Abstract

This research study explored how a sample of high school History teachers in Ontario are integrating technology into their classrooms. The study was conducted using a qualitative research approach that involved reviewing the relevant literature and existing research surrounding technology integration in History, as well as conducting one-on-one, semi-structured, and face-to-face interviews with two high school History teachers in a southern Ontario school board. The study revealed that there are several benefits to technology integration in the high school History class, such as increased student engagement and motivation, increased access to historical resources and perspectives, more student-centered learning, increased collaboration, and more opportunities for differentiated instruction. At the same time, however, the study also found that integrating technology into the History classroom does not come without its challenges, as things like access to too much historical information online can be overwhelming, confusing, and time-consuming for both students and teachers alike. Finally, and perhaps most importantly, the study found that simply incorporating technology into the History classroom does not just automatically translate into sound practice; rather, technology must be meaningfully and intentionally incorporated into the classroom in order to engage students and potentially transform or redefine their learning. Overall, findings suggest that further professional development in the area of technology integration is needed, especially in subject-specific areas. Teachers may then feel more comfortable and confident introducing digital tools into their classrooms.

Key Words: technology integration, History, high school, twenty-first century learners, student engagement, classroom
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Chapter 1: Introduction

1.0 Introduction: Research Context

The twenty-first century has seen the emergence of a new generation of learners. Students born in the 1990s and the new millennium have become completely immersed in, and committed to, the digital domain, as they have never experienced a world in which the Internet or mobile phones did not exist (Ahrenfelt, 2013). Technology has become the engine on which much of the world operates, and as a result myriad educational leaders around the world have come to understand that the use of digital technology in the classroom is necessary if schools are to be relevant in the twenty-first century (Case & Gini-Newman, 2015). Change in teacher instruction, via technology integration, is required in order to more precisely address the learning needs of this new generation of students and provide them with the intellectual tools that they will need in order to adapt, achieve, and excel in all areas of life, both today and in the future.

Over the years Ontario, like many other education jurisdictions across the globe, has become increasingly committed to preparing its students for success in an ever-changing, technology-driven and interconnected world, so much so that the Ontario Ministry of Education (OME) started what they call a “21st Century Teaching and Learning Initiative” (EduGAINS, n.d.). Moreover, since 2011, the Ministry of Education and the Council of Ontario Directors of Education (CODE) have, through the Ministry’s Technology and Learning Fund (TLF), worked together to support Ontario schools as they alter their teaching practices and attempt to introduce technology-enabled learning into their classrooms (CODE, 2015). In September of 2014, Ontario’s Education Minister Liz Sandals announced that the new TLF would provide $150-million in funds to Ontario school boards over three years so that new technologies such as Apple iPads could be introduced into classrooms since, according to her, technology and digital
resources are an “integral part” of students’ everyday lives (Rieti, 2014). With this in mind, the incorporation and utilization of different forms of technology in the classroom will ultimately allow teachers to align classroom instruction with how students – especially those in high school – conduct their day-to-day lives.

While it has been documented that the proper use of technology can enhance the teaching and learning of virtually any subject in multiple and varied ways (Case & Gini-Newman, 2015; John & Wheeler, 2008; Mishra & Koehler, 2006; Stephens, Lehr, Thorp, Ewing, & Hicks, 2005), the diffusion of technology into the high school History classroom in particular will be primarily discussed throughout this paper. The Ontario Ministry of Education’s Canadian and World Studies curriculum documents for both grades 9 and 10 (2013) and 11 and 12 (2015) clearly address the role and importance of Information and Communications Technology (ICT) in the Canadian and World Studies program in general, as well as in the study of History more specifically. Both documents indicate that teachers should continuously strive to use various forms of technology in the classroom as tools for gathering, organizing, analyzing, and presenting information, solving problems, creating assignments, communicating, collaborating, and much more (Ontario Ministry of Education, 2013, 2015). Research suggests that the use of computer technology and other digital resources in the History classroom has the potential to profoundly transform the way in which teachers have taught History, while also making the process of historical thinking and inquiry more meaningful and engaging for students (Beineke, 2011; Boon, Fore, & Rasheed, 2007; Cantu & Warren, 2003; Doppen, 2004; Haydn, Arthur, & Hunt, 2001, just to name a few). Incorporating technology into the History classroom can provide teachers with greater opportunities to create differentiated instruction and assessment to meet the diverse needs of learners, and it can provide students with a platform to showcase their
creativity and individual talents (Beineke, 2011; Okolo, Englert, Bouck, & Heutsche, 2007; Swan & Hicks, 2006; Tebeau, 2003). In addition, the use of technology in the History classroom by both students and teachers can help to facilitate the development of students’ critical thinking, creative thinking, problem solving, research, and decision making skills (Acikalin & Duru, 2005). Overall, when technology is implemented into the high school History classroom in proper, relevant, and enriching ways, teachers are able to engage their students in new ways, encourage them to think independently, and make active learning central to classroom life (Cantu & Warren, 2003; Tebeau, 2003).

1.1 Research Problem

Research suggests that pupil achievement in school is influenced by their perceptions of how enjoyable and how difficult subjects are (Haydn & Harris, 2010). Many students find themselves uninterested in studying History in high school because they find it dry and dense (Bain, 2006; Cantu & Warren, 2003). Students often rank Social Studies classes in general as the least favourite of all core subjects, and one of the most common complaints about secondary History instruction in particular is that it is “dull” (Cantu & Warren, 2003). Moreover, students typically think of History as not only the most boring, but also the most irrelevant subject they take in school (Cantu & Warren, 2003); high school students especially find it hard to clearly identify a purpose for studying History, and because of this they find it difficult to remain engaged with the content of their lessons, which ultimately affects both their learning and overall achievement in the class (Haydn & Harris, 2010). This perception of History as “dull” and “boring” is directly related to the pedagogical emphasis of many high school History teachers on content-heavy lectures and textbook readings, combined with rote memorization and regurgitation of factual material (Bain, 2006; Cantu & Warren, 2003). As previously stated, the
high school students of this day and age have grown up digital, and as a result the majority of them are no longer content with having History fed to them through a didactic lecture (Cantu & Warren, 2003).

Despite the various efforts made by educational leaders to “modernize” schools, many educational institutions have yet to fully adapt to the digital world. For instance, a People for Education report from 2014 states that students in 99% of Ontario elementary and secondary schools have access to computers; however, it is made clear throughout the document that access to technology does not automatically equal successful, sustained, school-wide integration. Many principals from various school boards across the province who were interviewed for the report stated that a number of obstacles – e.g., keeping up with technological innovations, cost of maintenance, slow or unstable wireless access, teacher fear, etc. – still seriously impede their efforts to seamlessly integrate technology into all classrooms and subjects. Most principals also stated that technology use in their schools is not an obligation, but rather remains dependent on individual teachers.

Whether it is due to insufficient infrastructure, lack of funds, lack of teacher competency, or a variety of other reasons, the reality is that the model of education that still prevails in many classrooms and schools today is not compatible with the twenty-first century or its learners. Many classrooms, especially History classrooms, revolve around the teacher who delivers a one-size-fits-all, one-way lecture. Many History teachers, whether as a result of personal choice or several of the other significant barriers just discussed, still focus on memorization of factual material as their dominant activity, and as a result students are not being exposed to rich, authentic, purposeful instruction, nor are they being pushed to use or develop their higher-order thinking skills. Overdependence on lectures and other types of passive instruction is the
antithesis of twenty-first century teaching and learning. Pupils need to be actively involved in their learning; they need to learn through participation, dialogue, and active contribution to discussions and arguments about the past, rather than simply “receiving the past” passively from their teachers (Ahrenfelt, 2013). Schools need to try their best to start bringing their classrooms into the twenty-first century by transforming teacher practices and creating a student-centered environment where all students can be actively engaged in the learning process; the integration of technology into the History classroom can act as a catalyst for such a change.

Although technology is not a completely unproblematic educational miracle, as mentioned in the previous section, it does have a lot to offer those who teach History in secondary schools (Haydn et al., 2001). Advances in new technology offer teachers the opportunity to deliver the History curriculum and develop students’ understanding of the past in a more vivid, varied, active, inclusive, and engaging way than was possible twenty or thirty years ago (Haydn et al., 2001). The key to student success is getting students interested in, involved in, and excited about learning, and technology is a tool that can help make that a reality. With this in mind, History teachers need to view technology integration in their classrooms and curriculum as a necessity rather than an option so that they can help the new generation of learners live up to their potential in this fast-paced and increasingly complex digital world. Hearing directly from History teachers who utilize various forms of technology in their classrooms in numerous ways on a daily basis allowed me to gather a range of helpful and innovative real-life examples of the multiple meaningful ways in which technology can transform not only how teachers teach, but also, and more importantly, how students learn.

1.2 Purpose of the Study
The purpose of this qualitative research study is to explore how a sample of high school History teachers in Ontario are integrating technology into their classrooms. Specifically, I interviewed these teachers about which technologies are reportedly being used, their perspectives on the perceived impact that their technology-oriented instructional strategies have on their students, and any significant challenges or tremendous successes that they have experienced in relation to technology integration in their classrooms and curricula. Moreover, I wanted to learn about these teachers’ opinions regarding the importance of technology integration and the degree to which it should be utilized in the History classroom.

Given the impact that educational technologies can have on students in the secondary History classroom, it is important to explore how teachers are incorporating these tools into their instruction and assessment. My hope is that this study can serve as a guide to current and future Ontario secondary History teachers alike who are looking for appropriate, effective, stimulating, and innovative ways to infuse technology into their classes, and that it may encourage those who are reluctant to use technology to enhance learning in History to begin that journey. It is also my hope that these findings will help teachers in other disciplines as well, since digital tools can be used in virtually any classroom of any subject or age group.

1.3 Research Questions

The central question guiding this study is: How are Ontario secondary school History teachers integrating technology into their classrooms? Some sub-questions to further guide this inquiry are:

• What specific forms of technology are these teachers using in their classrooms, how are they using these technologies, and which ones do they find most effective?
• How do these teachers describe student engagement with, and understanding of, course content and assignments when technology is used?
• What challenges have these teachers faced and/or what successes have they experienced in relation to technology integration?
• In their opinion, how important is technology integration in the History classroom, and to what extent should it be implemented into instruction and assessment?

1.4 Background of the Researcher

Ever since I can remember, I have always been fascinated with stories of the past. Being the daughter of two immigrant parents, as a small child I would listen attentively as my mother, father, and extended family talked about their experiences growing up in different countries and time periods; I was continuously intrigued by the fact that at one point in time their lives had been vastly different than they were now, and was always surprised to learn how the events of the past helped shape their futures, and mine. When my mother told me that I had famous historical initials (FDR), my interest in History grew even stronger, since I then felt a personal connection to the subject. As I got older I began to recognize that not everyone my age had a natural love for History like I did; in fact, most of my peers absolutely hated it, and I often found myself wondering how that could be possible. It was during both my high school and undergraduate years that I gradually came to the realization that students’ interest in History was largely dependent on how teachers were choosing to teach it – i.e., the specific ways in which lessons were taught and significant moments explained, the types of assignments that were being used to assess student understanding, and so on.

As someone who has had a love of History from a young age – and who majored in it in university – and now as a teacher candidate who has History as one of her teachables, I have
become increasingly interested in exploring the ways in which I can help foster a genuine passion and love for History in my future students. Moreover, as an individual who was born in the 1990s, I understand the need and desire to use technology in everyday life. The reality is that we now live in a digital world where the majority of students are no longer interested in simply copying notes off of the blackboard, or listening to their teacher talk at them for hours. When I was in grade 10, Canadian History was my favourite class because my teacher often used myriad forms of technology throughout her lessons in order to keep us engaged and interested in the sometimes dull and dense curriculum. She showed us exciting videos, introduced us to different genres of music, and even let us direct and star in our own short films for our final projects.

Although I had a very privileged experience with technology integration in my high school History classroom, as I conducted this study I kept in mind that not all secondary History students have the same privileges as I did. I was sure to remain cognizant of the fact that the socio-economic status of schools can inevitably affect the level of technology integration that takes place in classrooms, and more so that some schools do not even have the appropriate infrastructure in place to support sophisticated digital tools, thus their access to technology may be severely limited.

1.5 Overview

To respond to the research questions that I posed, I conducted a qualitative research study using purposeful sampling; I interviewed two high school History teachers about their methods for integrating technology into their classrooms and curricula. In Chapter Two I review the literature in the areas of technology integration in schools in general, and in secondary History classrooms in particular. In Chapter Three I describe the research design and methodology, and provide information about data collection methods, participants, and limitations. In Chapter Four
I report my research findings and discuss their significance. Finally, in Chapter Five I identify the implications of my findings, discuss recommendations for current and future teachers as well as the educational community as a whole, and point out areas for future discussion and study. References and a list of appendices follow at the end.
Chapter 2: Literature Review

2.0 Introduction

In this chapter I review the literature in the areas pertaining to technology integration in schools in general and high school History classrooms in particular. More specifically, I review the literature on the potential benefits of infusing technology into the teaching of high school History, and consider the most effective way in which technology can be used for historical instruction and assessment. Next, I review the research on the teacher’s role in technology integration. Finally, I review some of the challenges that are related to technology integration in the high school History classroom.

2.1 Benefits of Technology Integration into the High School History Classroom

Secondary History students can greatly benefit from a technology-rich classroom environment and curriculum, especially now that this new generation of learners is becoming increasingly digitally literate. The literature on technology and high school History emphasizes a number of significant advantages to incorporating technology into historical instruction:

- increased access to primary resources; the opportunity for authentic, student-centered learning;
- increased student engagement and motivation; greater communication and collaboration amongst students; and more opportunities for differentiated instruction and assessment.

2.1.1 Increased access to primary resources. It is well known that the Internet has revolutionized the way we can access archival material (Beineke, 2011; Eamon, 2006; Haydn et al., 2001). Until the advent of the Internet, students and teachers had limited access to important historical documents. Many constraints ranging from the fragility and rarity of documents to the physical inaccessibility of records used to hinder the use of primary sources in the classroom; however, it has been found that the Internet has ameliorated many of the traditional challenges...
people experienced when trying to access these rare and significant resources (Eamon, 2006; Lee, 2002). According to Lee (2002), since the initial development of the World Wide Web in the early 1990s, tens of millions of historical documents have been placed online, and there is no doubt that the quantity, quality, and range of historical documents available on the Web has expanded since then. Just about every major historical museum and large university offers websites that contain vast collections of rich primary – and even secondary – source documents from a wide range of historical characters and events (Okolo et al., 2007).

The Internet has put access to information literally at the fingertips of historians, History teachers, and History students alike (Bain, 2006; Bass & Rosenzweig, 1999; Lee, 2002). Through the World Wide Web, individuals have a level of direct and fast access to the raw materials of history that most people could have never imagined. Authentic, primary sources that were once available almost exclusively in research libraries or physical archives are now downloadable to personal computers at home or school (Tebeau, 2003). Students and teachers can now instantly summon materials to their computer screens that at one time could only be retrieved with great effort by professionals (Doppen, 2004; Moss, 2004; Tebeau, 2003). Moreover, the search functions available on both the Internet in general and digital archives in particular make information easier to locate and manipulate, especially for high school students (Doppen, 2004; Okolo et al., 2007).

The traditional canon of History instruction has always been the textbook; however, it has been found that access to online resources such as primary documents and artefacts provides students with a rich base of historical information rarely available in textbooks (Levesque, 2008). The Internet makes it possible for the papers of any head of government, famous historical figure, and so on, whose works have been fully digitised to be used by students for research
(Eamon, 2006). Moreover, through the use of digital collections, students can perform archival research and become actively engaged in what it is that real historians do (Doppen, 2004; Eamon, 2006; Swan & Locascio, 2008). For high school students especially, digital collections can act as a heuristic laboratory where they can learn about history through their own research (Eamon, 2006). Overall, using primary sources in the teaching of History can transcend the rote learning of facts and figures that many people associate with historical instruction; instead, it can encourage critical thinking skills and introduce students to issues such as context, bias, and memory, and ultimately allow them to better understand that History is largely a human creation, made up of multiple and varying viewpoints (Eamon, 2006).

2.1.1.1 Increased range of perspectives. It has been found that the nonlinear manner in which students can view and organize information retrieved from the web can help facilitate their understanding of multiple perspectives, a cornerstone of historical inquiry (Case & Gini-Newman, 2015; Okolo et al., 2007).

According to van Hover, Swan and Berson (2004), until the introduction of the Internet, interpretation and inquiry in History was mandated through the lens of the textbook alone; however access to the web and digital historical archives has opened up a whole new realm of historical sources and perspectives. With the Internet, students are no longer limited to accessing only one collection, or visiting only one institution for their historical research (Case & Gini-Newman, 2015; Eamon, 2006). Instead of simply relying on one single perspective or set of documents, students using the web now have the potential to visit archives across the country, or even across the globe, to view various documents on any given subject, and read various interpretations of historical events (Cantu & Warren, 2003; Eamon, 2006). Additionally, Levesque (2008) claims that the Internet exposes students to not only a multitude of primary
source documents, but to a greater variety of primary source types as well – for example, print, audio, video, and images; this further exposes students to multiple perspectives, widens their horizons, and increases their overall understanding of history.

2.1.2 Authentic, student-centered learning. The instructional use of technology can allow for the unique opportunity to dramatically alter the character of History instruction as well as the overall dynamic of the classroom (John & Wheeler, 2008; Lee, 2002). Research indicates that the proper and effective diffusion of digital tools into the History curriculum can result in a shift from a genre of teaching that is lecture, fact, and teacher centered, to one that is student-centered (Acikalin & Duru, 2005; Bass & Rosenzweig, 1999; Cantu & Warren, 2003; Heafner, 2004; Moss, 2004; Swan & Hicks, 2006; Swan & Locascio, 2008). In her case study, Heafner (2004) found that when History teachers incorporate instructional practices into the classroom that are student-centered, they are able to develop a more nurturing and engaging learning environment that promotes cognitive growth.

When students use technology in the History classroom, whether it is to search for a document or participate in a web-based activity or assignment, they are able to exert some control over their learning process and thus co-create an authentic, rich, and meaningful learning experience with their teachers (Heafner, 2004; Lee, 2002; Swan & Hicks, 2006). For instance, when students engage with online materials by themselves and make decisions such as which documents to use and which to ignore, they are constructing their own knowledge and guiding their own inquiry (Heafner, 2004; Lee, 2002; Swan & Hicks, 2006). Also, web-programs that allow students to engage in activities such as simulations, place students in the role of decision maker as well, and encourage them to find solutions to problems by conducting their own
research and again constructing their own knowledge (Acikalin & Duru, 2005; Cantu & Warren, 2003).

Technology’s ability to support students has been found to give them a degree of autonomy and enables them to begin learning how to be independent thinkers and learners (Beineke, 2011; Walsh, 2013). The fact that technology can make required information quickly and readily available at all times can allow students to refrain from consistently seeking their teacher’s assistance, and therefore has been found to enable them to maintain their independence and empower them to formulate their own understanding of historical content (Heafner, 2004; Walsh, 2013). With that being said, technology can allow the History classroom to become a site of authentic instruction and critical thinking where students become active learners and contributors to the learning process rather than merely passive recipients of knowledge dispensed by their teacher (Bass & Rosenzweig, 1999; Cantu & Warren, 2003; Tebeau, 2003).

2.1.3 Increased engagement and motivation. Research touts technology use in History as not only a purposeful method of instruction to best meet the needs of twenty-first century students, but as a way to promote student interest in the subject as well (Bain, 2006; Bass & Rosenzweig, 1999; Heafner, 2004; Moss, 2004; Okolo et al., 2007; Walsh, 2013). Teachers have been found to struggle with a lack of student interest in History primarily as a result of the way in which it is taught, and this often translates into a lack of motivation to learn (Heafner, 2004). Since students use technology everyday in a multitude of ways in their personal lives, it is useful for educators to meet them at their interest level and speak to them through a medium that they both understand and enjoy to use.

Technology use in the classroom has been found to increase student motivation and student self-efficacy (Heafner, 2004). When students are able to use computers in class, whether
to search the web for historical documents, participate in online activities, create Power Points, etc., they feel confident in their ability to accomplish the task due to their familiarity with technology, and thus they become more engaged in their work and eager to complete it, even when it is challenging (Heafner, 2004). Additionally, the Internet can provide numerous opportunities for more effective and exciting History instruction, as it contains a voluminous collection of sources and materials that can inform and contribute to students’ active engagement in and understanding of history (Moss, 2004; Okolo et al., 2007). The ability to access famous speeches, photographs, musical performances, newsreels, broadcasts and other significant historical treasures not only accentuates students’ awareness of historical knowledge, but has also been found to deepen student interest in the subject (Bass & Rosenzweig, 1999; Moss, 2004; Okolo et al., 2007).

2.1.4 Greater communication and collaboration amongst students. The application of various technological tools to the teaching and learning of History has been found to create a culture of communication and collaboration amongst students (Case & Gini-Newman, 2015; Haydn et al., 2001; Heafner, 2004; John & Wheeler, 2008). Technology and useful support, such as working in pairs or groups, has been found to create effective high-challenge-low threat learning environments for students where they can work together to acquire knowledge, challenge each other, take risks, make mistakes, and develop their higher order thinking skills (Case & Gini-Newman, 2015; John & Wheeler, 2008; Palloff & Pratt, 2003; Walsh, 2013). According to Heafner (2004), technology integration in the History classroom promotes cooperative, communal learning rather than a competitive, isolated environment, and as a result students are often eager to share their work with their peers, and feel like they can rely comfortably on them to assist them with technical difficulties or course work without fear of
social embarrassment. Technology creates opportunities and platforms for students to work together to solve problems and exchange ideas, and this kind of cooperation enhances critical thinking and deepens understanding (Case & Gini-Newman, 2015; Heafner, 2004; John & Wheeler, 2008; Palloff & Pratt, 2003).

2.1.5 Differentiated instruction and assessment. Research indicates that a digitally enhanced History classroom can make history more accessible to and compatible with all learners (Beineke, 2011; Cantu & Warren, 2003; Case & Gini-Newman, 2015; Okolo et al., 2007; Palloff & Pratt, 2003; Tebeau, 2003). Cantu & Warren (2003) found that in many traditional History classrooms where teachers lectured and students read a textbook, certain learners were privileged and thus would go on to perform better on written tests of their knowledge, while others quietly fell in between the cracks, not because of their lack of intelligence, but because of the rigid, one-sided way in which they were being taught. Now, the wide range of technological tools available offer teachers countless ways to address the diverse needs of their students so that each one of them can be successful in school. According to Case & Gini-Newman (2015) use of digital technology in the classroom has been found to increase diversity in the ways that teachers present lesson materials, and offer students a broader range of ways to develop and demonstrate their learning than would be possible without the use of technology. Embedding visuals, graphical representations, and audio into lessons using presentation software and allowing students to explore online historical archives and museums on their own has been found to enable all students to engage with the curriculum in a way that works for them (Case & Gini-Newman, 2015; Okolo et al., 2007; Tebeau, 2003). Moreover, when doing activities online, teachers can create supported versions of the activities for individual students who need additional guidance or assistance, or the teacher can quickly and
efficiently create various kinds of activities to further differentiate instruction for learners with a variety of different needs and skill levels, ultimately building self-paced, customized learning programs for all students (Okolo et al., 2007).

Overall, it has been found that high school History students benefit from the use of technology in their classrooms in multiple and varied ways – they are able to easily access rare and important archival materials from around the world and learn about history from a variety of different perspectives; they are able to take charge of their learning; they are able to more easily become engaged and genuinely interested in lessons and activities; they are able to communicate and collaborate with their peers on a more frequent basis, and on a more meaningful level; and all students are able learn in a way that best suits their diverse needs. It must be noted, however, that in order to ensure that students are able to reap the benefits that technology can bring to the classroom, it must always be utilized in appropriate, effective, and meaningful ways.

2.2 Best Practices for Technology Integration

Not all technology use is good technology use. Too often knowledge of technology in education is considered in a vacuum, completely disconnected from disciplinary content knowledge and pedagogy, as the assumption is that an understanding of how technology works automatically translates into sound practice (Levesque, 2008). One of the greatest dangers of the introduction of technology into the classroom is the mistaken assumption that it, alone, can transform education (Bass & Rosenzweig, 1999; Case & Gini-Newman, 2015). Some educators simply want to incorporate technology into their teaching because it seems “impressive” and “cutting-edge”, however the ways in which they choose to make use of digital tools neither amplifies nor extends students’ learning opportunities (Case & Gini-Newman, 2015). Although technology is often regarded as an indispensible component of every twenty-first century
classroom, it should be used only where and when it makes a clear contribution to students’ learning (Bass & Rosenzweig, 1999; Case & Gini-Newman, 2015).

2.2.1 Technological pedagogical content knowledge (TPCK). The term Technological Pedagogical Content Knowledge (TPCK) has gained a great deal of attention in the field of technology and teacher education, as it provides a framework for meaningful and effective integration of technology into the twenty-first century classroom (Mishra & Koehler, 2006; Robin, 2008). TPCK highlights the interactions and connections between content (the subject being taught), pedagogy (the teaching process being used), and technology, whatever form it may be, and proposes that meaningful technology integration occurs when teachers consider the interplay of all three of these key sources of knowledge (Mishra & Koehler, 2006; Robin, 2008). Using technology in the classroom cannot simply be thought of as an add-on component to already established course-work; rather, this framework suggests that skilful, effective integration of any technological tools in the classroom demands an intentional approach to their instructional use and an understanding of how teaching and learning can be changed as a result of technological affordances (Mishra & Koehler, 2006). In order for technology to alter or enhance student learning, teachers must engage in intentional, informed, and imaginative instructional planning; they must develop lessons, activities, and assignments that support working with technology in authentic and meaningful ways. According to Levesque (2008), in History education in particular, thoughtful, critical, and creative use of technology can take the form of “technology-designed-based lessons and units structured around active learning and doing of digital history that transcends traditional roles of ‘transmitter’ and ‘receiver’” (p. 26).

Overall, technology use in the classroom must always have a purpose, and that purpose should be to try and redefine the ways in which students think and learn and engage with the
curriculum. It is ultimately a teacher’s responsibility to ensure that technology is being utilized in the classroom in meaningful ways, and it is also up to them to teach their students how to use technology on their own in ways that are responsible, productive and transformative.

2.3 Teacher Role in Technology Integration

While it is no secret that digital tools have the potential to transform the teaching and learning of history, the reality is that it is mainly teachers who hold the key to technology’s transformative power. According to Cantu and Warren (2003), teachers are the gatekeepers to the History classroom, thus the technology and information-processing advances of the twenty-first century will not see the light of day in the classroom unless teachers allow them access. Moreover, teachers need not only agree to introduce technology into their classrooms, they must also be prepared to utilize it in appropriate and authentic ways. As demonstrated by the TPCK framework discussed above, and as found by Mishra & Koehler (2006), the power of technology to enhance teaching and learning lies in a teacher’s ability to meaningful integrate these tools into instruction and assessment. Without teacher commitment to effective technology use, many of the opportunities to innovate and even transform education and learning will be lost; it has been found that teachers must be ready, willing, and able to change their pedagogy to fit the demands of the unpredictable, fast-moving, and ever-changing twenty-first century, a world in which equipping students with the ability to think, learn, and find out things is more important than mastering a static body of knowledge (John & Wheeler, 2008; Swan & Hicks, 2006).

Once technology is implemented into the classroom, it is the teacher’s duty to teach their students how to skilfully and effectively make use of it as a tool for learning and thinking (Case & Gini-Newman, 2015). In order for students to fully benefit from a technology-enabled History classroom, teachers need to teach students how to navigate databases, how to interpret historical
data, how to read into, around, and beyond documents, and how to decipher between reliable and unreliable sources of information (Beineke, 2011; Cantu & Warren, 2003; Case & Gini Newman, 2015; Stephens et al., 2005). Technology has the potential to facilitate higher order thinking, but it has been found that it is the teacher who leverages the technology to conduct historical inquiry and who models the skills that students need in order to be successful (Beineke, 2011; Swan & Locascio, 2008). For example, in a study conducted by Swan & Hicks (2006), and another conducted by Swan & Locascio (2008), it was found that using primary documents in a History class does not automatically translate into critical and historical thinking; rather, it is the teacher who juxtaposes documents against one another, who asks critical thinking questions about documents, and who elicits the bias or perspective of the authors of documents that allows students to practice and develop historical inquiry skills (Swan & Hicks, 2006; Swan & Locascio, 2008).

There is no doubt that life in the digital classroom is and can be different – just how different it will be though ultimately depends on the decisions made by teachers. Moreover, while effective technology integration in the History classroom does indeed have multiple advantages, it does not come without its challenges.

2.4 Issues Surrounding Technology Integration

Although technology-rich classrooms are the goal of virtually all modern educational institutions today, the truth is that digitally enabled classrooms are not completely devoid of potential problems. In fact, the literature on technology and high school History indicates some of the challenges related to technology integration in History classrooms in particular, and two of the most pertinent are: access to too much information, which can potentially be extremely
overwhelming for both teachers and students, and the inconsistent quality of content that can be found on the web.

2.4.1 Information overload. It was previously mentioned that since the introduction of the web, millions of historical documents have been placed online. It was also said that this has been a blessing for History teachers and students alike, as they now have access to an abundance of rich and significant information, archives, and documents at the click of a button. While it is true that this new wealth of historical resources can be seen as quite a privilege, it is also true that teachers and students can sometimes view it as a curse as well (Okolo et al., 2007). Digital information of all kinds is proliferating at an alarming rate, and as a result many students and even teachers report feeling overwhelmed when their simple searches on the Internet yield hundreds of thousands of matches, or more (Cantu & Warren, 2003; Moss, 2004; Okolo et al., 2007).

Few educators have the time needed to keep up with the rapidly evolving collections of resources that are available for use in the History classroom (Okolo et al., 2007). In a study conducted by Cantu and Warren (2003), they found that a teacher, whose day is already full, can spend hours a day for weeks sifting through the thousands of websites and archives which house historical content just to find a handful of items that really fit the assignments or purpose of their class. Moreover, selection becomes even more difficult when online resources are constantly changing, disappearing, and reappearing, which can be just as frustrating as out-dated History textbooks (Cantu & Warren, 2003). Students who feel overwhelmed by the amount of historical material on the Internet may abandon their searches altogether and lose their motivation to acquire knowledge on their own (Beineke, 2011; Cantu & Warren, 2003; Doppen, 2004).
2.4.2 Inconsistent quality of content. In addition to the rapidly growing amount of historical information on the web being overwhelming, perhaps an even bigger issue is the fact that the quality is often inconsistent; silly, unreliable information and mistake-ridden data occupy the same space as enormously valuable documents and well-researched essays (Cantu & Warren, 2003; Moss, 2004; Tebeau, 2003). For teenage students whom are not yet historical experts, and who often tend to have a nearly blind faith in information they retrieve from the computer, it has been found that filtering out the problematic and unreliable content online is especially challenging (Beineke, 2011; Doppen, 2004; Heafner, 2004; Moss, 2004). According to Moss (2004), students’ inability to critique, assess, or fully make sense of much of the information that they find online can lead to serious issues, such as them writing a paper on the Holocaust that cites information from Holocaust denial sites. Beineke (2011) echoes this statement, as he claims that when a group of high school History students were told to look up material on the Lusitania, they came up with the answer “an exotic flower”. The significance of the sinking of the famous World War I passenger liner was lost on the students by accessing Internet information.

Overall, despite the fact that technology can enhance and transform both teaching and learning in History in ways never previously imagined, introducing technology into the classroom never comes without its issues. Both teachers and students must continuously work towards overcoming these challenges.

2.5 Conclusion

In this literature review I examined research related to technology integration, specifically the incorporation of digital tools into the high school History classroom, the perceived benefits that this brings about, the most effective technology-enabled teaching framework to follow, the teacher’s role in technology integration, and issues surrounding
technology integration in the History classroom. This review elucidates the extent that attention has been paid to how technology in the secondary History classroom can support twenty-first century teaching and learning. It raises questions about the extent to which technology can truly transform both the way in which teachers teach and the way in which students learn, and points to the need for further research in the areas of how it can and does transform historical thinking and understanding in particular. By exploring how a small sample of high school History teachers embed technology into their classrooms, I hope to provide a better understanding of effective and appropriate ways to use technology to teach History in the digital age.
Chapter 3: Research Methodology

3.0 Introduction (Chapter Overview)

In this chapter I describe the research methodology; I not only list the key methodological decisions that I made, but also provide a rationale for these decisions. I begin with a discussion of my research approach and procedures, and then proceed to explain my main instrument of data collection. Next, I address all methodological decision-making that pertained to my research participants; I identify and justify my sampling criteria, explain how I located and recruited my research participants, and provide some biographical information on the two participants of my study. Next, I describe how I analyzed my research data, and point to some relevant ethical risks and issues that were considered and addressed. Finally, I speak about some of the methodological limitations of my research study, while also highlighting some of its strengths.

3.1 Research Approach & Procedures

This research study was conducted using a qualitative research approach that involved reviewing the relevant literature and existing research surrounding my topic, as well as one-on-one, semi-structured, face-to-face interviews with two teachers. Qualitative research is primarily exploratory research; it is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell, 2007). While the overall aim of many quantitative research studies is to test pre-determined hypotheses and produce generalized results, qualitative studies seek to “provide illumination and understanding of complex psychosocial issues” (Marshall, 1996, p. 522). The results of a qualitative inquiry are descriptive rather than predictive; the ultimate goal of qualitative research is to understand the particular in depth, rather than trying to find out what is generally true of many (Creswell, 2007; Jackson,
Drummond, & Camara, 2007; Merriam, 1995). Moreover, the essence of the qualitative approach is that it is naturalistic – participants are studied in natural settings, rather than in artificial isolation (Creswell, 2007; Marshall, 1996).

According to Jackson et al. (2007), qualitative research focuses on understanding human beings’ “richly textured” (p. 22) experiences and their reflections about those experiences, rather than focusing on statistically assessing some aspect of a research problem through the use of experimental or survey design procedures. Unlike quantitative research studies that often rely on a set of finite questions that produce categorized, forced-choice responses from participants, the qualitative researcher seeks to understand the world from the unique and varied perspectives of those in it; the qualitative researcher asks participants questions that allow each of them to construct their own rich, in-depth, and individualized responses (Jackson et al., 2007; Merriam, 1995).

Overall, qualitative research excels at generating information that is very thorough; Creswell (2007) maintains that qualitative research is typically conducted when a complex, detailed understanding of an issue or topic is needed. With this in mind, and given my research purpose and questions for this MTRP, a qualitative research inquiry was a suitable approach for my study, as it provided me with a steady platform on which to gather relevant, detailed information on how a small sample of high school History teachers in Ontario are integrating technology into their classrooms. Unlike quantitative studies, which are mainly useful for answering mechanistic ‘what?’ questions, qualitative studies are ideal for answering humanistic ‘why?’ and ‘how?’ questions (Marshall, 1996), and since the primary purpose of my research study was to discover not only what types of technology are being used in the History classroom, but more importantly how these technological tools are being used and why these teachers are
choosing to use them, a qualitative inquiry ultimately provided me with the information that I was looking for.

3.2 Instruments of Data Collection

Qualitative researchers utilize a variety of means to collect data (Jacob and Furgerson, 2012). According to Creswell (2007), although myriad forms of qualitative data continue to emerge in the literature, all forms can be grouped into four basic categories: observations, interviews, documents, and audiovisual materials. Interviews are among the most familiar strategies for collecting qualitative data (DiCicco-Bloom & Crabtree, 2006). In fact, Knox and Burkard (2009) claim that interviews have become such an important tool to qualitative researchers that many qualitative studies now rely heavily or solely on them as the primary method of data collection.

Interviews provide a useful way for researchers to collect rich and detailed information from individuals and/or groups on a specific topic or issue. There are three fundamental types of qualitative interviews: structured, semi-structured, and unstructured interviews (DiCicco-Bloom & Crabtree, 2006; Jackson et al., 2007; Knox & Burkard, 2009; Qu & Dumay, 2011). The semi-structured interview is the most common of all qualitative research methods (Qu & Dumay, 2011), and it was the sole instrument of data collection used in this particular study. Semi-structured interviews allow for the opportunity to hear about participants’ lived experiences (Creswell, 2007). The semi-structured interview protocol generally consists of a set of open-ended questions based on the study’s central focus (Knox & Burkard, 2009); these questions are developed in advance and are designed to elicit specific information from participants to enable eventual comparison across cases, while also allowing the interviewer to pursue certain areas or emerging themes in depth and ask spontaneous additional questions (DiCicco-Bloom &
Crabtree, 2006; Knox & Burkard, 2009). Overall, the semi-structured interview protocol serves as a guide for interviewers, while also allowing for openness, creativity, and flexibility in order to ensure that each participant’s story is fully expressed (DiCicco-Bloom & Crabtree, 2006; Knox & Burkard, 2009; Qu & Dumay, 2011).

The semi-structured interview was an appropriate instrument of data collection for my study, as it allowed me to modify the style, pace, and even ordering of my questions in order to evoke the fullest responses from my interviewees. More importantly, the open-ended questions and the seemingly casual, flexible structure of this type of interview allowed my participants to feel more at ease and enabled them to take my questions in several different directions, and provide responses to my questions in the way that best suited them (Jacob & Furgerson, 2012; Qu & Dumay, 2011). Moreover, the semi-structured organization of my multiple interviews allowed for the emergence of new ideas and/or questions that I had not thought of before, but that were nevertheless very useful for my study (DiCicco-Bloom & Crabtree, 2006; Jacob & Furgerson, 2012; Qu & Dumay, 2011).

Although semi-structured interviews can be conducted in groups or over the phone, I conducted individual, face-to-face interviews with all of my participants, which allowed me to delve more deeply into social and personal matters (DiCicco-Bloom & Crabtree, 2006). My interview protocol (see Appendix B) was organized into five separate sections – background information; teacher perspectives and beliefs concerning the use of technological tools in the high school History classroom; actual teacher use of technology in the History classroom; supports and challenges surrounding technology integration; and possible next steps. I also created a small list of potential prompts for some of my questions, which is a common technique used in semi-structured interviews that allows researchers to stay on track, elicit specific
information from the interviewees that they think will enrich their data, remind them of areas that have emerged from the literature, and/or draw out more complete narratives from the interviewees (Jacob & Furgerson, 2012; Qu & Dumay, 2011). Some examples of my interview questions include:

- Can you tell me a little bit about the technological resources that are available in your classroom?
- Can you give me an example of a time that you explicitly used technology in your History classroom?
- What is challenging about technology integration in your History classroom?

3.3 Participants

Choosing a study sample is an important step in any research project; participants should be likely to generate rich, dense, focused information on the research question in order to allow the researcher to provide a detailed account of the topic under study (Marshall, 1996). In this section I review the sampling criteria that I established for participant recruitment, as well as the procedures I followed in order to find my participants. I have also included a sub-section wherein I introduce each of the study’s participants.

3.3.1 Sampling criteria. The following sampling criteria was applied to all teacher participants:

1. Teachers will be currently teaching at least one section of high school History in Ontario, either in the Academic or Applied stream.
2. Teachers will have taught high school History using technology for at least five years.
3. Teacher will have experience having taught both grade 10 and upper level History courses.
4. Teacher will be currently using various forms of technology in their History classrooms.

In order to address my main research question, the teachers that I interviewed for my study needed to be presently teaching at least one high school History course, in either the Academic or Applied stream; this is because I was interested in learning about how technology is being utilized to teach the subject of History in general and not in any particular stream. Participating teachers also had to have been teaching with technology in History for at least five years. This criteria was important for understanding how these teachers have, or have not, transformed or adjusted their teaching practices – specifically their historical instruction – over time in response to emerging technological trends, and it was also useful for learning about their overall perspectives on changing classroom dynamics thanks to continuously evolving technological tools. Furthermore, participating teachers had to have had experience teaching both grade 10 History and upper level History courses; this criteria added richness and detail to my study since these teachers had various instructional experiences and perspectives to draw on when answering my interview questions. Finally, all of the teacher participants in this study had to be currently incorporating various forms of technology into their historical instruction and assessment; this was essential, since technology integration in the high school History classroom was the main focus of this study.

**3.3.2 Sampling procedures.** The selection of an appropriate method of sampling depends upon the nature of the study and its overall research objectives (Marshall, 1996). While quantitative research studies often use random sampling in order to locate and gather participants, this method is inappropriate for a qualitative inquiry since the aim of qualitative studies are not to simply maximize generalizability, but rather to develop an in-depth understanding of complex issues relating to human behaviour (Marshall, 1996).
There are three main sampling methods that are used in qualitative research: convenience sampling, purposeful sampling, and theoretical sampling. Convenience sampling is the least rigorous technique of the three, as it involves the selection of the most accessible participants (Marshall, 1996). Purposeful sampling involves the researcher deliberately selecting individuals that meet certain criteria and that can contribute the most to answering the overall research question (Creswell, 2007); in other words, informants are chosen because of their personal experience or knowledge of the topic under study. Lastly, theoretical sampling involves constructing theories from emerging data and then selecting a sample to examine and elaborate on these theories (Marshall, 1996).

Purposeful sampling is the most common sampling technique in qualitative research (DiCicco-Bloom & Crabtree, 2006; Marshall, 1996), and it is the primary method that I used in order to locate participants for my study. I created a list of criteria that my participants needed to meet in order to take part in my study, which maximized the depth, richness, and value of the data that I collected (DiCicco-Bloom & Crabtree, 2006). I did my best to contact school boards and/or teacher associations and provide them with an overview of my research study and my participant criteria, and asked that my information be distributed to teachers that they thought might fulfill my criteria. Providing my information to school boards and associations rather than asking for teachers’ personal information from the outset ensured that the teachers who ended up participating in my study were doing so on a completely voluntary basis. Moreover, due to the small-scale nature of the study and the methodological parameters that I was working with, I also employed the convenience sampling procedure and thus relied on my existing contacts and networks in order to recruit one of my participants.
3.3.3 Participant bios. Two participants were recruited for this research study. Both participants that I interviewed are currently secondary History teachers at publically funded schools in the Greater Toronto Area; I have assigned pseudonyms to each of them so that they remain anonymous throughout the study.

Michael is currently the head of History at the school in which he teaches, and he has been a teacher for almost twenty years. While Michael has taught several different subjects throughout his teaching career – including Math and English – according to him, History has been the mainstay from day one. While Michael has taught Grade 10 academic and applied Canadian History more times than he can count, for the last fifteen years his main focus has been on the senior History courses, such as Grade 11 Genocide and Grade 12 World History since the Fifteenth Century. Michael claims to have been using technology to teach History since 1999, and he says that he currently uses at least one digital tool in his History classrooms every single day.

Steven is also the History department head at the high school in which he is employed, and he has been a teacher for over fifteen years. Like Michael, Steven has also been teaching History from the very beginning of his career as an educator, and he too has taught a variety of History courses, such as Grade 10 academic and applied Canadian History, Grade 11 American History, Grade 11 World History to the End of the Fifteenth Century, and Grade 12 World History since the Fifteenth Century, to name a few. Steven also uses technology in his History classrooms on a daily basis, and he tries to incorporate it into most of his assignments as well; Steven actually created a Canadian History project centered around digital storytelling that ended up winning him a very prestigious award in Canada.

3.4 Data Analysis
Data analysis is one of the most complex and challenging stages of a qualitative research study (Creswell, 2007). In general, data analysis in standard qualitative research consists of preparing and organizing the data for analysis, reducing the data into themes through a process of coding, and then representing the data in figures, tables, or a discussion (Creswell, 2007). However, according to Creswell (2007), these processes of data collection, data analysis and report writing should not merely be seen as distinct, separate entities, because they are not. Rather, qualitative data analysis should ideally occur at the same time that data is being collected so that researchers can generate an emerging understanding of their research questions, which, in turn, will allow for more accurate sampling to take place as well as the formulation of a better, more useful interview protocol (Creswell, 2007; DiCicco-Bloom & Crabtree, 2006).

Before I began my data analysis I transcribed my interviews. From there, I began coding my transcripts by identifying categories of data and then searching for themes within those categories. Then, I looked at both of my interview transcripts beside one another, and found common themes and discrepancies in the data that were relevant to my research purpose and questions. Finally, once I analyzed all of my data I brought meaning to the information that I discovered by speaking about the significance of my findings.

3.5 Ethical Review Procedures

According to Creswell (2007), regardless of the approach to qualitative inquiry, a qualitative researcher will face several ethical issues during data collection, analysis and interpretation. As a result, researchers need to continuously anticipate the ethical issues that may arise during their studies, as it is their responsibility to try and eliminate, or at least mitigate, these potential risks. In general, researchers have an obligation to protect their research participants, develop a relationship of trust with them, ensure the integrity of the data being
collected and deciphered, and guard against any misconduct in the research process that could ultimately harm their participants (Creswell, 2007; Qu & Dumay, 2011; Tracy, 2010).

One area of ethical concern to keep in mind when conducting a qualitative study is that of confidentiality and consent. One of the most important things for a researcher to do in a study is make sure that the interviewee has freely volunteered to participate in the study and is aware of the nature of the research (Qu & Dumay, 2011; Tracy, 2010). Moreover, interviewees should be informed of their basic rights, including the fact that they may choose to withdraw their consent at any time or refuse to answer any particular questions (DiCicco-Bloom & Crabtree, 2006; Qu & Dumay, 2011; Tracy, 2010). In order to ensure that my participants were willingly taking part in my research study, they were asked to sign a consent letter (see Appendix A), which stated that they were agreeing to be interviewed as well as audio-recorded. The participants were also informed of the intended outcomes of the study, told that there are no known risks to participation in the study, and reminded that they could remove themselves from participation at any point, as this was all clearly indicated in the letter of consent.

Another ethical issue relevant to qualitative research and my study in particular is that of participant anonymity. According to Tracy (2010), researchers must safeguard participants from undue exposure by securing all research data in a locked office or drawer or a password-protected computer. Furthermore, privacy can be achieved through conflating data in strategic and creative ways, such as changing the names of research participants (Tracy, 2010). All of the data that I collected throughout my research study was stored on my password-protected computer, and it will be destroyed after five years. More importantly, each of my participants were assigned a pseudonym and any identifying markers related to their schools or students was removed; this step is especially important, since, according to DiCicco-Bloom and Crabtree
(2006), during the interview process “the interviewee may share information that could jeopardize his or her position in a system” (p.319). I anticipated that the participants in my study may be afraid of fully expressing their views on technology integration in History because their beliefs may conflict with those of the larger school community or even some specific colleagues, so I took all measures necessary to ensure that their privacy was being protected at all times, and continuously reminded them of the procedures I would be employing to ensure their anonymity so they would feel more at ease.

3.6 Methodological Limitations and Strengths

One of the limitations of this research study is its small sample size. Since very few people often participate in qualitative studies, the results are not generalizable to the population (Jackson et al., 2007; Tracy, 2010); therefore, although my research findings allowed me to learn about how my specific participants are integrating technology into their History classrooms, they cannot be used to generalize the experiences of History teachers more broadly. On the other hand, however, as mentioned earlier, one of the strengths of qualitative inquiry is its ability to provide researchers with rich and in-depth information about the experiences of individuals (DiCicco-Bloom & Crabtree, 2006). The one-on-one, face-to-face interviews that I conducted allowed me to gather specific, detailed, and individualized information about my participants’ lived experiences of using technology in their History classrooms – something I would have never received from a simple, general survey, for example. Moreover, according to Tracy (2010), despite the inapplicability of statistical generalization, knowledge generated through qualitative methods can still transfer and be useful in other settings, populations, or circumstances; instead of relying on formal generalizations, qualitative research can “achieve resonance through transferability or naturalistic generalization – processes that are performed by the readers of the
research” (p. 845). Although this study did not allow me to come to any robust, overarching conclusions about how or if all Ontario secondary History teachers are incorporating technological tools into their classrooms, as I already stated in Chapter One, my hope is that this study can serve as a useful guide to current and future History teachers alike who are reading about my findings because they are looking for appropriate, effective, and innovative ways to infuse technology into their classes, and that it may encourage those who are reluctant to use technology to enhance teaching and learning in History to begin that journey.

Another drawback of this study is its limited scope. Due to the ethical parameters of this MTRP, I was not allowed to interview anyone but teachers, and I was also not allowed to conduct classroom observations. Interviewing students about their views on technology and their experiences with it in the History classroom, and/or actually observing how my participants run their classrooms could have added multiple dimensions and perspectives to my research and provided me with intriguing and valuable information that may have advanced my study. Nevertheless, given my position as a teacher candidate, the opportunity to conduct in-depth interviews with educators provided me with invaluable insights into professional teaching practice.

3.7 Conclusion

In this chapter I explained the research methodology. I began with a discussion of my research approach and procedures, and elaborated on the meaning and significance of qualitative research while also highlighting some of the fundamental ways in which it differs from quantitative research. Next, I spoke about instruments of data collection in qualitative research and indicated that the semi-structured interview was my only tool for data collection used in this study; I also pointed out some of the advantages of semi-structured interviews and gave some
specific examples of questions from my interview protocol. I then addressed all methodological
decision-making pertaining to my research participants, including identifying and explaining my
sampling criteria, describing my recruitment procedures, and providing brief biographical
information on my chosen participants. Next, I described how I analyzed my data, and pointed
out some ethical issues relevant to my study such as confidentiality, consent, and data storage
while also discussing ways in which I mitigated these issues. Finally, I pointed out some
limitations of the study such as the scope and sample size, while also highlighting some of the
strengths, such as the acquisition of detailed, in-depth information from participants. Next, in
Chapter Four, I report the research findings.
Chapter 4: Research Findings

4.0 Introduction to the Chapter

In Chapter One of this research study I introduced my research problem, described the purpose of my study, laid out the questions that would frame my research, and explained how I became interested in exploring the incorporation of technology into the Ontario high school History classroom. Next, in Chapter Two I reviewed the scholarly literature related to the integration and utilization of technology in the high school History classroom. Then, in Chapter Three I described my research methodology as a qualitative interview study in which I recruited participants using a combination of both purposeful and convenience sampling.

In this chapter, I discuss and analyze the findings that emerged through the data analysis of the two semi-structured research interviews described in Chapter Three. Both of my interviews were conducted with high school History teachers in a southern Ontario school board who have been using technology in their classrooms for several years. My findings are organized into three main themes:

1. Perceived benefits of using technology in the high school History classroom.
2. The most pertinent challenges surrounding the use of technology in the high school History classroom.
3. “What is the value to the child?” The perceived importance of using technology in the History classroom in meaningful and transformative ways.

In each section I elaborate on one of these themes by introducing and describing the theme, integrating and analyzing the participants’ voices, and highlighting how my findings either align with, or diverge from, the existing literature reviewed in Chapter Two on technology integration in the high school History classroom. Moreover, in order to highlight the intricacies and multiple
layers of meaning embedded in the data, and to further organize the data, the first theme is refined into sub-themes. Finally, at the end of the chapter I summarize the key findings of the study.

4.1 Perceived Benefits of Using Technology in the High School History Classroom

Throughout their interviews, both of my participants highlighted several positive outcomes that arise as a result of utilizing technology in their high school History classrooms. In their experience, when digital tools are incorporated into the classroom in meaningful and effective ways, students’ engagement and motivation reportedly improves, the roles of the teacher and the students can begin to change, historical resources and perspectives are made available in large quantities and at a faster pace, communication and collaboration amongst students can increase, enriched learning can occur, and differentiated instruction can become easier to implement.

4.1.1 Student engagement and motivation is enhanced. Both of my participants perceived that the constant and ever-changing use of technology in their History classrooms can and does increase students’ overall engagement and motivation. Getting students interested in and excited about the study of History was clearly of particular importance to each of my participants, as they both mentioned that they were well aware of the “bad” reputation that History has amongst the majority of high school students today, and yet they adamantly insisted that they were determined to change this reality. Michael asserted that History is “commonly known as the most boring and least useful subject on the planet” largely because of the way in which it is taught, and so he makes it a point to use technology in his History classes in order to “spice things up a bit and create a great classroom experience that’s meaningful to [students].” Michael’s belief concerning the reason for student disinterest in History is consistent with the
observations Heafner (2004) made when conducting her case study of a high school History classroom, as she too found that students’ lack of interest and motivation in History can result from the instructional methods utilized by teachers when disseminating historical information to a class. More importantly, Michael also mentioned that when technology is incorporated into his History classes the students are always excited to learn and eager to participate in class, making the learning process much more “invigorating, rigorous, and rewarding.” In a study that focused on observing three History classes where teachers were using a web-based learning environment called the Virtual History Museum (VHM), Okolo et al. (2007) also found that students eagerly approached lessons and tasks in History when they were able to use technology, since it was an instructional tool which they had the knowledge, skill, confidence, and interest to use.

Like Michael, Steven also recognized the importance of arousing passion and enthusiasm in students when teaching History, as he acknowledged that “if students are bored, if there is no engagement, [then] no other initiative has any value.” Additionally, like Michael, Steven also credited technology as the main source of student motivation and engagement in his History classes. He noticed that utilizing technology in his History classes easily engages and motivates his students because when he is using technology, or encouraging the students to use it, he is allowing them to learn in their own “language”, and for today’s students that language is a “digital, global language.” For example, Steven shared that whenever he asks his students to conduct online research on a historical battle on the classroom computers or their phones, or whenever they are asked to complete online simulations, there is never any “fussing or diddy-daddling…the students get straight to work, and they are excited about the work they are doing.”

In her case study, Heafner (2004) also discovered that when students are able to use computers in class, whether to search the web for historical resources, participate in online activities, view
documentaries, and so on, they exhibit excitement about learning and confidence in their abilities to complete the task as a result of their familiarity with technology, causing them to become deeply engaged in their work and eager to complete it. As indicated by my participants and the research, classrooms enhanced by technology can create an atmosphere where students can get excited about their learning and thus become more inclined to develop their expertise in History.

4.1.2 The role of the teacher and students is transformed. In addition to reportedly increasing student engagement and motivation, my participants observed that using technology in the high school History classroom has caused the traditional student and teacher roles to change. More specifically, my participants’ responses indicated that incorporating various technological tools into the classroom in myriad purposeful ways can allow teachers to stop being the center of attention, and, more importantly, it can allow students to take control of their learning and thus become more independent and critically-minded.

When reflecting on the various positive effects that technology has had on students in his History classes, Michael revealed that he no longer sees himself as the “commander of all knowledge”, as the introduction of digital tools into his classrooms has pushed students to “own their learning”, make their own discoveries, and construct their own knowledge, therefore allowing students to “understand that learning is for them”, not for him. Instead of standing in front of his students and talking at them for 75 minutes, Michael gives students the freedom to search the web, view documentaries, and navigate multiple online archives in order to learn about significant historical events and individuals at their own pace, on their own or in groups. It is important to point out, however, that although Michael does not lecture to his students, he is reportedly always there to offer guidance and support.
Like Michael, Steven also perceives that introducing technology into his classroom has caused a shift in the focus of History instruction from a teacher-centered transmission model to a model that encourages student inquiry and exploration. At several times throughout his interview Steven referred to himself as a “facilitator”, “master learner”, and “lead learner”, as he explained that he believed technology “has completely changed the dynamic and the value of the History teacher.” In Steven’s opinion, when technology is used in the classroom in authentic and effective ways, the teacher is no longer the purveyor of all information, but rather plays the role of facilitator, setting goals and providing resources, suggestions, and support. Often, in his History classes, Steven divides students into groups, gives each of the groups a big idea, event, or important person that they must know about before they leave the class, and then instructs students to research their topics on the school computers or their own devices. Before students begin researching, he also informs them that they will be required to present the information they find to the class in an exciting and informative way – for example, through pictures and guided explanation, a video, a Prezi, and so on. Steven claimed that every time he asks students to engage in activities or learning tasks such as these, “within thirty seconds, they don’t need [him] anymore, [he’s] just facilitating.” Steven enjoys watching students take charge of their own learning and, in fact, in his opinion, the greatest thing that technology gives History, the “gold medal”, as he calls it, is “student empowerment…putting students at the center of their learning and their choice” because “that’s what modern learning is all about.”

The literature on technology integration in the History classroom falls in line with Michael and Steven’s beliefs and observations concerning the changing dynamic of History classrooms as a result of technology. Several studies found that when technology is incorporated into the History classroom in rich and effective ways, students are able to become active learners
and participants in knowledge construction, rather than merely passive listeners and consumers of information received from their teachers (Bass & Rosenzweig, 1999; Heafner, 2004; Swan & Hicks, 2006; Swan & Locascio, 2008). In particular, the educators who Bass and Rosenzweig (1999) interviewed in their study reported that technology use in their History and Social Studies classrooms resulted in their stepping away from the front of the classroom and students using their independent, critical, and creative thinking skills in order to actively think about information, make choices, and execute tasks, therefore enhancing and authenticating their overall learning experiences.

4.1.3 Quicker and increased access to historical resources and perspectives. While my participants made it a point to discuss the way in which the incorporation of technology into the History classroom reportedly helps to alter the roles that are traditionally assigned to both teachers and students, they also focused on how, in their experience, using technology in the History classroom allows for the ready and speedy availability of an abundance of historical resources and perspectives, resulting in a more meaningful and well-rounded learning experience for students. Michael explained that he conducted an experiment with his History class last year where he sent one of his students down to the library to find a book that stated the population of a certain country, and then asked that student to look up the same question on his phone when he returned to class. He went on to say:

I told the kids that when I went to school if I wanted to know the population of a country, I had to go to the library and look through books until I found the answer …so one day, as an experiment, I sent a kid down to the library to find the population of a country, I can’t remember which one, and the other students and I timed him as he did it. It took about fourteen minutes for him to go there and come back, and when he came back he
said, “as of 1996 the population of the country is blank.” So then I told him, okay, now use your phone and ask Siri what the population of that same country is today, so he did it, and BOOM! There was the answer, just like that… and it was a much more updated one of course, and he received the information in just a few seconds.

Michael mentioned that he conducted this experiment because he wanted his students to recognize that thanks to technology, we really do all “have access to information at our fingertips.” He also claimed that this quick access to information keeps students “on their toes” and, more importantly, it encourages them to continue their historical research and thus expand their historical understanding since they are able to retrieve knowledge so rapidly and efficiently.

Similarly, Steven observed that technology allows students – especially those in History looking for basic facts and dates – the opportunity to retrieve information “almost instantly”. He said:

Information is everywhere today – it’s not a secret, and it’s definitely not hard to find. If students want to know when Cleopatra lived, that’s no secret, and instead of taking the time to rummage through their textbooks for that information, if it is even in there, they can simply go on their phones, or on their computers or tablets and look it up, and there are five million hits within 0.01 seconds online now.

These observations made by Michael and Steven are consistent with Doppen’s (2004) findings from his case study of four beginning Social Studies teachers; he found that, as a result of the recurrent use of the Internet in each of the teacher’s classrooms, students had both direct and fast access to the raw materials of History. Moreover, Doppen found that the search functions available on the Internet made it a lot easier for students to locate and manipulate information,
which encouraged them to continue their explorations and thus hone their historical research and thinking skills.

In addition to allowing historical information to be made available at an incredible speed, using technology in the high school History classroom can give students access to a wide range of historical resources and perspectives that they would otherwise not have access to. Michael observed that technology has allowed his students to access “so many millions of primary documents that were never before available in hard-copy form”, which enables them to engage in deeper and more authentic exploration of events and individuals, resulting in an increase in historical understanding. Furthermore, Michael spoke about a situation in one of his History classes where he introduced his students to an ongoing technological project that exposes individuals visiting a certain site to a hologram of an actual Holocaust survivor:

We had a Holocaust survivor who came in to the school years ago and spoke to students, and he’s now a hologram… Students around the world can “meet” with him and ask him questions about his life and all his experiences throughout the Holocaust, and he will respond to the questions. He has a bank of like 17 000 questions or something ridiculous like that…so I showed this online project to my students this year, and man, were they intrigued…they immediately insisted on learning more about the Holocaust and the man behind the hologram, it was great.

Michael’s story is a perfect indication of the incredible, and diverse, number of historical resources that technology can make available to students. Steven also pointed out that there is a whole host of “phenomenal, interactive, multi-layered websites and online resources for every course in [the] Canadian and World Studies Curriculum” that can potentially enrich the learning
experiences of students by exposing them to new ways of interpreting, understanding, and learning about History.

Both Michael and Steven observed that access to, and utilization of, digital historical archives and other resources can allow for a departure from the rote memorization and regurgitation of factual material that is most commonly associated with History instruction, and instead can encourage students to develop their critical thinking and analysis skills. Moreover, they perceived that having a wide-range of online historical resources at their disposal can expose students to a variety of source types (for example, print, audio, video, etc.) and perspectives on any given subject, which can ultimately widen their horizons and increase their understanding and appreciation of History. Once again, my findings are similar to those of Doppen (2004) in his study, as he found that the Internet was allowing students to gain access to a multitude of authentic primary resources that previously were only available to professional scholars, thereby enabling students to engage in real historical thinking and inquiry. Overall, it is clear that digital learning environments can potentially grant today’s students greater access to historical documents and records while also potentially creating more realistic, vivid and varied opportunities for students to engage with history.

4.1.4 Increased communication and collaboration amongst students. Aside from allowing for quicker and increased access to historical resources, participants reported that integrating technology into the high school History classroom can significantly improve student communication and collaboration. Both Michael and Steven notice that the use of digital tools such as Google Classroom in their own classrooms creates multiple opportunities and platforms for all students to work together by sharing ideas, solving problems, or providing feedback.
Steven in particular was fairly enthusiastic in his interview when delivering his response to a question about whether or not technology has increased student collaboration and communication, as he insisted that “GAFs – Google Apps For Education, have changed everything.” When expanding upon the reason behind his emphatic response, Steven told me a short story that proved that a digital application such as a Google Doc can indeed enhance student collaboration in positive and purposeful ways. He stated:

One year I had my History class of thirty-two students working collaboratively under pressure because at the very last minute I was asked to do a multimedia presentation for Remembrance Day because someone got sick. I only had 48 hours. Thirty-two children were simultaneously, concurrently creating this document. I was yelling like a newspaper editor of the 1970s and we were creating this school wide Remembrance Day presentation together … the students were working on it at night too and I could see their comments and their feedback, and I was able to offer them some tips… and just like that it was done, and we did it as a group.

The collaborative component of Google Docs allowed Steven to accomplish a last minute task that would have probably never been completed without the help of his students. More importantly, his students were able to experience what it was like to use technology in order to work together to complete a large and important task. Thanks to Google Docs, all thirty-two students in Steven’s class were able to come together and work on the project at the exact same time, while also offering feedback to one another and receiving guidance from Steven in the process, even when everyone was no longer physically together in class.

In addition to using Google Docs in order to foster greater student cooperation and sharing of ideas, in his interview Michael mentioned that for the past few years he has been
focused on introducing collaborative assessment into his classrooms using Google Docs as well. He stated that one of the great things about using technology in the classroom is that students can “harness [it] to gain access to as many of their peers, and even as many experts in a certain field as possible; and in the classroom pre-technology, that was a very difficult thing to do.” Google Docs allows Michael’s students to reportedly become a part of the evaluation process when it comes to their work, as he teaches his students how to provide proper feedback to their peers and then has each of them comment on one another’s work inside a Google Doc; this allows students’ work to be evaluated from a multitude of perspectives.

Heafner’s (2004) case study of a high school History teacher did not mention observing students engaging with Google Docs specifically, but her findings are significant and relatable to those of Steven’s and Michael’s nonetheless. As Heafner (2004) observed the students in a History classroom, she too discovered that when students were able to use technology to complete class work or assignments, they felt much more comfortable and confident, and were therefore willing to both brainstorm ideas and share their work with their peers. Overall, there is growing evidence that the diffusion of digital tools into the History classroom can provide safe, familiar, and interactive platforms on which students can receive support, share their thinking, exchange ideas, and collaborate with classmates.

4.1.5 An overall enriched learning experience and greater opportunities for differentiated instruction. In addition to reporting that technology use in History leads to increased communication and collaboration amongst students, throughout their interviews both of my participants clearly outlined some of the specific ways in which they use technology in order to enrich the learning experiences, and consequently the historical understanding, of their students. Moreover, my participants reported that using technology in their History classrooms
provided them with more opportunities to differentiate their lessons and assignments in order to meet the diverse needs of learners.

When asked about the specific technological tools or devices that they personally use in their History classrooms, both Michael and Steven managed to quickly name more than a dozen off the top of their heads. Some of the devices and applications that they both mentioned include: computers, Google Applications, YouTube, Prezi, iMovie, Final Cut Pro, Kahoot!, Movie Maker, Photo Story, televisions, DVD players, Moodle, and online historical simulations. Steven also mentioned that he enjoys having students listen to bits and pieces of lectures from “MOOT courses”, which stands for “Massive Open Online Courses.” He explained that he finds these courses and the lectures within them extremely useful when teaching senior level History courses, as the students are being exposed to “a multitude of well-known published scholars that are experts in their fields.” Moreover, Steven observed that these online courses are appealing to students because they are found on iTunes, an application they are familiar with, and, more importantly, an application they can access even when they leave the classroom.

When asked how often he uses technology in his History classroom, Steven replied by simply repeating “Every. Single. Lesson.” twice, but he also revealed that the actual way he uses it differs from day to day. He also mentioned that he even tries to consistently bring technology into his History assignments in an effort to make things more “relevant and appealing to students”. In fact, Steven created a History project centered around technology that actually ended up winning him a prestigious award which recognizes excellence in teaching. Like Steven, Michael also constantly incorporates technology into his lessons in various ways. He reportedly strives to use technology in order to “eliminate the front of the room” and encourage students to interact with one another and construct their own knowledge. Michael explained that
even when he does deliver the occasional lecture, he uses technology in order to make the learning experience interactive:

I’ll use Google Slides and I’ll have certain slides that have gaps in the information and we will try and fill them in together. Or, I mean, especially in History classes, if we’re talking about something current like the American election, you know, no one person, no teacher can have all the answers, but if you can engage a group of thirty people and say let’s fill in some of these gaps together, let’s ask questions and add facts, then you can build a resource together.

Furthermore, according to both Michael and Steven, one of the best things about incorporating technology into the History classroom is that it makes differentiated instruction “much less painful”; they both use technology in order to differentiate their lessons and their assignments, since, as Michael explained, “it is easy to give students options when using technology.” Similarly, while observing three History classes where teachers were using a web-based learning environment called the Virtual History Museum (VHM), Okolo et al. (2007) found that because the online forum was so easy to access and manipulate, teachers were able to quickly and effortlessly create multiple supported versions of certain activities for students who had a variety of different needs and skill levels. All in all, it is clear that technology can allow History teachers to be dynamic, creative, and equitable in their teaching practice, ultimately leading to enriched learning experiences for all students.

4.2 The Most Pertinent Challenges Surrounding the Use of Technology in the High School History Classroom

Although my participants noted several significant advantages to incorporating technology into their History instruction, they also acknowledged that technology integration in
the high school History classroom does not come without challenges. While certain issues surrounding technology integration in school settings – such as insufficient infrastructure or lack of administrative support – can serve as potential barriers to all teachers of any subjects in generally the same way, throughout their interviews both of my participants indicated that one of the most significant challenges surrounding the use of technology in the History classroom in particular is that access to too much historical information on the web can be overwhelming and onerous, for students and teachers alike.

While Michael and Steven praised technological tools like computers for granting students access to seemingly endless amounts of historical resources and perspectives (as discussed in section 4.1), interestingly, they both also observed that this open access to a vast world of websites, documents and databases is not devoid of complications. Michael explained that there are times when his students reportedly find themselves “super confused” over a task as simple and straightforward as going on the computer to find a couple of useful news articles related to D-Day. According to Michael, as soon as the students type ‘D-Day’ into Google or a database, “they are bombarded with millions of results, which makes them seriously question which articles they should choose”, leaving them feeling frustrated and defeated. These observations made by Michael are consistent with findings made by Doppen (2004) in his case study of four novice teachers’ integration of technology into their History classrooms. In addition to observing and interviewing the teachers that were a part of the study, Doppen (2004) interviewed a handful of the students from each class as well. When asked to express how they felt about having to conduct historical research on the Internet on their own, the students claimed that they really enjoyed using computers whenever they could since it made History more interesting, however they also admitted that it was sometimes really difficult to decide which
information to pay attention to and which to ignore, since there was always so much of it; certain students even mentioned that there were times when they would get so frustrated and overwhelmed by all the material present that they would just abandon their searches all together (Doppen, 2004). Both Michael’s account and Doppen’s findings reveal that even though young students often take pride in knowing their way around technology, something as seemingly “simple” as a basic Google or database search for historical resources can leave them feeling out of their element, which can, in turn, lead to feelings of apprehension and uncertainty. Although Michael could have chosen the D-Day articles himself and simply handed them out to students, he mentioned that he wants his students to work on developing their research skills since, in addition to there being too much historical information on the internet, what is found is often “notoriously inconsistent.” Students often accept the veracity of online information much too easily (Beineke, 2011; Moss, 2004), so Michael has been teaching his students the difference between “good, and accurate, information, and information that is just total crap.”

Certain comments made by Steven in his interview were strikingly similar to some of those made by Michael; in particular, when discussing both the blessings and the curses that technology has brought to the study of History specifically, Steven’s response concerning teachers’ perspectives on the overabundance of historical information found online sounded a lot like Michael’s:

One thing that History teachers have told me in conversations is that there is so much digital information available for History teachers to enrich their classrooms that it is almost to the point where it is saturated and there’s too much, so you become overwhelmed. If your teaching Ancient Civilizations, there are so many websites from England, from the States, that you almost have to spend hours figuring out what is going
to fit best with your curriculum, what is going to fit best with your learners … so that’s a problem – that there is too much, that you have to wade your way through all of the information.

Both Michael’s and Steven’s comments reveal that even when teachers decide to search the web for rich, authentic and engaging historical information and teaching resources, just like students, they too can find it difficult and extremely time-consuming to sift through everything that is made available. Moreover, according to Michael, sometimes even the simple fact of knowing that there is so much information available about historical topics online can leave teachers, and even students, feeling overwhelmed, since “there is then this pressure to become an expert on everything and to know absolutely everything.”

Like Steven and Michael, the three high school teachers who participated in Swan and Hicks (2006) study praised the Internet for giving them access to an abundance of rare primary source documents that they would have otherwise never had access to; however they too mentioned that it took them hours to choose the ones that would work best in their classrooms, which often left them feeling stressed. Moreover, all three teachers in the study indicated that they usually refrained from having their students search for primary sources on their own, as it often overwhelmed and confused the majority of them (Swan & Hicks, 2006). Both my findings from my interviews and those from educational research suggest that few educators have the time, and few students have the patience and the skills, needed to keep up with the rapidly evolving collection of online historical resources. Nonetheless, while navigating through all of the information found online may sometimes prove to be a daunting and exhausting task for both educators and students, the many benefits that arise as a result of technology use in the high
school History classroom outlined throughout the entire first section of this chapter suggest that the benefits may outweigh the challenges involved.

4.3 “What is the value to the child?” The Perceived Importance of Using Technology in the History Classroom in Meaningful and Transformative Ways

Despite being aware of some of the challenges that may arise when trying to infuse technological tools into the high school History classroom, my participants appeared to remain steadfast in their commitment to continue utilizing digital tools in their classrooms. In fact, throughout their interviews my participants expressed how important it was for all History teachers to understand that not all technology use in the classroom is created equal; simply incorporating digital tools into instruction and assessment does not automatically translate into sound practice.

When asked whether or not he believes all technology use in the classroom is good technology use, Steven revealed that he has both seen and heard about many History teachers who tend to use technology as an add-on component to already established course work, rather than using it as a tool to deepen students’ historical understanding or transform their overall learning. For example, he perceived that even though teachers may be incorporating PowerPoints into their lectures, most of them are not doing anything with those PowerPoints other than delivering the exact same content that would have been delivered had a “chalk and talk” method been used. When attempting to delve a little deeper into his answer in order to justify his response, Steven explained:

I mean, all educators need to push themselves to create a more relevant and authentic classroom. So what I’m saying is, there is nothing wrong with PowerPoint still, but do something that actually replaces the concept of just dumping pictures and words into a
PowerPoint…something more creative, something more sophisticated, something more, um, authentic…Give them [the students] a challenge. Give them a problem that they have to solve, or resolve…a dilemma, a quandary…So some teachers mean well, and they use technology or incorporate technology, but I think I’m just trying to ask in a friendly manner for people to think a little bit more deeply about what their doing with their practice.

Steven went on to say that he believes some History teachers use technology simply because they feel as though it is a “wave that [they] need to be riding on”, and not because they know how to, or necessarily even want to, utilize it in their classrooms in order to develop students’ thinking and deepen their learning. Steven also perceived that most teachers believe using technology of any kind, and in any way, inevitably translates into effective and original teaching; however, according to him, this “could not be any farther from the truth.” This same sentiment is echoed in Swan and Locascio’s (2008) study of three American History teachers, as they also found that two of the participants assumed that using digital primary sources in their classrooms automatically translated into historical thinking and technology best practice, which did not end up being the case; instead, Swan and Locascio (2008) discovered that students were left confused and frustrated when trying to interpret and unpack the primary source documents on their own.

When answering the same question, Michael’s opinion echoed Steven’s, as he too proclaimed that there is indeed a difference between good technology use and bad technology use in the History classroom. He provided an example of teachers who just digitize all of their worksheets and insisted that this “does nothing to transform students’ learning…it has no purpose, other than maybe saving paper.” In Michael’s opinion, if teachers are not using technology “to guide and direct purposeful learning, then technology is nothing more than just a
gimmick or a toy.” Evidently, like Steven, Michael sees no use in teachers using technology in their classrooms if their use of that technology does nothing to extend or redefine student learning.

Both Steven and Michael’s responses demonstrate that they believe the first and most important principle of technology integration in the History classroom is that the focus should be on the outcome of instruction, and not on the technology itself. A similar idea is highlighted in Mishra and Koehler’s (2006) Technological Pedagogical Content Knowledge (TPCK) framework discussed in Chapter Two, as they too insist that skilful integration of any piece of technology demands a more intentional approach to its instructional use, and an understanding of how teaching and learning can be changed as a result of the technology being used. Steven claimed that when teachers are thinking about how and why they are going to integrate technology into their classrooms, they should always be asking themselves “What is the value to the child?” rather than “What technology is cool, or easy, to use?” He reported that when technology is used solely for the sake of doing something innovative and different, “teachers fail to take advantage of all that technology has to offer in terms of supporting and transforming students’ learning.” On the other hand, when teachers actually take the time to ensure that the technological tools they use, and the ways in which they use them, are adding to the educational experience in some way, they create opportunities for the development of critical and creative thinking, student choice and student voice, flexible learning, and other important 21st century competencies.

4.4 Conclusion

Throughout this chapter, I presented and discussed the findings that emerged from analyzing my two qualitative research interviews. First, these teachers see several significant
benefits of infusing digital tools into the high school History classroom: the reported improvement of student engagement and motivation; the move towards student-centered learning; rapid, convenient access to an abundance of historical resources and perspectives; reportedly greater communication and collaboration amongst students; and reportedly greater access to opportunities that allow for enriched student learning, dynamic teaching, and differentiated instruction. Second, these teachers feel that one of the most pressing challenges facing History teachers and students alike is learning how to search for reputable historical resources online without becoming overwhelmed in the process, and finally, I learned that not all technology use in the History classroom is created equal. Overall, conducting this research study and subsequently analyzing my findings has revealed that integrating technology into the secondary History classroom can be beneficial and effective, but only if it is done meaningfully and appropriately. It is not simply technology use alone that makes a historical lesson engaging and useful for students – it is how educators choose to make use of technology that ultimately determines a lesson or assignment’s transformative power in terms of the overall learning experience of students.

Next, in Chapter 5, I will discuss the implications of my research for the educational community as a whole and for myself as a teacher and researcher. Additionally, based on my findings in this chapter, I will share some recommendations that I have for various stakeholders in the educational community, such as high school administrators introducing more professional development opportunities in the area of subject-specific technology integration, or teacher education programs in Ontario having teacher candidates take technology-focused teachable courses. Finally, I will note potential areas for further research and then go on to officially conclude my entire research study.
Chapter Five: Conclusion

5.0 Introduction

In this final chapter, I provide a brief overview of the study’s key findings and their significance as revealed at length in Chapter Four, and I discuss some implications of these findings for both the larger educational community and myself as a teacher and researcher. Next, I provide some recommendations surrounding technology use and high school History that follow from the broad implications that were made, and propose some areas for further research in the field. Finally, I end off the chapter, and consequently this entire research study, with some concluding remarks that speak to the significance of my study and my hopes for its future use.

5.1 Overview of Key Findings and Their Significance

The qualitative, semi-structured interviews that I conducted with my two research participants produced three major findings regarding technology use in the Ontario high school History classroom. First, both of my participants reported that several positive outcomes occurred as a result of the incorporation of digital tools into their History classrooms. The most significant benefits that my participants mentioned observing included: increased student engagement and motivation; a move towards more active, student-centered learning; quicker and increased access to an abundance of historical resources and perspectives; increased communication and collaboration amongst students; and greater opportunities for my participants to be dynamic in their teaching practice by providing differentiated instruction to meet the diverse needs of learners. This overall theme, and the multiple sub-themes embedded within it, is important because it showcases the enriched learning experiences that students can be exposed to when technology is meaningfully infused into the History classroom and curricula. Moreover, both my interview findings and the existing educational research in the area of technology
integration in secondary History suggest that History classrooms enhanced by technology can create a familiar, comfortable, and invigorating atmosphere where 21st century learners can get excited about their education and thus become more inclined to develop their expertise in History.

This study also revealed that although there are several advantages associated with technology integration in the high school History classroom, this pedagogical practice does not come without its challenges. Both of my participants perceived that access to too much historical information online is often the most challenging aspect of technology integration in the high school History classroom in particular. For instance, Michael and Steven observed that something as simple as navigating the web for a single article or primary source document could turn into a frustrating and overwhelming experience when students’ – and even teachers’ – searches yield hundreds, if not thousands, of results. This finding is significant because it suggests that incorporating technology into the History classroom may not always be the simple and immediate educational miracle that it is usually made out to be. My interview findings and those of the existing educational research (e.g. Cantu & Warren, 2003; Doppen, 2004; Okolo et al., 2007) suggest that if teachers want to actively engage students in the heuristics of reading, sourcing, researching, and doing historical investigations online, then they must dedicate extra time to equipping themselves, and especially their students, with the research skills necessary to both effectively navigate online databases, search engines, and news forums, and subsequently evaluate the sources, articles, and stories that they discover.

Finally, the participants in this study reported that not all technology use in the high school History classroom is created equal; in other words, simply incorporating technology into the classroom does not automatically translate into sound practice. Both Michael and Steven felt
that instructional strategies such as digitizing worksheets or broadcasting words and pictures onto a PowerPoint were completely futile because they do nothing but act as a direct substitute for hard-copy worksheets and writing notes on the chalkboard. They insisted that technology integration in the History classroom is only useful when it is used in order to deepen students’ thinking and/or transform their learning by exposing them to learning opportunities that they would have never had access to without technology – such as virtual worlds or museums, simulations, historical websites and archives, etc. This finding is significant because it enables educators and researchers to understand that technological tools do indeed have the potential to extend and transform students’ historical understanding, but only if they are used as more than just a mere gimmick or toy. Careful consideration has to be given to how, when, and why digital tools are going to be introduced into the History classroom, as only then will their presence add to the educational experience.

Overall, each of my study’s major findings further reinforce many of the findings conducted by previous educational researchers surrounding the benefits, challenges, and appropriate use of technology in the high school History classroom. More importantly, because there seems to be a lack of research dedicated to exploring teacher practices surrounding technology integration in high school History classrooms in Canada or Ontario in particular, perhaps the findings of my study can ultimately help fill a gap in this area.

5.2 Implications

In the following sub-sections, I will share implications that have arisen from the research findings of this study. I will begin by discussing the implications that pertain to the broader educational community, paying particular attention to students, teachers, school administrators, policymakers and teacher education programs. Next, I will move on to exploring the study’s
more narrow implications by discussing their impact on my own professional identity and practice.

5.2.1 Broad: The educational community. The findings of my study produced various implications for myriad stakeholders within the broader educational community. To begin, my interviews with Michael and Steven revealed that they were extremely confident in their abilities to integrate technology into their respective History classrooms in relevant and meaningful ways; however, both participants made it clear that their comfort with technology and, more specifically, their growing expertise in the area of digital tools and History in particular, was a result of years of their own personal exploration and efforts, rather than a result of access to professional learning opportunities. This finding suggests that teachers who express a high degree of comfort with using technology may be completely self-taught. Going further, this finding also suggests that teachers who lack the extra time required to become self-taught technology experts may never possess the skills and confidence necessary to meaningfully and seamlessly infuse the medium into their instructional practice, which may also inadvertently limit the learning opportunities available to students.

At several times throughout their interviews, Michael and Steven openly discussed knowing colleagues in their History departments – and beyond – who possess a strong desire to begin incorporating technological tools into their teaching, but who refrain from doing so because they lack the proper experience and knowledge to do so in effective and invigorating ways. The implication of this finding extends to school administrators and possibly even larger school boards, as it suggests that there may be a lack of professional development in the area of technology integration both in the classroom in general, and in History (or rather any subject-specific) classrooms in particular. This finding could also suggest that technology integration in
History may not be a top priority to my participants’ school administrators, or perhaps that their schools have other more pressing issues that demand the principal’s attention and/or money. Furthermore, the issue of teacher discomfort surrounding technology use that my participants discussed in their interviews and that I mentioned above may shed light on a larger issue that extends beyond specific school administrators or larger policymakers. Michael and Steven’s observation that many of their novice and veteran colleagues refrain from using technology in their classrooms due to feelings of unpreparedness imply that Ontario teacher education programs may not be properly equipping future high school educators with the technological pedagogical tools necessary to not only teach today’s learners, but also actively promote the goals of 21st century education, such as critical thinking, collaboration, creativity, and digital, global citizenship.

Finally, in their interviews, my participants reported that in addition to using technology in their History classrooms to extend learning opportunities, they also use it in order to engage students in a subject that research (Bain, 2006; Cantu & Warren, 2003; Haydn & Harris, 2010), and experience, proves they would otherwise find extremely irrelevant and boring. Both of my participants pointed out that although the Ministry of Education’s Canadian and World Studies curriculum documents for both grades 9 and 10 (2013) and 11 and 12 (2015) clearly address the role and importance of Information and Communications Technology (ICT) in the Canadian and World Studies program in general, as well as in the study of History more specifically, this information is only a part of the front-matter of these curriculum documents; there are no specific technology requirements for individual History courses, which is why Steven continuously insisted throughout his interview that History teachers revisit the front-matter of their curriculum documents yearly. These findings suggest that as it stands, the Ontario high
school History curriculum may not be applicable to 21st century learners who use technology in their everyday lives, and consequently speak a “digital, global language” according to Steven.

When examining this finding from the standpoint of students as stakeholders as well, it can be said that the majority of students’ disinterest in History may stem from the fact that the way in which the subject is often taught is not reflective of how today’s students learn.

**5.2.2 Narrow: My professional identity and practice.** As a future secondary History teacher who intends on incorporating various technological tools into my classrooms and curricula, the findings of this research study inevitably produced many implications for my own professional development and practice.

First, this study made me realize how important it is for teachers to view themselves as lifelong learners. Throughout their interviews, both of my participants continuously discussed their independent efforts to discover new technologies, teaching techniques, and strategies that would allow them to hone their craft and remain on the cutting edge in their fields. Their efforts prove that despite the absence of professional development opportunities, my participants were determined to better themselves as teachers in order to better the learning experiences of their students by both teaching with, and giving them access to, digital tools that had the opportunity to extend and ultimately transform their learning. As a future teacher, my goal will be to adopt, and subsequently never abandon, the lifelong learner mindset that both my participants clearly possess. In order to keep up with rapidly evolving technological tools and educational strategies, I can continuously seek out professional development opportunities (if they are made available) or workshops in the area of technology integration in general or high school History classrooms in particular; however, whether these formal professional learning opportunities are made available to me or not, I can still make it a point to set aside some personal time to conduct my
own individual explorations and construct my own knowledge surrounding technology and History instruction, and thus become an expert in my own right.

Moreover, my participants’ explanations of their ongoing efforts to expand their technological pedagogical repertoires also served to further confirm my belief that becoming an innovative and effective educator takes a lot of time and dedication. Learning how to incorporate technology into my History classrooms in relevant and meaningful ways will not just happen overnight, but as is evidenced by the experiences of my participants, if I remain committed to improving, expanding, and adapting my teaching practices in order to better meet the demands of 21st century learners, then both my students and I will ultimately reap the benefits.

During their interviews, both of my participants mentioned surrounding themselves with a network of colleagues who possess the same goals and growth mindset as themselves, and they discussed the many advantages that can arise as a result of these connections. This finding enabled me to understand that as a teacher, it will be important that I try and build positive and fruitful relationships with my History-teacher colleagues who consistently use technology in their classrooms. Learning from and with others can be a powerful experience, and since I will not have an abundance of teaching experience under my belt as soon as I become a full-time educator, hearing from others who have experienced both tremendous successes and significant setbacks in relation to technology integration in the History classroom will be especially helpful.

Although I grew up with access to technology both at home and in school, I realize that not all students will enjoy the same privileges as I did. After reviewing the literature and listening to my participants speak about equity issues surrounding access to technology inside and outside their schools, I have learned that part of my responsibility as a teacher will be to ensure that each and every one of my students has equal access to technology in my History
classroom. If issues of access are a problem either in school or at home, then I will need to be prepared to accommodate them to the best of my abilities.

Lastly, this study has opened my eyes to the fact that the ultimate purpose of schooling is to prepare students for life beyond a school’s four walls. In their interviews, both my participants explained how their technology-infused historical lessons and assignments are important because not only do they teach students historical content, they also allow students to acquire skills that will ensure their success in a rapidly changing and increasingly digital world. Therefore, as a future History educator, my job will be to design lessons and activities that will enable my students to develop their creativity, critical thinking, communication, global awareness, and digital literacy so that they will be equipped with the tools necessary to adapt, achieve, and excel in all areas of life, both in the present and the future.

5.3 Recommendations

In light of the broad implications of this study, several recommendations for various stakeholders in the educational community can be made. First, high school administrators, or possibly even more powerful school board representatives, should institute more professional development opportunities for teachers in the area of technology integration in education. A more specific recommendation that would inevitably demand more time and resources, but that would undoubtedly be even more effective than the first suggestion, is for administrators to introduce professional development opportunities focused on technology integration in subject-specific areas. Participating in technology-focused, subject-specific professional development would allow educators to receive in-depth training on the multiple ways in which technology can be used to enhance their particular discipline; in addition to learning about general technologies that can be used in any classroom, educators would get the chance to be introduced to multiple
technological tools reserved for their subject alone. Since this may be a slightly more long-term recommendation, a temporary short-term solution for History in particular would be to have the History Department head, or perhaps any other technology expert in the department, begin conducting informal workshops for colleagues who are unsure about the most effective ways to incorporate digital tools into historical instruction.

Second, since it has been made clear throughout both the literature (Case & Gini-Newman, 2010; Cantu & Warren, 2003) and my participant interviews that teaching with technology is soon – if it is not already – going to be one of the most important ways to truly engage and motivate 21st century learners, especially in a subject as “boring” as History, then if they have not done so already, high school administrators should begin working towards allocating a substantial portion of their school’s budget to renew or further expand their school’s technological resources. In addition to further modernizing their schools (which should be a goal of all educational institutions today) this move by administrators would ultimately result in a shift towards a more equitable school environment, as students who cannot afford their own personal digital devices would now be able to use the school’s resources in order to participate in the same online world as their more privileged peers.

Third, as opposed to simply requiring teacher candidates to take one broad course on how to integrate technology into classrooms in general, teacher education programs in Ontario should make it mandatory for Intermediate/Senior stream students to take technology focused courses that are specifically related to each one of their two teachable subjects. Like the subject-specific professional development proposal discussed above, having teacher candidates take these technology-focused teachable courses would ultimately allow for a more valuable learning experience, as they would learn about the specific ways in which technology can transform
teaching and learning in their specific disciplines, while also getting the opportunity to experiment with a variety of subject-specific technological tools and accompanying teaching strategies that can help make that happen.

Finally, my most far-reaching recommendation, but one which I still think is plausible in the long-run and certainly necessary, is that the Ontario Ministry of Education should work on integrating explicit requirements pertaining to meaningful technology use into the overall expectations of every individual high school History course in the Canadian and World Studies curriculum documents. Doing this will result in all History teachers being held accountable for their technology use in the classroom, and, more importantly, it will hopefully result in students having an enriched learning experience and an all-around more positive outlook on History.

5.4 Areas for Further Research

Although this research study yielded interesting and significant results, it also shed light on some important areas for further research. First and foremost, considering what I have learned about technology’s unique impact on the subject of History, more in-depth research should be conducted in the area of technology integration in the subject of History in particular, rather than having an abundance of research that focuses on the benefits that technology brings to schooling more generally. Moreover, one of the limitations of my study was its small sample size; although I was able to learn about how my specific participants were integrating technology into their History classrooms, I was unable to use my findings to generalize the experiences of History teachers more broadly. Going forward, educational researchers with more time and resources should interview multiple high school History teachers about their practices of incorporating digital tools into their instructions and assignments. It would also be interesting to add another dimension to the research by attempting to discover if there is any correlation between the age of
teachers participating in the study and their use of technology in the classroom. My research was also limited to an Ontario context, so a logical next step that can be taken to improve the study would be for educational researchers to broaden their horizons by interviewing high school History teachers across Canada – doing so would make the findings of the study more valuable and appealing to teachers outside of Ontario. Finally, due to the ethical parameters of this study, I was unable to conduct interviews with anyone but teachers. Seeing as how students are major stakeholders in the matter I chose to research, interviewing students about their perspectives on technology integration in History and its impact on their engagement and overall success in the subject would ultimately lead to a more comprehensive and realistic understanding of the research topic.

5.5 Concluding Comments

The central purpose of this research study was to explore how a sample of Ontario high school History teachers are integrating technology into their classrooms. My long-standing love story with History, as well as my future plans to become a high school History teacher, led me to become increasingly interested in discovering several ways in which digital tools could be used to engage students in the study of the past, and as a result of the findings of my research, I can now add some valuable new tools to my teaching arsenal; I hope those who read my study will share these same sentiments. Overall, though, seeing as how technology is continuing to proliferate in every aspect of our lives at an alarming rate, my hope is that this study can serve as a guide to current and future secondary History teachers alike who are looking for effective, engaging and innovative ways to infuse technology into their classes, and that it may encourage those who are reluctant to use technology to enhance learning in History to begin that journey. It
is also my hope that these findings will help teachers in other disciplines as well, since digital
tools can be used in virtually any classroom of any subject or age group.
References


Jackson, R. L., Drummond, D. K., & Camara, S. (2007). What is qualitative research?


Appendices

Appendix A: Letter of Consent for Interview

Date:

Dear ____________________________,

My name is Francesca Danielle Reda, and I am a student in the Master of Teaching (MT) program at the Ontario Institute for Studies in Education at the University of Toronto (OISE/UT). A component of this degree program involves conducting a small-scale qualitative research study. My research will focus on technology integration in Ontario secondary school History classrooms. I am interested in interviewing History teachers who have experience with incorporating different forms of technology into their lessons and assignments. I think that your knowledge and experience will provide insights into this topic.

Your participation in this research will involve one roughly 60-75 minute interview, which will be transcribed and audio-recorded. I would be grateful if you would allow me to interview you at a place and time convenient for you, outside of school time and off school property. The contents of this interview will be used for my research project, which will include a final paper and informal presentations to my classmates. I may also present my research findings via conference presentations and/or through publication. You will be assigned a pseudonym to maintain your anonymity and I will not use your name or any other content that might identify you in my written work, oral presentations, or publications. This information will remain confidential. Any information that identifies your school or students will also be excluded.

The interview data will be stored on my password-protected computer and the only person who will have access to the research data will be my course instructor. You are free to change your mind about your participation at any time, and to withdraw even after you have consented to participate. You may also choose to decline to answer any specific question during the interview. I will destroy the audio recording after the paper has been presented and/or published, which may take up to a maximum of five years after the data has been collected. There are no known risks to participation.

Please sign this consent form, if you agree to be interviewed. The second copy is for your records. I am very grateful for your participation.

Sincerely,

Francesca Danielle Reda
Consent Form

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw from this research study at any time without penalty.

I have read the letter provided to me by Francesca Danielle Reda and agree to participate in an interview for the purposes described. I agree to have the interview audio-recorded.

Signature: ________________________________________________

Name: (printed) _______________________________________________

Date: __________________________________________
Appendix B: Interview Protocol

Introductory Script:

Thank you for agreeing to participate in this research study, and for making time to be interviewed today. The aim of this research study is to explore how a sample of high school History teachers in Ontario are integrating technology into their classrooms. This interview will last approximately 60-75 minutes, and I will ask you a series of questions focused on the incorporation of technological tools into instruction and assessment in History. I want to remind you that you may refrain from answering any question, and you have the right to withdraw your participation from the study at any time. As I explained in the consent letter, this interview will be audio-recorded. Do you have any questions before we begin?

Background Information:

1. Can you start by describing your current job title and what school you are currently working at?

2. How many years have you worked as a teacher, and how long have you been employed at the school in which you teach now?

3. How many years have you been teaching History in particular?

4. What specific History courses have you taught?

5. Can you tell me a little bit about the technological resources that are available in your classroom?

   • Possible Prompts:
     - Overhead projector?
     - Computers (if so, how many)?
     - iPads (if so, how many)?
     - Laptops (if so, how many)?
     - DVD player?
     - Smart Board?
6. How often do you use technology in your History classroom?

**Teacher Perspectives/Beliefs:**

7. Can you briefly explain to me what prompted you to begin using technology in your History classroom?

8. In your opinion, are there any unique and/or specific ways that technology benefits the study of History in particular?

9. Do you think that technology of some kind should be integrated into all high school History classrooms (e.g., grade level, focus, stream, etc.)?
   - If yes, to what extent/degree do you think it should be utilized?
   - If no, why not?

10. In your opinion, is all technology use in the History classroom good technology use?
    - If yes, please explain why you think so.
    - If no, can you please provide one or two examples of what you consider to be effective use of technology in the History classroom?
    - What would you consider ineffective technology use in the History classroom?

11. In your opinion, to what extent can technology help to engage and/or support students with multiple intelligences, interests, and varying expertise in History?

**Teacher Practices:**

12. Can you briefly describe what a typical History lesson in your classroom entails?
   - Possible prompts:
     - Lecturing? (how long?)
     - Activities?
     - Group discussion?
     - Independent work?
13. Can you tell me about the specific forms of technology that you personally use in your History classroom?

- Possible prompts:
  - Projector?
  - Smart Board?
  - Camera?
  - DVD Player?
  - Computers/laptops?
  - iPads?

14. Can you tell me about some of the ways in which you incorporate technology into your History classroom?

- Possible Prompts:
  - Do you use YouTube videos, movies, music videos, blogs, PowerPoint presentations, databases, Excel, online study tools, Dropbox, Google Docs, etc.? How?
  - Do you use technology for instructional/lecture purposes only? How?
  - Do you use technology for both instructional and assessment purposes? How?
  - Do you use it when conducting your Minds On? How?
  - Do you use it for entertainment purposes? How?

15. To what extent has the use of technology impacted the dynamics of your History classroom?

- Possible prompts:
  - Has student engagement and/or motivation improved?
  - Has student understanding of course content and/or assignments improved?
  - Has more critical thinking occurred?
  - Have you had more opportunities to provide your students with differentiated instruction and/or assessment?
  - Do students have greater/increased access to a wider range of historical resources and/or perspectives?
  - Has there been a move towards more student-centered learning?
o Has there been an increase in student communication and collaboration?

Supports and Challenges

16. What is challenging about technology integration in the History classroom?

- Possible prompts:
  o Comfort (your own and others)?
  o Resources (curriculum, financial)?
  o Colleague/admin support?
  o Parental support?
  o School environment?
  o Student interest?
  o Classroom management?
  o Time constraints?
  o Tech issues?
  o Insufficient infrastructure?

17. Have you received any feedback from people outside of your classroom regarding your practice of using technology to teach History?

- If yes, possible prompts:
  o Was the feedback negative or positive?
  o From parents?
  o From other teacher colleagues?
  o From principals?

18. Does your school make a concerted effort to stay current with available technology? If so, how? If no, why not?

19. What would make using technology in your History classroom easier or more accessible?

Next Steps:

20. What advice would you give to teachers – novice or veteran – looking to incorporate technology into their History classrooms?

21. Do you have any future goals for your use of technology in the History classroom?
22. Is there anything else that you would like to add with respect to the use of technology in
the high school History classroom?

Closing Script

The interview is now over. Thank you very much for your participation in this research
study. I particularly appreciate the time and consideration you put into answering each one of my
questions. Do you have any questions for me? My contact information is on your copy of the
consent letter in case you need to contact me for any reason; we will be in touch.