key theory of mobile learning that frames this paper is articulated by Sharples, Taylor, and Vavoula (2007) as "the processes of coming to know through conversations across multiple contexts amongst people and personal interactive technologies" (p. 225). This theoretical stance suggests that learning does not take place solely within static locations, such as classrooms and schools, and only in fixed periods of time. Instead, Sharples, Taylor, and Vavoula (2007) examine how learning takes place across locations, time, topics and technologies. Thus, a key aspect to learning in the digital world involves exploration, conversation, and collaborative knowledge building (Beetham & Sharpe, 2013). This theory builds on Stahl's (2003) work that technology supports the type of distributed communication that helps support learning and knowledge-building.

The growth of distance education in the developing world has been facilitated by the use of new technologies such as smartphones, tablet computers, and laptops (Heeks, 2008). Gholami, Higon, Hanafizadeh, and Emrouznejad (2010) argue that digital technologies have a greater effect on lesser developed countries than higher developed countries. For example, the use of mobile technology has supported the professional learning of health care workers

in providing distance education and professional support in the developing world (Foss, 2010). Further, mobile devices such as smartphones are cheaper, more durable, more portable, less reliant on a steady source of electricity, and can access the Internet through cellphone systems (Allen, 2011). There is also a recognition of the pervasiveness of mobile technology in the developing world. For example, less than 0.5 percent of African communities have a computer-based Internet link whereas more than half the African population has access to mobile devices (Heeks, 2008, p. 28). Similarly, in Haiti over 60% of the population has a cellphone (Communications: Haiti, 2014).

Distance learning, particularly that which uses mobile technology such as smartphones, can decrease social exclusion and support a more inclusive form of school leadership professional development (Chigona, Vally, Beukes, & Tanner, 2009). As well, smartphones have the potential to provide a digital link to a global learning community (Allen, 2011). Chigona et al. (2009) found that the expense of purchasing phones and phone plans is still a barrier in the developing world. Further research has suggested that the barriers to the use of new digital technologies in the developing world are still significant (Motlik, 2008). These barriers can include accessibility, cost, language interfaces of phones, and limited opportunities for training to effectively use mobile devices (King & Mbogho, 2009). As the price of phones decreases, increased attention has to be given to reverse the limited knowledge about how smartphones can support resource sharing and development (Chigona et al., 2009).

Within this transformative age of technologically-enhanced learning, school leaders need a new set of skills and dispositions to encourage and support learning contexts. Brooks and Normore (2010) suggest nine literacies that school principals need to be prepared for in the 21st century. These literacies are: political, economic, cultural, moral, pedagogical, information, organisation, religious, and temporal. Amongst this list, two are of particular importance to leading in the age of technologically enhanced education: pedagogical and instructional leadership. Brooks and Normore (2010) suggest that school leaders need to be aware of pedagogical changes as a result of the question, "How is effective instruction conducted to students with diverse backgrounds and how do students learn about and use multiple literacies in the complex, dynamic and interactive environment of the home, the classroom, and beyond?" (p. 63).

Further, Brooks and Normore (2010) argue that, "… information literacy has become more critical than ever as discourses about the knowledge economy focus on the necessity of educating ALL students with skills for the global workplace" (p. 64). They assert that, "Information literacy aims to develop *both* critical understanding *and* active participation." (Brooks & Normore, 2010, p. 64, emphasis in original). Brooks and Normore (2010) indicate that awareness and knowledge of these literacies is not enough; leaders must utilize them to be more effective in their leadership practices. This paper then considers how school leaders can access new technologies to support these emerging leadership dispositions particularly in a developing world context such as Haiti.

Methodology

The key research question that this study examines is: How can digital technologies facilitate learning that occurs in a professional learning network built to support educational leadership capacity-building in Haiti? This question is examined by using data from a qualitative research study that involved ten participants in a Digital Mentoring Project (DMP). The DMP utilized smartphones and tablet computers to connect eight school principals in Haiti with two school leaders in Canada over a three year period (2011-2013). The goal of the DMP was to connect all of the participants in a professional learning community (DuFour & Eaker, 1998) and to engage them in real-life and real-time problem-solving and resource-sharing of relevance to their contexts.

The eight Haitian participants represented diverse geographical regions of Haiti and varying positions of leadership: four principals from private and public schools, a Ministry of Education official, a curriculum developer for a non-governmental organization (NGO), a private school superintendent, and a business administrator for a school system. The two Canadian participants were both school principals from central Canada. The Haitian participants were selected purposefully using a chain sampling method (Isaac & Michael, 1997) where school leaders were asked to identify key educational leaders whom they respected. All of the participants were provided with BlackBerry smartphones or tablets to facilitate their participation in the professional learning community. The discussions and resource-sharing opportunities were not structured according to externally-created timelines or topics. Instead, the participants engaged in the project when presented with a school-based challenge or when contacted by another participant.

A qualitative research methodology formed the basis for the study with two primary methods of investigation. First, the digital records of the participants as they engaged in the DMP were examined. This included the various methods the participants used to communicate with each other including email, text messages, Skype conversations, and BlackBerry Messenger records. Second, participants were interviewed and asked to reflect on the experience of

using digital technology to support their professional learning. The analysis of the data occurred on an ongoing basis to guide further data collection. Using constant-comparative procedures (Glaser & Strauss, 1967), transcriptions and transmissions from each data collection point were analyzed to find recurring patterns. This paper reports on three key themes which emerged from the research framework: Collaboration, real-time problem-solving, and engagement.

Results

Collaboration

The participants were eager to engage in on-line discussions around topics of importance to their leadership development. Some of the participants were much more active than others in the Digital Mentoring Project (DMP). Three participants (two Haitian, one Canadian) had conversations frequently, usually on a daily or weekly basis. These regular conversations provided insight into, not only into the types of leadership challenges they were experiencing, but how they used the distance learning framework to leverage their leadership abilities. Other participants (four Haitian, one Canadian) engaged on-line every few weeks and usually in reference to a major incident or question they were experiencing. Two of the Haitian participants were initially slow to enter the online learning environment but became more active as others encouraged their participation and as they became more familiar with the tools that were being used.

The participants self-reported that there were a number of reasons they participated to the degree they did. For those who collaborated regularly, they indicated that they were comfortable with using the technology and found it easy to quickly contact another member of the DMP to pose a question or engage in a conversation. As one participant stated, "I have been using a cellphone for two years but to be able to use a smartphone really helped me have more access to the others and to resources on the Internet." Those who were not as regularly involved indicated that the reasons for this were two-fold: First, they indicated that, due to their busy schedules, it was difficult to find time to engage in the learning community, and second, they were hampered by their comfort level with the technology. One participant stated, "It's incredible how much technology is available in Haiti. You would think that we are a poor country but everywhere there are cellphone towers and I have reliable Internet access anywhere in my community. I am just becoming comfortable with this!" It is interesting to note that at the end of the second year of the DMP, one of these latter two participants was using his smartphone to regularly instant message and email others. When asked about this, he indicated that it had taken a long time to overcome his fear of the technology but that he was now using the technology on a frequent basis. He stated, "I cannot believe how much I use my smartphone now. I can [instant] message other principals, I can download resources for my teachers … I am using it to communicate with parents."

The digital technologies that the participants used to connect with each other provided an opportunity to collaborate on projects and resource-development. One example of this collaborative planning was in the development of a series of workshops that the participants decided would be beneficial for other principals in Haiti. The participant who was a system leader for the Ministry of National Education started the conversation by asking his peers if they had an interest in collaborating to host and deliver a professional development conference for teachers. The other participants provided input into the idea, including suggestions for workshop topics and leaders.

The concept culminated in a conference for teachers in northern Haiti to help support their abilities in areas such as teaching mathematics and special education. The collaboration of the participants was facilitated by the digital professional learning community. The system leader who initiated the idea stated, "It is rare for leaders to collaborate in Haiti. We simply have not had the system supports to facilitate collaboration. This opportunity [to collaborate through the DMP] provided the structure we needed to plan and carry out this conference." The participants developed a theme for the conference during various on-line meetings and also posted resources for each other to consider as parts of the conference. An outcome of the conference was the determination of key educational stakeholders to continue to collaborate to develop educational resources that could be available in print or digital form for teachers to use.

The collaboration that took place in the digital professional learning environment facilitated problem-solving. Once participants became familiar with the technology and each other's professional contexts, they began to engage in problem-solving that was both authentic and occurred in real-time.

Authentic and real-time problem-solving

As participants confronted school challenges in their immediate contexts, they were able to access insight and advice from others in the digital learning community. These challenges consisted of issues such as curriculum development, working with peers, teacher supervision, understanding educational bureaucracies, and exploring

funding opportunities. Having access to school leaders in Haiti and Canada, often in real-time, helped provide quicker and more thorough responses to problems. That is, rather than being isolated and having to respond to a problem with limited input from others, the participants were able to access ideas from the group. Further, this advice could be sought immediately. In most cases, participants instant messaged others in the group and were able to get input almost immediately. An example of this "real-time" problem-solving was a conversation between a participant who was responsible for a new curriculum focused on the early years and appropriate activities based on children's developmental stages. He had a Skype meeting with a Canadian participant and discussed similar curriculum that had been recently developed in the Canadian jurisdiction. He was able to take this input and incorporate it into the curriculum he was developing. Another system leader was able to access resources on financial management of schools she was responsible for by communicating with a Canadian school leader who was able to provide input and feedback on Excel files she was developing for schools throughout Haiti. For those in rural, marginalized areas, this type of access to support and resources was particularly beneficial.

Another example of problem-solving involved a participant who was working on a new curriculum to help with natural disaster preparation. He had spent months working on the curriculum material but was then called to provide training on it with short notice. He needed input quickly so that he could adequately prepare for a presentation on the topic. The principal was able to connect with one of the other participants in the DMP and get input into what he was proposing to present. He stated, "I really believe that this curriculum will enhance the ability of school principals to prepare for natural disasters in Haiti. The input I received from [name of participant] helped make the curriculum stronger. I am now being asked to share this resource with other schools." The participant was able to receive input quickly and make the changes he felt were necessary for the development of the curriculum presentation.

A further example of real-time problem-solving involved a participant who was trying to coordinate a teacher conference in a fairly marginalized, remote area of Haiti. The participant was struggling to access resources that could be used in the conference. He posed the challenge to the others in the DMP and received a variety of resources to consider. As well, one of the participants who was originally from the region, was able to connect the principal with some key leaders in the area. One of the Canadian participants was able to send some PDF documents in French as supplementary resources. All of these efforts helped the leader and, according to him, expedited the coordination and effectiveness of the conference. Within 48 hours of the original need being communicated to those in the DMP, the participant had received enough input to adequately plan the conference.

Engagement

The participants in the Digital Mentoring Project had a range of experiences with digital technologies. All had used computers and had accessed information via the Internet. The two Canadian participants and two of the Haitian school leaders had significant experience with tablet computers and smartphones but the remaining Haitian participants had not. The rapid increase in cell phone usage in Haiti and Canada, as well as the more recent wide-spread access to 3G and 4G networks in both countries also paved the way for smartphone usage. Haitian participants were able to purchase data plans so that they could use the smartphone as a primary, and stable, way of accessing the Internet.

The immediate access to the Internet provided through smartphones and tablet computers seemed to magnify the participants' engagement with the online professional learning community. This may have been due to the consistent and quick access to others that the technology allowed. One participant stated, "I have an old computer at home but I can rarely use it because our supply of electricity is so infrequent. As well, I have not been able to get a hard-wired Internet connection to it." Most participants connected on a fairly regular basis with each other. Given the significant geographical, economic, and socio-political differences in regions and participants themselves, this level of engagement was intriguing. The barriers between "Haitian" and "Canadian" seemed to break down quickly, although language barriers were a challenge at times. All of the participants spoke some French and English which aided this process. As well, the technology itself may have helped engage the participants with each other. For example, participants explored how to use instant messaging and Skype. Having access to other participants, as well as resources available through the Internet, seemed to help participants stay engaged with the project and also increase their interest and capacity in educational leadership.

The heightened professional engagement that the digital technology seemed to facilitate was leveraged by one school principal to utilize digital technologies within his school. As a result of a contact he made from the DMP, he received a donation of tablet computers to use in his school. He established a wi-fi network in the school and provided training for the teachers around how tablet computers could be used to access resources for the students. Although beyond the scope of this paper, this project shows potential for considering how digital technologies can support collaboration, engagement, and problem-solving not only for principals, but also for teachers and students.

Early in the DMP, two of the participants felt that they had not been engaged in the DMP. As the project evolved, both became increasingly engaged in the online community. In one case, the participant had actually made significant strides to utilize digital technologies in his work. In one two hour period, the author observed the participant respond to more than 40 emails and instant messages on his smartphone. He was now utilizing the technology on an on-going basis and saw it as a key instrument to support his work. Thus, although there was not the initial level of engagement with colleagues in the DMP, this particular participant was experiencing a change in his work practices as a result of the experience of having a smartphone. A further example was the rapid uptake of BlackBerry Messenger (BBM) and Skype as communication tools. Participants used BBM to quickly communicate with each other and to share questions and ideas. Principals found the reliability and security of this messaging service as an improvement on the unreliability of email.

Discussion

The Digital Mentoring Project raises questions on how digital technologies can support the leadership abilities of school principals in Haiti and other fragile states. Certainly, the three key themes that emerged from this study indicate that collaboration, authentic and real-time problem solving, and engagement are enhanced in professional learning communities when digital technologies are accessed. In this section, these themes are further considered particularly regarding the ways in which these skills are enhanced by digital technologies and how 21st century leaders need to develop a new leadership stance that considers the globalized world in which they find themselves.

The Kinds of Questions Being Asked

Over the three years of the DMP, it became clear that there were two types of questions that participants were asking. The first were technical kinds of questions such as: How do schools allocate financial resources in other contexts? How do other principals assess teacher performance? How do I access curriculum documents? The other type of question which was asked was more reflective, such as: What am I trying to accomplish through my school? How is my school viewed in this community? What skills and attributes do I demonstrate in my leadership? What is my vision for education in this community?

It was interesting to note that as the DMP developed most of the questions and problems were not about the technology being used. One Canadian principal was able to give extensive help to his Haitian colleagues on how to use various features on smartphones but, even though the digital device was a relatively new piece of equipment for the Haitian participants, it did not seem to be a barrier to their eager participation. The Haitian participants did experience some challenges with issues associated with technology such as the cost of data plans for smartphones, having consistent access to electricity to charge their phones when needed, and having access to wifi for tablet computers.

It is noteworthy to consider the different types of questions and the evolution of these questions, from more technical at the beginning of the project to more reflective near the end. This process reflects the contention of Brooks and Normore (2010) that school leaders must be active participants in developing information literacy. They state that "…information literacy must too play an equally vital role in the preparation of educational leaders if these leaders are to effectively take their place as responsible citizens of the world" (Brooks & Normore, 2010, p. 63). The dynamic nature of digital technologies requires that school leaders develop the technical skills to utilize them. As well, digital technologies provide an opportunity for school leaders to broaden their critical understanding of who they are as leaders and the context of learning in a globalized world (Beetham & Sharpe, 2013).

Sustainability and Challenges

It is questionable whether the costs associated with a project such as the DMP are sustainable. In this case, a corporation and donors provided the smartphones and tablet computers but participants were responsible for the costs of data and phone plans. In Haiti, these costs are very reasonable (ranging from $10-25/month) but this is still a high cost, particularly for principals who are working in small, rural schools and who are not receiving significant income from their position. The participants in this project were able to afford the monthly fees but would not have been able to afford the high cost of the initial smartphone/tablet purchase. In the future, this will be a significant consideration for similar projects involving digital technologies in the developing world (King & Mbogho, 2009; Motlik, 2008). At the same time, it is important to recognize that digital technologies can support a more inclusive form of school leadership professional development since anyone with a digital device and access to the Internet can access the digital resources (Chigona, Vally, Beukes, & Tanner, 2009). Further, smartphones have the potential to provide a link to a global learning community (Allen, 2011) which can support the ability to develop leadership literacies for the 21st century (Brooks & Normore, 2010).

Mobile technology is pervasive in the developing world (Allen, 2011) so it is important to consider projects such

as the DMP in terms of sustainability, scalability, and impact (Heeks, 2008). Heeks (2008) challenges those involved in development and technology work in the developing world to, "…stop thinking solely about needs—often defined from outside poor communities in rather paternalistic terms. Instead, … think about wants—what the poor themselves actually demand and how their communities would use digital technologies if left to their own devices" (p. 33). Further, Wilkens (2008) provides helpful guidelines for consideration when organizing distance education courses in the developing world including: (1) Solicit input into the specific topics participants want covered; (2) Include local faculty to ensure contextually relevant information and resources are being used; (3) Design activities to be as interactive and engaging as possible; (4) Don't simplify the professional learning materials since participants want to be treated as co-equals and will want to learn from timely and research-based resources. In this way, digital technologies provide the opportunity for participants to control their own learning, a key aspect of Collins and Halverson (2009) framework of leadership transformation.

Collaboration Across Borders

Professional learning communities provide an opportunity for principals to problem-solve and to extend their professional knowledge (DuFour & Eaker, 1998). In the more-developed world, this typically happens through formal networks that meet face-to-face. In the Haitian context, the opportunity to collaborate with other school leaders is much more challenging. This is partly due to the lack of a professional network of principals in Haiti. Without such a network, there is no formal association through which principals can collaborate. The geographic challenges of the country, with many remote areas which are difficult to access by road, also compound the situation. The geographic isolation of schools has contributed to a mindset that is focused more on the immediate context (Sider, 2014). Further, school leaders have been reluctant to collaborate in Haiti because of the fear that other school leaders will take their ideas and profit from them (Sider, 2014).

The use of digital technologies provides a framework to combat these challenges and to overcome geographic, economic, and social barriers. Further, being able to collaborate with peers in other contexts, whether within one's own country or another country provides an opportunity to critically examine local and global issues. Collins and Halverson (2009) suggest that interaction is a key area of potential gain in the new era of transformation. This was an important aspect of the participants in this study: Not only did the smartphones and tablet computers provide a tool for interaction within Haiti, but they provided the means to engage with school leaders outside of Haiti as well. These interactions helped shape and inform the decisions of the leaders in a way that would not have been possible without the digital devices.

Increasingly, school leaders need to grapple with the challenges of globalization (Brooks & Normore, 2010) and digital technologies facilitate this cross-border learning experience. Brooks and Normore (2010) contend that the dynamic, interconnected nature of the literacies and leadership requires that, "This approach to leadership demands that educational leaders develop new skills, and broaden their understanding of the way local and global forces are emeshed in an increasingly sophisticated manner" (p. 74). As Samy and Carment (2011) state, "… sharing valuable lessons learned by the international community … may help foster social cohesion by building informal networks and voluntary associations…" (p. 103). The participants in the DMP were able to share resources and lessons they had learned in their professional contexts. The informal ways in which conversations took place in the DMP provide a powerful example of how professional networks do not have to be formal, externally-established systems. Sharples, Taylor, and Vavoula (20007) state that this demonstrates "… coming to know through conversations across multiple contexts amongst people…" (p. 225) as a key aspect of learning in the 21st century. This distributed form of leadership which supports shared learning and knowledge-building is enhanced and enabled through technology (Stahl, 2003).

Conclusions

Despite the challenges, the opportunities that digital technologies present for educational capacity-building in the developing world are significant. The development of cell phone coverage (3G and 4G) in countries such as Haiti is astounding. Smartphones are portable, have long battery life, and are not as susceptible to the heat, humidity, and dust that laptop and desktop computers are. As well, the relatively inexpensive cost of voice and data plans provides an opportunity for the vast majority of school principals to engage in a project such as the Digital Mentoring Project. Cellphones and smartphones are becoming increasingly prevalent in Haiti and providing a device for school principals to engage in problem-sharing and problem-solving has the potential to dramatically influence education in Haiti.

Consistently across cases studied in the developing world, NGOs have been able to cost-effectively provide levels of support to schools which governmental departments of education cannot (DeStefano & Miksic, 2007). In fragile contexts such as Haiti, the public sector must be consulted and partnered with so that systemic change can be realized. In the case of the DMP, state officials were included in the project so that the lessons learned in the study

could be considered for broader implementation. At the same time, using private sector partners enabled the DMP to evolve without lengthy, bureaucratic restrictions. The DMP provided an opportunity to bring the public and private sector together, a real challenge for education in Haiti and other fragile states, to support the development of both.

Digital technologies also provide a way to realize gender equity in Haiti. Both male and female participants were engaged in the DMP. This may be a key positive attribute of the use of digital devices in contexts such as Haiti: The devices are gender-neutral and, as a result, women and men can equally share questions, problems, and resources. In a sense, this is a way to equally equip women and men in leading to transformative practices in contexts such as Haiti (Horton, 2012). This form of distributed leadership (Stahl, 2003) can be facilitated by digital technologies. Further study needs to be done on the issue of gender and accessibility to technology but the small sample in this study suggests that digital technologies can serve to provide greater access to professional resources for women in school leadership roles than traditional face-to-face professional learning.

The establishment of a digital professional learning community of principals in Haiti and Canada is only one step toward capacity-building. Further steps will include the development of on-line resources such as videos, documents, and wikis to build the resource-base for participants. Instead of simply communicating with each other in real-time, static resources will allow participants to build their resource base without continually re-inventing resources. These resources will be developed by Haitian school leaders so that they are authentic for that context. Further partnership with the Ministry of National Education will seek to replicate the digital professional learning community in a broader, national framework. These efforts will further enhance the sustainability of how digital technologies can support educational leadership building.

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