Using Digital Technology to Teach Financial Literacy in Elementary Schools

By

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A research paper submitted in conformity with the requirements
For the degree of Master of Teaching
Department of Curriculum, Teaching and Learning
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

The purpose of this qualitative study is to examine how digital technology helps elementary school teachers teach financial literacy. Financial literacy is a topic which is not being taught to elementary students in Ontario despite the importance and relevance it holds in everyday life. This topic is of importance to the education community, as there is a lack of research examining the usefulness of teaching financial literacy and how it can be taught in elementary schools using digital technology. This research study is based on an analysis of preexisting literature and data that was gathered through interviews with two participants. The findings of this study are grounded in three themes; 1) the importance of teaching financial literacy, 2) the application of digital technology within the classroom, 3) the need of professional development for teachers.

Key Words: Digital Technology, Financial literacy, Technology Integration
Acknowledgements

I would like to start by thanking all of my professors in the Master of Teaching program that have been a part of this journey. I would like to thank Hilary Inwood, my first year research course instructor for guiding me during the beginning of this research paper. Next, I would like to thank Arlo Kempf for his insights on improving my paper and encouraging me to continue working towards the end. I would also like to thank Ken McNeilly for all the editing, constructive feedback and positive words to complete this paper. I also wish to acknowledge and thank Shelley Murphy, my professor for the introduction to special education, for being so kind, thoughtful, helpful and understanding throughout this year.

Next, I wish to thank you the participants of this study for their time and valuable insights, without you this paper would not be possible.

A special thanks to friends in the MT program and to my classmates and colleagues of Primary/Junior Cohort 241. Your different perspectives, personalities, shared passion and compassion were so helpful in getting through these two years.

Last but not least, my deepest gratitude goes to my loving family. Mom and Dad, you have been my pillar and my rock right from the beginning. To my younger brother, you have been so amazingly supportive and helpful. To my best friend, who’s become an older brother to me; thank you for supporting me through these two years, and not allowing me to quit even when things became difficult. You have all kept me sane! Your prayers, unconditional love, support, endless encouragement, patience and understanding, and your confidence in me, has allowed me to persevere and pursue my dreams and goals. I know this is just the beginning, but I cannot imagine having come this far without you. Lots of Love & Thank You!
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Chapter 1: INTRODUCTION

1.0 Introduction to the Research Study

The fast pace at which digital technology is evolving in modern society is exciting, but it is also overwhelming. It is not an exaggeration to say that the youth of today spend more time watching television and using digital technology such as smartphones, iPads, tablets, laptops than they do running around or playing outdoors. Educators have a unique opportunity to develop a deeper understanding of how the constant evolution of technology transforms students learning, and the ways in which they can connect to students through technology (Borges, 2013). Providing students with access to technology has the potential to transform the way students learn, and help prepare them for success by enhancing their knowledge and application of technology in ways that will inform their future careers (TDSB, 2012).

In the fall of 2011, an initiative was taken to ensure that through the Ontario curriculum, students learn to make informed and effective decisions about how to use and manage money. The Ministry of Education has worked to embed expectations of financial literacy in all subjects from Grade 4 to 12 (Ministry of Education, 2010). Tom Hamza, President of the Investor Education Fund, stated that “Basic financial skills are a critical building block in every person’s education. Integrating financial skills development throughout the curriculum ensures that Ontario students will have the knowledge to make effective decisions throughout their lives,” (Ministry of Education, 2010, p. 6). Students must be better prepared in order to understand what the consequences are of individual spending and the importance of budgeting and saving.
How does digital technology reach children in elementary schools to help teach them the important life skill of financial literacy? This will prove helpful for educators as technology allows them to take advantage of tools which interests children. The benefits of implementing technology in schools cannot be denied - from personalized learning experiences to greater student choice, a combination of these two areas of interest promises to be enlightening.

1.1 Purpose of the Study

The purpose of conducting this study was to understand the ways in which digital technology can assist teachers to teach financial literacy throughout elementary school. Specifically, this research looked at the approaches and methods by which digital technology can be integrated into the curriculum to engage students with better understanding and learning about financial literacy. There are various challenges which arise when a new idea is introduced and this study seeks to explore these challenges. Through this study, I examined the different types of training and support which exist, or which are needed, so that teachers can be better prepared to use digital technology. This research aimed to collect data which will shed light on how teachers can use digital technology effectively in their classrooms to help students actively engage in the learning of financial literacy.

1.2 Rationale for the Study

Generally, the literature which currently exists surrounding the use of digital technology in classrooms outlines the ways in which it is currently used and the practices which teachers are currently using. For example, existing research such as that done by Liu, Navarrese and Wivagg (2014) has shown that mobile devices like the iPod touch can provide English Language Learners with significant support for language and content learning, and extend learning time from classroom to home. The literature (Cravens, 2011; Liu, Navarrese, & Wivagg, 2014; Hutchison,
Beschorner, & Schmidt-Crawford, 2012; Koszalka, & Ntloedibe-Kuswani, 2010; Urban-Woldron, 2013) also looks at the positives and negatives of incorporating digital technology within a classroom environment. While there is research pertaining to the ways in which technology can be used to teach math and science (Cravens, 2011; Dawson, Ritzhaupt, Liu, Rodriguez, & Frey, 2013; Niess, 2005; Urban-Woldron, 2013), there is a lack of research focusing on how financial literacy can be taught in elementary schools using digital technology. Presently, the Ontario curriculum outlines the subjects through which financial literacy can be taught from grades 4-12. There are a wide range of subjects through which financial literacy can be taught, such as the arts, French, health and physical education, language, math, science, social studies, and I think it is important to see how teachers in various subjects can use digital technology to teach financial literacy to their advantage. It is important to conduct further research as there is a lack of literature specifically on this topic.

1.3 Research Questions

The main question which guided this research study was; How does digital technology help teachers to teach financial literacy in elementary schools? In addition to the main question, there are four sub-questions which help to guide this research. What types of challenges and barriers do teachers face when trying to effectively use digital technology to teach financial literacy? What types of training and support are needed to prepare teachers in order to use digital technology effectively? How effective has the implementation of the financial literacy been using digital technology within classrooms so far? How has financial literacy been introduced within elementary schools using digital technology?
I used these questions to better understand and explore how teachers throughout elementary schools can effectively use digital technology to teach financial literacy, so that more teachers, including myself, will be able to integrate financial literacy into classrooms using digital technology.

1.4 Methodology

Using a qualitative case study method approach, I conducted semi-structured interviews and collaborated with educators who are currently using digital technology in their classroom to teach financial literacy. Data collected from these interviews was analyzed to identify common trends. According to Yin, (as cited in Baxter & Jack, 2008) a case study design should be considered when the focus of the study is to answer “how” and “why” questions, the behaviour of those who are involved cannot be manipulated. The intention is to cover certain conditions because those conditions are relevant to the phenomenon that is being studied. You cannot manipulate the behaviour of those involved in the study, and you want to cover contextual conditions because you believe they are relevant to the phenomenon under study. The above considerations are all relevant as to why I decided that a case study method would be most effective for this research. Specifically, this was a collective case study, also referred to as a multiple case study, in which the inquirer selects multiple case studies to illustrate the issue. Often the inquirer purposefully selects multiple cases to show different perspectives on the issue (Creswell, 2013, p. 99).

1.5 Background of the Researcher

My decision to research how digital technology helps teachers to teach financial literacy in elementary schools began to strongly take shape before I applied to the Masters of Teaching program. I volunteered and worked at a private teaching centre and that is where I came across
the Ontario Curriculum documents which included the subject of financial literacy. We were encouraged to briefly introduce the topic to children as young as five or six years old. I also spent four years working at a law office, using a variety of digital technology. I came across many different individuals who helped me to gain perspective on the ways that digital technology can simplify tasks. While working at this job, I was also able to see the ways in which financial decisions impact our lives. Not knowing how to save money and never being taught how to make effective financial decisions was something I saw the effect of in my personal and professional life many times. Multiple people mentioned to me that if they had previously gained knowledge on how to manage their finances, things would be different.

Digital Technology has impacted me in a very personal way. Generation Y has seen some of the fastest advances in information gathering, sharing, and technology, and the development of increasingly complex and fast-changing technologies has entirely changed our current way of life. Throughout high school and my undergraduate degree, I always found the courses in which I was using some form of technology to be more engaging. I believe that it is crucial for teachers to equip students with the knowledge and skills to confidently manage numeracy, as well as an overall familiarity and comfort with the numerical side of literacy.

1.6 Overview

This Master of Teaching Research Project (MTRP) is divided into five chapters. Chapter One includes the introduction and purpose of the study, the research questions along with my personal background highlighting how I became involved with this particular study. Chapter Two contains a review of existing literature and background information specific to this topic. Chapter Three identifies the methodology and the procedure which were used in this study and it
includes information about the sample participants as well as data collection instruments. Chapter Four covers an analysis and a reflection on the data and findings obtained from the participants that were interviewed. Chapter Five contains a discussion of the findings. Lastly, a list of references and appendixes are included at the end.
Chapter 2: LITERATURE REVIEW

2.0 Introduction

Despite barriers to effectively use digital technology in classrooms, in recent years, the use of digital technology within elementary schools has been on the rise. For this research paper, I specifically focused on how digital technology can be adapted and used by educators to teach financial literacy. I examined studies in the field of digital technology within classrooms and the importance of teaching financial literacy. There is a vast amount of qualitative and quantitative research that focuses on using digital technology and how it can effectively be integrated into the classroom, but there is a lack of research about using digital technology to teach financial literacy, especially to students in elementary school classrooms. The few studies which exist in relation to financial literacy have been conducted in the United States and in Asian countries (Chinen, & Endo, 2014; Deng, Chi, Teng, Tang, & Chen, 2013; Fox, Bartholomae, & Lee, 2005; Beverly & Burkhalter, 2005; Sherraden, Johnson, Guo, & Elliott, 2011) and my goal is to fill that gap through this research.

2.1 An Overview of Technology

According to Sun and Pyzdrowski (2009), in a technology-based classroom it is important to consider that if students are unfamiliar with technology, the unfamiliarity can cause computer anxiety. Sun and Pyzdrowski cite various studies which explore the different aspects of technology. For example, there are two uses for computer software which are defined by Mac-Donald and Cavalry (1999); one type of computer software is for drill and practice, which is displayed on the screen. The other is used for the development of concepts. Developmental software allows for teachers to elicit critical thinking and problem solving from their students. There are
some websites which provide students with the option of self-help through the options of animation, sounds and videos. When teachers are using digital technology to teach financial literacy, it is developmental software which I believe would be ideal to use. While Sun and Pyzdrowski specifically explores the ways in which technology may reduce mathematics anxiety, it is useful for the purpose of this study because it presents a review of the literature pertaining to the use of technology.

The International Reading Association (2009) issued a position statement regarding the integration of digital technologies;

To become fully literate in today’s world, students must become proficient in the new literacies of 21st-century technologies. IRA believe that literacy educators have a responsibility to integrate information and communication technologies (ICTs) into the curriculum, to prepare students for the futures they deserve.

It is important to consider that there may be many reasons due to which not all school boards are able to purchase expensive digital technology. My focus was to identify various applications that can be used in combination with technologies that are present in schools (computers, tablets, smart boards). The purpose of this study was to explore how to connect teachers to students through digital technology in order to effectively engage the learners in learning financial literacy.

2.1.1 Studies on the Use of Digital Technology in the Classroom

There are many studies which discuss the use of digital technology in the classroom, but not many of them identify the issues teachers may face if they attempt to use technology in their classrooms. It is important to study, for example, how financial barriers may be surpassed so that students in elementary school classrooms have access to digital technology. The research which
currently exists focuses mostly on teaching language and using technology such as, iPads, iPods and e-readers (Cravens, 2011; Dawson, Ritzhaupt, Liu, Rodriguez, & Frey, 2013, Hutchinson, Beschorner, & Schmidt-Crawford, 2012; Niess, 2005; Liu, Navarrete, & Wivagg, 2014).

Liu, Navarrete, & Wivagg (2014) conducted a qualitative case study which investigates benefits of using iPod touch device as a teaching and learning tool for the Kindergarten to Grade 12, English Language Learners (ELL) population. This case study uses interviews along with classroom observations and student surveys to observe a large school district in the United States, and it specifically studies the way in which the iPod touch device may serve as a teaching and learning tool for the ELL population. The findings suggest that mobile devices such as the iPod touch can provide ELL students significant support for language and content learning and extend learning time from classroom to home (Liu, Navarrete, & Wivagg, 2014). Liu, Navarrete, & Wivagg, present and support their case study strongly by referring existing literature throughout the paper. They also outline the findings of the study in great detail. The implications of the study do not include students, whereas the goal of the study is to understand the potential benefits of using such devices for the ELL population. While the article has been persuasively written and it provides detailed findings and related research, the goals of the study, the implications and the conclusion are not entirely pursued for using iPod touch devices as a learning tool for students. This study was useful for my research because it is important to examine how students from different communities react to using mobile technology.

Hutchinson, Beschorner and Schmidt-Crawford (2012) selected a fourth-grade teacher to integrate iPads into her literacy instruction every day for a duration of three weeks. Prior to the study, this teacher had only used technology such as document and digital camera in her classroom. Through conducting this study, the authors found that teachers should focus on whether
the tool they are using can be effective for curricular integration rather than technological integration. This study provides various suggestions for actions that teachers can take in order to slowly incorporate digital technology such as the iPad into the classroom. It also carefully highlights the fact that teachers do not necessarily have to carry a wealth of knowledge about how technology is used as long as they are enthusiastic about learning how to use technology effectively. The authors have referred to and examined research which studies the theory behind using technology in literacy research and instruction. This piece of research was also useful for my topic because it explores, discusses and provides a variety of references regarding how a digital device can be used by teachers in a classroom to teach literacy.

2.1.2 Preparing Educators to Use Digital Technology

While there is growing access to digital technology in classrooms, it cannot be an effective teaching tool if educators are not comfortable with using the technology or if they are not first taught how to use it.

Baylor and Ritchie (2002) conducted a quantitative study using 94 classrooms from four states in different geographic regions to investigate the impact of seven factors, which are related to school technology on five dependent measures in the areas of teacher skill, teacher morale, and perceived student learning. The conclusion of this study found that teachers who are open to change, whether this change is imposed by administrators or as a result of self-exploration, seem to easily adopt to technologies so that they can help students learn content and increase their higher-level thinking skills. There is mention of teachers using technology better on the basis of teacher morale but the study does not cover how this trait may be influenced, if at all possible.
The information contained throughout this study was useful for my research topic because it provided a different lens to examine the various factors involved in promoting and advancing technology based classrooms.

Dawson, Ritzhaupt, Liu, Rodriguez and Frey (2013) conducted a study to examine the way in which teachers present technological, pedagogical and content practices in math and science lessons and to document the changes observed with the teachers involved in a year long technology integration initiative. The researchers observed and analyzed six hundred and seventy-two lesson plans using Technological, Pedagogical Content Knowledge (TPCK) to explore how technology was integrated in the practices of math and science teachers. Dawson et al. (2013), found that math and science teachers use a wide array of technologies within their classroom, but this consists mostly of presentation software and internet browsers. The lesson plans in which teachers included the use of technology were characterized by the researchers as low level cognitive demand. The researchers provide detailed information about how teacher practices were identified and the changes that took place over the year long initiative. The year long observation helps the reader to better understand the way in which teachers develop and how this can be adjusted to be most effective. This study was useful for my research topic because it demonstrates in detail why it is important to ensure that teachers are equipped with knowledge about technology in order to effectively teach with changing times.

To better understand what teachers think about using technology within a classroom, Zipke (2013) used a convenience sample of ten teachers who were e-reader novices from a variety of different types of elementary schools. The teachers participating in this study read a chapter of a grade appropriate book to their class on a Kindle device and the researchers asked them to evaluate its use for their students. This study discusses three specific technological affordances
of an e-reader that carry pedagogical implications (text-to-speech and dictionary functions, and the idea of unlimited access to books). While this study does provide a detailed and informative literature review and discussion, this research is limited due to its sample size. In conclusion, the researchers found the teachers who have enthusiasm for technology and a clear vision in regards to how machines can be used to aid or motivate particular students, for those teachers, the technology may be useful. If the use of this device is looked at from a broad perspective, more research must be done to study the usefulness of the e-reader. There are various applications and books on an e-reader that may be simple and useful to deliver lessons. The content of this study is useful for my topic of research because an e-reader is potentially a piece of digital technology that may be used to help teachers teach financial literacy in elementary schools.

Urban-Waldron (2013) used qualitative and quantitative research methods to investigate how teachers used educational technology to enhance their lesson plans by creating learning opportunities for their students. According to Urban-Waldron, the findings of the study pointed to a relationship between the quality of the teachers’ lesson plans and how intensely teachers participated in an online-course. They found that the materials provided in the online course successfully simulated teachers in developing their Technological Pedagogical Content Knowledge (TPCK). Urban-Waldron reviewed many key findings from studies which are related to how educational technologies impact schools. The research which has been referred to generally states that teachers have not been completely exploiting the creative potential that technology holds because they focus more on the technological issues they may face (Balanskat, Blamire, & Kefala, 2006; Urban-Woldron, 2008; Law, 2009). This study is presented in sections which allows for the reader to simply follow along with the research design and methods which have been presented in great detail. This study is useful for my research because it provides a great amount of
existing research on the use of technology and it presents results from fourteen math teachers. There is also an emphasis placed on conducting further research.

2.1.3 Consequences of Digital Technology

It is necessary to look at the use of digital technology from various lenses. There are positives and negatives to implementing digital technology within an elementary school classroom. Koszalka and Ntloedibe-Kuswani review a broad range of case studies which investigate the various educational applications of applying mobile technology within a classroom environment. There is an emphasis placed on the positive and advanced features that technological devices offer. According to Koszalka and Ntloedibe-Kuswani, the benefits of mobile learning are not yet understood from the perspective of whether technology is safe or disruptive to use. Future implications for this field of research are provided. It is suggested that large scale multidisciplinary projects which investigate and inform educators about how mobile technology can be utilized to teach and learn are needed in order to better understand and develop various support mechanisms. The information from these projects will provide a better idea of the resources which can be used for student learning. Koszalka and Ntloedibe-Kuswani compile a variety of research that either highlights the positives or the negatives of digital technology and do not include studies which may highlight a variation of the two. A critical review on literature which presents the positive and negative implications of mobile technology in the classroom was beneficial for my research topic because it provided a variety of research that I could further look into. This allowed me to better investigate and understand how digital technology can be used within a classroom to help teachers teach financial literacy.

As students are introduced to digital technology, the issues of plagiarism, online bullying, and high social networking are bound to arise (Moore, Laffey, Espinosa, & Lodree, 2002; Hudon...
& Notman, 2000). Kafai, Nixon and Burnam (2007) report findings from a study that was conducted in California to understand pre-service teachers’ judgements and justifications about digital dilemmas. The teachers were presented with four scenarios that addressed the issue of copyright use and web browsing along with computer use in school settings. The teachers were asked to judge whether the behaviours in these scenarios were appropriate or not and to explain why they believed so. The results of this study showed that most of the pre-service teachers believed appropriate uses of the computer and internet are classroom specific; the teacher must clearly outline what the expectations are regarding computer and internet use. According to Kafai, Nixon and Burnam (2007), the issue arises when policies regulating student computer and internet use are continually changing. This study was beneficial to my research because it provided information on the different scenarios that may occur with the use of digital technology. However, a specific focus on pre-service teachers only limits this study as it does not provide judgments made by existing and experienced teachers, which could be helpful to better understand this topic. It may be difficult for pre-service teachers to understand students’ judgements and justifications if they have not worked closely with students for a long period of time.

2.2 Defining and Exploring Financial Literacy

Financial literacy according to Balatti (as cited in Chinen & Endo, 2014) is “exercising in real life situations the ability to make informed judgments and to take effective decisions regarding the use and management of money” (p.95). According to Beverly and Burkhalter (2005, p. 1), the definition of financial education or financial literacy is the “knowledge and skills related to money management.” There is a lack of studies which focus on how financial literacy can be effectively taught to children in elementary schools. It is important to discover how this can be
done, as in the past few years, financial literacy has certainly started to gain importance within the Ontario curriculum.

Lusardi, Mitchell, and Curto’s study took place in the U.S. in which the authors examined financial literacy among the young. The researchers found that financial literacy is low and fewer than one-third of young adults possess basic knowledge of concepts such as interest rates, inflation and risk diversification. This study strongly emphasizes the consequences that youth face because they lack sufficient knowledge to successfully make financial decisions. There is previous research (Lusardi & Tufano, 2009; Rooij, Lusardi, & Alessie, 2007; Hastings, & Tvjeda-Ashton, 2008; Stango & Zinman, 2007) which has been referenced, highlighting the important implications of financial literacy. The information provided in this article on financial literacy was useful for my research topic because it provided details on how financial literacy can be presented in classrooms in an effective manner.

The Working Group on Financial Literacy in Ontario submitted a report which was published by the Ministry of Education in which they compiled a list of why it is important for Ontario students to be financially literate. A consensus emerged that Ontario students need to be financially literate to make more informed choices in a complex and fast-changing financial world which will better equip them to function in today’s financial environment (Ministry of Education, 2010). The working group on Financial Literacy came to the consensus that, “financial literacy education provides a critical set of lifelong skills which will support the development of their economic security, health, and well-being throughout their lives” (Ministry of Education, 2010, p.5). Financial literacy can improve prospects for the success of every child because it will allow them to make informed decisions about their finances in the future and help them to improve their confidence and self-esteem. Finally, financial literacy contributes to the development of
knowledgeable and compassionate citizens. Educators have a responsibility to provide students with an understanding of responsible, ethical and compassionate financial decision making in order to contribute to meeting that goal.

2.2.1 Implementing Financial Literacy

There have not been many studies conducted or articles written which focus on the implementation of financial literacy within elementary schools. It is important to see the significance of teaching financial literacy and how it can be effectively implemented. “To ensure that students make sound financial decisions as adults, financial education experts contend that schools and families should start fostering financial literacy before the teen years” (Allen, 2009, p. 5). If the benefits of implementing financial literacy in the long term are explored, it can be speculated that in order to prepare a generation ready to work and thrive in the global economy, educators must prepare students to be financially literate from a young age.

In a study conducted by Sherraden, Johnson, Guo and Elliott (2011), an innovative four-year school based financial education and savings program, called “I Can Save” (ICS) was examined. The study explored both quantitative and qualitative data to analyze the effects of the program on financial knowledge. The elementary school children who had participated in this program scored significantly higher on a financial literacy test which was taken in the fourth grade than a comparison group in the same school. These results were independent of the parents’ education and income. The results of this study suggest that young children increase financial capability when they are able to access financial education and when it is accompanied by participation in meaningful financial services. Educators have proposed that financial education will help in preparing youth to make sound financial decisions in an economy which is becoming increasingly complex (Lucey & Giannangelo, 2006). This study was a good resource for my research
paper, as it included many sources which cite the effectiveness of financial education. It also explored why current studies within the field of financial literacy are limited.

Supon (2012) outlines the significance of teaching financial literacy, along with suggesting teaching strategies for instructing about money and pointing out resources which are relative to teaching about financial literacy. According to Supon, a reasonable approach to teach students about being financially literate is through providing them with varied instructional strategies. In this paper, teachers are encouraged to incorporate financial literacy into their curriculum and academic content, similar to the initiative launched by the Ministry of Education in Ontario. This paper was a helpful resource to advance my research as it provides a list of teacher resources which are relevant to teaching about financial literacy, suggested children’s literature, and web resources.

3.0 Implications for further research

Using the literature stated above as a starting point, I started to explore, extend the research and better understand how digital technology helps teachers to teach financial literacy in elementary schools. What types of challenges and barriers do teachers face when trying to effectively use digital technology to teach financial literacy? What types of training and support are needed to prepare teachers in order to use digital technology effectively? How effective has the implementation of the financial literacy been using digital technology within classrooms so far? How has financial literacy been introduced within elementary schools using digital technology?
Chapter 3: Research Methodology

3.0 Introduction

This chapter provides an outline of the methodological approaches that were used for this study. It begins with an overview of the research approach and the procedures used, as well as the rationale behind them. Next, I will discuss the methods of data collection and the sampling methods used to select participants’. I explain the data analysis procedures and review the appropriate ethical considerations which are relevant to this study. I have also identified the methodological strengths and limitations. Finally, I conclude the chapter by briefly summarizing the methodological approaches and the reasons for selecting those particular approaches, keeping the research purpose and questions in mind.

3.1 Research Approach & Procedure

This is a qualitative study that involves a literature review, interviews with experienced elementary teachers and it looks at how a select group of elementary school teachers can use digital technology to teach their students about financial literacy. According to Creswell, “we use qualitative research to develop theories when partial or inadequate theories exist for certain populations and samples or existing theories do not adequately capture the complexity of the problem we are examining” (p. 48).

This study involves grounded theory, because as Creswell has stated, “grounded theory focuses on a process or action that has distinct steps or phases that occur over time” (p. 85). Specifically, I focus on how teachers will make use of available digital technology to introduce appropriate resources related to financial literacy.

I conducted semi-structured interviews with teachers to better understand how digital technology can be used in elementary schools to teach financial literacy. According to Given,
even with semi-structured interviews, “qualitative researchers must attend to ways in which their own perspectives, assumptions, expectations, and biases are influencing both the direction and tenor of the interview, per se” (p. 62).

For the purpose of this study, a qualitative approach is suitable because, as Strauss and Corbin (1990) believe, qualitative methods can be used to better understand phenomenon about which little is known. These methods can also be used to gain new perspectives on matters that individuals may know about. Specifically, there is a great deal of research on the use of digital technology within the classroom and gathering information on teaching financial literacy using digital technology would lend a new perspective to that.

3.2 Instruments of Data Collection

The data collection for this study mainly comprises of the transcribed responses to semi-structured interviews with two teachers. Upon obtaining consent from the participants, interviews were recorded in order to complete a in-depth transcription of responses and to ensure that all information was noted accurately. This study has been guided by a review of the literature which was conducted prior to primary data collection. All the literature used has been peer-reviewed.

The semi-structured interview according to Ayres (as cited in Given, 2008) is, “a qualitative data collection strategy in which the researcher asks informants a series of predetermined but open-ended questions. The researcher has more control over the topics of the interview than in unstructured interviews, but in contrast to structured interviews or questionnaires that use closed questions, there is no fixed range of responses to each question” (p. 810). The interviews focus on the personal experiences of two selected teachers in schools in which there is an awareness of
financial literacy and it focuses on the technological strategies they have incorporated into their classrooms.

3.3. Participants

In this section I review the sampling criteria which I had established for recruiting participants. There is also a section, which briefly introduces the participants.

3.3.1 Sampling Criteria

Because this study was meant to examine how digital technology is used within a classroom to teach financial literacy, purposeful selection was used to select participants to contribute to this research study. The participants were required to be elementary school teachers who have 2+ years of teaching experience and are currently using digital technology in their classroom.

3.3.2 Participants Bios

The participants Elisa and Robert, have been given pseudonyms in compliance with the ethics of this study. Both teachers are employed by the Toronto District School Board. The first interview I conducted was with a grade 3 teacher and the second interview was with a grade 4 teacher. Both of the participants were selected based on prior knowledge of them matching the research criteria that they teach financial literacy within their classrooms and they use digital technology on a regular basis.

3.4 Data Analysis

The data for this study was analyzed by taking the following steps; the data collected during the interviews was first audio recorded; after the interviews, the interviews were transcribed and the transcribes were individually coded. The data was divided into two main categories (digital technology and financial literacy) followed by sub-categories. The data collected was orga-
nized as follows; the key questions were placed at the top of the paper and the responses provided by the participants were recorded below. Following the transcribing and coding, the data was analyzed to understand what the emerging themes were. The responses were also reviewed to better understand how they can be applied to conduct further research. According to Morgan and Guevara (as cited in Given), “transcribed audio recordings are especially valuable as a source for direct quotes to use in presentations of the results…it connects the audience with the original participants” (p.41).

3.5 Ethical Review Procedures

This research study was conducted by following the ethical review approval procedures for the Master of Teaching program at OISE. The participants were informally approached and requested to participate in this study and they were given a background of what the research entities. Prior to the interview, the participants were given a letter of informed consent (Appendix B). The letter was reviewed in detail with the participant and each participant was aware of the data collection process, how the data will be used, and they were informed of the confidentiality rules which will be followed throughout the study. The participants were told that they hold the right to refrain from answering any questions throughout the interview and they may withdraw at any time, prior to the publishing of the study. In order to maintain anonymity of the participants, pseudonyms have been used for them.

3.6 Methodological Limitations and Strengths

There are limitations to this research study which were affected by a number of factors. The literature review is limited because of the time constraints of the Master’s program and because there is a lack of research in the field of teaching financial literacy within elementary
schools. More specifically, there is a lack of research focusing on how digital technology could be utilized to teach financial literacy.

Another limitation of the study is that the sample size for this study is small and the participants have been selected for the purpose of gathering a certain amount of information to advance the research. However, in order to better understand and simply to start examining how digital technology can be used to teach financial literacy in elementary school classroom, this sample size is a good start. According to Marshall, “An appropriate sample size for a qualitative study is one that adequately answers the research question. For simple questions or very detailed studies, this might be in single figures” (p. 523).

In order to better understand and simply to start examining how digital technology can be used to teach financial literacy in elementary school classroom, this sample size is a good start. The strength of this study lies in the fact that the data will be collected through semi-structured interviews. The nature of these interviews will allow for the teachers to speak in-depth and answer the questions in a fairly open-ended manner. Also, the teachers interviewed will be those who have experience with digital technology and their insights will help to better understand how the digital technology can be better utilized to teach financial literacy. Through the interview the teachers will be given an opportunity to reflect on the things which work well with using technology and things for which they may need more support.

The research being conducted is important and it is an innovative research study because the use of digital technology within classrooms has increased and it could turn into an effective tool to teach the skill of financial literacy.
3.7 Conclusion

Throughout the chapter I have established that a qualitative research approach supported by grounded theory and semi-structured interviews will be used to conduct this study. I introduced the instruments that will be used for the purpose of collecting data and the sources which have supported this study along with the importance of the instruments being used. The participants for this study will be located based on a number of fixed criteria, as mentioned above. In the next chapter, I will focus on reporting the research findings from this study.
Chapter 4: Research Findings

4.0 Introduction

This chapter contains the research findings after conducting two interviews. The interview questions were posed to the teachers in order to evoke answers as to how these teachers are using or can use digital technology in order to teach financial literacy within their classrooms. The background questions focused briefly on how long the participants have been teaching which subjects they use technology to teach and how often it is integrated within their lessons. The following three sections of questions focused on what the methods and benefits are of integrating digital technology and teaching financial literacy, how it is done, and why digital technology and financial literacy are important. Through the last section of questions, I wanted to explore what the barriers are of using digital technology along with the next steps for it. The interview questions were organized and ordered in such a way that elicited enough information about the way digital technology is used and built up on how financial literacy is integrated into their teaching. The purpose was to answer the main and sub-research questions by asking these specific questions.

This chapter will specifically highlight the themes, the strategies that the teachers identified as effective for the use of technology, and how the themes relate to the literature which was discussed in chapter two. The data collected has generated themes including: 1) the importance of teaching financial literacy and the implementation of financial literacy within the curriculum, 2) the application of digital technology within the classroom and the consequences of using digital technology, and 3) the need for professional development for teachers.
4.1 The importance of teaching financial literacy

As mentioned above, the way in which participants were selected was intentional. The schools at which the teachers were teaching had an existing initiative to teach students about financial literacy. The rationale behind being selective about the participants was that there is already a lack of research in the field of teaching financial literacy in elementary schools. Collecting data would be difficult had the criteria not been narrowed down for recruiting research participants. Both participants had strong personal beliefs about why financial literacy is important for children to learn from a young age.

When students are in high school or college/university there is an option to choose and learn economics, but at that point of their lives students have already started to head towards the direction of future planning. The chances are that they have made certain financial decisions such as opened a bank account and taken on student loans. The lack of financial literacy becomes apparent at that age. For example, The U.S. Senate Committee on Banking, Housing and Urban Affairs reported in 2002, “the fastest-growing group of bankruptcy filers was those age 25 and younger” (Lusardi, et.al., 2010). There is existing research which suggests that debt loads cause anxiety amongst young people and this anxiety results in them putting off or deciding against studying more, and accepting jobs they would not have taken otherwise (Lusardi, et.al., 2010).

Robert and Elisa shared the opinion that especially within primary grades, parents and teachers generally do not think about how their students will manage debt at an older age. They are more concerned with their children learning basic math, writing and social skills. That is not to say that those are not important skills. However, as students move on to higher primary grades or the junior grades, financial literacy is a topic which can be introduced at least on a basic level. Regarding the rationale for teaching financial literacy, Robert stated:
Debt is like a disease when it gets a hold of you it’s almost impossible to get away from it. Kids really need to be taught how to manage it…We teach them geometry, algebra, but never how to open a savings account. And there isn't anywhere in the curriculum that I am aware of where it talks about financial responsibilities.

In recent years, there have been reports and documents produced by the Ministry of Ontario to support the curriculum in teaching financial literacy but these documents are not widely distributed for teachers to use. The goal of the resource document is to assist teachers by highlighting opportunities which exist to acquire skills and knowledge which relate to financial literacy and to embed financial literacy expectations and opportunities in all subjects from grades 4 to 8 in the Ontario curriculum (Ministry of Education, 2010). There is a lack of research on the importance of financial literacy particularly within the Canadian school system, but according to Chinen & Endo (2014), “There is a growing body of literature documenting the positive role financial education can play in improving knowledge, retirement planning, spending, and savings behaviour”.

Elisa believes that in order to implement teaching financial literacy successfully within the elementary classrooms, first there is a need to raise awareness and build interest within students to make it into a concept which they enjoy learning because it is a life skill. Both participants also agreed that there were not very many resources available from the ministry to guide instruction on financial literacy. The document does highlight that financial literacy is a concept which can be taught through various subjects, not just math. The research of Deng et. al (2013) strengthens this, as they have found that:

Almost everyone affirmed the importance of financial management education, and considers that the government should play the role of active intervention, incorporating in-
vestment and financial management into the official curriculum starting in elementary school, and train students to have financial literacy by cultivating their money management and usage concepts. (p.68)

The lessons developed to teach financial literacy or the resources found online were mostly due to their personal efforts. However, because there was an initiative to teach financial literacy school wide at the participants’ schools, once or twice during the school year representatives from major financial institutions would come in and speak to students in Grade 4 and higher regarding the importance of savings and spending money.

There has been a push to teach using “inquiry based learning” in recent times and financial literacy can be taught in such a way. Robert implements financial literacy into math by introducing it as a classroom economy. The students have opportunities to earn money and there are chips given to them which they can save and bank. The students are given bank books and each week they gain interest on however much they have saved. Throughout the unit, they are given opportunities to buy things or they can continue to save their money and buy something bigger at the end. He believes that this is an excellent way to teach the students. If they save their money they not only gain interest, they also receive a larger reward at the end. Another way of promoting financial literacy in Robert’s class is to show them the dangers of gambling. He plays a coin-flipping game with his students in which they start off with a certain amount of coins and as they continue to play, the number of coins they have starts to depreciate. He believes that an important part of teaching financial literacy is to make it clear that it does not only involve saving money, it is about being aware of the money that you have in any form (e.g., Poker chips, credit cards). Robert and I discussed that it would very interesting to see how these children would fare in later years having been introduced to bank books, saving and budgeting at a young age.
Elisa established a grocery store in a corner of her classroom to show her students why it is important to be financially literate. The students are given various occupations, a grocery list and a certain budget and they walk around the grocery store to see how they can best manage their money to purchase groceries over a months time according to how much they earn in a month. I think that is an excellent way to directly connect the students to financial literacy because at some point the chances are they have all gone grocery shopping but perhaps they were not aware of the amount of money required to feed their families.

Being able to extract this first theme has been helpful in comparing the research data I have obtained to the literature, which exists on the importance of teaching financial literacy. The questions I asked the participants evoked answers as to why it is important to teach financial literacy to in the first place. The aspect of using digital technology to teach financial literacy, which will be discussed later is viewed as a tool to successfully implement it. The findings are consistent with the research that while financial literacy is an important life skill for children to have, there is not enough awareness about the topic and not very much information is available in the context of elementary schools. The purpose of exploring the importance of financial literacy is to raise some awareness of it.

4.2 The application of digital technology within the classroom

Both of the participants agreed that as times are changing, it is important to use resources within the classroom that can hold the attention of the students. Digital technology is a tool which, is visually appealing to the students and it is something which gives students the option to explore various things on. There are many applications and programs which can be used within the classroom. Applications mentioned during the interview were, “Prodigy” which is a math based game and “Notebook 10 software” which is a collaborative learning software. Robert was
asked during the interview how he introduces the technology to his class especially because he teaches a grade 2/3 class and he responded:

The technology? Oh uh. You just turn it on, let them play. And then after once they've discovered the technology themselves, I can bring in some guidance but they usually figure things out pretty quickly on their own *laughs*…Very quickly yes. They become the experts and I become the student *laugh*.

Elisa mentioned that while digital technology is a very useful resource to have in the classroom, it does not come without consequences. Her classroom was provided with a smart board and several iPads for her students to use. She downloads various apps on it to use for math and language but according to her:

there would be times when the technology would take time to get started…or umm…there was a glitch in it and within seconds sometimes I would lose their attention…or there would be times when a student would achieve a really high score on a game and go nuts and the other students would follow. I know how to calm them down, but a supply teacher or a new teacher might encounter some problems trying to balance all the tech issues with the classroom management at the same time you know.

Her response coincided with existing literature on the problems which can arise with the use of technology. According to Brunner (1992) and Elmer-Dewitt (1991), (as cited in Baylor & Ritchie, 2002) it has been found that for teachers to be comfortable and in command of the how and when to use technology, it can take as long as five to six years. There are multiple factors which new teachers have to consider when settling into their new classroom and if certain digital
technologies can take so much time to adjust too both participants agreed that it would be something that teachers are likely to stay away from. Challenges of using digital technology were also discussed in the study conducted by Liu et al. (2014), in which they found, a significant amount of time was required of the teacher to learn how to use the device, find the appropriate apps, develop lesson plans to integrate the mobile devices, manage and charge the devices. The difference between Robert and Elisa’s use of digital technology was that Robert was personally interested in technology and he is good at fixing problems which he may encounter. He has been using technology for the past fifteen years as opposed to Elisa who was introduced to technology in her classroom five years ago. Elisa was hesitant to use technology in her classroom if she could not be entirely sure of how well the technology will work so that her lessons are not disrupted.

Another matter which both participants discussed was, equality within the classroom when using digital technology. Robert believed that using technology within the classroom allows him to target students of multiple intelligences and it catches the attention of almost all his students. He thought it was important to mention that he has dyslexia and ADHD and using technology to learn and teach has personally made it easier for him. In a study conducted by Hutchinson et al. (2012), the researchers first determined what their learning goals were and made pedagogical decisions accordingly to determine the ways in which technology would be most useful in teaching students. That is also one of the reasons that Robert chose to incorporate technology within his classroom. The way in which Robert extended the use of technology within his classroom is commendable. He mentioned that:

My classroom is very inclusive and there are many different types of learners, technology benefits everyone. You get more types of learners engaged, then you would with your typical let’s say paper pencil tasks. This way, the students know that yes there is part of
my day with paper pencil, part of my day that’s done on the smart board, there is part of
my day which is done at the listening centres, there is part of my day at the laptops. So
you see how so many different types of technology can be used just in one day? So I
reach as many different types of learners in as less time as I possibly can.

The downside of using technology to teach according to both participants was that not all
children in the class will have access to technology outside of school hours. It can be difficult to
assign certain activities if not everyone is able to complete them at home. A solution for this is
that teachers should refrain from assigning homework which uses resources that may not be
readily available for the students.

While this theme is very relevant to my research question, the data collected by inter-
viewing my participants cannot be generalized because it is based on the opinion of two teachers
within the TDSB and their opinions do not represent those of all elementary school teachers. In
addition to that, the way in which technology has been applied and accepted or difficult to within
their classrooms cannot be generalized because the classroom dynamics vary from class to class
and from school board to school board.

4.3 The need for professional development for teachers

Upon discussion of how convenient it is to use digital technology both of my participants
had varying views and opinions. Both of their views were similar to the current research which
exists. Urban-Waldron (2013) found that, “teachers do not extensively exploit the potential of
educational technologies as they do not feel appropriately prepared”. This point was in similar to
the answer by Robert when I asked him what the benefits of teaching with technology are. Rob-
ert is responsible for attending training sessions on using technologies such as the smart board
and in return training the school staff on using the devices effectively and efficiently within their
classrooms. He was clear in explaining that because the school provides him with the technology and support it is easier for him to use it within the classroom. If teachers are not given technology by their school, they cannot be expected to bring their own laptop and use it to teach for various reasons. The research of Baylor & Ritchie (2002) expressed that depending on how open to change teachers are it will influence how technology is integrated within the classroom. There are however external factors such as professional development and a supportive school climate which influence how accepting teachers are of using technology in classrooms. There are numerous programs and applications compatible with devices such as the iPad and the smart board which can be used to teach financial literacy but these programs and applications often require the teacher to set up a classroom account or prepare files in advance so that they are able to track what their students are doing.

The topic of administration taking leadership within schools to integrate digital technology into classrooms came up several times during the interview with Robert. The schools he had worked at in the past did not offer the support which would be required to train staff members. The study conducted by Baylor & Ritchie (2002) relates to what Robert mentioned because it was done in a way so that there were several positive technology-using role models in the school. From the administrative perspective, they operationalized it to include the principal’s ability and work with the school community to put together a school vision for the use of technology. According to Maurer & Davidson (as cited in Baylor & Ritchie, 2002):

The principal’s use of technology is also included as part of the leadership component since principal’s foster credibility and respect by engaging in technology activities such as communicating to the staff via email, demonstrating the use of desktop presentation to the
faculty, showing a student how to keep a writer’s journal with a word processing program, describing a technology-enhanced teaching strategy. (p. 397)

The more responsibility individuals at the administrative level undertake to integrate digital technology, the easier it will become to apply it throughout schools and specifically, within classrooms.

In addition to professional development for the use of technology, I found through my interviews and existing literature that teachers are not officially taught or trained to teach financial literacy. Robert shared an interesting view on the professional development of teaching financial literacy for teachers:

Teaching financial literacy, it is something that they have to believe in themselves, so young people like teachers might not be at that space yet where they understand what is financial literacy so it is very difficult to say to them please go and teach that. It’s like asking someone who doesn’t know anything about music to go and teach music. You can do more damage than you can good if you don’t understand what you're going to teach especially with financial literacy so I think there needs to be training of teachers for what is financial literacy before we can ask them to teach it.

Robert also pointed out that one of the best ways for existing teachers to learn more about using technology in their classrooms is to always have student teachers around; “One of the most valuable resources out there are student teachers. Get student teachers in your classroom because they're learning all this new stuff…they’re always teaching me about new kind of technology and new things in teaching.” I think that this is a very important point and yet it has not been discussed in existing literature. Professional development opportunities are available right within
the classroom and do not necessarily have to be in the form of workshops. As educators, it is important to learn from one another and this point highlights that.

The topic of financial literacy has not officially been taught in elementary schools, nor is it taught during teacher education so it does not come as a surprise if teachers hesitate to teach the subject. If there are professional development opportunities to prepare teachers to teach financial literacy, it could prove to be helpful. As mentioned above, the representatives which come in from financial institutions may be considered engaging presentations for the students but they do not equip teachers with enough resources to teach financial literacy. Elisa believed that just as teachers are asked to attend professional development workshops on how to deal with classroom management issues and how to prepare students for provincial testing, there should be professional development opportunities for introducing and teaching financial literacy.

The theme of professional development in relation to using digital technology in classrooms had come up numerous times throughout the literature review but there had not been any explicit mention of the need for professional development to teach financial literacy. It has been helpful to see this theme in particular emerge through this research study. In her interview, Elisa explained:

Financial literacy is something I think even adults don’t think very much about…on a conscious level. They understand that they need to save, budget, balance, but when it comes to learning it I’ve seen that sometimes it’s overlooked. That’s why I think there isn’t much focus on it during professional development times for teachers.
Although the sub questions focused on how teachers are prepared to use digital technology, through the interview questions I was also looking to see how financial literacy is being introduced and implemented by teachers. It is something which will take time to raise awareness towards and implement, but in order for it to be successful, it must be focused on immediately.

The findings within this particular theme imply that, in order to better understand how digital technology can be used to teach financial literacy, there first needs to be better professional development opportunities available for teachers.

4.4 Conclusion

After the discussions with the two participants in relation to the research question, how does digital technology help teachers to teach financial literacy in elementary schools, I found that establishing an answer requires a lot more exploration of the connection between technology and financial literacy and a deeper understanding of the ways in which financial literacy can be introduced through school-wide initiatives.

There was an overlap in the personal beliefs of Robert and Elisa that financial literacy is an important life skill. They were also in agreement about being proactive at a young age by teaching students about financial literacy in elementary school. Both participants highlighted the importance of raising awareness about the importance of financial literacy. Lucey and Maxwell (2011) conducted a research on the importance of teaching financial literacy in elementary schools and they stated:

Literature tends to support the belief that children should learn the basic financial education tenets of financial responsibility and decision making, income and careers, planning and money management, credit and debt, risk management and insurance, saving and investing by Grade 4 (p. 47).
Teaching financial literacy to young children does not necessarily mean that it should be taught using the vocabulary that older students or adults might use. There are any a variety of ways to make it applicable to younger students, similar to the creative ways which the participants of this study used. There needs to be a shift in the way that financial literacy is approached.

While Robert came from a strong background and held an interest in the use of digital technology, Elisa had been trained and over time developed an interest on the use of digital technology within the classroom. Both participants agreed that if digital technology is appropriately applied in the classroom, it can be a useful resource to teach students in elementary school about financial literacy. It is important to remember that digital technology works best when it is used in combination with other teaching methods. Solely applying digital technology in the classroom will not be as effective. A benefit of having digital technology available in the classroom according to the interviewees and existing literature is that it allows students to have access to the same opportunities. Rather than asking students to rely on using technology available at home, the more work related to the use of technology that can be done in school, the more it can remain as a tool to maintain equity and inclusivity in the classroom. The funding required by the school to have digital technology available within classrooms needs to be addressed immediately.

There is a need to provide teachers with professional development opportunities in order to ensure that they are prepared to meet the demands of changing education. If the incentives of using digital technology in the classroom are presented to teachers in an approachable fashion, they may be more likely to embrace it. Teachers wear multiple hats and have their hands occupied with a variety of things throughout the day; it is important to make sure that the devices teachers are being provided with are fairly quick to learn and simple to use. On the other end of the spectrum, teachers must have available professional development opportunities for teaching
about financial literacy. It is unfair to expect that teachers can and will teach students something which they may never have been exposed to in the first place. Asking experts on the topic of financial literacy to train schools administrators and teachers is a feasible way to approach professional development.

The following chapter will include a discussion of the findings and their significance. This will be followed by a discussion of the implications and recommendations based on what was found during this research study.
Chapter 5: Implications

5.0 Introduction

Using the data collected and the current literature, this chapter focuses on reviewing how digital technology help teachers to teach financial literacy within elementary school classrooms. The importance of financial literacy is highlighted and the benefits and limitations of using digital technology are reviewed. Within this final chapter, the themes are summarized and the findings are discussed which will be related to the literature and the significance of this research study. This is followed by a reflection on how the research study has allowed me to grow as an educator and as a researcher. The implications of this research for the educational community are discussed as well as for the researcher. Next, recommendations for the educational community are given followed by suggestions for further research. The limitations associated with this research study are discussed along with the areas for further research. Finally, the chapter is concluded with a summary of the discussion, implications and recommendations.

5.1 Overview of key findings and their significance

Based on the insights the teachers interviewed for this study have provided, it is suggested that there are multiple ways in which digital technology can be effectively used to teach students in elementary schools about financial literacy.

Through data analysis, the importance of financial literacy was clearly highlighted. Although the teachers came from different backgrounds and had different experiences in the use of digital technology, both Robert and Elisa agreed that financial literacy is a skill which we must teach our students from a young age. It was concerning to see the lack of awareness which exists on the subject of financial literacy. There appears to be a disconnect between the Ministry on
Ontario and school administrators; while there are resource documents circulating which, highlight the importance of financial literacy and provide suggestions on how to integrate it within the classroom, the documents are not well known to teachers.

The different applications of digital technology within the classroom were addressed throughout the interviews. The teachers I interviewed combined a variety of instructional strategies using digital technologies to deliver their lessons on financial literacy and the culminating results showed that the students in their classes performed well as a whole on the formative and summative assessments. Both teachers had mentioned that when reviewing the results for similar activities with other teachers in the division, the teachers who had integrated digital technology in their lessons found that their students performed better overall. These results were similar to what Sherraden et. al. (2011), found in which the students who had participated in a program on financial knowledge, scored higher on a financial literacy test than a comparison group in the same school.

Despite the difficulties and complexities which may occur with the use of digital technology in the classroom, it is a tool which can captivate the interest of students. Similar to the research of Sun and Pyzdrowski (2009), Robert stated that it is important to let students first explore and familiarize themselves with the technology in order to reap the benefits of its use. Upon using digital technology to teach the concepts of financial literacy, the students displayed critical thinking and problem solving skills.

Financial literacy cannot be taught as well as it should be taught, and digital technology cannot be applied within classrooms to gain the most benefits from it, without first providing teachers with professional development. Although the sample size of this study was limited, in regards to preparing educators to use digital technology, the results coincided with what Baylor
and Ritchie (2002) had found; teachers who are open to change, whether the change is brought upon by school administrators or it is a result of self-exploration, adopt easily to technologies so they can help students to learn content and increase their thinking skills. The school in which Robert teaches has the funds to provide every classroom with a smart board, and because he is passionate about using the technology himself, he trains the remaining staff to use it effectively as well. If teachers can be trained to take such initiative, school administrators can focus their attention on providing more professional development opportunities and collecting resources to share with teachers.

5.2 Implications

The implications that this research study elicited are applicable to teachers, elementary schools and the Ministry of Education. I have also outlined the implications this research study holds for me from the lens of a teacher and a researcher.

5.2.1

For Teachers and Schools

In order for digital technology to be used as an effective tool to teach financial literacy, there needs to be collaboration between teachers and members within the school community. Both Robert and Elisa belonged to schools in which teaching financial literacy was a school wide initiative and they were both comfortable with using digital technology in their classrooms. Based on the interviews, I believe that teachers need to express interest and take initiative to educate themselves about financial literacy.

Ministry of Education

Specifically, there needs to be a province wide initiative taken to increase awareness and the build on resources which are available to teachers for teaching financial literacy. It seems that
the current document which was last issued in 2011 is not widely circulated. As mentioned earlier, Robert was not aware of the documents which exist.

In regards to digital technology, the benefits of using digital technology within classrooms have been highlighted through existing literature and through the interviews conducted for this paper. Unfortunately, there are not enough funds for schools in certain neighbourhoods to afford any technology, and keeping the advantages of technology in mind, I believe that the Ministry should work towards providing school boards with more funding to purchase digital technologies.

5.2.2

As a teacher

Personally, by conducting this research I have learned a lot more about the difficulties which may arise if one wants to use digital technology in the classroom. These difficulties range from the lack of financial resources available, to the technical difficulties which may occur, to the lack of professional development for teachers which exists. Although I am fairly competent with using technology and I am likely to use digital technology within my classroom, I will be mindful of the ways in which I incorporate it. I have learned that digital technology is most effective as a teaching tool if it is used in combination with other methods of teaching.

The research has strengthened my personal beliefs that financial literacy is a life skill which students must learn and the earlier we can start to teach them the better the skills can be reinforced over years. I have had an opportunity to research many resources which I can use within my classroom to teach financial literacy.
As a researcher

The amount of research I was able to complete for the purposes of writing this paper was limited due to the number of participants and the time constraints within which the paper had to be completed. For that reason, I would like to continue researching the different ways in which financial literacy can be promoted within elementary schools and the various ways in which it can be taught. Unfortunately, a very limited amount of research exists on financial literacy for students especially within the Canadian context and as a researcher it is my goal to build on that research.

5.3 Recommendations

This section will provide recommendations for the educational community to ensure that students learn about financial literacy using digital technology as a tool. Based on the information that has been gathered through this research study, the following recommendations are being made for the educational community:

First and foremost, although financial literacy was briefly introduced into the Ontario curriculum through a resource guide in 2011, the Ministry of Education has yet to embed financial literacy expectations into the curriculum. I believe that in order to make financial literacy a subject which is taught similar to the other subjects which are taught, the Ministry must speed up the process of publishing an updated document which is composed in a similar format to the curriculum documents which exist for other subjects.

In the meantime, school boards must ensure that an initiative to teach financial literacy is introduced into every school. This can be done by collaborating with financial institutions, simi-
lar to the school in which Robert teaches at. Providing schools with the connections and opportunities to collaborate with financial institutions can allow teachers and students both to get a first hand understanding of what it means to be financially literate.

With regards to the use of digital technology, school administrators must provide teachers with opportunities for professional development. As discussed earlier, with changing times the use of digital technology is becoming very common and learning how to use it effectively is important.

5.4 Limitations and areas for further research

Due to the limited nature of this study, there is still a lot of research which needs to be done in order to build on the literature which exists on the subject of financial literacy, and on the existing literature for the use of digital technology in classrooms. While important themes emerged and there were significant findings, the sample size of this study was not large enough to generalize the results to all school settings. The teachers approached for this study had previous experience with financial literacy and they had digital technologies available to them which may have influenced the findings.

A few of the questions were raised for me through this research were; What steps can be taken to ensure that every school is provided with a financial budget which allows them to afford digital technologies for every classroom? How can pre-service teacher training better incorporate the use of digital technology into the program to prepare new teachers? Can the topic of financial literacy be integrated into the literacy course as part of pre-service teacher education? Why is there a lack of studies done on the topic of financial literacy in elementary schools, especially within the Canadian context? How can the importance of financial literacy be emphasized to the Ministry of Education so that they take fast action to update the existing document?
The digital technologies which are now available for use can be applied within the classroom effectively with the appropriate training and if more research can be directed towards the questions mentioned above, I am confident that students will benefit greatly in the long term by learning financial literacy from a young age.

5.5 Conclusion

The importance of learning financial literacy cannot be refuted and it is evident even with the little research which exists on the subject. If students can be taught financial responsibility from a young age, it will equip them with a skill they can use throughout their lives. As educators, it is important to keep updated with the resources available and improve on skills which will help them to teach effectively. There is still a lot of work to do in order to make digital technology easily accessible to students. This is something which school administrators need to continue to focus on and make a priority because, as per the findings of this research study, it was found that digital technology does help teachers to teach financial literacy to students in elementary schools. Overall, it is a tool which has shown to be effective for student learning. A combination of these two areas of interest is certain to provide students an enlightening learning experience. The implications of this research can extend to provide suggestions from everyone to the ministry of education to school administrators to improve education and these implications can be considered by researchers. Prior to this research study, there have been no studies which look at the effectiveness of using digital technology to teach financial literacy in elementary schools. The importance of both has been established individually, and this paper lays a good foundation for others to continue research on the benefits of both, combined.
Appendix A: Letter of Consent for Interviews

Date:

Dear ________________________________,

My Name is Neha Arora and I am a student in the Master of Teaching program at OISE, University of Toronto. A component of this degree program involves conducting a small-scale qualitative research study. My research will focus on the ways in which digital technology can assist teachers to teach financial literacy throughout elementary school. I am interested in interviewing teachers who are actively implementing the use of digital technology within their classrooms and teachers who are interested and familiar with the concept of financial literacy. I think that your knowledge and experience will provide insights into this topic.

Your participation in this research will involve one 30-40-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. The contents of this interview will be used for my research project, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a research conference or 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. This data will be stored on my password-protected computer and the only people who will have access to the research data will be my course instructors. 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. 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 or benefits to participation, and I will share with you a copy of the transcript to ensure accuracy.

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

Sincerely,

Neha Arora

Phone Number: 647-205-1608

Email: neha.arora@mail.utoronto.ca / narora@live.ca
Course Instructor’s Name: _________________________

Contact Info: ________________________________

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 Neha Arora 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 Questions

Name of the Participant: ___________ Position of the participant: ______________
School Board: ______________________ Name of the School: ______________________
Time of the interview: ___________ Date: ___________

Before we begin, I would like to thank you for participating in this interview. The aim of my research is to learn how elementary school teachers can use digital technology to teach financial literacy in their classrooms. This interview should take approximately 30-40 minutes. I will be asking you a series of questions focusing on financial literacy and your experiences as a teacher using technology. I want to remind you that you have the right to choose not to answer any of the questions I ask. Do you have any questions before we begin?

Section A: Background

1. How many years have you been teaching?
2. What subjects do you teach?
3. How often do you use digital technology?
4. In which subject areas do you use digital technology to teach?

Section B: What / How?

5. To what extent are you able to promote the use of digital technology in your classroom?
6. Is there a school wide initiative to teach financial literacy?
   6a. If yes, what are the requirements?
7. Have you have introduced financial literacy within your classroom?
   7a. If yes, how have you integrated it?
8. What types of resources do you rely on to teach financial literacy?
9. In your classroom, what kind of digital technology is used on a daily basis?

Section C: Why?

10. Can you please explain why you have chosen to integrate this piece of digital technology?
11. How do you introduce digital technology in your classroom?
12. How would you use digital technology to introduce financial literacy in your classroom?
13. Why do you think that financial literacy should be taught to students?
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14. In order to get a better picture of your students, what are they generally like (ex. their reactions) when you are using digital technology to teach?

15. What methods do you prefer to assess the learning that is done using technology?

16. What do you think is the benefit of teaching students using digital technology? Are there any downsides to this practice?

17. When did you first become aware of financial literacy?

Section D: Barriers/ Next Steps

18. Have you faced any obstacles or challenges when using digital technology in your classroom?

19. What advice would you offer to novice teachers / experienced teachers who wish to integrate digital technology into their teaching?

20. As a next step, how do you think novice teachers / experienced teachers can integrate financial literacy within their classrooms?

Thank you for taking the time to participate and helping me with my research.
References


